Behind the Economic Figures: Large-scale Mining and Rural Poverty Reduction in Zambia, the Case of Kansanshi Copper Mine in Solwezi.

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ABSTRACT

Mining is promoted as a lead-economic sector in most mineral-rich countries. Depending on the contemporary global development ideology, the place of mining within the development industry has always been justified. Under the poverty reduction agenda, which took the centre-stage in the late 1990s and early 2000s, it has been argued in theory that investments, especially in large-scale mining would lead to poverty reduction in mining communities through opening up economic opportunities in which they can participate; increase their capabilities to participate in the local economies; enhance their security by reducing their vulnerability and exposure to risks; and empowering them to participate in issues that affect their lives.

Zambia as a mineral-rich country adapted the linkages between mining and poverty reduction and promoted the development of Kansanshi copper mine within the country's macroeconomic policy framework of achieving sustained economic growth and poverty reduction. Because of the positive response of the mining sector to huge investments, the domestic economy has been recording positive growth rates in excess of 5 percent since the beginning of the 2000s, with other economic indicators such as inflation, currency appreciation, and balance of payments recording positive trends.

Applying the Sustainable Livelihoods Framework (SLF), this thesis explores the extent to which the development of Kansanshi copper mine in Solwezi has impacted on local people's livelihoods in the context of the four linkages between mining and poverty reduction promulgated in theory. It comes out clearly in the thesis that the development of the mine has opened up economic opportunities that are in areas that do not allow the full participation of local people; the development of local people's capabilities is either minimal or non-existent; mine development enhanced local people's vulnerability and exposure to risks through displacement and seizure of productive systems; and disempowered them through the way mining and land rights were obtained from the government.

The thesis concludes on the note that since mining development cannot be stopped, there is need for governments to deliberately cater for local people who often struggle to fit within the transformed local economies through comprehensive implementation frameworks that promote interaction among parties involved and improved communication channels, skills training and provision of relevant resources such as agricultural inputs and microcredit facilities.

DEDICATIONS

This thesis is dedicated
to my beloved daughter Lushomo Namoonga Cheelo,
who was born when I was in the midst of my Masters' studies.
Long live girl.

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GLOSSARY OF TERMS AND ACRONYMS

Munkoyo	Local brew
Ba Israeli	Villages identifying with a religious sect call "The Israelites"

ADB	Asian Development Bank
AFRODAD	African Forum and Network on Debt and Development
AIDS	Acquired Immuno Deficiency Syndrome
CEDLA	Centre for Latin American Research and Documentation
CHAMP	Comprehensive HIV/AIDS Management Programme
CPIA	Country Policy and Institutional Assessment
CSPR	Civil Society for Poverty Reduction
DC	District Commissioner
DDH	District Director of Health
DFID	Department for International Development
DFS	Defensive Feasibility Studies
DRC	Democratic Republic of Congo
ECZ	Environmental Council of Zambia
EDRC	Economic Development Research Centre
ERIP	Economic Recovery and Investment Project
ERP	Economic Recovery programme
ESA	Economic and Structural Adjustment
ESAC	Economic and Structural Adjustment Credit
ESAF	Enhanced Structural Adjustment Facility
FGD	Focused Group Discussion
FQM	First Quantum Minerals Limited
GDP	Gross Domestic Product
GNP	Gross National Product
GRZ	Government Republic of Zambia
HDI	Human Development Index
HIPC	Heavily Indebted Poor Countries

HIV	Humane Immunodeficiency Virus
IAD	Inter-American Development
IDA	International Development Assistance
IFI	International Financing Institutions
IMF	International Monetary Fund
IMR	Infant Mortality Rate
IRR	Impoverishment, Risk and Rehabilitation Model
KCM	Konkola Copper Mines
LADDER	Livelihoods and Diversification and Directions Explored by Research
LCMS	Living Conditions Monitoring Survey
MACO	Ministry of Agriculture and Cooperatives
MDGs	Millennium Development Goals
MFNP	Ministry of Finance and National Planning
MMMD	Ministry of Mines and Minerals Development
MMD	Movement for Multiparty Democracy
MNCs	Multinational Corporations
MP	Member of Parliament
MTEF	Medium Term Expenditure Framework
NCCM	Nchanga Consolidated Copper Mines
NGO	Non-Governmental Organisation
NPV	Net Present Value
OECD	Organisation for Economic Cooperation and Development
PNG	Papua New Guinea
PRGF	Poverty Reduction and Growth Facility
PRP	Poverty Reduction Programme
PRS	Poverty Reduction Strategy
PRSP	Poverty Reduction Strategy Papers
PTA	Parents - Teachers' Association
RCCM	Roan Consolidated Copper Mines
SACCORD	Southern African Centre for Constructive Resolution of Disputes
SAP	Structural Adjustment Programme

SAPRIN	Structural Adjustment Participatory Review International Network
SDHMT	Solwezi District Health Management Team
SLF	Sustainable Livelihoods Framework
SMC	Solwezi Municipal Council
STDs	Sexually Transmitted Diseases
TBAs	Traditional Birth Attendants
TNCs	Transnational Corporations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNIP	United National Independence Party
UK	United Kingdom
USA	United States of America
US$	United States of America Dollar
USSR	Union of Soviet Socialist Republics
VAT	Value Added Tax
WDR	World Development Report
ZAMSIF	Zambia Social Investment Fund
ZCCM	Zambia Consolidated Copper Mines
ZCCM-IH	Zambia Consolidated Copper Mines – Investment Holdings
ZDES	Zambia Demographic Education Survey
ZDHS	Zambia Demographic Health Survey
ZIMCO	Zambia Industries and Mining Corporation
ZMK	Zambian Kwacha
ZNS	Zambia National Service

Chapter 1 Introducing the study

1.1 *Introduction*

This thesis is about large-scale mining and rural poverty reduction in the district of Solwezi in Zambia. The intention is to explore the linkages between investments in large-scale mining and the potential that mining offers for reducing poverty in the rural communities where the mining development is taking place. Mining in Zambia has been pivotal to the country's economy since gaining independence in 1964; however, from the 1970s onwards, the sector's performance began declining as a result of a global economic depression brought about by the oil crises. These negative impacts were also played out in terms of the Zambian economy. Despite this downturn, since 2000 there has been a revitalisation of the mining sector with an invaluable contribution again being made towards the growth of the local economy.

Since early 2000, the Zambian economy has been responding positively to the revamped mining sector such that "investments and GDP have been sustained for the first time since the early 1980s" (Thurlow and Wobst, 2006, p. 614). As of 2002, the country's real Gross Domestic Product (GDP) has been growing at a steady average rate of 5.2 per cent, while inflation has fallen to a record single digit in 30 years since 2006 (Ministry of Finance and National Planning, 2005, 2007). Zambia's growth per capita between 2002 and 2007 averaged 2.7 per cent given the fact that the country's population growth rate between 1975 and 2005 averaged 2.7 percent (UNDP, 2007). By the end of 2007, Zambia's real GDP had reached a record high of 6.2 per cent (Magande, 2008). Thus it is argued that the positive performance of the domestic economy over the years is attributed to "the record high copper prices and increased export volumes" (Ministry of Finance and National Planning, 2007, p. 6), owing to increased investment in the mining sector.

The increased investments in the mining sector have been facilitated by the macroeconomic policy framework adopted under the heavily indebted poor countries (HPIC) initiative. Under the HIPC initiative, Zambia developed a Poverty Reduction

Strategy Paper (PRSP), which outlined the country's strategies for achieving sustained economic growth. Mining development was identified as one of the potential sectors that would contribute towards sustained economic growth and reduce poverty through the trickle-down approach. The Kansanshi mine, which commenced full-fledged commercial productions in April 2005 (First Quantum Minerals Ltd., 2007b) was thus opened under this policy framework.

However, behind these positive economic figures that have come with the revitalisation of the mining sector, there are certain experiences of the local communities living near mining areas that remain unheard and unfactored in the economic reports and growth models. This thesis therefore seeks to explore the experiences of the communities concerned In the light of the foregoing; I will now give some background to the issue of large-scale mining and its contribution to macro and micro development and rural poverty reduction. I will then introduce the fact that I will be applying the sustainable livelihoods framework (SLF) to this research. As part of this introduction, I will state what the SLF is, how and where it has been applied in development practice, before presenting my rationale for applying it to this study. I will then present the problem statement, articulate the aim and significance of the thesis, the central research question including the sub-questions and the research context and overview of methodology, before concluding with an overview of the thesis chapters.

1.2 *Background to the issue: Large-scale mining and its contribution to macro and micro development*

It has been argued by the World Bank that the mining industry is a lucrative sector that has the potential of contributing towards development both at the macro and micro levels (World Bank, 2004). At a macro level, mining has the potential to grow the economies of mineral-rich countries to sustainable levels, with potential spill-over and trickle-down effects that should impact positively at the micro level through improved economic conditions, social services and infrastructure development (Pegg, 2006; World Bank, 2004). With the advent of the poverty reduction agenda under the HIPC initiative, the need for sustained economic growth in mineral-rich countries led to the development of

linkages between the promotion of mining as a lead-economic sector and its potential contribution towards poverty reduction (Weber-Fahr et al., 2002). Within a poverty reduction framework, the linkages between large-scale mining and poverty reduction are argued to occur in four spheres, these are as follows:

a) economic opportunities will be opened up for both the state and the rural poor,
b) improved capabilities of the poor,
c) enhanced security of the poor through reduced exposure to vulnerable and risk conditions, and
d) empowerment of rural people thus enabling them to participate in decision making around issues that affect their lives (Pegg, 2006; Weber-Fahr et al., 2002; World Bank, 2001).

The linkages between mining and poverty reduction through the four spheres outlined above can be expressed diagrammatically as illustrated in Figure 1.1 below. While the causal linkages between large-scale mining and poverty reduction in the light of these four spheres will be discussed in detail in Chapter Three, at this point, a brief overview will be given.

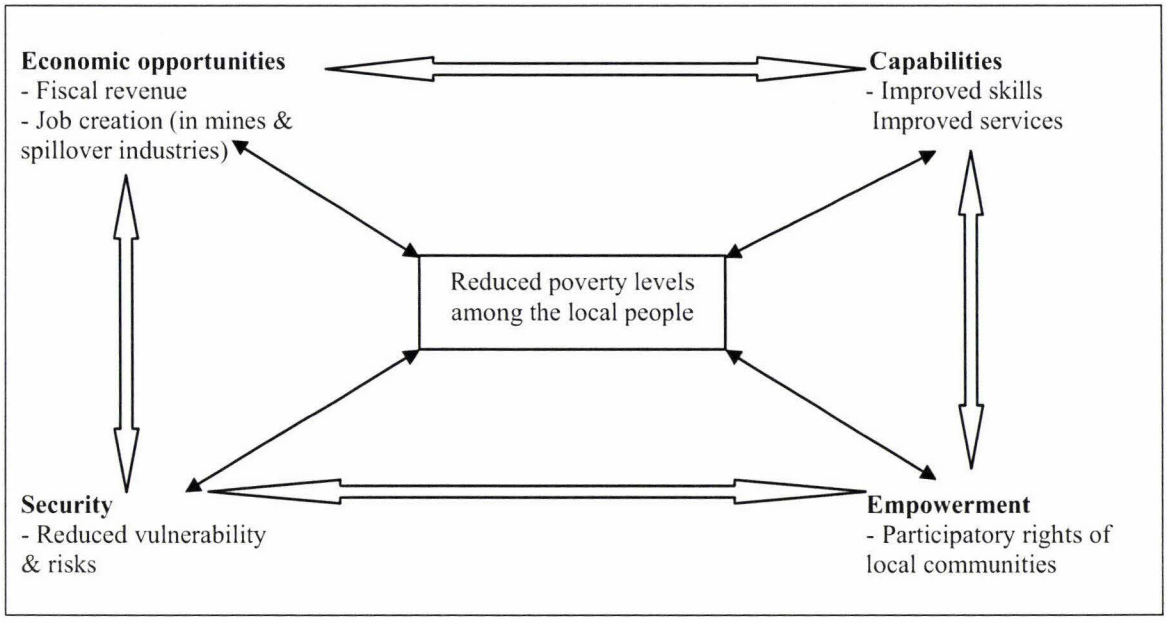

Figure 1.1 Mining-poverty reduction linkages framework
Source: Adapted from Weber-Fahr et al. (2002, p. 447).

It is contended that investments in large-scale mining 'open up'[1] economic opportunities impacting positively at both the macro and micro level. At the macro level, large-scale mining generates huge revenue through net foreign exchange, taxes and royalties, which national governments can channel towards poverty reduction interventions (Pegg, 2006; Weber-Fahr et al., 2002). The theoretical linkage proposed in this context is that mining leads to substantive taxes, royalties and foreign exchange revenue for the state, which can be used to fund poverty reduction programmes. Indirectly, revenue generation leads to poverty reduction (Pegg, 2006). At the regional and micro level, large-scale mining can directly and indirectly benefit local people through increased income generation opportunities, by creating employment both in the mines and in sub-contracting companies, by promoting entrepreneurship and the creation of downstream industries, and by promoting infrastructure development that also supports the activities of local people (Weber-Fahr et al., 2002). The belief is that mining creates jobs, which leads to increased income levels for the poor and therefore leads to poverty reduction (Pegg, 2006).

It is also suggested that large-scale mining leads to increased capabilities of the local population through spill-over effects of life skills, which then help them to actively participate in the market economy. The mining companies may also provide support to the social sectors, which improves the education levels and health conditions of local people. To explain, if the mining companies are not involved directly in social-service provision, then indirectly, their presence will provide incentives for improved service provision by either the private or public service providers (Pegg, 2006).

Vulnerability and security are functions of assets in the sense that the more assets individuals have, the less vulnerable they are and the lesser their asset holdings, the greater their insecurity (Moser, 1998, p. 3). Mining is thus believed to increase poor people's security by providing opportunities that reduce their vulnerability and exposure to risks (Weber-Fahr et al., 2002).

[1] Many countries in accepting the neoliberal paradigm 'opened up' their economies to foreign investment and trade where the role they had to play in their own economies was to be limited. From here on in the term 'opened up' will be utilised often to indicate this process.

The development of a large-scale mine also has the potential to empower local people in a number of ways. It is argued that empowerment can occur through having an increased access to information, meaning people can make informed decisions on issues that affect their lives and through participation in decision-making processes involving the government and investors. Their increased participation equips them better to hold accountable institutions that formulate policies and implement programmes that have a potential to impact on them negatively (Weber-Fahr et al., 2002).

However, in practice, there are numerous conditions that may invalidate the causal linkages between large-scale mining and poverty reduction as identified above. For instance, the neoliberal policies implemented in the late 1990s led to the privatisation of the mining sector and development of mining codes, which actually undermined the capacity of governments to maximise revenue generation. Investors in mining receive many incentives such as reduced taxes and royalties, elimination of restrictions on repatriation of profits, and strengthening of investor protection and property rights (Kumah, 2006; Pegg, 2003). Conversely, the opportunity to create jobs at the micro level can be undermined by the capital intensive nature of the sector. The mining industry is also highly specialised, meaning that the limited education and skills levels of local people meant they were unable to capitalise on the opportunities in the labour market created by the coming of the large-scale mining (Pegg, 2006; Weber-Fahr et al., 2002).

Privatisation of the mining sector means that mine owners invest to make and maximise profits – in that expenditure towards improved service provision is seen as a liability and therefore they may not be willing to spend in this area. This has a potential to negate the linkages between large-scale mining and increased capabilities of local people, especially where existing services have been designed to cater for a limited number of people. With an influx of people in search of new opportunities, local services are stretched to the limits. Large-scale mining therefore has the potential to disempower local people. This is particularly so if the process of obtaining mining and land rights is conducted in a dissatisfactory consultative manner. More often than not, local communities are informed

about impending mining investments after negotiations have already been agreed upon and contracts signed.

Even after the mines have been developed and commercial productions recorded, most assessments and reports generated emphasise mainly how the economy has grown, with little or no reference to the experiences of local people living in mining areas. Therefore this research seeks to consider what the experiences of local communities in Solwezi have been following the development of the Kansanshi mine, which was reopened within Zambia's poverty reduction and strategy paper (PRSP) macroeconomic policies covering the period from 2002 to 2005. The study specifically targets local people who have been affected by the development of the Kansanshi mine through either displacement or loss of productive systems, utilising the Sustainable Livelihoods Framework (SLF). The following section thus discusses the SLF and how it has been applied in development practice.

1.3 *Sustainable Livelihoods Framework (SLF)*

The sustainable livelihoods approaches have evolved over time with changing perspectives on poverty, participation and sustainable development (Brocklesby and Fisher, 2003). The SLF was developed in a bid to discover more helpful ways of supporting people and communities in avenues that are more meaningful to their daily lives and needs, as opposed to ready-made, interventionist instruments (Appendini 2001: 24 cited in de Haan and Zoomers, 2005, p. 30). The SLF (see Figure 1.2.below) "serves as an instrument for the investigation of poor people's livelihoods, whilst visualising the main factors of influence" (Kollmair and Gamper, 2002, p. 4).

While different organisations applying the SLF adopt their own tailored definitions, it is common practice to draw on the work of Chambers and Conway (1992). According to Chambers and Conway (1992, pp. 7-8), livelihoods consist of:

> *the capabilities, assets (stores, resources, claims and access) and activities required for a means of living: a livelihood is sustainable when it can cope with and recover from stress and shocks, maintain or enhance its capabilities and*

assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term.

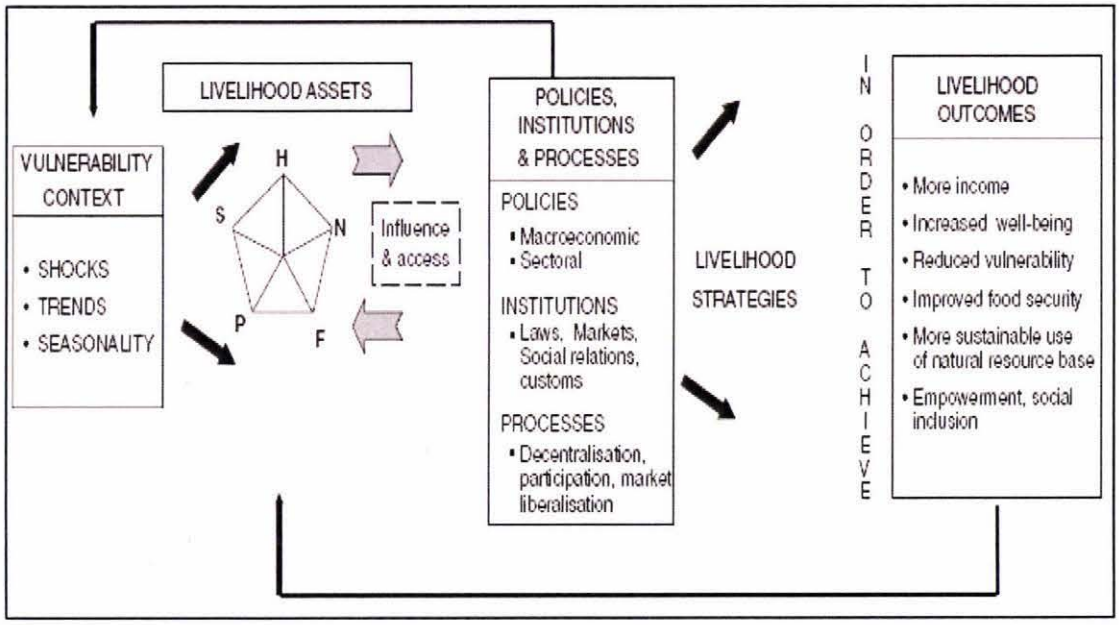

Figure 1.2 Sustainable Livelihoods Framework
Source: Adapted from Allison and Horemans (2006).

As can be seen in Figure 1.2 above, the SLF composes of five identifiable components. The first component refers to the contexts, conditions and trends within which people lead their lives. According to the SLF, people live within vulnerability contexts where they are exposed to risks, through sudden shocks, trends over time and seasonal change. These contexts, conditions and trends include history, politics, macro-economic conditions, terms of trade, climate, agro-ecology, demography and social differentiation (Brocklesby and Fisher, 2003; Ellis, 2000; Scoones, 1998).

The second component of the SLF refers to livelihood resources that can be owned, controlled, claimed, and/or accessed by people in pursuit of their livelihoods. These resources are referred to as either assets or capital and include *natural, physical, human, financial and social capital* (Ellis, 2000; Scoones, 1998). This "asset pentagon" is important in assessing poor people's overall asset base (Brocklesby and Fisher, 2003, p.

187). *Natural capital* encompasses land, water and biological resources that people draw upon in pursuit of their livelihoods. These are sometimes referred to as *environmental resources. Physical capital* consists of assets that are created through economic production processes and these may include buildings, water reticulation, energy, roads, tools, and/or machines. The physical assets are cardinal in facilitating livelihood diversification among people. *Human capital* refers to the labour available that can be tapped to pursue a livelihood – thus it encompasses skills, education, and health. *Financial capital* refers to the stock of money that can be accessed by a household. This encompasses income, savings, and credit. Finally, *social capital* encompasses social relations and relationships of trust that households can draw on in pursuit of their livelihoods (Brocklesby and Fisher, 2003, p. 187; Ellis, 2000, pp. 31-37).

The third component of the SLF focuses on analysing institutional processes and organisational structures, and how they influence access to resources or capital and composition of livelihood strategy portfolio (Scoones, 1998). It is within this component that "linkages can be made between livelihood activities taking place at the micro-level and the meso- or macro-level institutional and policy contexts" (Brocklesby and Fisher, 2003, p. 187).

The fourth component of the SLF deals with the analysis of the livelihood strategy portfolios and pathways and these include agricultural intensification or extensification, livelihood diversification, and migration. Lastly, the fifth component of the SLF is focused on analysing the livelihood outcomes, which may include poverty reduction, improved well-being and capabilities, and enhanced resilience against vulnerability contexts (Scoones, 1998).

Appendini (2001) citing the argument of Long (1997) points out that the term *livelihood* is the best expression of the innovation of individuals or groups who are struggling to make a living, who are attempting to satisfy their consumption and economic requirements, who are coping with unpredictable situations, or responding to new opportunities, and are choosing between varied value positions (de Haan and Zoomers,

2005, p. 32). It comes out clearly in the work of Long that the livelihood approach transcends the materialistic and/or economic focus to life. Wallamann as early as 1984 stressed that

> *Livelihood is never just a matter of finding or making shelter, transacting money, getting food to put on the family table or to exchange on the market place. It is equally a matter of ownership and circulation of information, the management of skills and relationships and the affirmation of personal significance... and group identity. The tasks of meeting obligations, of security, identity and status, and organizing time are as crucial to livelihood as bread and shelter* (Wallamann, 1984, cited in de Haan and Zoomers, 2005, p. 32).

In-as-much as material well-being plays a role in shaping the livelihood of the poor; it is worth noting that even non-material spheres of well-being are equally important. Within the sustainable livelihood framework, it is evidenced that

> *People's assets are not merely means with which they make a living; they also give meaning to the people's world. Assets are not simply resources that people use in building livelihoods; they are assets that give them capacity to be and to act. Assets should not be understood only as things that allow survival, adaptation and poverty alleviation; they are also the basis of agents' power to act and to reproduce, challenge or change the rules that govern the control, use and transformation of resources* (Bebbington, 1999, p. 2022; de Haan and Zoomers, 2005, p. 32).

The SLF therefore presents assets as agents of instrumental action (making a living), hermeneutic action (making living meaningful) and emancipatory action (challenging the structures that shape one's making of a living) (Habermans, 1971, cited in Bebbington, 1999). Hence the SLF seeks to place people at the centre of development.

According to the Department for International Development (DFID), the framework in practice

a) starts with analysing people's livelihoods and how they have changed over time,
b) fully involves local people and respects their views,
c) focuses on the impact of different policy and institutional arrangements upon people/household,
d) stresses the importance of influencing these policies and institutional arrangements so they promote the agenda of the poor (DFID, 1999, p. 5).

The framework's flexibility in design makes it suitable to various local situations, where it is often applied to different settings associated with development research or practice (Kollmair and Gamper, 2002).

1.3.1 Application of the Sustainable Livelihoods Framework in development practice

With the rise of the poverty reduction agenda in the late 1990s and early 2000s, development agencies have generated or adopted a range of techniques for designing development interventions. The main aim is to ensure that development efforts contribute towards the achievement of the Millennium Development Goals (MDGs), especially 'Goal 1: Halving extreme poverty and increasing well-being globally by 2015 (McKinley, 2004b). One such tool generated within this period is the SLF (Brocklesby and Fisher, 2003). From the late 1990s to date, the livelihoods approaches have informed programme design and evaluation worldwide. Among the donors, the livelihoods approach has acted as an operational tool to assist work on poverty reduction (ibid).

The SLF has been applied differently by various development agencies depending on the level of intervention. Some have applied it as a planning tool to guide policy formulation, while others have applied it as an assessment tool to understand the impact of programme intervention (Brocklesby and Fisher, 2003). The livelihoods approach has been utilised to inform research in different fields. Of particular relevance to this piece of work are the studies conducted in Malawi, Uganda, Kenya, and Tanzania under the LADDER (Livelihoods and Diversification and Directions Explored by Research) project commissioned by the Policy Research Programme of the UK Department for International Development (DfID) in 2001 (LADDER, 2001). In the studies in the four

countries mentioned above, the SLF was applied so as to understand the institutional contexts of rural livelihoods and the factors that enhance or inhibit the pursuit of paths out of poverty by either individuals or households. These studies were focused on exploring the links between policy initiatives for poverty reduction reflected in the context of the PRSPs at national level, and the micro-experiences of these policies at the village and community levels (Ellis and Bahiigwa, 2003; Ellis et al., 2003; Ellis and Mdoe, 2003; Freeman et al., 2003).

In relation to mining activities, Bury (2004) applied the SLF to explore the relationships between the transnational mineral-based economy in Peru and household livelihoods in mining areas. Through a case study of Minera Yanacocha (MYSA), one of the largest transnational mining operations in Peru, "the contribution of mining operations to dramatic and complex transformations of resources that households access and utilize to produce their livelihoods was evaluated" (Bury, 2004, p. 78). In Tanzania, Kitula (2006) applied the SLF to explore the environmental and socioeconomic impacts of mining on the livelihoods of local people in the Geita district.

Despite the wide application of the SLF in different contexts, the framework is not spared from criticisms about its inherent inadequacies. Some of the weaknesses are that, the framework requires huge financial, time and human resources to operationalise, which is often not available in practice; its holistic nature may lead to collection of information that might be difficult to process; and its failure to comprehensively measure social capital (Kollmair and Gamper, 2002, p. 10). Further on, the SLF is criticised for its lack of emphasis on markets and their role in livelihood development and poverty reduction. This weakness makes the SLF inadequate to identify and provide a comprehensive framework within which to act on a wider range of market, institutional and technological opportunities and constraints (Dorward et al., 2003). Nonetheless, in this thesis, the researcher will not delve into debates of how effective the SLF is in its conceptualisation and application. Instead, the focus will be on the framework's flexibility for application in collaboration with other frameworks. The SLF thus, will be applied on the premise that its strengths deliver a "good tool for structuring development research" (Kollmair and

Gamper, 2002, p. 10) and links well with the overall thesis conceptual framework that has been introduced in section 1.2.

1.3.2 Application of the SLF to this study

According to Hinshelwood (2003), the SLF shifts attention from product to process or, rather, from technology to people's livelihoods. The SLF is thus guiding and shaping the scope of this study in such a way that emphasis is placed on understanding the microeffects of large-scale mining in Solwezi on the locals' overall livelihoods. However, it must be mentioned that this study applies the SLF to inspire the designing of and collection of information that is relevant in investigating the microeffects of large-scale mining among local people. The information collected using the SLF will feed into the main research framework at the data analysis and interpretation level as opposed to applying the SLF as a sole analytical framework.

1.4 *Problem statement*

Behind the economic figures, there are people who live near the mining area, whose poverty should be reduced as a result of the positive growth trends that the Zambian economy is recording through the causal linkages identified in Section 1.2. However, in most instances, this has not occurred. Many individual experiences of the people who live in the communities near the mining area do not resonate with the pulse of the country's growing economy. Therefore, in elucidating the experiences of the local communities living in Solwezi's Kansanshi mining area, which tend to be overshadowed by the economic contribution of the mine to the performance of the domestic economy, another reality will be known. The thesis is conceptualised within the context of wanting to know whether or not mining investment is making positive contributions to the livelihoods of local communities just as it does to economic indicators.

1.5 *Aim and significance of the thesis*

The aim in this thesis to elucidate the experiences of local people living near the Kansanshi mine is Solwezi. Through this exploration, I aim to contribute to the broader pool of knowledge on mining and development. In specific terms, the findings from this

thesis will add to the limited knowledge on the validity of the linkages between mining and poverty reduction (Ross, 2002) in the context of the four spheres introduced in Section 1.2.

1.6 *Research question*

The aim of this thesis as identified above will be achieved through answering the following central research question: *What are the microeffects of large-scale mining on local people's economic opportunities, capabilities, security, and empowerment in the case of Kansanshi copper mine in Solwezi?*

This central research question will be answered by exploring the following sub-questions, which also shape the structure of the thesis:

a) To what extent has Kansanshi copper mine opened up economic opportunities in which local people are participating for a livelihood?
b) To what extent has Kansanshi copper mine directly or indirectly increased the capabilities of the local people of Solwezi to pursue their livelihoods?
c) To what extent has Kansanshi copper mine reduced the vulnerability and insecurity of the livelihoods of the local people?
d) How has the opening of Kansanshi copper mine either empowered or disempowered local people?

1.7 *Methodological overview*

The methodology utilised to collect relevant information to answer the central research question and subsequent questions presented in Section 1.4 above was informed by the SLF. The SLF's comprehensiveness provides an excellent framework for investigating the linkages between large-scale mining and rural poverty reduction. The SLF thus enables the investigation of poor people's experiences, priorities and needs (Ashley and Carney, 1999; Whittaker, 2006). Fieldwork is to be conducted using a combination of both qualitative and quantitative methods, with a focus on in-depth household interviews (Whittaker, 2006), all of which aimed to provide an understanding of household

livelihoods and local people's perceptions about the impact of the development of the Kansanshi copper mine on their livelihoods. Now that the methodological overview has been given, the thesis chapters will be outlined.

1.8 *Overview of the thesis*

This thesis is composed of nine chapters. As I have just shown, Chapter One has introduced the study. The background to the issue, the SLF and its application in development practice and this study were made explicit. The problem statement, aim of the thesis and significance of the study, research questions (including sub-questions), and the methodological overview have also been articulated.

In Chapter Two, the focus is on the poverty reduction agenda as the contemporary development paradigm informing policy formulation, programme design and implementation, since the early 2000s, both globally and in Zambia. Emphasis is placed on the origin of the paradigm, and its strengths and weaknesses both in theory and in practice. This Chapter further contains an analysis of the macroeconomic framework guiding the place of mining within the poverty reduction agenda.

Chapter Three is the conceptual framework that sets the boundaries of the thesis. The linkages between the promotions of large-scale mining as a lead economic sector and the potential contributions it could make towards achieving poverty reduction in mining communities are explored. The theoretical linkages between mining and poverty reduction which are explored include: the opening up of economic opportunities, increased capabilities of the local people to pursue their own livelihoods; enhanced security through reduced vulnerability and exposure to risks; and the empowerment of locals to participate in decision making around issues that affect their lives. Potential negative effects of large-scale mining on the livelihoods of local communities are also covered.

In Chapter Four details of the contextual environment within which the study is conducted are given. The country of study is introduced, highlighting the role of mining in the Zambian economy over the decades. The chapter contains further explanation of

Zambia's mining code, which guides investment in the mining sector, amplifying the incentives given to potential investors. The chapter concludes with an outline of the Kansanshi mine's development agreement, summarising the investment opportunities that First Quantum Minerals (FQM) Ltd., as the proprietor of Kansanshi mine, was given. Thus the policy issues surrounding the mining industry in Zambia are provided.

Chapter Five includes an outline of the methodology used in conducting the fieldwork for this study. The chapter discusses themes such as research design, ethical issues, characteristics of research sites, and establishing my bearings in the filed. Other areas discussed include the selection of research participants, data collection methods, implementation issues and data analysis techniques that were employed.

Chapter Six is the first of the two research findings chapters. The findings are presented in a quantitative format, as graphs, pie charts and percentages. The focus is mainly on the capital resources of the participants viewed from the SLF perspective, which are then analysed in the context of how the capital holdings contribute towards livelihoods activities of the various households.

In Chapter Seven the empirical fieldwork findings are presented in a qualitative manner, elucidating perceptions of the local people about the presence of Kansanshi mine. The chapter draws heavily on the rich flavour of the participants' own words. The chapter further highlights what developmental issues the local communities expected to see addressed following the development of Kansanshi mine.

Chapter Eight contains a synchronisation of the conceptual framework, fieldwork findings and other literature to answer each of the research questions that were introduced in Chapter One. The micro effects of large-scale mining in Solwezi's Kansanshi area will be explored in the context of capital holdings of the people and their livelihoods outcomes. Various issues will be analysed according to the framework, noting how Kansanshi mine has contributed or otherwise towards the well-being of the local people, especially those living near the mining area.

Chapter Nine concludes a summary of the four major findings of the study. The four major findings are summarised under the four spheres identified in this chapter. Further, policy implications are spelled out for the lessons learnt from the study of Kansanshi mine and other relevant issues covered in this thesis. The chapter concludes with a highlight of potential areas for future research, which could be beneficial in understanding the interaction between investment in large-scale mining and livelihoods of local people living in mining areas.

Chapter 2 The Poverty Reduction Agenda

2.1 *Introduction*

Discontentment with the failure of the neoliberal policies to deliver the desired results in the development industry saw the emergence of the poverty reduction agenda as a contemporary ideology to inform policy formulation, programme design and implementation since the late 1990s and early 2000s. The potential contribution of any development initiative to poverty reduction at various levels is often articulated as justifications for taking certain policy actions. In classic economics, even the strategies that are aimed purely at achieving economic growth are eventually linked to poverty reduction through trickle-down and spill-over effects.

This chapter the emergence of the poverty reduction agenda is explored, together with an exposition of the policy focus and what it has to offer to the development industry. Emphasis is placed on the origins of the paradigm, its strengths and weaknesses in both theory and practice. The macroeconomic framework guiding the place of mining within the economic circles within this paradigm is also explored.

2.2 *The Poverty Reduction Strategy Initiative as a new paradigm*

2.2.1 Origins of poverty reduction agenda

The global economic downturns driven by sky-rocketing prices of oil and high inflation rates in the 1980s left damaging impressions on the economies of Third World countries. The heavy debt burden, which resulted from excessive borrowing to finance budget deficits, led many countries into bankruptcy so that they lost the stamina to meet both their external and internal debt obligations. In the midst of this fiasco, the International Monetary Fund (IMF) and the World Bank stepped in with stabilisation measures designed to impose strict fiscal, monetary and economic management regulations in order to generate domestic savings and foreign exchange to repay the debts. However, strict

implementations of the prescribed policies became prerequisites to successive short- and long-term bilateral and multilateral loans (Pender, 2001; A. Touwen, 1996).

The prescriptions of the structural adjustment policies included trade liberalisation, investment deregulations, privatisation of state owned utilities and enterprises, reforms of the agricultural sector by promoting cash crops, labour markets and pensions, and the liberalisation of all domestic markets including the devaluation of domestic currencies (Demery, 1994; Elson, 1992; Loxley and Campbell, 1989; Mukhopadhyay, 1994; Muuka, 2001; SAPRIN, 2004; Sawyerr, 1990). The implications of the one-size-fits-all policies, which assume all developing countries to be homogenous despite their contrasting individual circumstances, were at most times devastating in terms of social and economic costs incurred (Ng, 2001).

Some of the resulting effects of structural adjustment programmes (SAPs) were widespread and escalating poverty, and increased inequality among the ordinary citizens of countries that implemented the stabilisation policies (Hellinger et al., 2001). The failure of these neoliberal policies was met by growing discontentment especially by the mid-1990s (Hellinger et al., 2001). The heavy social costs suffered by many countries that implemented SAPs influenced policy changes among international financing institutions (IFIs), which saw the extension of their loans and assistance towards construction of social safety nets. This new strategy of capturing social issues in the policy framework was aimed at mitigating the adverse effects of SAPs. The social safety nets constructed (though they were inadequate to reverse the trends brought about by SAPs) acted as a foundation for the construction of national poverty reduction strategies later in the 1990s (McKinley, 2004a). The extension of SAPs' policy framework to incorporate social issues meant that implementing countries had to therefore borrow more to finance the new programmes. The resulting factor was further debt burden, which weighed heavily over the borrowing low-income countries.

To substantiate this argument further, Hanlon (2000, p. 877) points out that by 1999, the 38 countries that were described by the World Bank as "severely indebted low income"

had their total debt raised "from 5 percent of Gross National Product (GNP) in 1970 to 31 percent of GNP in 1980 to 139 percent of GNP in 1999" . The point was reached when countries continued to borrow more money in order to service the old debts rather than channelling it to new development areas (Hanlon, 2000). For instance in 1999, all developing countries sourced $246 billion in debt out of which $214 billion went towards servicing the principal of old loans. On top of that, developing countries had to source $135 billion to settle interest on old loans, which implied that there was a net transfer of $103 billion to the creditor countries (Hanlon, 2000, p. 884). In the same year of 1999, sub-Saharan Africa borrowed $11 billion but repaid $15 billion (thus $10 billion in principal of old loans and $5 billion as interest (Hanlon, 2000, p. 884). Further details can be seen in Table 2.2 below.

Group	**Total Debt $bn**	**Total Debt % GNP**	**Annual Debt Services Paid $bn**
All developing countries	2465	37	296
Low income countries	405	48	25
Severely indebted low income	211	74	9
Heavily indebted poor countries (HIPC)	206	124	7
Sub-Saharan Africa	226	68	15

Table 2.1: Total Debt and Debt Service Ratios, 1998.

Source: Adapted from Hanlon (2000: 880)

The rising debt levels among developing countries forced non-governmental organizations (NGOs) such as Jubilee 2000 to push for the cancellation of unpayable debt so that the freed resources could be channelled towards poverty eradication programmes (Hanlon, 2000; Whaites, 2002). The campaign by Jubilee 2000 emphasised the moral reasons for writing off debt, stressing the high poverty levels of the affected people who may not even have been responsible for, or benefited from, the debts that were being serviced in their time (Evans, 1999).

Calls for debt cancellation exerted significant influence in international policy-making domains as it led to the introduction of an enhanced Heavily Indebted Poor Countries

(HIPC) initiative and clear linkages to poverty reduction were made (Whaites, 2002). Thus following the Group of Seven/Eight (G7/8) industrialised countries Cologne (Koln) meeting in 1999, the G7/8 leaders instigated the World Bank and International Monetary Fund to develop the HIPC initiative to cancel the debt of about 41 countries classified as heavily indebted poor countries so that freed resources could go towards poverty reduction (Hanlon, 2000).

At the time of decision making, a country qualified for debt cancellation under the HIPC initiative if it fell in the "chronic debt crisis"[2] category according to World Bank/IMF classification. Sachs (2002, p. 273) points out that countries falling within the chronic debt crisis category not only failed to "reestablish a viable debt profile, but also failed to achieve sustainable economic growth in the 1990s. The unweighted mean annual growth rate during 1990-99 of the countries in crisis was -0.2 percent, and the median growth rate was only 0.3 percent". Thus a country with this kind of profile needed an external intervention to put its economy back on track so as to improve the well-being of its people.

Under the HIPC initiative it was required that chronic crisis countries develop Poverty Reduction Strategy Papers (PRSPs), which would be a basis for continued concessional lending from the World Bank and IMF and also as a requirement for debt relief (Canagarajah and Diesen, 2006; Gould, 2005; Laterveer et al., 2003; Ndomo, 2005; Whitfield, 2005). Craig and Potter (2003) emphasise that the PRSPs developed needed to reflect two sets of requisites. Firstly, as a HIPC initiative pre-condition, the PRSPs developed needed to highlight a range of policies that were believed to be necessary for debt sustainability; improved connections between local economies and international capital and market economies; and also implement the mildly nuanced Washington Consensus regimes of macro-fiscal management. Secondly, PRSPs needed to spell out

[2] A country was considered to be in a chronic crisis if it required a Paris Club restructuring during 1997-2001, or was a candidate for HIPC relief, or was in default on its Paris Club debts. All countries deemed eligible for further debt relief under the enhanced HIPC programme were considered to be in a chronic crisis, since the concerned countries required further debt cancellation to bring their debts to sustainable levels (Sachs, 2002, p. 267).

linkages between the debt dividends and pro-poor programme implementation (Craig and Porter, 2003, p. 60).

2.2.2 The PRSP Policy Framework in context

The PRSP policy framework recognises the complexity and multidimensional nature of poverty and thus tries to harmonise all the relevant aspects. However, though the causes, effects and solutions may be country-specific and so vary from country to country, the policy champions argued that there would still be common ingredients of a prudent poverty reduction strategy (IMF and World Bank, 1999). The framework posits in sustained economic growth which accommodates the full participation of the poor as a prerequisite for poverty reduction. The formulators of this framework subscribed to the fact that ensconced poverty and inadequate economic opportunities and asset endowments could themselves be drawbacks to growth (IMF and World Bank, 1999). The World Bank and the IMF further argued that this double-barrelled prerequisite could be attained only through sound macroeconomic management, vigorous private sector activity and investment, and prudent sectoral and structural policies (IMF and World Bank, 1999, p. 2). Craig and Potter (2000) define a PRSP as a poor country's

> comprehensive strategic development document, which describes its macroeconomic, structural and social policies and programmes spanning over a period of three years or more to promote broad-based growth and reduce poverty, as well as associated external financing needs and major sources of financing (Craig and Porter, 2006, p. 82).

The PRSP documents categorically elucidate the programmes that would promote growth while identifying how this growth would translate into poverty reduction. Financial needs to operationalise these plans are also highlighted (sourced both locally and from donor communities) and establishing possible linkages to the poverty reduction framework based on the medium-term expenditure framework (MTEF) and results-based management (Nnadi, 2006). Hence the PRSPs were posited to be tools behind the relationship that should exist between the country concerned and the donor community, spelling out the expectations from each party (IMF and World Bank, 1999; Whitfield, 2005). However, over time, the PRSP policy framework has become fashionable and a

means of defining the donor-recipient relationship, even among the non-HIPC qualifying countries such that by 2005, there were 70 countries engaged in the PRS-framework as against the initial 41 HIPC countries (Gould, 2005; Nnadi, 2006).

The PRSP process is based on five principles that were drawn from the World Bank's Comprehensive Development Framework and thus claim to be everything that SAPs were not (Cheru, 2006; Hermele, 2005; IMF and World Bank, 1999). Thus, based on the principles stated below, the PRSPs are supposed to be:

a) country driven - develop through consultative processes;
b) results oriented - clear-cut targets, outcomes and indicators;
c) comprehensive - capture the multidimensional nature of poverty;
d) partnerships - convergence zone for all development players; and
e) drawn up using a long-term perspective – identify the long-term nature of poverty and thus need to develop medium and long-term strategies (Canagarajah and Diesen, 2006, p. 647; Cheru, 2006, p. 356; IMF and World Bank, 1999, pp. 4-5).

2.2.3 The PRSPs' triangular shape

The PRSPs' triangular shape is a product of the earlier development strategies that had been promulgated in the development industry over time. Cumulative evidence and experience of the development industry over the years informed the identification of the proposed pillars of tackling the poverty problem in the light of the changed global context. The triangular shape of the PRSP is thus based on the strategies proposed in the World Development Report 2000/2001, namely: promoting opportunity; facilitating empowerment; and enhancing security (World Bank, 2001).

Promoting Opportunity

The appealing nature of the PRSP approach does not necessarily lie in the heavy involvement of all the stakeholders in the production of the documents, but rather with the opportunity they appear to open up for the poor. Often development efforts are thwarted by the failure to identify the function of the poor in realising sustained economic growth (Whaites, 2002). At the nucleus of opportunity (Craig and Porter, 2006) is embedded pro-poor growth that "can be defined as one that enables the poor to actively

participate in and significantly benefit from economic activity" (Kakwani and Pernia, 2000, p. 3).

Pro-poor growth is all inclusive and entails that no member of society is denied the minimum basic capabilities for sustained livelihoods. Situation analysis in society reveals that the well-being of the poor is lower than that of their non-poor counterparts due mainly to the inadequate resources available for the poor to meet their basic needs in life. In the epoch of liberalised market economy, the growth process that is produced from the efficient hand of market forces ends up benefiting the rich proportionately in comparison to the poor. The qualifying explanation for this inequality lies in the fact that the rich have intrinsic advantage over the poor in a market economy because of their resource pool, which includes human, natural, physical, financial and social capital. On top of that governments of many countries either knowingly or unknowingly adopt policies that are skewed to the advantage of the rich. Subsequently, the valley in well-being between the poor and the non-poor widens over time. To reverse this trend, governments need to adopt policies that would narrow this gap (Kakwani and Pernia, 2000, p. 3).

Opportunity in the PRSP perspective focuses on reducing the impact of structural reforms on the poor and making sure that market forces work to the inclusion of the poor (Craig and Porter, 2006). According to World Development Report (WDR) for 2000, policies that are aimed at creating more opportunities require complementary efforts to "stimulate overall growth, make markets work for the poor people, and build their assets – including addressing deep-seated inequalities" (World Bank, 2001, p. 8).

Encouraging private sector-led investment

Private investment is an important factor in creating opportunities that can be tapped by the poor. Private-sector-led investment can thrive only under reduced investment risks and thus requires stable fiscal and monetary policies, stable investment regimes, prudent financial systems, and a business environment devoid of corruption (World Bank, 2001). Investment efforts by the private sector should be complemented by government investment in key areas to encourage competitiveness and also create new market

opportunities for the wider public. For instance, public investment is highly desirable in expanding the physical infrastructural base to improve poor communication conditions, which would help link production areas to markets. Feeder roads under the PRSP initiative should be given priority as this could directly create opportunities for the rural poor by curtailing the physical barrier to access to markets, information and inputs. Public investment is also required to complement that of the private sector in terms of building the skills of the labour force that is required in the private sector (World Bank, 2001).

Building the asset pool of the poor

Building the asset pool (natural, physical, human, financial and social) that is important to the poor's ability to pursue their livelihoods and fit in the market economy requires tackling the following facets:

a) increased resource allocation to pro-poor programmes that would address their socioeconomic concerns through public budgeting and expenditure;
b) improved service delivery through improved institutional capacities and, where necessary, use of *markets* and numerous agents (*Italics supplied*);
c) participation of poor communities in identifying, designing, and implementing services relevant to their livelihoods. They should be part of the monitoring mechanism to ensure that service providers are accountable to the targeted beneficiary sub-group (World Bank, 2001, p. 8)

Infrastructure development for the poor

Asset deprivation of the poor, especially in rural areas, acts as an impediment to their prospects in life. Public investment is thus required in physical infrastructure in poor and remote areas, which may include transport, feeder roads, health facilities, water and sanitation, telecommunications, schools, and electricity to support social services and economic activities (World Bank, 2001, p. 9).

Facilitating Empowerment

The success of the PRSP initiative would not be complete without challenging the existing state and social institutions, which limit the poor people's capabilities to participate effectively in deciding what works and what does not for them (World Bank, 2001). The strategy draws its inspiration from Amartya Sen's work "*Development as Freedom*" where he articulates the need for realisation of individual capability through an empowerment agenda where the poor should have the ability to engage in issues that affect their lives by participating in and negotiating their course (Craig and Porter, 2006; Sen, 2000). The World Bank, in its sourcebook on empowerment and poverty reduction, defines empowerment as "the expansion of assets and capabilities of poor people in, negotiate with, influence, control, and hold accountable institutions that affect their lives" (Narayan, 2002, pp. xviii, 14). Empowerment for the poor can be realised only by challenging the formal and informal hurdles that thwart their efforts to improve their well-being, either individually or collectively. Formal institutions that need challenging include laws, rules, and regulations espoused by governments, markets, civil society, and international agencies; while informal institutions include norms that upheld society (Narayan, 2002, p. xix).

Enhancing Security

Insecurity that may be caused by vulnerability and exposure to risks can undermine the good works wrought at the hands of opportunity and empowerment. As a result, formulators of PRSPs needed to realise the fact that the vulnerability[3] of the poor and their exposure to risks[4] undermine their efforts in achieving secure livelihoods (Craig and Porter, 2006). Therefore, their predicament calls for prudent policies and actions that would reduce risks or protect vulnerable social groups to exposure to risks (Alwang et

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[3] As cited by Devereux, Chambers' 1989 work '*Vulnerability, coping and policy*' defined vulnerability as "exposure to contingencies and stress, and difficulty in coping with them". Vulnerability thus has two sides: an external side of risks, shocks, and stress to which an individual is subject; and an internal side which is defenselessness, meaning a lack of means to cope without damaging loss (Devereux, 2001, pp. 508-509).

[4] Risks are characterised by known or unknown probability distribution of events, which are themselves characterised by their magnitude (size and spread), frequency and duration, sources, and correlation (Alwang et al., 2002, p. 4). Individuals, households or communities apply both formal and informal risk management instruments based on the characteristics of the risks and access to the instruments as well (Alwang et al., 2002; Holzmann, 2001).

al., 2002). According to Devereux (2001), the poor people's livelihoods are normally threatened by their susceptibility to shocks due to their limited asset pools. Moser (1998, p. 3) points out that assets and entitlements that individuals, households, or communities can command or manage in times of hardships or shocks are important in dealing with their vulnerability[5,6]. Thus vulnerability and security are functions of assets in the sense that the more assets individuals have, the less vulnerable they are and the lesser their asset pool the greater their insecurity (Moser, 1998, p. 3). The core argument from Moser's work is that assets are indispensable in reducing the poor people's vulnerability and insecurity in the sense that they can be used to raise income, increase their reserves against shocks and broaden their choices. Therefore, improving asset holdings of the poor promotes equity as it stimulates productivity and economic growth, which is important for their livelihood[7] security (Rahman and Westley, 2001).

Livelihood security entails having sufficient and sustainable access to income and resources to meet essential needs such as food, clean and safe water, health facilities, educational opportunities, influencing policy making on issues that affect their livelihoods and so on (Baro and Deubel, 2006, p. 528). A household's livelihood is constituted with entitlements that are based on their endowments, which are a function of the legal, political and social fabric of society (Baro and Deubel, 2006). Conversely, the "risk of livelihood failure determines the level of vulnerability of a household to income, food, health, and nutritional insecurity" (Baro and Deubel, 2006, p. 528).

Therefore, households can be said to have secure livelihoods if they own assets; have access to resources; are engaged in income-generating activities; and have reserves to

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[5] "Vulnerability is determined partly by risk factors that are generic to groups of people who are connected geographically or by shared risk characteristics (exposure), and partly by risk factors that are specific to individuals or individual households (susceptibility)" (Devereux, 2001, p. 509).

[6] Vulnerability thus has been understood to be concerned about the risk of exposure to a hazard, which may leave one impoverished (or worse), though the basic concept is more about risk, and the ability to cope with it, than it is about current material status (Care International, 2003, p. 3).

[7] A livelihood encompasses capabilities, assets (stores, resources, claims, and access) and activities required for a means of living; a sustainable livelihood can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation (Care International, 2003). Livelihoods include a range of on-farm and off-farm activities that together provide a myriad of procurement strategies to make a living (Baro and Deubel, 2006).

offset risks, ease shocks, and meet contingencies (Baro and Deubel, 2006; Care International, 2003). Csaki (2001, p. 568) argues that "improving social well-being, managing risks, and reducing vulnerability are key to improving the quality of life of rural people". The PRSPs policy framework thus identifies the need to stress enhanced security among the poor through the designing of policies and programmes that would promote asset holdings, which would make them more productive and thus contribute to economic growth even as their livelihoods become more secure and their well-being improves.

2.2.4 Operationalising the PRSPs – Experience in practice

Now that the background to the poverty reduction agenda has been outlined, it would be worthwhile reviewing how it has performed in reality against its envisaged contribution to alleviation of the poverty problem. There is a wide spectrum of literature criticising the poverty reduction agenda especially based on the PRSPs as policy documents. The observed weaknesses fall under either the process or content or the financing of the PRSPs.

Process of PRSPs

Based on the five principles of the PRSPs mentioned in Section 2.2.2, the PRSPs are supposed to be country owned and prepared in a more participatory and consultative process involving all the stakeholders such as civil societies, traditional leaders, central and local governments (Canagarajah and Diesen, 2006; Cheru, 2006; IMF and World Bank, 1999). This wider consultative and participatory process was aimed at ensuring that the policy document produced reflects the development goals and aspirations of all the stakeholders. However, the linking of the PRSPs to the HIPC initiative brought about trade-offs between achieving wider consultations, which required investing a lot of time in it, or just going ahead and producing a document that was required for debt relief (Knoke and Morazan, 2002).

Marshall and Woodroffe (2001), cited in Knoke and Morazan (2002), point out that such trade-offs as discussed on the previous page were evident in Malawi and Mozambique where stakeholders had to gauge the consequences of procrastinating debt relief against

the importance of legitimate and widespread participation. The trade-offs of going for either broader consultation or quick debt relief was also evident in many other countries[8] that prepared PRSPs as a condition for debt relief. In cases where debt relief took preeminence, the input of key stakeholders including parliamentarians, trade unions, women's groups, and marginalised groups such as the poor was left out (Stewart and Wang, 2003). The exclusion of the poor, who are the primary stakeholders in the PRSPs, from the consultative process implies that even the priority areas settled upon, policy options adopted, programme implementation frameworks designed, and monitoring and review processes developed are far from being relevant to reducing poverty in real sense (Christian Aid, 2001).

In some cases, their selectivity was identified in the way governments, as lead stakeholders in PRSP preparation went about inviting participants. For instance in Ghana, civil organisations that were seen to be critical of government policies were left out (Stewart and Wang, 2003). In the case of Cameroon, the government handpicked civil society participants leaving aside major institutions such as the church organisations (Catholic Relief Services, 2001). A skewed participation of civil societies in the PRSP consultation process was observed in Bolivia and Senegal, where representation was mainly from either large civil organisations or those situated in the capital cities (Stewart and Wang, 2003).

The linking of the PRSPs to the HIPC initiative resulted in a rushed consultative process in the bid to meet the deadlines, which compromised the quality of participation (Canagarajah and Diesen, 2006; Stewart and Wang, 2003). Countries producing PRSPs thus were keen to produce the required policy documents within the shortest possible time so as to lock in debt relief (Adam and Bevan, 2001, p. 5; Stewart and Wang, 2003, p. 13). Christian Aid points out that "as governments of indebted countries are understandably keen to see debt relief implemented quickly, many are forced into unrealistically short time frames for developing their PRSPs" (Christian Aid, 2001, p. 14). For instance, in Mozambique the PRSP's consultation process was driven by a

[8] Kenya, Senegal, Mali, Tanzania, Uganda, Lesotho, Bolivia, Ghana, Cameroon (Stewart and Wang, 2003)

deadline set for the completion of the PRSP at the expense of a comprehensive consultation process (Stewart and Wang, 2003). In Ghana, it was reported that the economic difficulties facing the country resulted in a fast-tracked PRSP consultative process to meet the timeline for debt relief (Christian Aid, 2001).

As for the participating organisations in the PRSP consultative meetings, they were served with notices at the last minute and in some cases, even he documents for discussions were not included. Action Aid states, in its review report based on the experience it had in six countries[9], how inadequate notices, materials supplied, lengthy reports and limited time for discussions limited participants' input:

> With the exception of Rwanda, all other country programmes reported a lack of adequate prior notice regarding meetings and consultations. Many were informed only 2 or 3 days in advance, and in the case of Nepal, a 24 hour prior notice was given on one occasion....such last minute notification prevented them from preparing adequately for PRS consultations, lengthy reports and documents could not be commented upon and the views of community partners could not be sought (Action Aid, 2002, p. 7).

Short notices given one day prior to meetings, insufficient preparatory information material, heavy government presentation of materials, coupled with the technical language used in the documents were observed to be problems in a number of countries during their consultation process [10](Catholic Relief Services, 2001; Stewart and Wang, 2003). In some cases, the PRSPs were drafted by civil servants without an input from other stakeholders or members of civil societies (Stewart and Wang, 2003). In Bolivia for instance, "a small circle of government economists undertook drafting of the PRSP plan for more than four months without including or even informing civil society organisations that had participated in the National Dialogue" (Catholic Relief Services, 2001, p. 10).

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[9] Haiti, Kenya, Malawi, Nepal, Rwanda, Uganda, and Vietnam (Action Aid, 2002)
[10] Honduras, Cameroon, Bolivia, Mozambique, Rwanda, Niger, Uganda, and Kenya (Catholic Relief Services, 2001; Ndomo, 2005; Stewart and Wang, 2003).

Contents of PRSPs

It would be expected that the participation of various stakeholders in the preparation of the PRSPs yield policy documents would reflect the development goals and aspirations of the country within agreed policy frameworks. As policy documents that describe a country's "macroeconomic, structural and social policies" (Craig and Porter, 2006, p. 82), it is expected within the context of country ownership, that the participants attending consultation fora deliberate on the linkages of these policies to poverty reduction holistically realizing the multidimensional nature of poverty. However, a wide spectrum of literature contends that consultation was not exhaustive of all the policies that shape the PRSPs and in cases where consultation was exhaustive; the recommendations were left out of the final documents.

In the IMF's independent evaluation office report of 2003 it is argued that while stakeholders were consulted in the formulation of PRSPs, "their influence on the choice, design, and implementation of policies" had "not increased markedly" (IMF Independent Evaluation Office, 2003, p. 8). A significant policy mismatch could be observed between the aspirations of the poor (who are the primary stakeholders in the PRSP framework) and what the typical policy recipes of the PRSPs are as presented in Table 2.2 below (Hermele, 2005; UNCTAD, 2002).

Sector	**Policy Aspirations of the Poor**	**Policy Recipes of Typical PRSPs**
Education	- free education from primary to secondary level;	- reduce or eliminate primary school fees, but apply user fees at higher levels;
Health	- treatment and medicines free of charge;	- primary health care free of charge, but otherwise user fees (except for specified diseases);
Agriculture	- distribute land; subsidize inputs and credits; no privatization of common land; no dismantling of government-run cooperatives;	- develop land markets; promote micro-credit schemes and eliminate marketing boards, subsidies and taxes on agriculture;
Labour market	- create jobs; eliminate measures that increase unemployment;	- reduce rigidities in labour markets;
Macropolicies	- expansionary macro policies;	- fiscal and monetary prudence;

Distribution	- sensitivity for income and social differentiation (equity);	- careful avoidance of distributional trade-offs (avoids equity);
Private sector	- no massive privatization; anti-big businesses; cheap credit to the poor;	- private-sector-led development; micro-credit; privatization; eliminate financial repression to encourage savings;
Governance	- eliminate nepotism, corruption in health care, employment, justice, education, and security services	- broader governance agenda, with special emphasis on high-level corruption e.g. government and big businesses;

Table 2.2: Popular Demands against Typical PRSP Policy Recipes
Source: (Hermele, 2005, p. 9; UNCTAD, 2002, p. 14).

From Table 2.2 presented above, it is clear that there is a great discrepancy between what the aspirations of the poor are, as regards to the policy frameworks that can bring about improved well-being and living conditions, and what was adopted for implementation within the PRSP framework.

Nevertheless, in some cases, civil societies and other interested groups were able to have their concerns embraced within the PRSP framework. In Kenya, pastoralist groups were able to successfully lobby for the inclusion of their concerns such as "access to productive assets, natural resource management and extension services for livestock in the final PRSP document. They also managed to secure higher-than-average funding for education bursaries in pastoralist areas" (Stewart and Wang, 2003, p. 17). In countries like Malawi, Vietnam, Rwanda, and Uganda, Action Aid country offices reported that lobbying groups such as HIV/AIDS, rural peasant producers, and women's groups had great influence in shaping social polices of their countries' PRSPs (Zaman, 2002, p. 7).

The linkages between poverty reduction and the millennium development goals (MDGs) required adequately elaborated sectoral plans in the PRSPs. The presence of the civil societies and interest groups in the PRSP consultation process saw the designing of sound social policies aimed at reducing poverty on the one hand and attaining the MDGs on the other. However, this whole process is critically based on "an overall poverty-focused macroeconomic framework that seeks to maximize the resources available to support

poverty reduction. It is the macroeconomic framework that defines the levels of debt relief, aid, revenue, and inflation and as a result the resources available for poverty reducing expenditures" (Oxfam International, 2004, p. 16).

Despite the central place that the macroeconomic framework holds in the poverty reduction process, the PRSP consultative processes excluded macroeconomic and structural policies from public debate (Oxfam International, 2004; Stewart and Wang, 2003). As cited by Christian Aid, Eurodad (2000) highlights how partner non-governmental organisations (NGOs) reported that there were two processes to the formulation of PRSPs; one which covered "social issues discussed in the context of the PRSP – with some participation; and macro issues discussed in the context of poverty reduction and growth facility (PRGF) with no participation" (Christian Aid, 2001, p. 12). For instance in Honduras, civil societies complained that they were excluded from participating in compiling the PRSP's macroeconomic chapter (Stewart and Wang, 2003). In Kenya, the chapter was drawn up by civil servants who were "either former World Bank employees or continued to receive salaries provided by the WB to the government of Kenya" while working on the document (Zaman, 2002, p. 12).

In the case of Bolivia, CEDLA, an umbrella NGO, complained that the macroeconomic framework was composed of an economic model which was a 'given' one and "they were only permitted to tinker around the edges of a model with which they fundamentally disagreed and considered to be actually exacerbating poverty....macroeconomic targets and strategies were not open to change" (Christian Aid, 2001, p. 12). The main reason advanced for the exclusion of civil societies from macroeconomic debates is because of their limited capacity to digest macroeconomic issues (Oxfam International, 2004; Siebold, 2005). However, the Armenian[11] experience proves that the reason is far from

[11] "The Armenian group of young economists called Economic Development Research Centre (EDRC) worked closely with the Ministry of Finance to produce their own macroeconomic framework for the first PRSP draft. The framework recognized the importance of both growth and equity, setting targets for the reduction of inequality as well as for increased growth. Unfortunately, when the second draft of the PRSP was released, without any explanation this commonly agreed macroeconomic framework had been dropped in favour of the figures agreed with the IMF under the PRGF agreement" (Oxfam International, 2004, p. 9; Siebold, 2005, p. 12).

being the civil societies' incapacity to handle macroeconomic debates but rather the neoliberal agenda that informs the PRSP's macroeconomic framework (Oxfam International, 2004; Siebold, 2005).

Though the PRSP framework is built on the principle of country ownership, the hands of governments involved are tied when it comes to adopting appropriate macroeconomic policies. The experience of Honduras attests to this fact. The civil societies in Honduras were told point blank that "the Fund's position with regard to macroeconomic policies was not negotiable" (Knoke and Morazan, 2002, p. 16; Stewart and Wang, 2003, p. 18). In Kenya, the Minister of Finance was dismissed in December 2000 after issuing a series of public statements alleging that the World Bank and IMF were forcing the government to adopt unpopular policies (Zaman, 2002, p. 12). According to Knoke and Morazan (2002, p. 16), the PRS initiative marries the successful implementation of poverty reduction programmes to the implementation of "growth oriented policies, based on liberalization of trade and financial markets, a restrictive stabilization policy and privatization..., which shows that the objective of macroeconomic stabilization was given priority over country ownership and pro-poor policies".

In some cases, governments were not eager to alter macroeconomic frameworks for the fear that their policy documents would not be endorsed by the boards of the IMF and World Bank and thus they would lose out on debt relief (Stewart and Wang, 2003). The World Development Movement quoted some Minister of Finance of a country required to develop a PRS who said that: "we do not want to second guess the Fund. We prefer to pre-empt them by giving them what they want before they start lecturing us about this and that. By doing so, we send a clear message that we know what we are doing i.e. we believe in structural adjustment"[12] (World Development Movement, 2001, p. 10).

[12] Also Cheru (2001); Zaman (2002) .

The close association between the PRSP and PRGF actually explains why the PRSP's macro policies have been criticised for being anti pro-poor[13]. From the late 1980s to the emergency of the poverty agenda in 1999, IMF's concessional lending was guided by the Enhanced Structural Adjustment Facility (ESAF) where countries were required to adopt structural reforms with a neoliberal framework (IMF Independent Evaluation Office, 2003). The widely criticised ESAF programmes were replaced by the PRGF, which were aimed at reversing the poverty trends that emerged owing to the implementation of ESAFs (AFRODAD, 2006a; IMF Independent Evaluation Office, 2003; McKinley, 2004a).

The PRGF framework was launched on the premises that the programmes to be supported would be pro-poor and pro-growth, the programmes would be country owned, and that there would be better defined roles and responsibilities in terms of all the stakeholders involved (AFRODAD, 2006a, p. 9). In this arrangement, the government of a concerned country may articulate "a strategy around which external development partners could align their own programs of support" (Klugman, 2002, p. 89) and the World Bank takes the role of a "Knowledge Bank, defining and propagating a model of development best practice" (Pender, 2001, p. 79). This means that though the low-income countries prepared PRSPs based on their assessed needs, the prerogative still remained with the "Joint Boards of the Bank and the Fund" (Booth, 2003, p. 143) to reorient the PRSPs in line with their perceived development models and theories. The PRGF supports macroeconomic policies that are designed to achieve growth and poverty reduction. This focus on poverty reduction could be achieved only by framing the PRGF around the PRSPs, thus targets and policy conditions within the PRGF framework are supposed to be extracted from a country's PRSP (AFRODAD, 2006a, p. 10).

[13] While the PRSPs offered some improvements over their predecessor, the structural adjustment programmes, as they are built on their premise of being participatory and comprehensive, PRSPs have been criticised for being anti pro-poor and exacerbating poverty (Power, 2003; Stewart-Withers, 2007; Storey et al., 2005).

While the PRGFs are meant to be informed by the PRSP's macroeconomic policy framework, in many cases the opposite has occurred (AFRODAD, 2006a; McKinley, 2004a; Stewart and Wang, 2003), because most countries negotiated their PRGFs before drawing up their PRSPs (McKinley, 2004a; Stewart and Wang, 2003). According to Oxfam International (2004, p. 16) "PRSP macroeconomic frameworks are taken directly from PRGF agreements that have been agreed with the IMF before the PRSP are finished". They "have been imported virtually without change into the PRSP" (McKinley, 2004a, p. 5). Out of the 20 PRSPs that were completed by March 2003, 16 had IMF's PRGF agreements finalised before the PRSPs were completed (Oxfam International, 2004). In Bolivia, Ghana, and Nicaragua the targets agreed within the PRGF framework formed the basis for "macroeconomic benchmarks and performance targets" in the PRSPs (Stewart and Wang, 2003, p. 25). Table 2.3 below highlights typical examples of how the relationship between PRGFs and PRSPs is reversed in reality.

Country	Date of IMF Letter of Intent	Date of PRGF Loan	Date of PRSP Endorsement
Bolivia	20th December 1999	7th February 2000	21st May 2001
Honduras	10th March 1999 20th September 2001	8th December 1999 7th June 2000	31st August 2001
Cameroon	23rd May 2000 6th December 2000 28th June 2001	22nd December 2000 16th July 2001	2002
Zambia	30th June 2000 29th March 2001 15th October 2001	27th July 2000 17th April 2001 8th November 2001	Early 2002

Table 2.3: Milestones in the Signing of PRGF Agreements and PRSP Endorsement.
Source: Adapted and modified from (Catholic Relief Services, 2001, p. 14)

It is clear from Table 2.3 above that countries concerned negotiated their Letters of Intent and PRGF loans prior to the completion of the PRSPs; although in principle the reverse should have happened. In some cases, the PRSP endorsement had to be postponed because a "country missed targets set in the PRGF agreement" (Stewart and Wang, 2003, p. 25). In the case of Malawi, the country "disbanded the PRSP altogether and was creating a new national development policy framework by the time negotiations went underway for a new PRGF programme" (AFRODAD, 2006a, p. 10). Moreover, countries that could not comply with their PRGF agreements by advancing more pro-poor policies

had their PRGF loans suspended[14], which raises questions as to whether the interest is really in reducing poverty or in reinforcing the neoliberal agenda. In Kenya for instance, the government's inability to combat corruption as one of the conditions of the PRGF agreement saw the suspension of IMF lending in December 2000 with other donors following suit (Hanmer et al., 2003, p. 184).

Besides the loan documents falling under the category of PRGF agreements, the PRSPs are also shaped by another important document called the *Country Policy and Institutional Assessment* (CPIA) or *report card.* This report card is used to assess how the borrowing low-income countries are faring on a yearly basis (Rowden and Irama, 2004). Despite their great influence in shaping the PRSP's macroeconomic policies through the PRGF agreements, CPIAs are not publicly available, not even to the governments of borrowing countries that are being graded (Rowden and Irama, 2004; Siebold, 2005). In the grading system under CPIA, a high score has nothing to do with a country's success in reducing poverty or even sustained economic growth; instead, the scores "reflect the extent to which a government has embraced neoliberal policy and institutional reforms such as liberalization, privatization, and fiscal austerity that are standard features of structural adjustment policies" (Rowden and Irama, 2004, pp. 13-14). Thus governments of countries with a high CPIA score (since they conformed to neoliberal policy and institutional reforms) have access to heavy financial assistance while their counterpart countries scoring low (for non-compliance with the neoliberal agenda) receive mainly policy advice and limited, if any, financial assistance (Ndomo, 2005, p. 23).

[14] Although it has been claimed that the PRGF differs from the earlier ESAF, the IMF still maintains tight fiscal control especially in some countries that have had problems ensuring appropriate flexibility in fiscal policies. In Malawi and Zambia, long struggles with expenditure control and structural problems, especially privatization issues, led the IMF to revert to ESAF fiscal controls, which constrained social spending (AFRODAD, 2006a, p. 5). In the case of Honduras, the country went off-track with the IMF's PRGF in 2001 and has had problems getting back. As a 'HIPC' classified country, Honduras could not reach full debt cancellation, which resulted in resources from donors such as Inter-American Development (IDB) to be withheld until an agreement was reached (Oxfam International, 2004, p. 18)

PRSPs and resource allocation

Perhaps the most important aspect of the operationalisation of the PRSPs is their linkage to allocation of resources available for poverty reduction. In this regard, the budgeting process becomes a key point for analysing this linkage. According to de Renzio and Smith (2005, p. 1) "strong linkages between policy, planning and budgeting are necessary for developing country governments to use limited resources efficiently and effectively". The governments' real commitment to poverty reduction is expressed in their budgets in which the coherence and consistency of issues like resource mobilisation, allocation and management are elaborated. However, the asymmetry of power affects the distribution of public resources (de Renzio, 2004). Experiences in the implementation of PRSPs reveal that "the linkages between policies, budgets and poverty impact are still weak" (de Renzio, 2004, p. 4).

The weak link between PRSPs and resource allocation is strengthened in theory with the introduction of Medium Term Expenditure Frameworks (MTEFs). The MTEF as a budgetary tool was introduced to "link the often competing short-term imperatives of macroeconomic stabilization with medium and longer term demands on budget resources, thereby contributing to improved policy making and planning and more efficient and effective service delivery" (de Renzio and Smith, 2005, p. 1).

An MTEF is a fundamental component of the annual budget cycle, which consists of " a top-down resource envelope consistent with macroeconomic stability and broad policy priorities; a bottom-up estimate of the current and medium term cost of existing national programmes and activities; and an iterative process of decision-making matching costs...with available resources over a rolling 3 to 5 year period" (Craig and Porter, 2003, p. 60; de Renzio and Smith, 2005, p. 1; Foster et al., 2002, p. 3). While the PRSP identifies long-term poverty reduction priorities, the MTEF provides the framework for resource allocation, within which policy choices and trade-offs and are based on resources available (de Renzio and Smith, 2005). According to Holmes and Evans (2003, p. 6), the MTEF links "what is desirable with what is affordable and most likely to deliver results". MTEFs were therefore introduced to ensure that the figures that were

agreed upon in the PRGF negotiations are adhered to in the name of budget ceilings (AFRODAD, 2006a).

As operational tools for the interpretation and implementation of PRGF-based PRSP macroeconomic policies, the national budgets (developed within the MTEF) have to be precise about how economic growth and poverty reduction would be achieved. This is expressed mainly in terms of the taxation system adopted as an avenue for revenue generation and also an incentive for private investment. This trade-off is mainly overweighed by the need to score high on the CPIA scale through the upholding of neoliberal policies. The resulting factor is the recommendation in the national budgets of tax policies that "avoid raising taxes on corporate and personal incomes because of their adverse effects on investment and capital flows...and to keep taxes low, with a minimum number of exemptions" (UNCTAD, 2002, p. 27). Tax reforms promulgated within the PRGF macroeconomic frameworks undermine the capacity of the governments to generate revenue that should be channelled towards poverty reduction programmes. A small revenue base means that even the government budget would be compressed and with small budgets, the governments are constrained to redistribute the national wealth equitably (McKinley, 2004a).

The only option remaining for governments to increase their revenue collection is the introduction of "a broad-based consumption tax, called *value added tax* (VAT), which is often regressive" (McKinley, 2004a, p. 6; UNCTAD, 2002, p. 27). VAT as a tax is regressive in the sense that it affects both the rich and poor equally as they all have to spend on consumption of goods and services (Knoke and Morazan, 2002; McKinley, 2004a). However, in absolute terms the poor pay heavily under the VAT tax system as most of their income is spent on consumable goods and services (McKinley, 2004a). While private actors often enjoy tax concessions as incentives for massive investment under the PRGF-oriented MTEF budgets, the poor are adversely affected by the governments' decisions of broadening the tax-base by increasing VAT from 12% to 15% and even 17.5% in some cases[15] (Knoke and Morazan, 2002, p. 14).

[15] Cameroon, Central American Countries (Knoke and Morazan, 2002, p. 14).

As evidenced by analysing the issues surrounding the operationalisation of the PRSPs, experience in practice has revealed that though the PRSP initiative presented potential pathways for reducing poverty, the initiative exhibits limitations. Firstly, the linking of PRSPs to debt relief forced most of the countries to abandon a meaningful consultative process for rushed production of documents for the sake of meeting the requirements for debt cancellation. Secondly, even where some level of consultation was undertaken, the contents of the documents produced reflected little by way of inputs from stakeholders, especially on macroeconomic policy issues as these were a preserve of the IMF and the state. Lastly, the linkages between programme design and resource allocation proved to be weak as there is no clear operational framework to link savings from debt relief to financing of poverty reduction programmes.

2.3 *Conclusions*

The advent of the new development agenda in the name of poverty reduction in 1999 raised a lot of hope in a world where millions of people are subjected to abject poverty. The change from pursuing orthodox policies was triggered by a combination of the debt crisis and the excruciating effects of SAPs. Through much advocacy by civil societies such as Jubilee 2000, the leaders of the G7/8 were petitioned to consider writing off the debt of heavily indebted poor countries so that savings from debt cancellation could be channelled towards poverty reduction programmes. Against this background, the Bretton Wood Institutions (the World Bank and the International Monetary Fund (IMF) were instigated to devise the HIPC initiative as an avenue for debt relief. Eligible countries were thus required to develop PRSPs as frameworks for expending the savings from debt relief on poverty related programmes.

However, some weaknesses have been identified related to this new development agenda. Firstly, the linking of the HIPC initiative to the PRSP led to the compromising of the latter in the sense that where the documents should have been prepared in a more consultative manner, the participation process was compromised as countries were keen to have their debt cancelled at the expense of comprehensive participation. Secondly, though some level of consultation was achieved in the PRSP preparation process, the input from civil societies and other interest groups was hardly captured as the policy

documents had to fit within the pre-determined frameworks. The best example of this is the macroeconomic policies that were not open for debate as they were dealt with between the Ministry of Finance and the IMF. The linking of PRGFs (which were an upgrade of the ESAF) to the PRSP meant that the macroeconomic policies characterising the PRSP were corrupted by the influence of the neoliberal agenda.

Though in theory the PRGFs are supposed to be based on the PRSP's macro policies, it is obvious that the reverse is often true because in many instances the PRGFs have been negotiated prior to the completion of the PRSPs. The resulting factor was the importation of macroeconomic policies from the PRGFs into the PRSPs without any alterations. The PRSP policies are also influenced by the CPIA, which is an assessment card used to evaluate how the low-income borrowing countries are complying with neoliberal policies. The higher the score the more compliant a country is and the more eligible the country becomes to concessional lending. The implication of this quagmire is the abandonment of pro-poor policies by the governments in favour of policies that are linked to increased financial assistance.

The PRSPs as policy documents have been found wanting in terms of linking policies to resource allocation. As a result, MTEFs were introduced to link poverty reduction programmes to available resources within a broader macroeconomic framework of stability. The MTEFs thus provide budgetary ceilings within what is agreed under the PRGFs so that government expenditure is kept within budget provisions. However, the formulation of a national budget within an MTEF (which is based on the PRGF) results in adoption of tax systems that undermine government revenue generation capacity in the name of promoting external investment through lowering taxes. As a result, the governments lose much revenue, which is required to finance poverty reduction programmes. Low revenue generation means small budgets, and a small budget means reduced government capacity to support pro-poor programmes. The only alternative left for the governments to maximise revenue generation is through imposition of a consumption-based tax system called VAT, which tends to be regressive in the sense that

even though it affects both the poor and rich equally, the former tend to pay more in absolute terms as they spend most of their income on consumption goods and services.

While PRSPs had great potential to reverse the trends of high levels of poverty generated under the SAPs, the connection of PRSPs to policies that are informed by neoliberal ideologies make them promote the development of economic sectors, which do not support the activities of the majority of the poor people (Knoke and Morazan, 2002). The PRSPs promote industrial-based economic sectors such as mining, while the majority of the poor people are engaged in agricultural-based activities.

Having digressed from the poverty reduction agenda by elucidating issues surrounding its core tool the PRSPs, in the following chapter the author will explore further one of the industrial-based economic sectors promoted within the PRSPs' macroeconomic framework, mining. The analysis is focused on a discussion of the potential linkages between the development of large-scale mines and poverty reduction, especially among the mining communities.

Chapter 3 Mining and Poverty Reduction

This chapter is a build up on Chapter Two though it narrows down to a discussion on the potential contribution that the development of a large-scale mine in an area can make to reduce the poverty levels of local communities. The analysis is limited to the four spheres that were identified in Chapter One. These spheres are further adapted to form the conceptual framework upon which the shape and boundaries of this thesis are determined.

3.1 *Introduction*

Mining is highly promoted in mineral-rich countries as a potential sector to contribute towards sustained economic growth. From time immemorial since minerals were integrated into the production and consumption of human lifestyles, mining techniques have evolved from simple methods of hand-digging to more sophisticated capital intensive methods of explosives and heavy mechanisation. Mining activities have now increased to such an extent that both national governments and private operators are heavily involved in exploration, production, and/or regulation of mining activities. In terms of exploration, activities are carried out almost everywhere with the hope of discovering new areas of excavations for commercial production. Where traces of mineral deposits have been discovered, mining activities are then established at either small or large scale levels depending on the abundance of the deposits.

Hence, mining is considered to be lucrative such that the operators of some mines are able to recoup their initial capital investment and declare profits within a short period of time[16]. Therefore, it can be argued that the benefits that the industry offers within a short period of time tend to outweigh the costs of investment. While mining activities come with environmental, social and economic impacts - especially in terms of local populations in which the productions are being carried out - it is argued that in theory mining brings about a spectrum of benefits to both the nation and, specifically, local

[16] It was projected, for instance, that the operators of the Kansanshi mine would recover capital expenditure in a period of five (5) years, but within eleven (11) months of operations, profits were declared profits and payment of royalties had commenced (Interview with Felix Nkulukusa, 2007).

communities where the mining activities are taking place (Weber-Fahr et al., 2002). Even within the framework of the new paradigm discussed in Chapter Two where the poverty reduction agenda is at the centre-stage of the development industry, it is believed that mining can contribute towards reduced poverty levels especially among mining communities. The contribution is mainly through direct or indirect impacts on the four spheres of the multidimensional facets of poverty (World Bank, 2001), which were introduced in Chapter One.

In light of the above, in this chapter, the researcher seeks to critically explore mining as a sector that can either bring about anticipated development from an economic perspective or foster existing inequalities and widen well-being gaps between the poor and non-poor in mining areas. Considerations will also be given to social and environmental issues. The chapter commences with an introduction to the concept of mining and a discussion of the potential contribution of mining to development at both small- and large-scale levels. The author further explores how mining is linked to poverty reduction and the potential benefits to the poor living in mining areas. In viewing mining and poverty reduction critically, the negative impacts of mining in the context of environmental, social and economic spheres at local level will also be highlighted.

3.2 *Mining in the era of the Poverty Reduction Agenda*

The World Bank, as the architect of the Poverty Reduction Strategy Papers (PRSPs), produced a source book to help countries preparing these policy documents to mainstream mining. The World Bank makes linkages between mining and the four dimensions of poverty identified in the World Bank's World Development Report of 2000/2001 entitled *Attacking Poverty*. In the World Development Report 2000/2001 these dimensions are identified as:

a) material deprivation,
b) vulnerability and exposure to risks,
c) low levels of health and education, and
d) voicelessness and powerlessness (World Bank, 2001, p. 15).

Based on these four dimensions of poverty, the World Bank identifies the potential contribution of mining development towards each of these poverty states of the rural

poor. The potential contribution of mining to poverty reduction is in four spheres as identified in Chapter One, which are a positive face of each of these four dimensions of poverty, and these are economic opportunities, capabilities, security, and empowerment (Pegg, 2006; Weber-Fahr et al., 2002). It is assumed that once the mining sector is well developed in resource-rich countries, it will lead to poverty reduction by contributing through these four spheres mentioned above. It must be stressed here that three of these spheres are the same aspects that form the triangular shape of the PRSPs, which were discussed in Chapter Two 'The Poverty Reduction Agenda'. In this section, however, the potential contribution of mining to the poverty reduction agenda, based on the four spheres, is discussed. The section starts with a diagrammatic presentation of the potential linkages between mining and poverty reduction and then proceeds with detailed analysis of each of the four spheres without any order of priority.

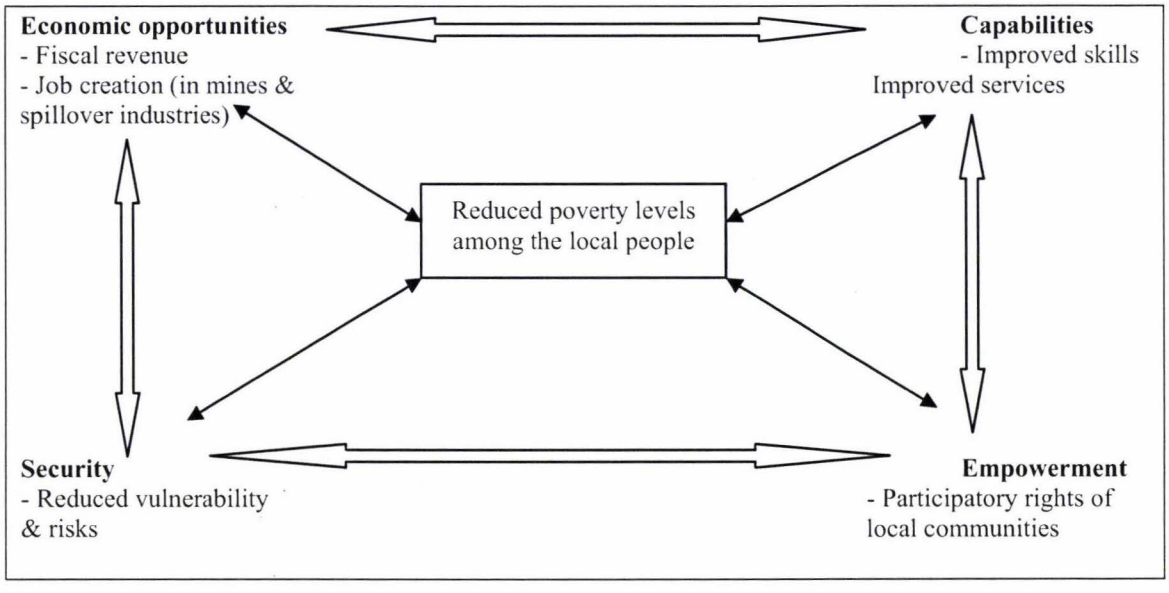

Figure 3.1 Mining – Poverty Reduction Linkages Framework
Source: Adapted from Weber-Fahr et al, (2002, p. 447).

3.2.1 Mining and opened up economic opportunities

The notion that mining can effectively facilitate economic development and lead to poverty reduction has a first-glance appeal. Lucrative resources, such as minerals, found in most developing countries have the potential to generate large revenue avenues that can be channelled towards poverty reduction programmes (Pegg, 2006). It is believed

that the mining sector, as one of the extractive industries, is an important sector that has the potential to grow the economies of mineral-rich countries with the hope of trickle-down effects to social services and infrastructure development (World Bank, 2004). The national governments and influential institutions in policy design, such as the Bretton Woods Institutions (World Bank and the International Monetary Fund-IMF), advocate for the promotion of mining in mineral-rich countries due to some perceived theoretical linkages between mining and poverty reduction. In terms of opened up economic opportunities, the potential linkages include the following.

Mining and revenue generation

It is generally argued that the mining sector would generate large revenue through net foreign exchange and taxes, which national governments would then channel towards poverty reduction programmes (Pegg, 2006; Weber-Fahr et al., 2002). Firstly, it is believed that the mining sector can best yield greater benefits if it is entirely privatised in the sense that abolished subsidies to the sector would free up huge resources that could then be redirected towards poverty reduction interventions. Secondly, private-owned mining firms would contribute higher fiscal income in terms of taxes and royalties as opposed to state-owned or quasi-state-owned firms (Weber-Fahr et al., 2002). The theoretical linkage propagated in this sphere is that mining leads to substantive taxes, royalties and foreign exchange revenue for the government, which would then be channelled towards funding poverty reduction intervention. Indirectly, revenue generation leads to poverty reduction (Pegg, 2006).

Though it cannot be argued how much potential the mining sector has for generating revenue for national governments, in reality policy contradiction makes the theoretical logic mere rhetoric. The reforms package prescribed to developing countries in the name of structural adjustment often hand-ties the governments in mineral-rich countries from realising the substantive revenue that is earned from the mining sector (Kumah, 2006; Pegg, 2006). Through structural adjustment packages, the World Bank and the IMF (IMF) promulgated policy reforms that include - among others - trade and investment liberalisation, privatisation, deregulation, and legislative reforms (Pegg, 2003).

The prescription to liberalise trade and investment was intended to create an enabling environment that would attract investment from multinational corporation firms involved in mineral extraction. The specific incentives given to multinational mining corporations included: "reduced taxation, royalties and other fees; elimination of domestic ownership requirements and restrictions on repatriation of profits; deregulation of commodity markets; and strengthening of investor protection and property rights" (Kumah, 2006, p. 318). Examples can be drawn to emphasise the point that reform policies introduced in the mining sector reflected contradictions between a need to maximise revenue generation while at the same time wanting to attract foreign investment. For instance in Burkina Faso, the World Bank sponsored the mining sector through technical assistance, and the resulting mining code that was produced reduced income taxes by 20 per cent and dividend withholding taxes by 50 per cent. The government's participation in the mining venture was restricted to 10 per cent (Pegg, 2003).

In the Ghanaian experience, corporate income taxes coming from private mining firms reduced from 50-55 per cent in 1975 to 45 per cent in 1986 and by 1994 it had further reduced to 35 per cent (Pegg, 2006, p. 380; Yelpaala and Ali, 2005). The country also adjusted the initial capital allowance that potential investors could use to recover their capital investment from 20 per cent in the initial year of production and 15 per cent for subsequent years in 1975 to 75 per cent in the initial year of operation and 50 per cent for subsequent years in 1986 (Pegg, 2006, p. 380). Mineral royalties payable to the government decreased from 6 per cent in 1975 to 3.7 per cent in 987. Mining firms were totally exempted from paying other revenue-generating duties such as the 5 per cent for mineral duty; 5-35 per cent for import duty; and 33-75 per cent for foreign exchange tax. Further on, mining companies were permitted to retain a minimum of 25 per cent of foreign exchange in an external account for purposes of acquiring movable assets required for production and dividend payment and remittance for expatriate labour (Pegg, 2006, p. 380; Yelpaala and Ali, 2005).

In the light of these examples, it is clear that the World Bank's recommendations to reduce mineral royalties, corporate income taxes and scraping off duties on imported

capital assets compromised the state's capacity to generate revenue from the mining sector (Campbell et al., 2003, cited in Pegg, 2006, p. 380).

Mining and income generation

On the regional and local level, it is argued that mining operations can directly benefit poor people by providing employment opportunities and thus increase income levels of the poor (Weber-Fahr et al., 2002). By 2001, the World Bank estimated worldwide that small-scale mining provided employment for more than about 13 million workers and their households, while large-scale mining catered for about 2-3 million workers and their families (Weber-Fahr et al., 2002, pp. 442-443). The World Bank further estimated that for every job created directly in the mines, there were corresponding jobs created with suppliers, vendors and contractors to the mine to the tune of 2-25 jobs (Weber-Fahr et al., 2002, p. 443). The theoretical linkage propagated is that mining leads to job creation in the mine and other upstream and downstream industries that emerge, which leads to high income levels among poor people and thus leads to their poverty reduction (Pegg, 2006, p. 380). "Upstream industries" refer to industries that "supply goods and services to the mining sector", while "downstream industries" refer to industries that "process and add value to the products of the mining sector" (Ross, 2001, p. 10)

Despite the potential that mining has to create employment and other income generation activities for local communities, the capital intensive nature of the sector negates the logic. Particularly, large-scale mining operations rely on huge capital investment in infrastructure, technology, services and employment. This limits the ability of the local poor to be assimilated into the operations as they may not possess the minimum education and work skills required (Pegg, 2006, p. 380; Weber-Fahr et al., 2002). An example from Ghana reveals that despite heavy investments in the mining sector following the implemented reforms, the mining sector has failed to create jobs for local people (Kumah, 2006).

Moreover, the presence of a large-scale mine in an area can limit livelihood activities and other income generation opportunities in a number of ways, which include the following:

a. mining activities take away natural resources that are cardinal for the livelihood of the local people. Their ability to generate income from such natural resources through agriculture, fishing or hunting is compromised due to reduced access;
b. the presence of the mine stresses the available infrastructure in an area and thus limits the access of the poor to services due to either hiked prices or limited capacities;
c. higher incomes earned by miners can lead to skyrocketing prices of essential commodities such as food, housing and other services, which subject the already poor to more vulnerability (Weber-Fahr et al., 2002, pp. 448-449).

Besides the limitations highlighted above, the ability of the local people to generate income is thwarted by the fact that most of the opportunities opened up are beyond the scope which suits their capabilities.

Mining and economic growth

It is believed that economic growth resulting from the mining sector can contribute to poverty reduction through trickle-down effects. In the World Bank's Mining and Development publication it is argued that "growth in national income has been shown to benefit all groups, including the poorest....Thus, growth in GDP per capita ...can also be expected to reduce poverty profiles overall" (Weber-Fahr, 2002, p. 13). The World Bank in its World Development Report, 2000/2001 further argues that growth can "significantly improve the living conditions of poor people-and everyone else" (World Bank, 2001, p. 45). In the light of this argument, it is construed that policies that facilitate economic growth lead to poverty reduction (Ross, 2001). The causal linkage propagated is that mining activities lead to economic growth, which eventually leads to poverty reduction (Pegg, 2006).

Some scholars and researchers have theoretically and empirically questioned the purported positive impact of economic growth arising from mining on the poor. Auty (1999; 2001) and Ross (1999; 2001; 2002) categorically argue that the more resource rich a country is, the higher the likelihood that it will suffer from economic retardation, which

is commonly known as the Dutch disease[17]. In the same vein, the explosive and expansive nature of mining is linked to sterile economic development performance and inferior social welfare indicators recorded by most of the mineral-rich countries (Pedro, 2004). For example, out of the 25 rated as "most mineral-dependent states", twelve of them are classified by the World Bank as "highly-indebted poor countries" (Ross, 2001, p. 7).

There is a strong negative correlation established between a country's level of mineral dependence and its Human Development Index (HDI) ranking. The more that countries depend on mineral exports, the worse their standard of living is likely to be (Ross, 2001). According to the measure computed by Ross, every 5 points that a country gained in mineral-dependence, it tended to drop 3.1 points in the HDI ranking (Ross, 2001, p. 8). Ross established a strong positive correlation between mineral-dependence and the proportion of the population that live in poverty: "the greater the level of mineral dependence, the greater the poverty" (Ross, 2001, p. 8). On child welfare, Ross argues that each increase of 5 points in mineral dependence results in a child mortality rise of 12.7 per thousand of children under the age of five (Ross, 2001, p. 11). "A 5 point rise in mineral dependence" is also linked to a "drop in life expectancy of 2.1 years" (Ross, 2001, p. 11).

On the contrary, proponents of mining as a potential lead-economic sector such as Ahammad and Clements (1999) and Davis (1999), argue that the documented negative performance of mineral-dependent countries should not be generalised as the countries involved are not homogeneous. The heterogeneity of countries implies that even their recorded performance would be varied (Pedro, 2004). According to Davis (1999, p. 218), "the noted negative outcomes are not a general result, but case-specific, and a function of the economic meter used". From this school of thought, it is argued that among the mineral-dependent economies in Africa, there are those recording positive growth like, Botswana, and those recording negative performance, like Zambia (Pedro, 2004).

[17] Dutch disease is an economic concept that explains how reliance on natural resources for development has the potential to affect the performance of other sectors like manufacturing and agriculture (Ebrahim-zadeh, 2003).

However, as Matshediso (2005) argues, although Botswana has been recording remarkable economic growth rates, the country has not experienced any positive trends in terms of job creation and expansion in other industries associated with mining.

The 2000/2001 World Development Report stresses the need for states to reduce income inequalities if growth is to have positive impacts because "when initial inequality is low, growth reduces poverty nearly twice as much as when inequality is high" (World Bank, 2001, p. 55). However, "if poor people get a small share of existing income and if inequality is unchanged, they will also get a small share of the new income generated by growth, muting the effects of growth on poverty" (World Bank, 2001, p. 55).

Nevertheless, a scholar like Ross (2001) contends that income inequality in mineral-dependent countries is higher than other states with similar incomes and once economies of impoverished states become mineral-dependent; any subsequent economic growth is insignificant in ameliorating the condition of the poor. Ross (2001) further argues that the evidence is too strong suggesting that mineral dependence tends to decelerate economic growth even after considering all the other factors that have a bearing on economic performance. Therefore, "if growth is good for the poor, minerals exports are bad for growth – and hence, bad for the poor" (Ross, 2001, p. 9). However, it is indisputable that a growing economy would create spill over effects such emergency of downstream and upstream industries to either do business with the mines or increase the local base of available service providers.

Mining and creation of upstream and downstream industries

Mining is believed to contribute to poverty reduction through the creation of upstream and downstream industries. It is envisaged that profits from the mining sector would be "re-invested in industries that would process and add value to the minerals before they are exported. Soon resource-rich states would be exporting aluminum cookware instead of aluminum ores, and plastic resins instead of crude oil" (Ross, 2001, p. 6). The growth in the consequential industries such as upstream or downstream would eventually lead to poverty reduction through job creation, economic growth and increased revenue generation. Thus the causal linkage is mining leads to creation of upstream/downstream

businesses, which create jobs, grows the economy and increases tax revenues and finally leads to poverty reduction (Pegg, 2006). However, in practice, these linkages are not so obvious and tend to be loose. Some of the reasons behind the loose linkages include the following:

1. Developing countries who encourage the establishment of downstream industries face protectionist trade barriers, which developed countries uphold against their manufactured goods (Pegg, 2006). The OECD countries, for instance, have no tariffs on the importation of unprocessed minerals and oil (Ross, 2001). However, if resource-rich countries added value to their raw materials and exported them in refined or processed form, "such as plastic resins, copper wire, or aluminum kitchenware, they quickly run into both tariffs and non-tariff barriers" (Ross, 2001, p. 10). Table 3.1 below gives an example of tariff barriers imposed by OECD countries on selected processed and unprocessed extractive products.

Product	Description	Tariff
Copper	Copper ores and concentrates	0.00
	Wire of refined copper, if maximum cross-sectional dimension exceeds 6mm	4.06
	Tubes and pipes of refined copper	4.12
Aluminum	Aluminum ores and concentrates	0.00
	Wire of aluminum, if maximum cross-sectional dimension exceeds 7mm	6.13
	Table or kitchenware of aluminum	5.83
	Unwrought aluminum (not alloyed)	4.10
Zinc	Zinc ores and concentrates	0.00
	Refined zinc (containing by weight 99.99 % of zinc or more of zinc)	1.80
	Zinc bars, rods, profiles and wire	3.84
	Zinc tubes, pipes and pipe fittings	3.92
Petroleum	Petroleum oils; crude	0.00
	Petroleum resins, coumarone, indene or coumarone-indene resins....	7.00
	Woven fabrics made from high tenacity yarn of nylon or other polyamides...	8.47
	Polymers of vinyl chloride (PVC plastic)	7.52
	Polycarbonates (used for light fittings, kitchenware, and CDs)	7.84
	Polythene (used for grocery bags, shampoo bottles, children's toys, etc)	6.87

Table 3.1: Selected Mean OECD Tariffs on Processed and Unprocessed Extractive Products
Source: Adapted from Ross (2001, p. 10)

It is evident from the tariff structures presented in Table 3.1 above that the protectionist trade requirements imposed by the developed countries discourage the establishment of downstream industries in mineral-dependent economies. Exporting unprocessed copper ores and concentrates attracts no tariffs at all. However, when ores are processed into tubes and pipes of copper, they attract a tariff of 4.12 per cent. Moreover, aluminum ores and concentrates are zero rated, but when processed into wires of maximum cross-sectional dimension exceeding 7 mm, a 6.13 per cent tariff is attached (Ross, 2001). In analysing Table 3.1 above, it is clear that the theoretically viable and projected downstream industries will not be established in mining areas when trade conditions such as these prevail in practice.

2. It is not guaranteed that the mining sector will generate spillover benefits and that these will automatically benefit the local people or businesses (Pegg, 2006). The examples from Chad and Cameroon reveal that economic opportunities that opened up as a result of investment in the extractive industries did not favour local or regional businesses at all. Many of the services such as food, catering and transport were imported (Pegg, 2006). Furthermore, local businesses tend not to benefit because they lack the capacity to produce the goods and services that meet the strict specifications demanded by mining firms (Pegg, 2006).

3. A decline in the transportation costs due to technological advances in the transport sector curtails the link between mining and the establishment of downstream processing (Pegg, 2006). Power (2002) argues that until the middle of the twentieth century, high costs in the transport sector provided both economic rationale and natural protection, which saw the establishment of manufacturing and processing facilities close to the mining site. Power contends that, "because transporting mineral ores was often prohibitively expensive, ores were not just mined but also concentrated and refined at the mining site" (Power, 2002, p. 26). However, with the reduced costs in transporting goods around the world, the link between mining and establishment of downstream processing has been broken as

minerals mined in South America or Africa can be processed anywhere else in the world (Pegg, 2006).

Mining and infrastructure development

It is thought that investment in the mining sector stimulates upgrading of the physical infrastructure, which will support the economic activities of the locals. As part of the argument, it is believed that a road that is improved to move heavy equipment to the mining site can also help local farmers move their crops to market more quickly, or it can open up economic opportunities to communities that were previously not connected to the outside world (Pegg, 2006). Infrastructure development is believed to have multiple effects on regional and national development. Some of the areas on which infrastructure development may impact will now be elaborated on.

Firstly, infrastructure development - especially roads and communications infrastructure - contributes to agricultural production and reduces the economic distance, especially in rural areas (de Ferranti et al., 2005). Improved road infrastructure lowers transportation costs, which eventually leads to reduced input and market costs, especially for farmers who may now be able to access productive inputs such as fertiliser and certified seeds (Zhang and Fan 2004 cited by de Ferranti et al, 2005). Thus the contribution of the roading infrastructure to increased economic opportunities is "assumed to be through the indirect trickle-down outcomes of economic growth" (Njenga and Davis, 2003, p. 218).

Secondly the development of infrastructure services is also linked to the reduction of rural poverty because the opening up of rural areas to other economic opportunities is thought to help them diversify. In China and India, de Ferranti et al, (2005) contend that non-farm employment increased in areas where infrastructure facilities such as roads, social services and electricity were improved. Conversely, deagrarianisation in Sub-Saharan Africa has not contributed effectively to decreasing poverty levels among the rural poor due to poor transport infrastructure to link them up to outer economic centres (Bryceson et al., 2003).

In the light of the probable contribution of infrastructure development discussed in this section, these potential contributions are advanced as justifications for promoting the development of mines - even in remote areas - as this is expected to impact positively on the livelihoods of the local people (Pegg, 2006). In reality however, the development of physical infrastructure that would benefit the poor owing to the opening of a mine cannot be guaranteed. Generally, mines attract infrastructure facilities that are specifically designed to service the mines, and they are thus beyond the scope and access of the rural poor (Pegg, 2006). The local communities can benefit from infrastructure development only if the national government decides to provide infrastructure services which are not tailored solely to attracting and supporting massive industrial-based activities, but which also provide services that are relevant to the livelihoods of local people.

Although the mining sector has great potential of contributing to the development needs of communities staying near the mining areas, a review of the macroeconomic policies advanced within the PRSP framework revealed that there are constraints paused with regard to the full exploitation of economic opportunities that come with investment in the mining sector. Firstly, the opportunity to increase revenue collection by governments is undermined by low taxes adopted as incentives for investments (McKinley, 2004a; UNCTAD, 2002). The capital intensive nature of the mining sector also means that the number of jobs created is minimal compared to the available labour force – this undermines the local people's opportunity to become employed. The poor people's limited education levels and skills can impede their securing of employment in the mines or spillover industries that emerge (Weber-Fahr et al., 2002). Large-scale mining can also reduce the livelihoods of the locals by using the natural resources such as land and water resources on which the locals depend for their livelihoods (Weber-Fahr et al., 2002).

3.2.2 Mining and enhanced local capabilities

Capabilities are intrinsic in people and enable them to use their assets in different ways to increase their well-being (Narayan, 2002). Different categories of capabilities can be identified, namely "human capabilities – these include good health, education, and production or other life-enhancing skills, social capabilities which include social belonging, leadership, relations of trust, a sense of identity, values that give meaning to

life, and capacity to organize; political capability includes the capacity to represent oneself, or others, access to information, form associations, and participate in the political life of a community..." (Narayan, 2002, pp. 14-15).

The mining sector has the potential to increase the capabilities of the local population through the diffusion of skills provided to miners and other employees. Mining companies may also train local suppliers and contractors to bring their goods and services to international level so that they are able to do business with the mine companies (Weber-Fahr et al., 2002). This training is aimed at improving the capabilities of the locals to do business with the mining companies competitively with other firms in this era of liberalised economies. The mining companies may also provide support to the social sector (health and education) to improve the education levels and health conditions of the locals (Weber-Fahr et al., 2002). If the mining companies are not directly involved in providing these social services, at least their presence in an area would indirectly influence both private and public service providers to improve the quantity and quality of health and education services provided. Improving the locals' education levels gives them opportunities to participate in economic activities that would improve their livelihoods. Improving their health conditions, on the other hand, gives them the ability to engage in productive activities and thus improve their livelihoods.

3.2.3 . Security

Some of the vulnerable people in society are the poor, as they are often exposed to a myriad of risks. Their pool of assets, income levels and other situations limit their ability to participate in various opportunities that could have improved their living conditions (World Bank, 2001). According to Narayan et al., (2000), the poor have fear that relates to their limited assets pool and uncertainty of survival in unpredictable and insecure economic, social, and environmental precariousness. Vulnerability[18] can be defined as "a lack of assets, exposing individuals, households, and communities to increased or disproportionate risk of impoverishment" (Narayan et al., 2000, pp. 60-61). An increased amount and range of assets thus lessens vulnerability, while diminishing assets

[18] See also Care International, (2003, p. 3); Devereux, (2001), pp. 508-509).

exacerbates the risk of impoverishment. Within the context of vulnerability, there are issues of "defenselessness, insecurity, and exposure to risks, shocks and stress" (Chambers 1989, cited in Narayan et al., 2000, p. 61).

The poor manage a broad range of assets, both material and social in nature, which can be drawn up at individual, household, and community level in times of need and/or stress. This diverse portfolio of assets includes physical capital, natural capital, human capital, social and political capital, and financial capital (Dalal-Clayton et al., 2003; Ellis, 2000; Narayan et al., 2000; Rakodi, 2002; Scoones, 1998). Though risk, risk exposure, and vulnerability are interrelated, they are not identical. Risk has to do with precarious events that can impair well-being, like risk of becoming ill, or risk of losing livelihood assets (World Bank, 2001). Thus it is believed that mining increases poor people's security by reducing their vulnerability and exposure to risks through higher incomes. Miners' higher incomes result in better nutrition, education and health conditions in society (Weber-Fahr et al., 2002). However, mining has also great potential for exposing the rural poor living in the mining area to higher vulnerability and risks. Some of these risks include health risks, environmental-related risks, risks to the stability of employment, income, and spending power, and risks to sociocultural stability (Weber-Fahr et al., 2002).

3.2.4 Empowerment

Narayan (2002, pp. xviii,14) defines empowerment in the context of poverty reduction as "the expansion of assets and capabilities of poor people to participate in, negotiate with, influence, control, and hold accountable institutions that affect their lives". Empowering poor people depends on the extent to which both formal and informal institutional barricades block them from taking action to enhance their well-being either individually or collectively, and limit their choices (Narayan, 2002). Formal institutions that need challenging include laws, rules, and regulations espoused by governments, markets, civil society, and international agencies; while informal institutions include norms that upheld society (Narayan, 2002, p. xix).

Empowerment in the poverty reduction context captures four dimensions which include:

a) *access to information* – if poor people have access to information, they will be better placed to exploit available opportunities, access services, exercise their rights, hold accountable both the state and non-state actors for their actions (Narayan, 2002, pp. xix, 19)
b) *inclusion/participation* – poor people and other excluded social groups need opportunities to participate in the decision-making process on issues that affect them. They need to participate on deciding where the limited resources are channelled to areas that are a priority to the beneficiaries, which will impact positively on their livelihoods (Narayan, 2002, pp. xx, 19).
c) *accountability* – governments and private actors must be answerable for their policies, actions, and use of resources that are of public concern (Narayan, 2002, pp. xx, 20-21).
d) *local organisational capacity* – this refers to the ability of poor people to work together, organise themselves, and mobilise resources to disentangle obstacles of common interests (Narayan, 2002, pp. xx, 21-22).

Despite all these impressive theoretical possibilities of linkages between mining and empowerment, the argument in practice is defunct. Large-scale mining has the potential to disempower local communities because of how mining rights and land rights are obtained from governments. Mostly, communities are aware of mining operations beginning in their areas only after all the necessary negotiations have already been finalised with governments. Meanwhile, mining operations take away assets that are cardinal to the livelihoods of local communities, yet they are least involved. Even when the communities are consulted, it is just for formality and just using them as rubber stamps as the project documents often are prepared in technical language that is far beyond the ability of laymen to digest (Weber-Fahr et al., 2002).

Nonetheless, the causal linkages between mining and rural poverty reduction can be realised depending on the capacity of the government to monitor and regulate the mining sector, which is solely under the ownership and control of the private actors.

3.3 *Mining and Government Capacities*

Mining is a sophisticated sector that needs proper coordination and regulation to ensure that all the stakeholders involved receive balanced costs and benefits. The capacity of governments in resource-rich countries therefore becomes the focal point in ensuring that all the stakeholders are maximising their benefits whilst minimising costs. Different scholars have established links between government capacity and the performance of the mining sector in such countries. According to Power (2002, p. 5) "when mineral development occurs in a context of underdeveloped social, political, and economic institutions, the non-renewable resource wealth tends to be squandered, the level of social conflict increases and nearly irreparable damage is inflicted on the environment, ...which can leave a developing nation permanently poor".

Power (2002) emphasises how the economies of the United States of America (USA), Canada, and Australia benefited from their mineral resource endowment because they had an "overall transformation in business and financial organization, education, research and knowledge development, human capital accumulation and infrastructure expansion" (Power, 2002, p. 4). The sector was also supported by "well-developed and stable political institutions that respected the rule of law, markets and private enterprise" (Power, 2002, p. 4). Following this line of thought, it is clear that a strong institutional framework that can control the mining sector is seen as a prerequisite to realising the full benefits that the sector contributes to regional or national development.

Pedro (2004) argues that economies of resource-rich countries in Sub-Saharan Africa are performing poorly because creation and accumulation of human capital are disregarded, governments are less sensitive to the needs of the poor, social infrastructure is fragile, economic policy is dysfunctional, corruption is rampant, and public income is plundered by those charged to discharge duty. Auty (1993) cited by Davis (1999, p. 220) perceives all governments of developing countries as potentially capable of mismanaging economic development "either through their own inherent inadequacies or through structural obstacles and political pressures to be self-sufficient". The main point filtering through here is that the problems linked to mineral dependence are "political rather than

economic and they can be linked to the capacity of governments and society to respond to large windfall revenues from mineral production" (Pedro, 2004, p. 4). Therefore, the "quality of economic management, government systems, and institutional capacity to transform" revenue flow from the mining sector into other avenues of development priority is a challenge to most resource-rich countries (Weber-Fahr, 2002, p. 3).

The weak capacities of governments to formulate sound policies leads to misguided investment of revenues generated even from the mining sector. More often than not, governments identify large numbers of projects that need funding simultaneously, which mutes the benefits of returns earned from mining activities. This is worsened by the emergence of personal interests of the elite in power, who then seek to implement projects that are strategically relevant to safeguarding their political careers. Such projects not only generate low rates of return, but often involve large recurrent costs (Weber-Fahr, 2002). Rent-seeking or greediness among those charged with the responsibility of managing public affairs in resource-rich countries is the root-cause of porous policy regimes governing the mining sector (Weber-Fahr, 2002). This attitude leads to "misguided decisions in economic management, public expenditure, and trade regimes, all with great potential to slow down economic growth" (Anderson, 1997 as cited by Weber-Fahr, 2002, p. 6).

3.4 *Mining and Poverty Reduction in Africa.*

3.4.1 Privatising the mining sector in Africa

In 2004, investment in the mining sector in Africa attracted a staggering figure of US$15 billion, representing 15 per cent of the total global investment and a 5 per cent increase from the mid-1980s (UNCTAD, 2005, p. 39). The main reasons behind the increase in investment were the changes in the mining codes, which provided incentives to private firms and relegated the state to the corner of monitoring and regulating the mining sector (UNCTAD, 2005, p. 39). The changes in the mining codes coincided with more promising prospects in the sector.

In the 1980s and 1990s, the depressed markets in developed countries - coupled with a volatile investment climate in developing countries - hampered the growth of the sector during this period (UNCTAD, 2005). Contemporaneously, most of the investment in the mining sector was restricted to resource-rich developed states where the role of the private sector in the mining industry was highly recognised. In Australia, Ahammad and Clements (1999) contended that the deregulation policies in Western Australia saw the growing numbers of new mining and mineral processing projects being developed in the 1990s. The performance of the privatised mining sector in developed resource-rich countries acted as the model and the parameter that would be used to justify the deregulation of the sector in resource-rich poor countries.

In Africa, the underperformance of the mining sector justified the need to deregulate it (UNCTAD, 2005). Structural and technical issues including poor policies, political interference, non-availability of technical data on mineral endowment, fragile infrastructure and intermittent power supply were disincentives to the effective performance of the sector. Failure to generate adequate revenues in addition to the factors outlined above crippled the capacity of the mining sector to contribute to economic development (Boocock, 2002). Thus deregulation of the mining sector in Africa started in the 1980s under the umbrella of the structural adjustment programmes (SAPs) where the reform package promulgated increased liberalisation, deregulation and privatisation in an effort to redress macroeconomic imbalances, stimulate economic recovery and establish a more sustainable growth trajectory (Kumah, 2006, p. 318; Pegg, 2003; UNCTAD, 2005, p. 41).

The deregulation of the sector also happened at a time when the World Bank was shifting from its traditional role of supporting exploration and production activities in the mining sector to commercialisation and privatisation of state-owned mines (UNCTAD, 2005). However, as of late, the World Bank's attention has further shifted towards promoting governance and transparency issues so that the benefits accruing from the mining sector can reach the very poor, mitigating environmental and social risks, and protecting the rights of the locals who are affected by the investments in the extractive industry

(UNCTAD, 2005; World Bank, 2004, pp. 2-15). The main thrust of all these reforms is to reemphasise the role of the state in the mining sector as a regulator and promoter rather than as the main actor per se. Therefore the objectives of the governments should be restricted to revenue generation rather than control of resources and manipulation to suit its political ambitions (UNCTAD, 2005; Weber-Fahr et al., 2002).

Within the context of the SAPs, there are two policy frameworks that can be identified as impacting on the mining sector, namely, macroeconomic policy reforms and sector-specific policy reforms (Akabzaa and Darimani, 2001). Under macroeconomic policy reforms, the framework placed emphasis on trade liberalisation and public expenditure policies, and privatising the state-owned enterprises (Akabzaa and Darimani, 2001, p. 18). The macro level reforms also included facilitating the accessing of foreign financing for the purchasing of equipment and spare parts needed to rehabilitate and expand the existing mines and/or for the development of new ones (Akabzaa and Darimani, 2001, p. 18; SAPRIN, 2004, p. 156).

Sector-specific policy reforms included: changes in mining sector legislation to make the sector attractive to foreign investment, increasing fiscal liberalization of the mining sector, strengthening and reorientation of government support institutions for the mining sector, privatization of state mining assets, and enactment of environmental laws and other mining sector legislative changes (UNCTAD, 2005, p. 41). All these reforms were designed to relegate the state to a spectator's seat, providing a so called *enabling environment* for investment in the sector while the multinational corporations control the exploration and production activities of the sector. In the process, the mining companies tend to benefit in ways over and above what governments do.

The complex nature of the mining sector where it requires heavy financial capital and technological investment means it is beyond the capacity of local entrepreneurs to run the previously state-owned mining plants. The only alternative available is to open up reviewing of the mining code to provide incentives, which include "contractual stability,

a guaranteed fiscal regime, profit repatriation, and access to foreign exchange"[19] (UNCTAD, 2005, p. 41). When the wind of the reforms mentioned above swept the African continent in the 1990s, resource-rich countries were compelled to adopt the paradigm shift - meaning that by the end of 1995, 35 countries had published new mining codes reflecting the reduced tax levels, eased immigration laws for expatriate workers, and granted tax exemptions for imported equipment (Boocock, 2002, p. 1). By the end of 1999, almost all the countries in Africa, including those with unknown mineral deposits, had either modified their mining codes or created them where they had not existed before (Akabzaa and Darimani, 2001).

In Ghana, for example, foreign mining companies investing in the country were allowed to retain off-shore foreign exchange earnings ranging from a minimum of 60 per cent to a maximum of 95 per cent (UNCTAD, 2005, p. 43). A review of the codes produced by countries like Tanzania and Mali depict just at what cost the resource-rich developing countries were willing to offer their minerals for exploitation. The Tanzanian mineral code stipulated 100 per cent foreign ownership of the mines, emphasised guarantees against nationalisation and expropriation and provided no restrictions on the repatriation of profits and capital. The royalty rates were fixed at 3 per cent maximum, import duties were waived and tax exemptions were granted on imported machinery, equipment and other inputs. The 1979 Mining Act, which required the procurement of goods and services restricted to local suppliers, was also repealed (UNCTAD, 2005, p. 43). In Mali, the code provided for the exemption of the following taxes during the first three accounting periods of production or mining: "income tax on professional earnings, investment income and property income, registration and stamp duties, value-added tax and service delivery tax, contribution to patents; and tax on insurance policy"[20] (UNCTAD, 2005).

3.4.2 Impact of reforming the mining sector in Africa

The new mining codes produced in Africa, which reduced the tax burdens in mining firms, attracted huge investments in the sector and new mines were opened in countries

[19] For further details see Campbell (2004).
[20] For further details see Hatcher (2004).

such as Mali that did not have large mines. Other counties like Tanzania have seen expansion in the sector, while post-conflict economies like Angola have also experienced tremendous recovery in mining production due to inflows of multinational corporations' investments in large-scale operations (UNCTAD, 2005, p. 44).

It is important to note that each of the players in the sector has their respective objectives to meet at the end of the day. On one hand, the multinational corporations operating under the corporate principles maintained their objectives, which include: maximising profits, minimising risks and having to recover initial investments as soon as possible. Therefore there should be guaranteed policy continuity and predictability with respect to security of property rights and open markets. However, since tax is regarded as a cost in business, investors will weigh how the tax regime conforms to their objectives (UNCTAD, 2005, p. 44). On the other hand, the governments as custodians of resources have objectives that are totally different from those of the corporate firms. Governments are concerned mainly with maximising the value of locally retained earnings, creating forward and backward linkages to the local, regional and national economy, technology transfer and job creation for the nationals, minimising environmental and social impacts and expecting firms to compensate for the damages caused in the process (Chigunta et al., 1998).

Reconciling the interests of governments and those of the multinational corporations is not straightforward in reality. Governments see the mining sector as one that can create employment for most of its unemployed citizens and uses this view as justification for entering into mining contracts with mining companies. However, with the mining sector being driven by the corporate principles of maximising profits, the issue of creating jobs that can swallow unemployed citizens is weighed in the context of cost-effectiveness. As a result, the privatisation of previously state-owned mines saw retrenchments of workers in the bid of making the mines cost-effective. For example, the privatisation programme in Zambia in the period 1992 – 1995 saw retrenchment of about 60,000 workers, most of whom were working for the state-owned mines (Otto, 2000).

Even at the height of the reforms, the governments entering into mining contracts with mining companies expected to generate some form of fiscal revenue from the sector. However, the fact that they had to rely on foreign companies to invest in their countries meant that they had to compromise their expectations lest they provide disincentives to potential investors who might invest in some other country offering competitive incentives. But if the taxes are too low, governments would lose out on fiscal revenue (UNCTAD, 2005). Caught in this quagmire, the mining sector is liable to become involved in convoluted negotiations over the investment conditions and the befitting tax regime that embraces the different players involved[21] (UNCTAD, 2005, p. 45).

Given the situation where the global trends in terms of bargaining power are shifting "significantly in favour of mining TNCs over the past two decades" (UNCTAD, 2005, p. 46), it is expected that governments in resource-rich countries are not benefiting much in terms of fiscal revenues. Undoubtedly from the corporate firms' point of view, the outcomes of the reforms in the mining sector in Africa have been judged - by the levels of foreign investments going on in the sector – to be positive. On the contrary, the reforms are costing resource-rich countries a fortune. The tax incentives provided to multinational corporations (MNCs) could be considered as equivalent to subtle subsidies that developing countries are providing to mining firms (MNCs) and ultimately to the final consumers at the expense of the resource-rich countries' own development needs (Otto, 1998).

3.4.3 Fiscal policies and the mining sector

Bearing in mind that revenue generation for governments is given as one of the justifications for crafting incentives that can woo investment in the mining sector; it is worthwhile to review the fiscal policies for governing mining investment that governments in Africa have adopted. MNCs engaged in the mining industry are not there as social welfare organisations, they are on a profit-making venture. Governments' imposed taxes and other revenue extraction means directly reduce their ability to harvest

[21] For further details see Haslam (2004).

hefty profits; as a result, mining companies are mindful of analysing the prevailing fiscal systems when making decisions on where to invest (Otto, 1998).

In 1992, the United Nations commissioned a survey of 39 multinational mining companies where they were asked to rank 60 mining investment criteria. Out of the 15 top ranking criteria, four were related to taxation (as shown in Table 3.2 below). The companies' main concerns revolved around overall levels of profitability and ability to predetermine their tax liability prior to making the decision to invest (Otto, 1998). Stability of the fiscal regime is crucial for making investment decisions as it makes mining companies aware of their tax liability even before they commence operations. As a result, resource-rich countries have to stipulate their taxes and other imposts in their general tax laws and mining codes. Nevertheless, mining companies prefer to negotiate their tax obligations prior to the commencement of explorations instead of negotiating new ad hoc tax systems in the midst of exploration and actual production (Otto, 1998, p. 83).

Rank	Decision criteria
3	Measure of profitability
5	Ability to predetermine tax liability
10	Stability of fiscal regime
13	Method and level of tax levies.

Table 3.2: Ranking of Taxation Criteria out of 60 Investment Criteria

Source: Otto (1992) cited in UNCTAD (2005).

Mining has a variety of tax regimes that can be applied. Governments can design a tax regime based on taxing profits or the value or volume of production or exports called *royalties* or a combination of all the systems (Otto, 2000). A mix of tax regimes broadens the taxation options as investors prefer one type of taxation system as against others (Akabzaa, 2000). While royalty rates as a statutory requirement have to range from 3 to 12 per cent depending on the operating margin of the mine, in reality, mining companies pay a maximum of 3 per cent (Akabzaa, 2000). A detailed analysis of how different tax regimes have been applied to the mining sector is presented below.

Income Tax

Since tax is regarded as a disincentive to investment, investors tend to go for the tax regime that would reduce their tax liability considerably amongst the tax regimes prevailing in any resource-rich country (UNCTAD, 2005, p. 47). In the recent past income (profit) tax has come to be seen as a favourable tax regime as it guarantees mining companies tax breaks when they incur losses, and it ensures "that their tax burdens are commensurate with low profitability when prices are low" (Otto, 2000). Of late there has been a review of income tax rates adjusted downwards with maximum corporate income tax rate being 35 per cent (Otto, 2000, p. 6). This questions the ability of the governments in resource-rich countries to generate the highly amplified fiscal revenue that can be used to finance programmes that can assist the poor, either in the mining regions or nationwide. Table 3.3 below shows corporate income tax rates adopted by different resource-rich countries worldwide.

Country	Corporate Income Tax Rate (%)	Comments
Bolivia	25	(a surtax may also apply in some cases)
Burkina Faso	35	(0.5% of previous year turnover is the minimum tax)
Chile	15	(two elective regimes are available)
China	33	30% to central govt; 3% to provincial govt
Ghana	35	-
P.N.G	35 & 25	35% for large mines, 25% for other mines
Poland	Changes	2000, 30%; 2001 & 2002, 28%; 2003, 24%; 2004+, 22%
South Africa	> or = 30	30% for other than gold; >30% for gold mines
Tanzania	30	-

Table 3.3: Income Tax Rates Applied to the Mining Sector in Selected Countries

Source: Modified from (Otto, 2000, p. 6).

It is undoubtedly clear that basing taxes solely on profits generated and declared by the mining companies works to the advantage of the mining firms. Governments, on the other hand, have an inherent predicament of assessing the levels of profits declared by the mining companies. In Chile, for instance, the mining firms designed manipulative

accounting systems that undervalued their levels of profits and consequently reduced the tax burdens paid to the government (UNCTAD, 2005).

In southern Africa, resource-rich countries have had their corporate income tax rates revised so as to remain competitive in the mining sector. For example, Botswana, - a country with a fast growing economy (Matshediso, 2005; Pedro, 2004), which is dependent on the mining sector - revised its corporate tax and they now range from 25 to 35 per cent (Matshediso, 2005, p. 204). The country has a twofold tax system for company tax. Companies pay at the rate of 35% of their taxable income though this is broken down as company tax at 25% of taxable income, and additional tax at 10% of taxable income linked to withholding tax (Matshediso, 2005, p. 204); yet Zambia, on the other hand, reduced corporate tax from 35 per cent to 25 per cent with the period of carry forward of mining losses extended from 10 to 20 years (Australian Trade Commission, 2007). Given the foregoing, it is clear that Zambia is seen as offering favourable investment opportunities compared to Botswana as the tax regime prevailing is conducive for maximising profit margins.

Mineral royalties

Mineral royalties as a taxation system can be defined as:

> a compensation to the owner for the exhaustion of an asset and ideally, therefore, should be fixed at a figure bearing some relation to the value of the mineral as it lies in the ground, i.e. the sale of the mineral recovered less a reasonable charge for the extraction, treatment and transport to the point of sale, sufficient to cover all costs and overheads including a reasonable return on the capital expenditure, together with the provision for the amortization of that capital (Otto et al., 2006, p. 53).

From the time that reforms became an integral part of policy formulation, mineral royalties have become less popular in preference for profit-based taxes (Otto, 2000). However, even if the trend is moving towards promoting profit-based taxes, some countries still retain the royalty taxes. The justification given is that they can not wait until mining companies have sold the minerals, and in the event that the mine records losses, it entails that the country would as well not receive revenue in mineral royalties. It

is against this argument that mining companies are asked to pay for the extraction of minerals, and what happens thereafter should be the business of the companies and the market forces (Otto, 2000).

Some countries opt to retain royalties as a form of taxation because they guarantee a steady flow of revenue throughout the life of the mine, starting from the early stages of operation and continuing in times of low profits (UNCTAD, 2005). In the case of Botswana, during its reform period, royalty charges had been revised downwards from 5 to 3% for all minerals except precious stones and precious metals, which remain unchanged. The revised schedule for royalties applied to various minerals are as follows: 3% for building and industrial minerals, 5% for coal, 10% for precious stones, 5% for semi-precious stones, 5% for precious metals, and 3% for other minerals (Matshediso, 2005, p. 204). On the other hand Zambia is considered as offering excellent investment opportunities in the mining sector because of the low tax burdens offered to mining companies. In terms of royalties, the country reduced mineral royalty tax payable from 2% to 0.6% on the gross value of mineral revenue produced (Australian Trade Commission, 2007)

Other taxes

There are other forms of tax besides income tax and royalties that resource-rich countries can effect to maximise revenue generation. Nonetheless, even these taxes have been relaxed in a bid to attract foreign investments in the mining sector, although governments are losing out on revenue. Such forms of tax that have been eliminated in most countries as added incentives include; property taxes, value added tax (VAT) on imported equipment, stamp duty, to mention but a few (UNCTAD, 2005). Such kinds of tax concessions encourage mining companies to reap a fortune during the tax holiday period and cease operations as soon as the grace period is over. This leaves the governments with nothing to boast about except unbearable costs that the locals have to live with for the rest of their lives (UNCTAD, 2005).

In the case of Zambia, the country loses revenue through various tax concessions. For instance, mining companies are exempted from paying withholding tax on dividends,

royalties and management fees to shareholders or their affiliates, and on interest payments to shareholders or their affiliates, including organisations lending money to the affected mining companies. Other incentives also include exemption from customs, excise duties and value-added-tax, remission and deferment of royalties, development agreements, international arbitration and security of tenure for mining rights (Australian Trade Commission, 2007, p. 4).

Non-pecuniary benefits

Due to limited avenues through which governments can extract fiscal revenue from mining companies, some governments have opted to draw extra revenue indirectly through non-pecuniary benefits. This is where governments pressure mining companies to plough profits back into communities where they operate. Mining companies are often asked by governments to build and/or maintain roads in remote regions as a way of supporting the local communities in living near the mining area. Governments can also force or otherwise encourage mining companies to construct schools, hospitals and other social services in areas surrounding the mines (Otto et al., 2006, p. 9).

While this may sound positive, as noted in the literature the mining sector could offer substantial fiscal revenue to the governments, but conflicting interests in reality actually make the claim defunct. Given the strong bargaining power that the MNCs who are the major investors have in relation to Third World governments, MNCs are able to seesaw off benefits in their favour leaving the governments in the quagmire of meeting the expectation of the citizens (Otto et al., 2006). The examples of Tanzania and Ghana, as discussed below, illustrate the imbalance that exists when seeking to share the benefits from the mining industry.

In Tanzania, oil exports increased from less than 1 per cent of export revenue in the late 1990s to over 40 per cent in 2003. Out of the total export revenues of about $890 million earned between 1997 and 2002, the government received only $86.9 million (about 10 per cent of it) as fiscal revenue (taxes and royalties) (UNCTAD, 2005, p. 50). The Poverty and Human Development Report published by the United Republic of Tanzania in 2002 revealed that although mineral production had increased dramatically in the past

few years, the share of mining in GDP was still small at 2 per cent. Economic linkages between mining and the rest of the economy, including the government budget, had been limited... The tax/royalty incentives...had resulted in limited tax revenues, though clearly, increased export earnings had been generated (UNCTAD, 2005, p. 50).

In Ghana, despite the threefold increase in the gold exports over a 15-year period (1990-2004), and an increase in the total export revenue from about a quarter at the beginning to about 37 per cent at the end, mining contributed about 11 per cent of the total revenues collected into the national basket. Out of the total mineral export value of $893.6 million recorded, the government received $46.7 million in taxes and royalties (representing 5% of the total value of exports) (UNCTAD, 2005, p. 50).

This thorough analysis of the fiscal policies guiding revenue generation from the mining industry has revealed that although the sector offers great opportunities for mineral-rich countries to realise substantial revenue, the mining codes that are crafted in the interest of neoliberal policies stipulate the contrary. Most of the incentives given as attractions for investment in the mining sector are in the form of fiscal regimes that offer reduced taxes and royalties, and tax exemptions, which are granted at the expense of government revenue generation.

3.5 *Negative Impacts of the Mining sector*

Notwithstanding the potential benefits that mining offers to either mining companies or governments, it carries environmental and social costs, especially among the local communities and areas surrounding the mining sites. These costs impact mainly on the ability of people staying close to the mining area to pursue their livelihoods. A brief analysis of how the costs identified in this section can impact on the livelihoods of local people is as follows:

3.5.1 Environmental impacts

The negative impacts of mining activities on the environment are well documented. Such impacts include; removal of vegetation (which poses a danger to livestock); soil erosion and loss of biodiversity;, impounding of water courses and increased sediment load in

rivers, and contamination of surface and underground water due to acid mine drainages. Direct health hazards to populations living close to mines include wind-blown dust, waste dumps, and solid waste (UNCTAD, 2005, p. 50).

Kitula (2006) points out that mining activities involve excavation of pits, destruction of vegetation and blasting of rocks using explosives, which cause land degradation. In the case of a copper mine, the copper ores extracted are smelted using sulphur dioxide to produce copper cathodes. Through this process, "excess sulphur dioxide emissions from smelting bring about human respiratory diseases and acid rain that also impacts on water bodies and vegetation (Fraser and Lungu, 2006). Fraser and Lungu quote a local environmentalist who recounted the impacts of acid rains on the Copperbelt region of Zambia: "the only crops that survive are mangoes, avocadoes and cactus. With low salaries, people can't buy food. But they can't grow their own vegetables either" (Fraser and Lungu, 2006, p. 33). In Tanzania, Kitula (2006) gives an analysis of how mining activities in Geita District left pits that were not only making land less favourable for agricultural activities, but also affected livestock and wildlife that are essential in the livelihoods of local people.

Mineral production, especially copper, poses an environmental problem of silting or sedimentation, which threatens flora and fauna in rivers where the residues are being discharged (Fraser and Lungu, 2006). The process of purifying copper leaves behind acidic liquid, which contains small particles of silt or sediment, which threatens the livelihoods of people living downstream who depend on rivers where such residues are being discharged (Dymond et al., 2007). Examples of how silt and sediments can impact on the local people's livelihoods can be drawn from the experiences of the local farmers living near Konkola Copper Mines' (KCM) Nchanga plant in Zambia. According to Dymond et al, (2007, p. 21), the Ministry of Agriculture and Cooperatives (MACO) clamed that:

> *Farmers suffered crop losses due to sediments and silt...which (are) flooding farmers' fields (so that) farmers can no longer use (them). This has prevented farmers from growing basic food stuffs such as cabbage, tomato and maize for*

their own consumption or for selling in local markets. This has cost local farmers a total of K100,300,000 (US$25,045) in lost income during 2005 alone.

Apart from routine discharge of waste into streams where mining companies hold water rights, there are also incidences of acidic spillage that occur time and again, such as the cyanide-laced leak into Essequibo River in Ghana, the 40 million tons of tailings into the Ajkwa River in Indonesia, and the dumping of over 125,000 tons of toxic rock waste into the Irian Jaya River in Indonesia ((Kumah, 2006, p. 319). In Zambia, on 6th November 2006, KCM's pipelines discharged high quantities of acidic liquid into the Chingola and Mushishima streams and the Kafue River (Dymond et al., 2007), which cuts across four provinces. The acidic liquid contained "1,000 per cent more copper, 77,000 per cent more manganese and 10,000 per cent more cobalt than recommended levels" (Dymond et al., 2007, p. 21). These chemicals will have short- and long-term effects on the lives of the people downstream who use the water in the streams and river affected.

3.5.2 Social Impacts

Social impacts of mining activities include displacement of local communities and eventual loss of their livelihoods (UNCTAD, 2005). Displacement not only involves physical eviction of people from a dwelling, but also entails the seizure of productive lands and other assets, which could be used as alternatives to sustain their livelihood[22] (Downing, 2002, p. 6). Thus the physical and non-physical assets that displaced people lose include "homes, communities, productive lands, resources such as forests, rangelands, fishing areas, or important cultural sites, communal properties, income-earning opportunities, and social and cultural networks" (ADB, 1998, cited in Downing, 2002, p. 6).

It is estimated that each year, more than 10 million people are involuntarily displaced to pave way for development projects, including mining, and some of these people have been displaced more than once, "creating a floating population of development-induced poor" (Downing, 2002, p. 6). In India, it is estimated that 2.55 million people were

[22] For further details see Cernea, (1996).

displaced between 1950 and 1990, most of whom were displaced after the 1970s when the country's coal production shifted from underground mining to open cast. In Ghana, Tarkwa mine displaced between 20,000 and 30,000 people (Downing, 2002). The Ok Tedi mine in Papua New Guinea (PNG) also imposed heavy environmental and social costs on local communities (Filer and Macintyre, 2006; Jorgensen, 2006). With the liberalisation of the mining sector, it is expected that more people will be displaced from their homes as mining companies pour in heavy investment in the sector and also opt for open-cast mining in place of the most expensive underground techniques (Downing, 2002, p. 6).

The projected increase in the numbers of people being displaced as a result of mining activities is based on converging factors such as:

> *rich mineral deposits are found in areas with relatively low land acquisition costs; mineral deposits are being exploited with open-cast mining technology; they are located in regions of high population density, especially on fertile and urban lands – with poor definitions of land tenure and politically weak and powerless populations, especially indigenous peoples* (Downing, 2002, p. 6).

There is, however, increased recognition that the affected people must be recompensed or compensated to help cushion the local-scale costs on communities (Banks, 1998, p. 54). Compensation in its traditional context:

> *has to do with the settlement of disputes between litigant parties, not by violence or imposed punishment but by a voluntary payment or gift which is seen as providing a substitute or replacement in wealth goods for that which was lost or damaged in an earlier phase of the dispute* (Strathern, 1993, cited in Banks, 1998, p. 54).

Mining also enhances exposure of the poor to a wide range of social risks such as inflated prices of goods and services locally due to miners' higher earnings in comparison to other workers. Social ills – such as child abuse, prostitution and child labour – emerge, due to the creation of new forms of poverty, and as a result of population influxes. Trapped in

this new form of poverty are the locals who lost their productive assets but could not find employment in the mines, as well as the various newcomers who migrated hoping to find employment, but have been unsuccessful (Pegg, 2006). Mostly the commercial sex workers that flood the mining towns move from other towns and impoverished rural areas following the wind of a thriving economic boom (Campbell, 2000), with the view of finding a market of mine workers who left their families in other towns.

3.6 *Conclusions*

Mining as a lucrative industry has been promoted for decades as an important economic strategy with great potential for transforming the economies of mineral-rich countries for the better. With the advent of the new poverty agenda, the mining industry has also been accorded much attention, with justifications of how it can contribute towards poverty reduction. It is believed that mining has the potential to impact on four dimensions of poverty, which are material deprivation, vulnerability and exposure to risks, low levels of health and education, and voicelessness and powerlessness (World Bank, 2001). Mining impacts on the poverty of material deprivation by opening up economic opportunities for both the governments and people living close to mining areas. These economic opportunities are in the form of revenue generation opportunities for the governments through taxes and royalties, which could then be channelled to finance poverty reduction programmes.

However, an analysis of macroeconomic policies implemented within the poverty reduction initiative reveals that they undermine the capacity of governments to garner reasonable revenue due to investments incentives offered to investors in the form of low taxes. As revealed in Chapter Two, the weak linkages between PRSPs and resource allocation means that even revenue generated from mining is only weakly linked to poverty reduction initiatives. The linkages between investment in the mining industry and poverty reduction are weak (Stites, 2003, cited in Pedro, 2004). While the extractive industries in general, and mining in particular, have been identified as one of the lead economic sectors in most countries, the link between growth from this sector and poverty reduction programmes is especially weak as it takes a modernisation view of assuming a

linear path to economic expansion with the hope that benefits will trickle down to the poor (Pedro, 2004). However, development practice over the years has proved that trickle-down oriented policies do not work (Binns, 2002). Thus most PRSPs are missing the links between the flow of finances from mining to poverty alleviation programmes (Pedro, 2004).

At the micro level, it is believed that mining creates opportunities for the people to secure employment in either the mining companies or other sub-contracting companies that do businesses with the mines providing goods and services. However, the capital-intensive nature of the sector also ensures that not many jobs are created to cater for all the unemployed people in society (Kumah, 2006). Furthermore, the low skills and knowledge levels of local people are impediments to their being employed in the sector. Mining further takes away some of the productive assets such as land, which local people could have utilised in tapping the opened up economic opportunities.

In this chapter, the potential contributions of mining investments to increased capabilities of the local communities were also explored. Other themes discussed include enhanced securities against vulnerable and risk conditions, and enhancement of the local people's voices on issues that affect them. However, potential exacerbation of the condition of the poor people through investments in the mining sector was also amplified. This includes the private nature of investments where the owners are bent on maximising profits rather than operating as welfare organisations; mining development confiscates productive systems that are essential in reducing the insecurity and vulnerability of local (poor) communities. Finally, the procedures followed in signing mining contracts actually tend to disempower rather than empower the locals as they are least involved in exhaustive consultative meetings. Information is given in a piecemeal fashion only, and is made misleading by the use of language, which is designed to appeal to the local people – but which, if understood in context, would mean the exact opposite.

It is against the context of the issues discussed in this chapter that the researcher seeks to answer the question "What are the micro effects of large-scale mining on local people's

economic opportunities, capabilities, security and empowerment?" in the case of the Kansanshi copper mine in Solwezi. In the next chapter the focus is on the research area providing the contextual data that are relevant to mining and poverty reduction in Zambia. The focus is mainly on policy issues surrounding the role of mining in Zambia's economy over time and where it fits in within the country's PRSP framework.

Chapter 4 The Republic of Zambia in Context

4.1 *Introduction*

This chapter is focused on the context of Zambia highlighting the country's development trends over the years, which have been shaped by the political and economic ideologies, which the country has pursued. The chapter begins with an outline of the country's geopolitical profile and then the researcher delves into discussing the development ideologies that have shaped the Zambian economy since independence in 1964. Within this context, the place of mining in the country's economic agenda and how the mining industry has been affected by the global policy ideologies over time are highlighted. In the last part of the chapter, the location of the study is introduced, and the chapter concludes with specific issues relating to Kansanshi mine that are relevant to this study.

4.2 *Geographical location and climatic conditions*

Zambia is a landlocked country in the southern region of Africa sharing borders with eight countries, namely Zimbabwe and Botswana in the south, Namibia in the southwest, Angola in the west, the Democratic Republic of Congo (DRC) and Tanzania in the north, and Malawi and Mozambique in the east (see Figure 4.1 to follow) (Himoonde, 2007). The country has a total land surface area of 752, 612 square kilometres and lies between 8 and 18 degrees south latitude and 22 and 34 degrees east longitude. Zambia's 39 million hectares, which is about 58 per cent of the total land area is classified as having potential for agricultural production, although less than half of it is being cultivated (Central Statistical Office, 2005, p. 1).

Zambia lies in the central African plateau with altitudes ranging from 1000 to 1600 metres above sea level. It is exposed to sub-tropical climatic conditions, which can be divided into three distinct seasons namely, the warm wet season (rainy) which stretches from November to April with temperatures ranging from 20 to 27 degrees celsius; the cool dry season (winter) which lasts from May to August with temperatures ranging from

15 to 27 degrees celsius; and the hot dry season which runs from August to October with temperatures ranging from 27 to 32 degrees celsius (Himoonde, 2007, p. 9).

Administratively, Zambia is divided into nine provinces, namely Central, Copperbelt, Eastern, Luapula, Lusaka, Northern, North-Western, Southern and Western (Central Statistical Office, 2005). The provinces are further divided into 72 districts. This study is focused on the North-western province, in particular Solwezi, which has seen an inflow of investments in mining-related activities since the beginning of 2000. Solwezi also happens to be the provincial headquarters.

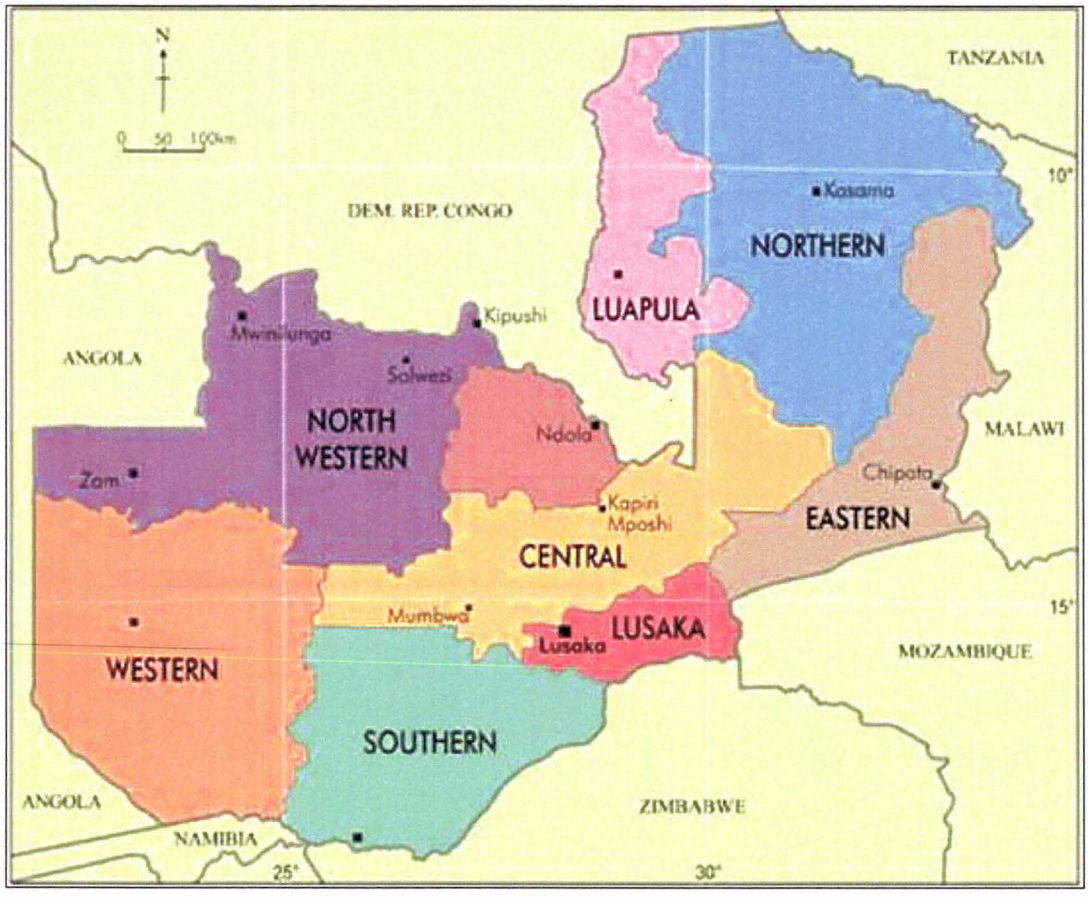

Figure 4.1 Map of Zambia showing neighbouring countries and location of Solwezi
Source: http://www.zambia-mining.com/countryright.html

4.3 *Demographic characteristics*

Zambia's comprehensive population was first recorded in its 1980 census where it stood at 5.7 million (Central Statistical Office, 2005, p. 1). As at 2005, the population had grown to 11.5 million, which represents an annual growth rate of 2.7 per cent between 1975 and 2005 (UNDP, 2007, p. 246). The country has a youthful population with about 45 per cent of the population being below 15 years of age (Central Statistical Office, 2003; UNDP, 2007). This implies that the country is experiencing a high demand for employment to cater for its youthful population. In terms of ethnicity, the country is endowed with 73 diverse ethnic groups, although they are generally compressed into seven major languages besides English for official purposes – such as broadcasting and information dissemination (Central Statistical Office, 2005, p. 1).

Finally, Zambia is a largely a rural country with approximately 61 per cent of the population living in rural areas (Central Statistical Office, 2005, p. 10). However, with its 39 per cent of the population residing in towns and cities, Zambia is considered to be relatively highly urbanised compared to other sub-Saharan African countries where the levels of urbanisation stood at 34.9 per cent (Milimo et al., 2000, p. 10; UNDP, 2007, p. 246).

4.4 *Development ideologies shaping the Zambian Economy*

In this section, the development ideologies that have shaped Zambia's economy over the years since independence are discussed. Zambia's economic policy regimes can be divided into five parts, namely free-market policies – which applied during the period 1964 to 1972; the state control period – which lasted from 1973 to 1984; the economic transition period of 1985 to 1990; the stabilisation and structural adjustment period of 1991 to 2001; and the poverty reduction agenda covering the period from 2001 to date (Central Statistical Office, 2005). The details pertaining to these policy regimes will now be discussed in chronological order.

4.4.1 Free-market economy (1964-1972)

At independence in 1964, Zambia had one of the most prosperous economies in sub-Saharan Africa with a higher GDP per capita than that of Singapore (McCulloch et al.,

2000). During the period 1964 to 1972, the government pursued liberal market economic and political ideologies whereby the state had little or no control over the economy. Government emphasis was placed on infrastructure development and provision of social services. High copper productions coupled with rising copper prices on the market boosted the economy's capital stock (Central Statistical Office, 2005, p. 1; McCulloch et al., 2000, p. 4). Politically, the country during this period practised multipartism.

4.4.2 State Controlled economy (1973-1984)

In 1968, Zambia passed a Mulungushi Declaration which was implemented in 1972 attesting to the heavy involvement of the government in national development issues (McCulloch et al., 2000). By the mid-1990s the country was fundamentally a public sector-led economy with extreme controls, parastatal monopolies, and a pro-urban development strategy. A large number of parastatal companies were established in mining, telecommunications, energy, finance and agri-business (Central Statistical Office, 2005, p. 1). Politically, this period coincides with the introduction of a one party governance system following the Choma Declaration of 1972, which abolished the practice of multipartism in Zambia. This phase is also commonly referred to as the *second republic*.

About the same time that the government took control of the economy, the country started to face huge economic problems, especially as in 1974 copper prices at the world markets fell and oil prices rose. The situation was exacerbated when the country boycotted South Africa's apartheid policies and thus had to face its landlocked[23] position (A. Touwen, 1996). The government borrowed to keep the levels of consumption undistorted[24] (McCulloch et al., 2000), for instance the government introduced subsidies on maize and other goods, a practice that persisted until 1991 even though it had negative effects on the fiscal balance (Central Statistical Office, 2005).

[23] Zambia is a landlocked country meaning that none of its borders touch the ocean. The only access to the sea is through neighbouring countries like Tanzania in the north, Mozambique in the east, Angola in the west, and South Africa in the south through Zimbabwe.

[24] The government was applying the economic model promulgated by Maynard Keynes who argued that the governments should meet short-falls in the economy by borrowing to finance expenditure that is aimed at triggering economic activities, which would generate higher tax returns. In the process, the government's deficit would be removed and debts repaid (Preston, 1997).

4.4.3 Economic transition (1985-1990)

The second oil crisis of the 1980s consequently doomed the prospect of sustained growth. This period signalled the decline in real per capita incomes, persistent inflation, widening budget and balance of payments deficits and declining official production and exports. In 1989, for instance, the GDP of the country had a negative growth of -1.0 per cent and by 1991, Zambia had accumulated a staggering debt burden of US $7 billion (Central Statistical Office and ORC Macro, 2003 ; A. Touwen, 1996). When it became apparent that the economy would not recover any time soon, the government turned to the World Bank and the IMF for financial and policy support, even though it could not sustain the stabilisation policies introduced. In May 1987, the government abandoned the stabilisation and structural adjustment policies due to public discontentment, which ended in food riots in the country at the end of 1986 (Central Statistical Office, 2005; McCulloch et al., 2000).

In an effort to halt the economic recession, the government had no option but to renegotiate their soured relationship with the IMF. In June 1989, the government relinquished control of all consumer goods prices except maize and by early 1990, a new Policy Framework Paper had been prepared in conjunction with the IMF, stipulating the economic policies to be implemented between 1990 and 1993. This policy framework was again abandoned after widespread riots in Lusaka after the policy's implementation in June 1990. Fresh relations were entered into with the World Bank in March 1991, although the agreed policies were not implemented again as the sitting government gave in to the calls for the re-introduction of multipartism and holding of early elections later in the year (McCulloch et al., 2000).

4.4.4 Stabilisation and structural adjustment programmes (1991-2001)

By 1991, political and economic reforms were inevitable in Zambia. Politically, multipartism was re-introduced, a move that resonated with the global wind of change by which people were moved to call for more democratic governments. Economically, the new party's policies were heavily influenced by the global call for liberal market economies under the neoliberal agenda. As the people were weary of socialist policies

under President Kenneth Kaunda and his United National Independence Party (UNIP), they voted in Frederick Chiluba and his Movement for Multiparty Democracy (MMD) and his neoliberal agenda of releasing the economy from the hands of the state and promoting market-based growth (Central Statistical Office, 2005; McCulloch et al., 2000; Milimo et al., 2000). When the MMD took over government in 1991, the economy was on its knees. Inflation was over 90 per cent and by 1992 it had reached 191 per cent. The government deficit stood at 7.3 per cent of GDP and external debt was a staggering US$6.8 billion with scheduled debt service standing at 61 per cent of export earnings (McCulloch et al., 2000, p. 8). Zambia's total external debt stock in 1970 stood at US$654 million, which represented one third of the country's GDP. In contrast, the figure had risen to over US$ 7 billion by 1990 or $933 per person, while the resulting debt service burden rose from 6 to 61.4 per cent of export earnings (Copestake and Weston, 2000, p. 590). Table 4.1 below gives a summary of Zambia's external debt stock between 1990 and 1996.

	1990	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**
Official multilateral	1418	1514	1590	1757	1988	2086	2182
Official bilateral	2957	3060	2775	2577	2674	3272	3345
Private long-term	479	421	369	345	209	220	155
Short-term	1440	1374	1363	1332	897	224	205
IMF credits	949	918	846	777	805	1239	1198
Total	**7243**	**7287**	**6943**	**6788**	**6573**	**7041**	**7085**

Table 4.1 Zambia's External Debt Stock, 1990-1996 (US$ Million at Current Prices)
Source: (Copestake and Weston, 2000, p. 590)

Since the MMD government won elections on the neoliberal agenda, they were quick to implement their promises and thus launched an Economic Recovery Programme (ERP) in the name of SAPs to reverse the protracted decline of the economy. However, these SAPs – as they did in any other country that implemented them – had far reaching effects on citizens, especially women and children (A. Touwen, 1996).

The declining economy over the years had had negative effects on the government's capacity to provide basic public services. Starting from the mid-1980s, the once credible

social indicators became appalling. By 1990, the country had one of the highest infant, under-five and maternal mortality rates, and one of the lowest life expectancies at birth in the world. For instance, the Zambia Demographic and Health Survey (ZDHS), a nation-wide sample survey of women of reproductive age which was conducted in 1992 indicated that child mortality increased by almost 20% and neonatal and postnatal mortality by 35% (A. Touwen, 1996).

4.4.5 Poverty reduction agenda (2002 to date)

The failure of the neoliberal oriented policies to recuperate the Zambian economy was evidenced by the negative growth rates recorded amidst increasing external and internal debt burdens throughout the 1990s. As of December 31, 1999, Zambia's external debt stock stood at about US$7 billion (AFRODAD and Christian Aid, 2004; IMF and IDA, 2000; Milimo et al., 2000). In terms of net present value (NPV), Zambia's total debt was "estimated at about US$5.2 billion equivalent to about 160 percent of 1999 GDP (IMF and IDA, 2000, p. 15). The country's economy was classified as *chronic crisis* as its mean growth rate between 1990 and 1999 was -2.4 percent[25] (Sachs, 2002). When the global wind of call for debt cancellation blew in the late 1990s and early 2000s, Zambia was one of the countries that qualified for debt relief under the HIPC initiative. Being so chronically indebted and having a per capita income of US$ 350 and a per capita debt of US$ 220 in 1999, Zambia had no option but go through the HIPC initiative process in a bid to secure the much needed debt relief (AFRODAD, 2006b, p. 6).

At decision point in late 2000 it was apparent that Zambia's "annual debt obligations to the IMF alone would rise from less than US$10 million a year in 1998-2000 to about US$219 million in 2001..." (IMF and IDA, 2000, p. 17). By going through the HIPC initiative process, the country expected to have a reduced debt stock of US$3.8 billion from a staggering debt of US$6.8 billion. It also meant that the country would have a reduction in debt service from roughly US$ 600 million to US$ 165 million at completion

[25] As highlighted in Chapter Two, a country's debt crisis was classified chronic debt crisis under the HIPC initiative if it failed to establish a viable profile and also failed to achieve sustained economic growth in the 1990s. The unweighted mean annual growth rate for countries falling under this category was -0.2 percent (Sachs, 2002, p. 273) .

point (AFRODAD, 2006b, p. 6). Consequently, the overall annual savings of approximately US$500 million from debt servicing would be channelled towards poverty reduction programmes within the country.

As a condition for eligibility under the HIPC initiative, the IMF and World Bank demanded that debtor governments develop national development policies and plans and produce Poverty Reduction Strategy Papers (PRSPs) with the participation of civil societies and other interest groups. This was for the purpose of ensuring that the "saved'' money from the debt relief would be spent on poverty reduction (AFRODAD, 2006b, p. 5). As already discussed in Chapter Two, the PRSP described the country's macro-economic, structural and social policies and programmes aimed at promoting growth and reducing poverty. It also captured associated external financial needs within the IMF's promulgated Poverty Reduction and Growth Facility (PRGF) framework, which is a replica of its predecessor, the enhanced structural adjustment programme (ESAP) (AFRODAD, 2006b, p. 5).

As required, Zambia thus developed a PRSP covering the period 2002 to 2004 to reverse the trends of poverty that had extended to cover 73% of the population by 1998 (Central Statistical Office, 1998). Zambia's PRSP was built on the trickle-down effects approach where the emphasis was placed on promoting sustainable economic growth, improved social service delivery and expanded infrastructure base. A growing economy that would create jobs and raise the government's revenue generation base through taxes was seen as ideal for poverty reduction as benefits were envisaged to trickledown to the general populace (Ministry of Finance and National Planning, 2002, p. 13). Within Zambia's PRSP macroeconomic framework, mining was among the leading economic sectors that were identified to grow the country's economy to sustained levels.

4.4.6 Current socioeconomic trends (2002-2007)

The Zambian economy over the years beginning in 2002 "has achieved macroeconomic stability characterised by growth in the real Gross Domestic Product (GDP) in excess of 5% per annum, the reduction of inflation to single digit, a stable exchange rate, declining interest rates, a stable financial system, the removal of the external debt burden, and a

substantial build-up in foreign exchange reserves" (Magande, 2008). Statistically, the real GDP grew from -2.4% recorded in the 1990s to a record high 6.2% in 2007 (IMF, 2007; Magande, 2008; Ministry of Finance and National Planning, 2007). Annual inflation fell to its lowest level in the last 30 years to 8.2% in 2006 against a target of 10% and compared to an outturn of 15.9% in 2005 (Magande, 2007; Ministry of Finance and National Planning, 2007, p. 6). In 2007, the annual inflation rate closed at 8.9% (Magande, 2008). Selected figures showing the country's performance in terms of real GDP growth and inflation are presented in Table 4.2 below.

Indicator	2002	2003	2004	2005	2006	2007
Real GDP growth (%)	4.9	5.1	5.4	5.2	5.8	6.2
Inflation (end-period) (%)	26.7	17.2	17.5	15.9	8.2	8.9
External debt stock (in billion of US$)	-	-	7.1	4.5	0.7	-

Table 4.2: Real GDP Growth and Inflation Performance, 2002-2006
Source: (Magande, 2008, p. 2; Ministry of Finance and National Planning, 2005, p. 7, 2007, p. 7).

However, despite the impressive performance of the economy in terms of positive growth rates and lowered inflation rates recorded, the majority of the people in Zambia remain poor. According to the Living Conditions Monitoring Survey conducted in 2004 throughout the country, the incidence of poverty stood at 68%. Out of this 68%, 53% were most disadvantaged and classified as extremely poor as they could not afford a minimum basic food requirement (Central Statistical Office, 2005, p. 113). By 2005, 63.8% of the population were reported as living on less than US$1 a day, while the figure increased to 87.2% if the income poverty line is to be moved up to US$2 a day (UNDP, 2007, p. 240).

The literacy rate for the population aged 15 years and above in Zambia stands at 68%. However, a further analysis of the 2000 Census report indicates that the problem of illiteracy is more common among females than males, where one in every two females (49.8%) was illiterate compared to almost two in every five males (39%) (Central Statistical Office, 2003). Data from the 2002 Zambia Demographic and Education Survey (ZDES) reveal that adults in rural areas are more likely to be illiterate compared to their

urban counterparts. Whereas 48% of women aged 15-49 years and 75% of men aged 15-49 are able to read in rural areas, their counterparts in urban areas within the same age cohorts stand at 79% for women and 90% for men. It is also clear that completion of primary school is not a guarantee that one would be literate, as it has been shown that not all of the Zambian women aged 15-49 years who completed primary education were literate (Central Statistical Office, 2003). As of 2002, the HIV/AIDS pandemic continued to devastate Zambian society to such an extent that its prevalence rate stood at 16% of the population aged 15 to 49 years old (Central Statistical Office, 2005, p. 2).

The 2007/8 UNDP Human Development Report ranked Zambia as number 165 on the Human Development Index with an HDI value of 0.434. As at 2005, the country had a life expectancies at birth of 40.5 years while the gross domestic product (GDP) per capita stood at US$1,023. In all these three indicators, the country is scoring below average when compared to other countries in the sub-Saharan region where on average the HDI value is 0.493, life expectancy stands at 49.6, while GDP per capita is US$1,998 (UNDP, 2007, p. 232). When the human development index trends are compared for Zambia, the country has had its HDI value decrease over the years since the late 1980s. However, after hitting its lowest record value in 2000, the country has started raising its HDI value as can be seen in Figure 4.2 below.

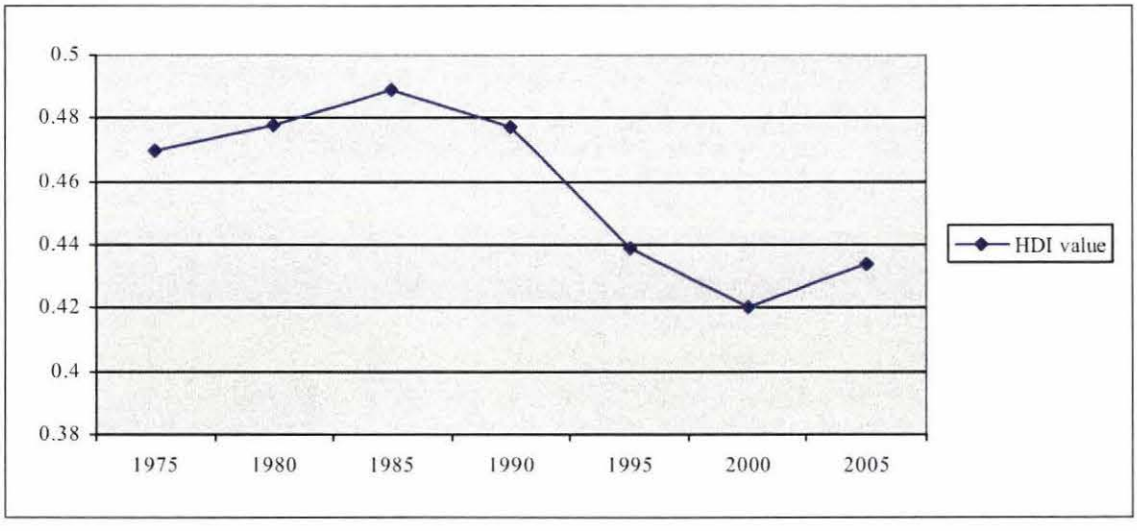

Figure 4.2 Graph Showing Trends in HDI Value Between 1975 and 2005
Source: Own computation based on values from (UNDP, 2007, p. 237).

It is clear from the statistics presented in this section that the Zambian economy over the past six years has posted sustained growth rates in excess of 5%. However, the positive economic indicators that are being reported have translated into insignificant increase in well-being, especially among the rural people who are mainly engaged in non-industrial based economic activities.

4.5 *The place of mining in the Zambian economy and society*

4.5.1 Copper mining in the first ten years of independence

Zambia has a dual economy consisting of a modern and urban-oriented sector and a traditional agricultural subsistence sector, although the country's main source of foreign exchange is heavily dependent on copper exports (A. Touwen, 1996). While copper mining has dominated the Zambian economy since the first copper mine was opened in 1928 at Roan Antelope (now Luanshya), the benefits have not always been realised in the country. To explain the point, at independence in 1964, the mining sector was in private hands with Roan Selection Trust and Anglo-American Corporation as the key companies that owned and managed the mines (Fraser and Lungu, 2006). Between 1964 and 1969 the mining sector was mismanaged such that there was minimal reinvestment being channelled back as 80 per cent of the profits went into dividend payments (Chisala et al., 2006). Nonetheless, the mining companies blamed the government's taxation regime and the royalty system applied to the mining sector as the major disincentives for reinvestment (Fraser and Lungu, 2006).

The government thus amended the constitution[26] through a referendum and placed all rights of ownership of minerals and prospecting licences into the state. The two private mining companies were forced to surrender 51 per cent of shares in all existing mines to the state in 1969 and the government formed a holding company in the name of Zambia Industrial and Mining Corporation (ZIMCO) to run the sector. The two subsidiaries of ZIMCO – Nchanga Consolidated Copper Mines (NCCM) and Roan Consolidated Copper

[26] The Zambian constitution was inherited from the former British colonial government and placed ownership of the mines in the private sector, while the government benefited only through taxes and royalties.

Mines (RCCM) – were merged in April 1982 to form the Zambia Consolidated Copper Mines (ZCCM) (Chisala et al., 2006; Fraser and Lungu, 2006, p. 16).

During the first ten years after independence, the Zambian economy grew at an average rate of 2.4 per cent due to rising copper prices and high levels of investment (McCulloch et al., 2000). In 1969, Zambia was the largest producer of copper among developing countries, and the third largest producer after the USA and the former Union of Soviet Socialist Republics (USSR)., contributing twelve per cent of the total world production (Chisala et al., 2006). By 1969, "Zambia was classified as a middle-income country, with one of the highest GDPs in Africa, three times that of Kenya, twice that of Egypt, and higher than Brazil, Malaysia, Turkey and South Korea" (Fraser and Lungu, 2006, p. 7). The profits from the mining sector were used to provide facilities and services countrywide such as hospitals, rural clinics, schools, roads, and water and sanitation as the colonial authorities had made little effort to provide such facilities for the indigenous population (Fraser and Lungu, 2006).

4.5.2 ZCCM and the mining communities

The mines contributed extensively to the welfare of the societies in which they operated. ZCCM was viewed as a reflection of the government's development philosophy and provided services in mining areas such as schools, hospitals and health centres, housing, water and sanitation facilities, electricity, recreation clubs, and churches. These social services were subsidised to employees and their families, and were seen to be superior to those offered by the local authorities (Chisala et al., 2006, p. 18; Fraser and Lungu, 2006, p. 8). The mines operating via ZCCM not only took care of their employees, but they also catered for the whole community. They managed the urban environment in the mining townships, and maintained the roads as well as providing social amenities. They promoted the growth of social and economic activities dependent on miners' incomes, such as shops, farms to supply food to mining areas and supplying companies. There were also Youth Development Schemes, which helped unemployed youths to identify skills that could be pursued and formalised as careers. Women also had special programmes that were supported equally (Fraser and Lungu, 2006, p. 8).

4.5.3 Copper mining during economic crises

The falling copper prices on the international market coupled with the oil crises beginning in 1975 had a negative effect on the mining sector in Zambia and the economy as a whole. This was compounded by the liberation struggles experienced in the region among the neighbouring countries, meaning that Zambia had to abandon cost-effective transportation routes given its landlocked position (Chisala et al., 2006). As copper prices and revenue generation dropped from the 1970s onwards, it became difficult for the government to sustain the entire economy as it depended on copper either directly or indirectly through subsidies. The government was thus forced to borrow abroad, assuming that the drop in metal prices was temporary (Thurlow and Wobst, 2006).

During this economic crisis, ZCCM was also drained of its revenue by the government, which undermined its ability to reinvest in machinery and prospecting ventures, meaning that no new mines were opened after 1979. Copper production slipped from a record high of 750,000 tonnes in 1973 to a paltry 257, 000 tonnes in 2000. Between 1974 and 1994, Zambia's per capita income collapsed by 50 per cent, leaving the country the 25th poorest country in the world (Fraser and Lungu, 2006, p. 8). Owing to the financial difficulties facing ZCCM, coupled with the obsolete machinery in use and ore bodies lying deeper beneath the ground, the costs of production increased so much that in March 1993 ZCCM produced at 83.1 cents per pound compared to CODELCO of Chile, which produced at 73.3 cents per pound (Chisala et al., 2006, p. 18; Fraser and Lungu, 2006).

4.5.4 Privatisation of the mining sector

By 1990, ZCCM's debt had grown from two-thirds of its total asset value to over half, hence a sum of US$2 billion was needed to put the parastatal company on track with effective operations (Craig, 2001). The neoliberal policies adopted by the MMD government elected in 1991 were seen as providing the best framework for dealing with the problems facing the mining sector; hence the new government opted for private operators. The new government was pressured by the donors and other cooperating partners to privatise ZCCM, as it was seen to be a drain on public resources due to its inefficiency. The privatisation of ZCCM became a condition for development assistance

among the country's cooperating partners, who argued that the move would attract new capital to revitalise the mining sector. This would in turn stimulate growth, invigorate exports, and generate revenue through taxes for development expenditure. It was argued that privatising the mines would also create opportunities for many players working at the hands of the free market forces, which would stimulate growth of many industries (Chisala et al., 2006, p. 18).

The stabilisation and adjustment policy frameworks Zambia implemented were all tailored towards ensuring that the state got rid of the mining parastatal company. In 1995 for instance, the World Bank's Economic Recovery and Investment Project (ERIP) and IMF's Enhanced Structural Adjustment Facility (ESAF) were extended loans to ensure that Zambia adopted and implemented plans of privatising ZCCM. The demand was repeated by the Bank under its Economic and Structural Adjustment Credit (EAC II) of 1996, and Structural Adjustment Fund (SAF) of 1996 and the IMF's Enhanced Structural Adjustment Fund (ESAF) of 1999[27] (Fraser and Lungu, 2006, p. 10). Throughout the process, the government was reluctant to sell off the parastatal company and the deadlock was broken only after Zambia became eligible for the HIPC initiative in 1996 and it was put as one of the pre-conditions for qualification at decision point though the government was still dragging its feet (Dymond et al., 2007; Fraser and Lungu, 2006). As Dymond et al, (2007) point out, "in 1999, with the Zambian government still reluctant to privatize ZCCM, major donors withheld some US$500 million in aid until the government conceded (Dymond et al., 2007, p. 8). ZCCM was thus unbundled into seven asset holding companies and sold to various investors, although ZCCM retained shares in some of the units including Kansanshi mine through its holding company called ZCCM-Investment Holdings (Craig, 2001; Dymond et al., 2007; Fraser and Lungu, 2006).

The then Minister of Finance (Edith Nawakwi), during the privatisation of ZCCM, argued that the government was under pressure to get rid of the parastatal company as it was gobbling up to US$ 1 million a day – so privatising it would relieve the government

[27] For more details see Situmbeko and Zulu (2004).

from such high costs (Dymond et al., 2007). The former minister had this to say about the government's weakened bargaining position in the privatisation process of ZCCM:

> *We were told by advisers, who included the International Monetary Fund and World Bank that not in my lifetime would the price of copper change. They put production models on the table and told us that there [was] no copper in Nchanga mine, Mufulira was supposed to have five years' life left and all the production models that could be employed were showing that, for the next 20 years, Zambian copper would not make a profit. [Conversely, if we privatized], we would be able to access debt relief, and this was a huge carrot in front of us – like waving medicine in front of a dying woman. We had no option [but to go ahead]* (Dymond et al., 2007, p. 8).

It is clear from this section that the privatisation of the mining sector in Zambia was done under duress such that the government was arm-twisted through attaching the process to foreign aid. The resulting factor was the formulation of a mining policy which favours the interests of investors at the expense of the state and its people.

4.6 *Investment opportunities in the mining industry*

Within the privatisation framework, the government in 1995 adopted a pragmatic mineral policy through the enactment of investor-friendly Acts, such as the Investment Act and the Mines and Minerals Development Act (Australian Trade Commission, 2007; Fraser and Lungu, 2006). The Investment Act sought to provide security against unwarranted acquisition of companies by the government as was seen in 1969 by the Kaunda regime. The Act removes controls on foreign exchange, allows companies to repatriate without interference all funds in respect of dividends, principal and interest on foreign loans, management fees and other charges (Fraser and Lungu, 2006, p. 11).

The mining policy was also aimed at promoting private-led investment in exploration and development of new mines. The policy was further intended to return the ownership and operation of large-scale copper mines to private companies in a bid to encourage cost-effective management and operation of the mining sector (Ministry of Mines and

Minerals Development, 1997). The tax regime and investment incentives provided for in the mining policy include the following:

a) Royalties

The holder of a large-scale mining licence is, in accordance with their licence, the Minerals Act, and conditions of their development agreement, obliged to pay to the state a royalty on the net back value of minerals produced at the rate of 2 per cent; except in the former ZCCM mines where the rate should be paid at 0.6 per cent[28]. However, payments of royalties may be "deferred if the cash operating margin of a holder of a large-scale mining licence falls below zero" (Ministry of Mines and Minerals Development, 1997, p. 14).

b) Corporate tax

Corporate tax was reduced from 35 per cent to 25 per cent with a period of carry over of mining losses extended from 10 to 20 years (Australian Trade Commission, 2007; Fraser and Lungu, 2006).

c) Relief from income tax

Investment in mining, including prospecting, has incentives of reduced income tax on expenditures such as capital expenditure (plant, machinery and commercial vehicles, non-commercial vehicles, and industrial buildings) (Ministry of Mines and Minerals Development, 1997).

d) Relief from other surcharges

Firms engaged in mining activities (exploration or mineral extraction) are exempt from customs, excise and VAT duties in respect of all machinery and equipment, including specialised motor vehicles (Ministry of Mines and Minerals Development, 1997).

e) Remission

[28] The Mines and Minerals Act CAP 213, Part VIII Royalties and Charges.

There are no restrictions in respect of the amount of profits, dividends, or royalties that may be externalised, although a withholding tax of 15% is levied (Ministry of Mines and Minerals Development, 1997, p. 14).

The conditions governing investment in the mining sector, such as the tax regime outlined above, and other relevant issues are reflected in the development agreements that are signed between the government and the investors. Development agreements are contract documents that spell out the expectations of the parties involved such as terms under which the mines will be operated, rights and responsibilities of the state and the mine owners (Fraser and Lungu, 2006). Thus each mining company negotiated their own conditions in their development agreements, which may not be similar to those of their colleagues depending on circumstances and their negotiation skills. These investment opportunities have remained unchanged over the years such that even the new mines like Kansanshi were guided by these conditions.

4.7 *Solwezi – the town of new opportunities*

Solwezi is the provincial capital of the North-western province of Zambia. During the country's 2000 census of population and housing, Solwezi district had an estimated population of 200,000, the majority of whom lived in rural areas surrounding Solwezi town (Central Statistical Office, 2004). Economically, the district is endowed with mineral resources including copper and gold ores at Kansanshi (10 kilometres north of the town) and Lumwana (about 100 kilometres from Solwezi town along Mwinilunga Road) (Central Statistical Office, 2004).

The rural economy, which supports the majority of Solwezi residents, is based on agriculture. More than 90 per cent of the population is engaged in agriculture-based activities at subsistence level, growing crops such as maize, millet, groundnuts, mixed beans, Irish potatoes and sweet potatoes for consumption and also as a source of income (Central Statistical Office, 2004, p. 3). The Living Conditions Monitoring Survey (LCMS) of 2004 actually reinforces this point by revealing that only 9 per cent of

residents in the North-western province are engaged in non-agricultural activities (Central Statistical Office, 2005).

The Solwezi district has experienced an economic boom following the serious re-development of Kansanshi mine in the 2000s, whose revitalisation has been sponsored by the PRSP's macro-economic framework, which emphasized the opening of new mines in the bid to achieve sustained economic growth. The development of new mines in Solwezi (Kansanshi and Lumwana) has resulted in an influx of people from all corners of the country in search of opportunities. Solwezi has since acquired the title of 'New Copperbelt' with a lot of economic activities going on in the township. The economic boom experienced in Solwezi has either directly or indirectly transformed the local economies as well as those of local communities surrounding the town.

However, within this transformation, observations have been made by interest groups that the "economic opportunities opening up in the region are not benefiting the local population because of high levels of illiteracy, poor infrastructure and undeveloped markets for agriculture produce"[29] (SACCORD, 2007, p. 7). According to the 2004 Living Conditions Monitoring Survey (LCMS), while the incidence of poverty has reduced between 1993 and 2004, thus from 88 per cent to 76 per cent, it is still higher than the national average, which stands at 68 per cent (Central Statistical Office, 2005, p. 117).

In this study, the researcher thus sought to explore the experiences of local communities living near the mining area and discover how they are fitting in within the context of the transforming local economies resulting from the development of Kansanshi copper mine. The communities captured in this study include State Ranch, Mushitala, Kabwela, and Kyafukuma. These communities represent a range of people who have, directly or indirectly, been affected by the mining operations through displacement or loss of productive assets such as farmland. It is undeniable that there are lots of economic opportunities that have emerged with the opening of Kansanshi mine, but most of those

[29] For further details see (Corella et al., 2006)

who have benefited are the urban elites. It is therefore important to consider what the situation and experience of a rural person in this economic boom might be.

4.8 *Kansanshi mine as a case study*

4.8.1 History of Kansanshi mine

Kansanshi mine is located approximately 10 kilometres north of the town of Solwezi, the capital of the Northwestern Province in Zambia, and 16 kilometres south of the border with the Democratic Republic of Congo [DRC] (First Quantum Minerals Ltd., 2005). The map showing the location of the Kansanshi mine in relation to other mines in the country is presented later in the section as Figure 4.3. Kansanshi mine is one of the oldest known mining sites in Zambia, with evidence of direct copper smelting dating back to the 4th Century (First Quantum Minerals Ltd., 2006b, p. 2).

Since the rediscovery of ancient workings in this area in 1899, the Kansanshi copper-gold deposits have been mined intermittently (First Quantum Minerals Ltd., 2006b). In 1969, the development of an open pit mine at Kansanshi to treat high grade oxide ore was approved by the government. However, due to economic hardships that rocked the country from 1975, the processing project was halted and only extraction activities were conducted at the site until April of 1986, when mining operations ceased. After a resumption of mining operations in 1988, ZCCM constructed a small sulphide flotation concentrator to treat ore which was transported offsite for smelting (First Quantum Minerals Ltd., 2007b, p. 13).

As a ZCCM owned mine, Kansanshi was also targeted for privatisation and being a relatively undeveloped site, the mine was one of the first mines to be disposed of in 1997. Cyprus Amax Minerals Company (Cyprus Amax) negotiated with ZCCM and the Government of the Republic of Zambia (GRZ) to secure majority ownership of the Kansanshi mine. The agreement in this respect was finalised on March 14, 1997 (First Quantum Minerals Ltd., 2006b, p. 2). When Cyprus Amax took over operations of

Kansanshi mine, *the company ended up erasing the entire infrastructure base at the mine in terms of houses, a grade one primary school, a clinic, a market shelter and other facilities, arguing that they were erected where the mineral deposits lay*[30].

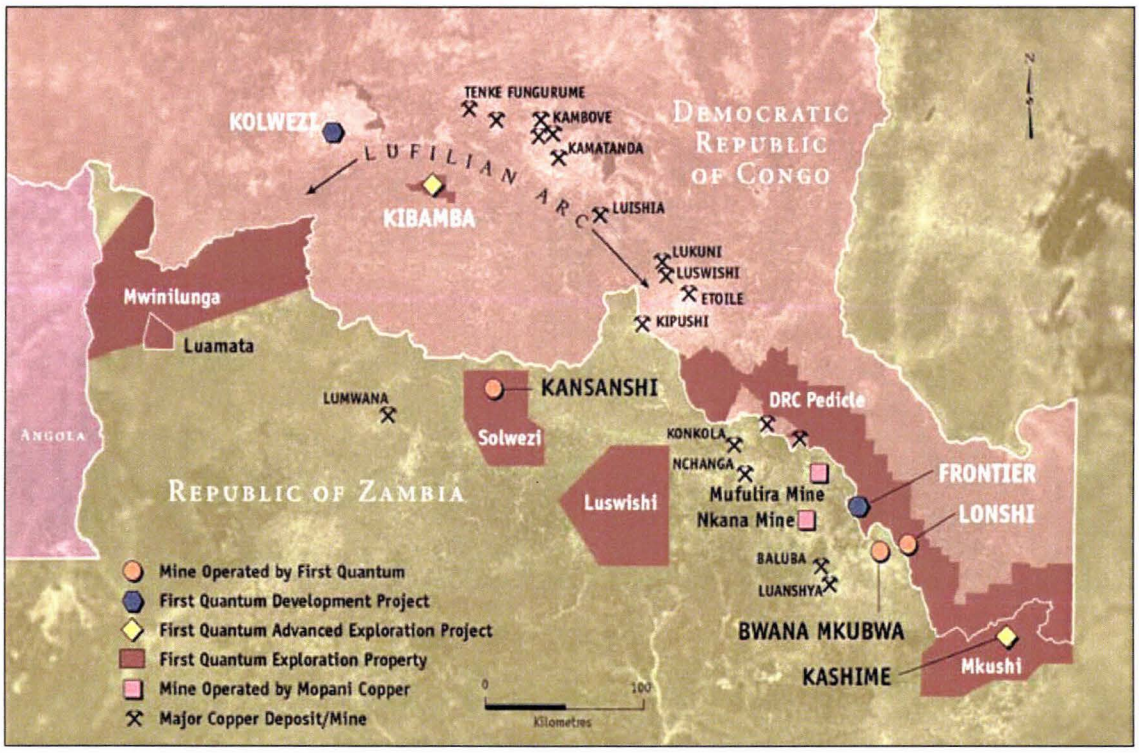

Figure 4.3 Map Showing the Location of Kansanshi Mine in Relation to Other Mines in Zambia

Source: (First Quantum Minerals Ltd., 2006a)

In 2001, First Quantum Minerals Ltd (FQM) acquired 100 per cent of Cyprus Amax Kansanshi Holdings Limited ("Holdings"), a wholly owned subsidiary of Cyprus Amax which held the entitlement to the 80% interest in Cyprus Amax Kansanshi Plc, the Zambian company which owned Kansanshi (First Quantum Minerals Ltd., 2005, p. 15, 2006b, p. 2). Based on the Definitive Feasibility Study (DFS), which it had conducted, FQM decided to develop Kansanshi mine in two phases with the first phase covering a period of 16 years. Phase one was thus commenced in 2003 with commercial production recorded in April 2005 (First Quantum Minerals Ltd., 2005).

[30] Researcher's interview with the Area Member of Parliament.

4.8.2 Fixed assets holdings

Kansanshi mine holds title to the surface area covering 21, 593 hectares. The mining company holds a large-scale mining licence, covering a period of 25 years and allowing for the exploration and mining of copper, cobalt, gold, silver, tellurium, selenium and sulphur minerals (First Quantum Minerals Ltd., 2006a). In addition to LML 16, Kansanshi mine is the leaseholder of four properties which secure the surface rights to the active mining area. These are Farm 724 (4,887 hectares), Lot 18/M (2.2 hectares), Lot 1514/M (2,288.9 hectares) and Lot 11 936/M (38.5 hectares). The mining company has secured water rights on Kyafukuma River until May 2017, which allows the investor to impound and pump 2,435 cubic metres from the said river in any 24-hour period (First Quantum Minerals Ltd., 2006a). This means that the local people downstream who depend on this stream for their livelihoods activities are affected in the process

4.8.3 Production and operation review

Kansanshi mine commenced commercial production in April 2005 and by December 2005, certain production statistics were as follows: waste mined amounted to over 16 million tones, ore mined was 7.3 million tonnes, and copper produced totalled 41, 521 tonnes (First Quantum Minerals Ltd., 2006a). Within the first six months of 2006, ending 30th June 2006, the mining company increased the production of copper by 278 per cent (First Quantum Minerals Ltd., 2006b). By the end of 2006, production statistics were 9.5 million tonnes of ore grading 1.4 per cent copper and 21.9 million tonnes of waste were extracted. Copper production stood at 127, 179 tonnes broken down as 73, 683 tonnes as copper cathodes and 53, 496 as copper concentrates (First Quantum Minerals Ltd., 2007a, p. 17).

As of December 31, 2006, FQM had invested a total of US$411 million at Kansanshi mine (First Quantum Minerals Ltd., 2007a), and was an employer of about 1, 105 workers on a full- or part-time basis (First Quantum Minerals Ltd., 2007a, 2007b). In terms of revenue that is attributed to Kansanshi mine, the investor realised a sum of US$745,688,000 in 2006 compared to a paltry US$259,448,000 for 2005 (First Quantum Minerals Ltd., 2007b, p. 16). The production and revenue generation statistics are

showing that FQM Ltd is making huge net profits from its operations at Kansanshi mine. However, the sharing of this revenue and other associated benefits can take place only within the provisions of the development agreement signed between the government and Kansanshi Mining Plc. Some of the clauses that are relevant to analysing the contribution of Kansanshi mine to the well-being of local people are summarised and presented below.

4.8.4 Kansanshi development agreement

This is a document that was signed between GRZ and Kansanshi Mining Plc to govern the terms and conditions of the development of Kansanshi mine. It was first signed on 14h March 1997 when the mine was sold to Cyprus Amax Minerals Ltd and amended in 2002 after FQM took over ownership of the mine. Some of the relevant clauses in the development agreement are as follows:

Procurement

The development agreement stipulates that supply of materials, equipment and services would be given priority to businesses in Zambia that are directly or indirectly majority-owned by Zambian citizens and are in the vicinity of the mining area, provided they meet requirements. Such requirements include specifications of the invitation to tender, competitiveness in cost with international sources, and meeting the delivery and quality requirements. However, the company would not be obliged to award contracts to local companies but rather should exercise discretion after weighing extra costs of international suppliers and contractors such as wharfage costs, shipping costs, stevedoring costs, customs clearance costs, customs duties and demurrage charges (Government of Zambia and Kansanshi Mining Plc, 2001, pp. 15-16).

Local business development

The mining company should encourage and assist the development of businesses within Zambia, especially within the mining area among the Zambian citizens to supply materials, equipment and provide services to the company, "*provided* the mining company is not obliged to train... supervise, grant or lend money to any person or organisation" (Government of Zambia and Kansanshi Mining Plc, 2001, p. 16).

Training and human resource management

The mining company has a provision to amend or alter the training and human resources management programme from time to time with the consent of GRZ. The training and human resources management programme have proposals relating to the training and employment of Zambian citizens and the employment of expatriates. The employment of Zambians and/or expatriates is dependent on the company's decision in its sole discretion (Government of Zambia and Kansanshi Mining Plc, 2001, pp. 11,16). The expatriate employees of the mining company and their dependants are entitled to incentives such as importation free of duty and tax for household and personal effects that are meant for personal use, export without hindrance or imposition of duty or tax all personal effects originally imported or acquired during residency in Zambia, and freely remitting all income earned within Zambia during their residency (Government of Zambia and Kansanshi Mining Plc, 2001, p. 18).

Foreign exchange

The mining company is at liberty to remit currency out of the country without any restrictions, maintain foreign currency accounts both outside of and within Zambia, and can remit foreign currency accruing to – or earned by – it outside Zambia into the country (Government of Zambia and Kansanshi Mining Plc, 2001, p. 23).

Obligation to pay tax

The company is obliged to pay tax, royalties and duties from time to time in accordance with prevailing legislation. "The effective rate of corporate income tax paid by the Company in respect of Kansanshi is approximately 25% of Kansanshi earnings. A mineral royalty of 0.6% of net sales is payable by Kansanshi on a monthly basis to the government of Zambia" (First Quantum Minerals Ltd., 2007b, p. 17). *The company thus has no royalties, liabilities or other payments due to third parties, other than the mineral royalty of 0.6% payable to the Government of the Republic of Zambia (GRZ)* (First Quantum Minerals Ltd., 2006a). The government (GRZ) shall also refund (within 120 days) to the company any VAT collected on goods and services procured by the mining

company. The company was exempt from customs duties on goods and material that were imported for mining operations (Government of Zambia and Kansanshi Mining Plc, 2001, p. 29)

Taxation stability

GRZ agreed to the fact that for a period of 15 years following the company's commencement of normal operations, the government will not:

1. increase corporate income tax or withholding tax rates applicable to the company (or decrease allowances available to the company in computing its liability to such taxes) from those prevailing at the date hereof; or
2. otherwise amend the VAT and corporate tax regimes applicable to the company including without limitation those pertaining to the carry forward of losses from those prevailing on January 16, 1997; or
3. impose new taxes or fiscal imposts on the conduct of normal operations;
4. increase the rate of royalty, royalty base, method of calculation, or terms of payment... and even altering the import duty rates (Government of Zambia and Kansanshi Mining Plc, 2001, pp. 29-30).

It is clear from a review of the development agreement signed between the GRZ and Kansanshi Mining Plc that the mining company effectively negotiated for conditions that would result into a skewed sharing of benefits from mining activities. The conditions of the development agreement negate the potential contribution that Kansanshi mine would have made towards improving the well-being of local people.

4.9 *Conclusions*

Zambia's development pattern has been greatly shaped by the popular global economic and political ideologies, which have informed policy formulation since the country's independence from Britain in 1964. From independence up until 1972, the country followed liberal policies, by which trust is placed in the invisible hand of market forces to

run the economy. The mining sector, which has greatly dominated the Zambian economy, was being run by two private companies. The favourable copper prices on the international market in the first ten years of independence resulted in the country's recording an average economic growth rate of 2.4 per cent, which was good by global standards.

Unsatisfactory re-investment in the mining sector by the two private companies forced the government to change the constitution and led to an eventual seizure of 51 per cent of the shares in 1969. The revenue generated from the mining sectors during this period was used to finance the ambitious five-year development plans that were aimed at redistributing the national resources throughout the country. Most of the revenue went towards developing both the physical infrastructure and human resource base, matters to which the colonial government had failed to attend.

Nevertheless, the country's economy started experiencing problems in the 1970s due to oil crises and liberation struggles in the neighbouring countries. The Zambian economy continued to decline over the years such that by the late 1980s, the country had moved from being a middle income country to being the 25th poorest country in the world, with a staggering external debt stock s of US$7 billion. The country thus adopted stabilisation policies in the 1990s to revive the economy through the promotion of private-sector participation, especially in the ownership and operation of the mines.

However, the attaching of the privatisation of mining parastatal companies to debt relief under the HIPC initiative forced the government to negotiate raw deals. Legislation had to be changed to ensure that investor-friendly pragmatic policies were developed. Some of the incentives included reduction of minerals royalties from 3 per cent to 0.6 per cent; reduction of corporate income tax from 35 per cent to 25 per cent; waiver of import duties; and repatriation of profits without restrictions. Development agreements signed between the government and the mining company also bind the government to ensure that there is stability of the tax regime and other related liabilities payable to the government for a period of 15 years or 20 years.

Apparently, these investment incentives guided the negotiations for the development of new mines within Zambia's poverty reduction strategy agenda. Thus Kansanshi copper mine was opened within this policy framework. In this thesis, the author sought to establish the validity of linkages between large-scale mining and rural poverty reduction, especially among local communities that were, directly or indirectly affected - through displacement or loss of productive systems – by the development of the Kansanshi copper mine.

Chapter 5 Methodology

5.1 *Introduction*

This research was approached on the understanding that policies designed at the macro level tend to have varied impacts at the micro level. Although emphasis in most economic policies focuses mainly on figures and numbers, behind those numbers are the lives of people that are impacted upon either negatively or positively, depending on the context and situation. Impacts of macroeconomic policies on the lives of people at the micro level are reflected in people's ability to engage in economic activities, improve their capabilities to pursue their livelihood activities or to diversify, and in terms of their security as to whether they are subjected to vulnerability and risk conditions, and to what extent their voice is heard when making decisions that affect them.

In this study, the macro policies shaping investments in the mining sector, which is believed to be one of the key sectors in achieving economic growth and development, especially among resource-rich countries are explored. As analysed in Chapter Three, it is believed that investment in mine development impacts positively on all levels of society, including the poor. The validity of this assertion is therefore explored among local communities of Solwezi who have lost productive systems to the Kansanshi copper mine, which was developed within Zambia's PRSP macroeconomic policies that were aimed at achieving sustained economic growth. The central research question, guiding the investigation, is framed as follows:

> *What are the microeffects of large-scale mining on the local people's economic opportunities, capabilities, security, and empowerment in the case of the Kansanshi copper mine in Solwezi?*

This central research question is then broken down into sub questions (as also stated in Chapter One) which are investigated at household level. The household is the main target because it is the unit where most of the decisions that surround livelihood activities are made (Ellis, 2000, p. 193). Thus it is for this reason that the SLF is utilised as it provides

a comprehensive framework for the collection of both qualitative and quantitative information which will aid in making linkages between local people's livelihoods outcomes and the development of the Kansanshi copper mine. With the abovementioned in mind, this chapter describes in detail the methodological approach to collecting data to answer the research question. The themes captured are ethical issues, geographical boundaries and characteristics of sites studied, establishing bearings in the field, research participants, data collection methods (quantitative and qualitative), sources of information (semi-structured, structured interviews, and focus group discussions), and data analysis techniques applied.

5.2 *Research design*

5.2.1 Ethical issues

In planning this research, ethics approval was sought and gained from Massey University's ethics committee based on the requirements for the 'Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants, developed by the Human Ethics Committees' (Massey University, 2007). This study was conducted with the awareness that "ethical considerations place the research participants, rather than the researcher, at the centre of the research design when deciding what is appropriate and acceptable conduct" (Henn et al., 2006, p. 68). As a result, the "physical, psychological and emotional well-being of participants" (Ruane, 2005, p. 18) was given deserving attention in interacting with research participants[31]. The main principles of ethics issues considered include:

- Respect for persons,
- Informed and voluntary consent (of the participants),
- Confidentiality/Anonymity/Privacy (of data and the individuals providing it, as well as the notion of collective ownership of the process and data),
- Minimising of harm (to participants, researchers, institutions, and groups),
- Truthfulness (the avoidance of unnecessary deception),

[31] See also Will, (2007).

- Avoidance of conflict of interest, and
- Social sensitivity (to the age, gender, culture, religion, social-class of the subjects) (Massey University, 2007; Stewart-Withers, 2007, pp. 114-115).

Before conducting every interview, an informed consent was obtained from the potential participant by providing all the relevant information about the research. This was done by explaining fully what the research was all about, who was undertaking it, why it was being undertaken, and how their input was important (Gomm, 2004). An information sheet (see Appendix 1: Information Sheet), which contained ethical considerations was availed to the participants as it also highlighted the rights of the participants before and during the interview. A consent form (see Appendix 2: Participant's Informed Consent) was also availed, "while being cognisant that at times verbal approaches and agreements are deemed appropriate" (Stewart-Withers, 2007, p. 115) in the Zambian cultural context.

Confidentiality and anonymity of the participants were highly emphasised in order to protect their privacy (Ruane, 2005). However, fieldwork was undertaken with the understanding that there is a difference between anonymity and confidentiality.

> *Anonymity is where the collection of data is structured so that the researcher cannot link specific information with the individuals who provided it, while confidentiality is an assurance by the researcher that the information provided by participants will never be linked to them publicly. Unlike anonymity, in confidential exchanges the researcher actually knows which names are linked to specific information but makes promise not to go public with this information* (Ruane, 2005, pp. 24,25).

Given the aim of the study, which seeks to elucidate the experiences of local people in Solwezi's Kansanshi mining area, it was clear that the findings would be made public and thus violate the participants' privacy if they were promised confidentiality of the research. Instead, the research opted for anonymity so that even if the findings were to be made public, there would be no individuals linked to specific information. This was achieved by "purposely omitting self-identifiers during data collection, such as names"

(Ruane, 2005, p. 25). However, key informants were given a choice since they were speaking in their official capacities to either apply a pseudonym or use their names.

5.2.2 Research boundaries

Geographically, this research was confined to the areas affected by the development of the Kansanshi copper mine through the acquisition of mine land and water rights. These are settlements surrounding the mine site and new settlements established for the displaced people. The mine covers a surface area of 21, 593 hectares, which was previously owned by the indigenous population. In addition to the 21,593 hectares of land, Kansanshi mine is a leaseholder of four properties that surround the mine site with a combined surface area of 7,216.6 hectares. The mine also has water rights until May 2017 to impound and pump 2,435 cubic metres from the Chafukuma River in any 24-hour period (First Quantum Minerals Ltd., 2006a), which has potential to affect people living downstream who depend on this river for their livelihoods. The affected people from these areas were the primary focus group of this research.

5.2.3 Establishing my bearings – doing fieldwork in Solwezi

Kansanshi mine falls beyond the planning boundaries of Solwezi municipal council and as such targeting research participants could be realised only by talking to the local leadership. I moved into Solwezi without a clear idea of where to find the primary participants at community level. So I decided to register my presence with the District Commissioner (DC). As the head of government in the district, interviewing the DC at an early stage gave me an in-depth understanding of how the mine was opened and how the affected people were catered for in terms of compensation and/or relocation. It was worthwhile talking to this government official as I became clear about where to find the participants who would meet my predetermined criteria. The DC further gave me a compensation list indicating what kind of things the compensation packages captured and which people received their dues.

In the first place I thought I would use the compensation list to sample my participants. But I later realised that their physical addresses were not indicated. I further came to understand that the compensated people lived somewhere in the fringes of Solwezi town

in the shanty compounds and just owned farm plots in the current mining area. However, on this same list there was a group of people who were compensated and relocated to State Ranch area about 50 km away from town, which is about 35 km away from where they used to live. This group farmed and lived within the current mining area.

Plans were made to meet His Royal Highness Chief Kapijimpanga, the traditional leader responsible for the communities concerned, but he was reported to be out of the area for medical treatment in South Africa and I ended up meeting his representative later in the course. The purpose of meeting with the royal establishment was to find out:

a) The involvement of locals in discussing mining investment in the area and how the mine operations have affected local people's livelihoods;
b) What the envisaged benefits at the time of signing contracts were and what has been happening in reality;
c) How the compensation process of the affected households was handled, that is in terms of what was compensated for; who determined what should be included in the compensation claim, and to where the relocated people have been moved.

The meeting with the DC however, indicated that it would be best to deal with four communities namely, State Ranch, Mushitala, Kabwela, and Kyafukuma. Common characteristics among these communities were that they either lost their productive systems to the mining activities or they shared geographical boundaries with Kansanshi mine.

5.2.4 Characteristics of research sites

Based on the selection criteria for target communities identified above, four research sites were settled for and their characteristics are as follows:

The State Ranch Community

This community previously lived in the current mining area and was relocated to State Ranch, which is about 50 km away from Solwezi town. The State Ranch community was the first community to be dealt with of all the four communities studied. It was a necessity to deal with this community first because they were resettled somewhere far in

the thicket of the forest and I needed reliable transport to access them. My initial visit made to this community was to familiarise myself with the community and establish the beginnings of rapport with them. During the next visit I conducted interviews following the sample people from the compensation list that was obtained from the DC. A representative sample size of 30 per cent from this community was targeted and interviewed. Although I had planned to interview individuals instead of taking a household perspective, I ended up taking a household approach due to the lifestyle of the people involved as it was difficult to isolate an individual from his/her place in a household. Apart from the one-to-one interviews that were conducted, a follow-up focus group was also organised to triangulate the findings from the earlier interviews.

Most people in this community were not happy with the idea of sampling research participants and thus wanted to know the criteria used in identifying participants. They were sceptical also about the research being an academic piece of work, especially, that no one had ever visited them to conduct research since they moved. Their argument was that I deliberately presented my research as being for academic purposes so that I could get information from the community without raising expectations of local people. As a result of this argument, a lot of people turned up for the focus group discussion (FGD) without invitation as they wanted to see and hear for themselves what this person going round the community talking to people and finally calling for a meeting was up to.

Due to the sensitive nature of my research I deliberately avoided leaving any items of appreciation with my respondents for fear that I might be misunderstood to have coerced the community to give certain responses. I thought that I would be setting precedents given that no one had ever gone there for research. I also thought since everyone was keen to know what was going on in the community, it may appear as if there were hidden benefits coming for only a few people. This decision not to give out incentives to research participants resonated with Darlington and Scott (2002, p. 25)'s work, who argued that

> *The capacity of an individual to give freely their informed consent to research is a core principle in research ethics...but the notion of voluntary consent is*

sometimes thought to be diminished if undue enticement exists in the form of payment

However, the last day of the meetings when I went to conduct FGDs, I was in the company of the District Director of Health (DDH), who decided to open up a health post with immediate effect. He asked the community chairperson to collect 3 bicycles the following week from his office: one for the Community Health Worker and two for Traditional Birth Attendants (TBAs). They would also be entitled to a medical kit every month and the community would now be captured in the routine visits to satellite health posts by the health personnel.

Mushitala Community

The second community dealt with was Mushitala, which lies between and borders Solwezi town and the Kansanshi mine. The southern boundary of the mining area actually took part of this community's land and the affected families moved elsewhere but within Mushitala. Mushitala is a traditional community that has all the characteristics of a rural community in terms of economic activities, social and cultural institutions but has since been overrun by urban culture, which has been reinforced with the development of the mine.

The people of Mushitala lost their fields to the mines and are in the process of losing their community as it is becoming another suburb or an extension of the growing town of Solwezi. The planning boundary for the Solwezi Municipal Council (SMC) has been extended to include Mushitala. This means that the land is no longer traditionally owned but belongs to SMC and all those who currently occupy it consequently acquire 'squatters' identity from henceforth in legal terms. However, Mulaliki (2008) reported in the Post Newspaper of January 16, 2008 quoting the Mayor of SMC, that the council had resolved to allocate 1,000 plots for free to Mushitala residents as compensation for the loss of their traditional land.

Working in this community was challenging in that a sense of hostility could be felt as I moved through the community going from one household to the other. Respondents were

very much interested in my identity – who I was, where I came from, and who sent me. This became an issue because the area Member of Parliament (MP) had been in the community a few days earlier asking the community about how they could maximise benefits from the presence of the Kansanshi copper mine. My appearing in the community a few days later raised eyebrows as people wanted to know whether I was sent by the MP, the government, the mining company or some other civil organisation. Many did not believe that I was there as a student undertaking research and wondered what difference it would make for them to talk to me if my findings would not reach policy makers or even the mining company.

Though there was a high sense of hostility observed in this community I managed to go ahead with my research because I first of all registered my presence with the Senior Headwoman. People were able to accommodate me and gave me time to talk with them upon hearing that my presence was sanctioned by their traditional leader. The fact that I was able to communicate in their language and told them that the traditional leader was aware of my presence in the community helped me establish trust among the participants. Nonetheless, in this community, just like my experience with the State Ranch, most people did not like the idea of sampling where I talked to some people leaving out others. There was a complaint that even those who were left out had valuable contributions to make and thus wondered why they were being excluded.

Kabwela Community

The third community studied was Kabwela. Kabwela runs parallel to the eastern boundary of Kansanshi mine and spans from Kansanshi stream until it joins with Katandano Zambia National Service camp. Kabwela and the mine area are separated by the newly opened Solwezi-Congo road, which is a detour from the old road, which passed through the mining area. Kabwela community is a breakaway group from Mushitala that wanted to stay close to their fields.

Kyafukuma Community

The fourth community captured was Kyafukuma. This community is situated on the north-western boundary of the mine. Kyafukuma is mainly an agricultural community

and is well known for its quality beans, which are popular in other parts of the country. This community was targeted utilising the criterion of studying communities that border with the Kansanshi copper mine. Although this community has not lost any farmland to the mines, the opening of the mine has still impacted on it both positively and negatively.

5.2.5 Research participants

This researcher interviewed 55 households over the four villages described above. In addition to this number, there were also 13 key informants who were interviewed from government wings, local government, civil service, mining company and traditional leadership (see Appendix 3: List of Key Informants) for a list of key informants interviewed and justification for their inclusion). From the displaced community, 8 households were interviewed, while Mushitala and Kabwela together contributed 32 households that participated representing the group that were not displaced but lost productive systems. From Kyafukuma, 15 households participated, representing those who were neither displaced nor had lost productive assets to mining activities but live close to the mine area.

5.3 *Data collection methods and implementation issues*

5.3.1 Quantitative and Qualitative methods

This study required a combination of both quantitative and qualitative methods as its focus is on the livelihoods of people at micro level. Quantitative methods gather information from participant in numbers, which are measurable and standardised (Patton, 2002, p. 14; Will, 2007), while qualitative methods "explore the meanings of people's worlds – the myriad personal impacts of impersonal social structures, and the nature and causes of individual behaviour" (Brockington and Sullivan, 2003, p. 57). Thus it was imperative to use a combination of both quantitative and qualitative methods so that a comprehensive analysis of local people's livelihoods in the study area could be conducted.

Since data collection tools were designed based on the SLF, the framework was unpacked so that both quantitative and qualitative information could be gathered from each single

community participant. Quantifiable data on local people's asset holdings before and after the development of the Kansanshi mine was gathered to complement qualitative information, such as livelihoods activities, strategies, and perceived outcomes so as to "gain a deeper knowledge" (Will, 2007, p. 103) about how the presence of the mine has reshaped the local livelihoods trajectories. Triangulation was important in data collection as it both offered a better understanding of the research subject (Patton, 2002, p. 248; Will, 2007, p. 103) and enhanced the validity of the research (Yin, 2003, p. 99). According to Blaikie (2000, p. 263), the "effectiveness of triangulation rests on the assumption that the methods or measurements used will not share the same biases. It is clamed that their assets will be exploited and their liabilities neutralised". This study thus utilised methods such as semi-structured interviews, structured interviews and focus groups, which will be discussed later in the chapter.

5.3.2 Scheduling in the field

The fieldwork covered a period of six weeks between May and July 2007. The first week was spent in getting information from key government ministries such as the Ministry of Finance and National Planning (MFNP) and the Ministry of Mines and Minerals Development (MMMD). The MFNP was asked questions relating to fiscal policies that the government applies in the mining sector to generate revenue and how the revenue generated is linked to government expenditure. There was a need to understand the distributional effects of revenue generated – thus whether there is any percentage that goes back to mining regions after the government has received the revenue from mines in terms of taxes and royalties. The MMMD provided insights into what kind of mining codes Zambia has in place, why the country settled for such codes and whether they had yielded the benefits that the government anticipated when designing them. The MMMD also provided insights into the regulatory framework that the government has for ensuring that the investors are operating within the provided laws and regulations such as environmental regulatory laws, labour laws, and fiscal policies.

I moved to the study area in the North-western Province of Zambia in the second week of my fieldwork. Within this week, I paid courtesy calls on the central government representatives, who include the Provincial Minister, Provincial Permanent Secretary, and

the District Commissioner as a way of registering my presence in the district. From the local government wing, the researcher paid courtesy calls on the area Member of Parliament (MP). The purpose of this visit was to explain to all these officials that the research I was undertaking was academic.

The visits to communities begun in the third week and started with the visit to the royal establishment of Chief Kapijimpanga, but I managed to talk to the Acting Chief as the Chief was out of the country receiving medical attention. The traditional leadership provided insights on the interaction of the mine and the local communities. I also took the opportunity to explain my presence and the purpose of the research. This was followed by an interview with the Acting Chief on the background information surrounding the opening of the mine, consultation processes followed, compensation issues, benefits and costs that have accrued to the local people so far.

5.3.3 Sources of information

In this research I made use of both primary and secondary sources of information to analyse the microeffects of large-scale mining on reducing rural poverty. Primary sources provided information on the links between mining and the four spheres shaping this study, namely, opened up economic opportunities for locals, enhanced capabilities to pursue their livelihoods or diversify into other activities, improved security against their vulnerability and exposure to risks, and empowerment to participate in issues that affect their lives.

Input of this kind of information was drawn from the locals affected by the establishment of the mine (thus those who have been displaced and those living around the mine area). Some primary information on policy and contextual issues was derived from relevant government wings such as the Ministry of Finance and National Planning and the Ministry of Mines and Mineral Development. First Quantum Minerals Limited (FQM Ltd.) as the owner and operator of Kansanshi copper mine was also contacted to provide relevant information about the mine and its interaction with local communities. Techniques applied to gather primary information were semi-structured, structured interviews and focus group discussions. Secondary information consisting of policy

issues, statistics and other contextual issues were drawn from government documents, individual publications, and publication from non-governmental organisations such as Civil Society for Poverty Reduction (CSRP) and newspaper articles.

5.3.4 Semi structured interviews

These interviews were used among key informants who were deemed important due to strategic relevance of their institution or position in society to this study. Semi-structured interviews were applied to this category of participants because of the advantages the method offered to gather the required information and these were:

- The flexibility nature of the method as it allows for exploration of participants' subjective responses, which may lead to discovery of ideas that might not have been thought of at the outset of the study,
- The method allows for exploration of complexity, ambiguity, contradictions and process – such as policy implications and subtle social situations,
- The method allows for exploration and negotiation of potential meanings of questions and answers from the perspective of the participant (Yates, 2004, p. 165).

Semi-structured interviews proved to be effective, especially when interviewing officials from government departments and the mining company as I had to probe the participants further on policy-related issues so as to establish linkages with the focus of my study. For instance, an in-depth interview with the official at MMMD led into exploring the process the government uses in signing mines development agreements with potential investors and how much local communities living in proposed mining areas are involved in the process.

5.3.5 Household interviews

These were the main focus of this research and provided both qualitative and quantitative data that will answer the research question, whose findings are analysed and presented in Chapters Six and Seven. The questions asked were framed to capture all the livelihoods and capital holdings of the respondents. The interviews were based on closed- and open-ended questions (see Appendix 4: Interview Schedule for Community Participants),

which were framed based on the sustainable livelihoods framework to capture the respondents' livelihoods in a comprehensive matter and link the findings to the conceptual framework discussed in Chapter Three. The closed-ended questions were used to collect information that could be quantifiable and comparable among participants (Will, 2007), while open-ended questions were asked to "understand and capture the points of view of people without predetermining those points of view through prior selection of questionnaire categories"[32] (Patton, 2002, pp. 20-21). Responses from open-ended questions thus, provided insights about local people's perceptions about the presence of the Kansanshi copper mine and how it impacted on their livelihoods.

The initial plan was to use the livelihood trajectories, which allow for the examination of individual contextual issues and social differentiation The livelihood trajectories make use of a life history, which typically captures the outlines of the chronology of the respondents' lives and penetrates into the deeper layers of their beliefs, needs, aspirations, and limitations especially in relation to power and institutions (de Haan and Zoomers, 2005). This was going to involve participatory techniques such as mapping, scoring and other visual exercises (Whittaker, 2006), followed by discussions on how the presence of the mine impacted on their livelihoods. But due to limited time on the part of the participants and the researcher, I was forced to adapt to the situation on the ground and design structured questions to capture the intended information – and thus reduce the amount of inconvenience to the participants' activities.

Interviews began with introductions, an explanation of the purpose and scope of the interview, spelling out their rights during the course of the interview and how the data provided will be treated with confidentiality. The next line of questions were focused on establishing the capital holdings of the participants, followed by probing questions to link the capital holdings to livelihoods activities and outcomes. The last part of the interview focused on open-ended questions so as to elucidate the perceptions of the participants as to how the presence of the mine impacted on them and whether their expectations had been met.

[32] See also Will (2007, p. 106).

5.3.6 Focus Group Discussions (FGD)

Focus Group Discussions (FGDs) were used to complement findings from the interviews and also used as points of clarifying divergent views (if any) collected from the interview process (Finch and Lewis, 2003; Morgan, 1997; Punch, 2005). Specific issues that the focus groups dealt with included the local people's perception about the impact of the mine in their lives either positive or negative, an exploration of opportunities that they have either successfully or unsuccessfully exploited and reasons why other opportunities have not been considered either at household level or as a community (de Haan and Zoomers, 2005).

Though a FGD is technically supposed to consist of between six and ten people (Hay, 2003), the groups in practice were composed of between twelve and fifteen members due to curious village residents who wanted to know what was going on. However, it must stressed that FGDs were conducted only in State Ranch and Kyafukuma, while Mushitala and Kabwela did not have FGDs due to the sense of hostility observed when conducting interviews. For safety reasons, FGDs were avoided in those two communities.

5.4 *Data analysis*

The data collected was analysed manually acknowledging the need to account for the quantitative and qualitative data that had been gathered. Quantitative data was generated from the information based on the argued that "not all quantitative data starts out as numerical" and what makes it quantitative is the "way it is treated, notably the common practice of attributing numerical codes to the data" Henn et al., (2006, p. 191). Therefore, quantitative data presented in Chapter Six was generated from the information gathered, especially on asset holdings of the participants and thus assigned codes to it to generate comparable data. The process involved "numerically transforming the data in preparation for analysis" (Darlington and Scott, 2002, p. 145) and thus present it in "numerical and graphical" (Blaikie, 2000, p. 237) form.

In the case of qualitative data, the information was analysed based on the process proposed by Emerson et al., (1995). The process involves systematic reading of and

reflection on field notes and transcripts, and coding (Stewart-Withers, 2007). It must be emphasised here that qualitative data was collected by note taking as well as tape recording the interviews. Tape recordings were used as these offered a "more complete representation of what was said" (Henn et al., 2006, p. 192). Since the focus of the study is not about "the nature of interaction" (Henn et al., 2006) between the researcher and the participants, but rather what they had "to say about a subject" (ibid: 193), the transcription process placed emphasis on linking participants' responses to the four spheres explored in Chapter Three. The transcribed scripts were translated into English from Kaonde-language because if they were to be interpreted verbatim, they would not make sense. However, this decision was made with in cognisant with the fact that "to disguise the verbatim quotes of interviewees by paraphrasing them would defeat the purpose of qualitative research" (Darlington and Scott, 2002, p. 30). Nonetheless, the tapes are still available for verification of quotes presented in the field findings and discussion chapters.

Applying the analytical process proposed by Emerson et al., (1995), data was from transcripts was coded by categorizing it into different themes, ideas and issues and then re-examined it in relation (Stewart-Withers, 2007) to the livelihoods asset holdings analysed quantitatively and the four spheres shaping the boundaries of this study. Once data was coded and categorised, the next step was to find relationships the categories, which involved thinking about causal linkages, contexts, intervening conditions, action/interaction strategies employed to respond to phenomena in their context, and the possible consequences of action/interaction not occurring (Blaikie, 2000, p. 239). This was followed by displaying the generated information in terms of graphs, charts and photographs (Punch, 2005). This displayed information was further linked to the conceptual framework of the research to draw linkages and conclusions that answer the research questions.

The analysed data are presented in Chapters Six and Seven. Chapter Six is more quantitative and presents information of capital holdings of the participants from a livelihoods framework perspective. Chapter Seven is qualitative in nature and reflects the

responses of the participants focusing on open-ended discussions held with them on their perceptions about how the presence of Kansanshi mine has impacted on their livelihoods and whether their expectations have been met. I decided to present some of the participants' responses qualitatively so that the richness of these responses could be amplified without distortions and without reducing them into statistical figures.

5.5 *Conclusions*

This chapter highlights issues surrounding the methodological approach used in this research. The research design is well articulated bringing out issues pertaining to what kind of data is required, where these data will be obtained and who the major sources of this information were. Primary sources of information included the local people who have been affected with the opening of Kansanshi mine, which included those displaced and those still living around the mine site. The mining company was contacted for clarifications on institutional issues surrounding the operations and its relation with the local population. Government officials also provided insights into issues surrounding policy strategies concerning the linkages between mining and government's poverty reduction programmes. Documents published by government and other organisations also provided insights into policy frameworks, statistics and other relevant aspects that relate to the study at hand.

The overall conceptual framework guiding this study is based on the four dimensions of poverty that are linked to mining, namely economic opportunities, capabilities, security, and empowerment. The microeffects of mining on these aspects of the conditions of the rural poor were assessed using the sustainable livelihoods framework. The framework was settled upon due to its being holistic in nature and approach and its emphasis on putting the interests of people at the centre-stage of the process. Even the methods for data collection have been identified in the context of the research, data collection and analytical frameworks.

Chapter 6 Kansanshi Mine and Local Communities' Livelihoods

6.1 *Introduction*

This chapter is the first of the two in which field findings gathered in the context of local communities' livelihoods in the face of the development of Kansanshi copper mine are presented. The results are based on interviews conducted in the targeted communities of State Ranch, Mushitala, Kabwela and Kyafukuma, which were affected either directly by the mining activities or indirectly because they are situated close to the mining area. In this chapter, the assets holdings of the communities concerned are thus presented and linked to the livelihood activities in which they are engaged. The assets captured without any order of importance include human, physical, natural, financial and social capitals.

The first asset holding explored is human capital. Firstly, exploring human capital of the participants is essential for understanding how the opening of the mine has impacted on their capabilities to pursue their livelihoods. Human capital issues covered include education levels, access to social services – including health facilities - and productivity of their labour. Secondly, the participants' holdings of natural capital such as land, crops grown, and livestock, are covered. Where possible, the participants' holdings of natural capital before and after the mine opened are also presented.

Thirdly, the physical capital of the participants as an important factor in their livelihood activities is also analyzed. Physical assets covered include productive assets owned by participants, their access to physical assets and infrastructure such as roads, electricity, market shelters, and water points. Fourthly, the chapter includes an analysis of the financial capital of the participants, which includes sources of income, main items of expenditure on a regular basis, sources of credits, forms of savings and their participation in market-based activities. Finally, social capital will be explored briefly as it was not covered in detail during data collection.

6.2 *Human Capital*

As highlighted in Chapter One under the Sustainable Livelihoods Framework, human capital refers to the labour available that can be tapped to pursue a livelihood. This capital thus encompasses skills, education, and health (Brocklesby and Fisher, 2003, p. 187; Ellis, 2000, pp. 31-37).

6.2.1 Labour

Household size

Field data reveal that households involved in this study range in size from one to fifteen people per household. The computations presented in Table 6.1 below show that the average household size is six people (mean = 6.5). Even after arranging the distribution in order from the lowest to the highest value, the median is still 6 people. When the distribution is divided into four equal parts, it becomes apparent that households falling under the lower quartile have a maximum of 4 people while those falling under the upper quartile have 8 people. Field data further show that 16 per cent of the participating households were composed of 11 to 15 people. Analysis by community reveals that all the communities except for State Ranch have larger households in general as shown in Table 6.1 below. Despite the large sizes of these households, the majority of the household members are children falling between the 1 and 15 years age cohorts.

Category	Mean	Lower Quartile[33]	Median[34]	Upper Quartile
All households	**6.5**	**4.5**	**6.0**	**8.0**
State Ranch	5.5	4.0	4.5	5.0
Mushitala	6.8	5.0	6.5	9.5
Kyafukuma	6.7	5.0	7.0	8.0
Kabwela	8.8	3.5	8.5	14.0

Table 6.1: Household Size
Source: Field data

Note: Median depth (Md) = $(n+1)/2$.

[33] A quartile divides a distribution into quarters ((Hamilton, 1996, p. 79).
[34] Median is a "distribution's positional center: that value midway through the data when cases are ordered from lowest to highest" (Hamilton, 1996, p. 75)

Quartile depth = (truncated[35] median depth + 1)/2.

The lower quartile is the value below which 25 per cent of the households fall, while the upper quartile is the value below which 75 per cent of the households fall (Whittaker, 2006, p. 86).

Participating in labour exchange activities

Field findings reveal that a significant number of people are engaged in labour exchange activities. The selling or hiring of labour is mainly common in communities like Mushitala and Kabwela which are located geographically close to the mine and Solwezi town. Field data reveal that 40 per cent of the respondents engage in selling and hiring labour. The construction industry is one popular sector where people sell their labour in various activities.

Labour is hired or sold for a specified period of time (lasting from hours to even weeks). Those who need to sell their labour either move from one prospective employer to the other or just stand by the roadside waiting for any opportunities. Whereas men stand by the roadside waiting for any potential labour hirers, women have to move from one house to the other in town in search of household-hourly jobs.

Communities like Mushitala, which lost land to mining activities, have been encroached by the growing town, and are located close to the mine area. The affected households earn their living by adapting themselves to the dynamics of the local economy, which has been transformed heavily by the opening of Kansanshi mine. However, in Kyafukuma despite the fact that people have not lost any land to mining activities, about 40 per cent of the respondents indicated that they were engaged in labour exchange activities. This is due to opportunities for making quick money that have been opened up owing to the presence of Kansanshi mine. For people who, prior to the opening of the mine, could get money only by selling their agricultural produce, the opening of Kansanshi mine has brought about a myriad of opportunities that are rewarding almost immediately.

[35] "Truncating the median involves dropping any fractional part...." (Hamilton, 1996, p. 79).

6.2.2 Education

Education levels attained

Being an indispensable asset in people's capabilities, their education levels were also considered in this research. The field findings revealed that 60 per cent of the respondents had a primary education. When the figures for primary level and those who have never been to school are combined, the picture becomes daunting as 75 per cent of the respondents would fall into this category. As noted in Figure 6.1, only 2 per cent of the respondents indicated that they had a tertiary education.

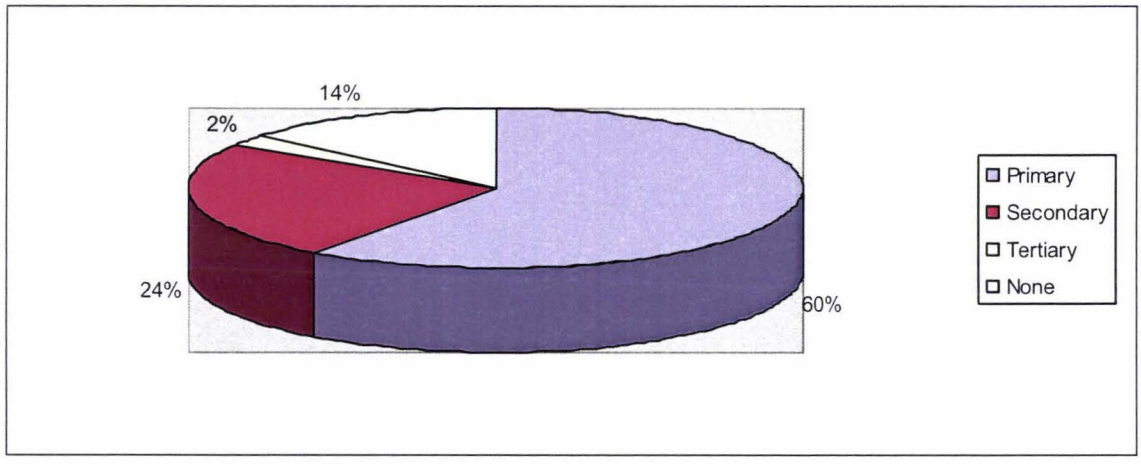

Figure 6.1 Percentage Distribution of Respondents by Education Levels Attained
Source: Field data

When the data are broken down in gender terms, a dominant percentage of participants fall into the primary education level and those who have never been to school. Out of 25 female participants, 64 per cent had primary education while 20 per cent indicated that they had never been to school. When these two categories are combined, 84 per cent of the female participants would fall into this domain. This would be far above their male counterparts. Male participants falling into the primary education and never been to school category total 67 percent. Whereas none of the female participants indicated that they went up to tertiary level in their education, their male counterparts had at least 30 per cent of the participants possessing tertiary level qualifications (see Figure 6.2 below).

These education levels exhibited by research participants speak volumes in terms of the ability of these local people to get employment either in Kansanshi mine or in one of the auxiliary sub-contracting companies. From a gender perspective, it is clear that based on findings presented above on education levels, males are more likely to get jobs in the mine and sub-contracting companies than are their female counterparts.

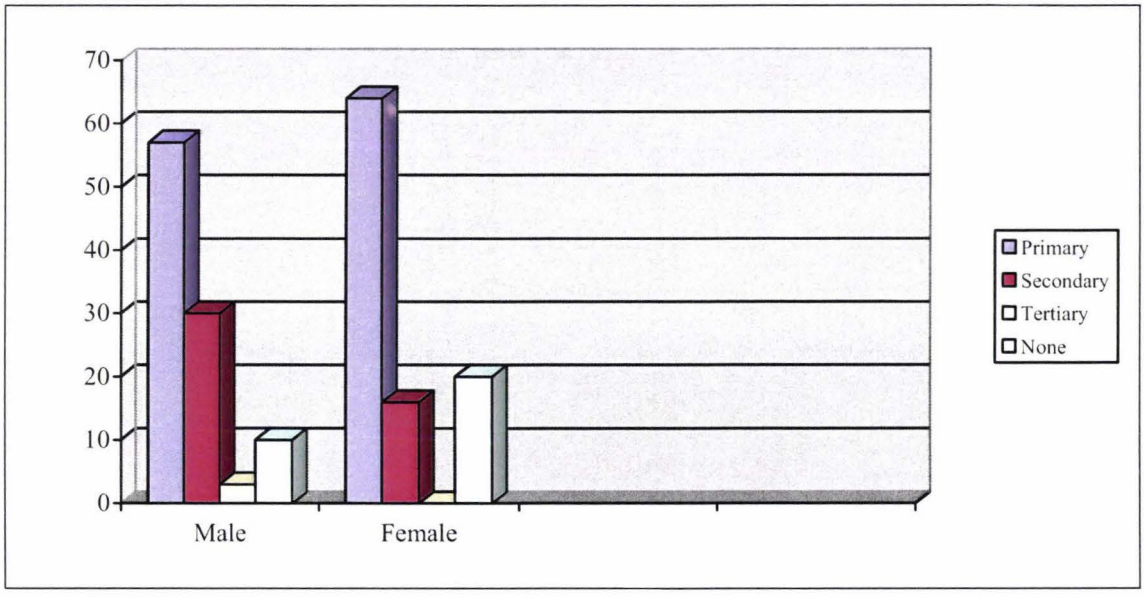

Figure 6.2 Percentage Distribution by Education Level and Gender
Source: Field data

Access to education facilities by school-aged children

A serious problem with regard to access to education facilities for children of school-going aged was observed in the State Ranch area. The community living here was resettled after losing both their fields and settlements to the Kansanshi mine. At their former settlement, which has been converted into a mining area, their children had easy access to either Kyafukuma or Mushitala schools. However, after being moved some 50 kilometres away from their former settlement, the nearest school where their children attend is some 8 kilometres away. Some of the school-going children revealed that they attend school intermittently because it becomes practically impossible for them to leave for school at 4 a.m. only to return after 8 p.m. every day for five days a week.

The situation, however, is different in Kyafukuma and Mushitala. These communities have access to education facilities although concerns of stretched facilities were raised in Mushitala owing to the influx of people who have arisen due to the myriad of opportunities that have come with the opening of Kansanshi mine. Children whose parents relocated to Solwezi have to find places in schools where capacities have not been expanded to cater for the growing demand. They are still operating on capacities meant for the local communities' needs, which are no longer at the same level. This trend can also be seen in other services like health as detailed in the following section.

6.2.3 Health

Access to health services

Access to health services is in two extremes – some communities have easy access while others do not. As presented in Table 6.1 below, field data reveal that about 33 per cent of the participants spend less than an hour in time distance to get to the nearest health facility. On the other had, 33 per cent of the participants indicated that they spend a minimum of five hours in time distance to get to the nearest clinic. The picture is skewed when people who spend three hours or more in time distance to get to the nearest health facility are considered, as 47 per cent of the participants would fall into this category.

Time distance	**Frequency** f	**Proportion** $p = f/n$	**Percentage** $100 \times p$
< 1 hour	18	.33	33%
1 hour	4	.07	7%
2 hours	7	.13	13%
3 hours	4	.07	7%
4 hours	4	.07	7%
5 hours	18	.33	33%
Total	n = 55	1.00	100%

Table 6.2 Distribution of Time Taken to Reach Nearest Health Facility.
Source: Field data

In Mushitala the community revealed that the population of Solwezi is growing due to the development of Kansanshi mine, which has exerted pressure on the existing health services making it more difficult to access the services than it was before. The State Ranch residents who were resettled from the current mining area have to cover a minimum of three hours cycling to the nearest clinic at Katandano Zambia National Service (ZNS) camp. In the absence of a bicycle, patients are not able to reach home the same day after seeing the clinician, let alone if they need to buy prescribed medicine from a chemist in town.

Staffing levels in clinics and availability of drugs

Regardless of how long it takes them to get to the health centres, all the participants revealed that there is always a clinician available to attend to them. The clinicians most commonly available are Registered Nurses and clinical officers depending on the location of the health facility. Doctors are the preserve of Solwezi General Hospital as a referral centre. Those with complicated health problems that can not be dealt with in the satellite health centres are referred to the general hospital for specialist attention. It must be stressed here that only Solwezi General Hospital and Solwezi Urban Clinic have laboratory facilities, meaning that all those who need such services have to visit either of these centres.

In terms of the availability of drugs in the health centres servicing the communities of interest, 64 per cent of participants revealed that they are given medication each time they visit the health centres. Albeit, almost 100 per cent of these respondents revealed that the kinds of drugs issued to them are mainly paracetamol and malaria drugs. For any specialist treatment, they are issued with prescriptions so that they can buy from pharmacies in town. However, in the event that someone can not afford to buy those prescribed drugs, s/he resorts to other alternatives such as herbal medicine and sharing with others who have had a similar illness and probably did not finish their treatment course. This raises serious issues in itself in terms of relapse. Field data reveal that only 47 per cent of the respondents buy the prescribed medications. The remaining 53 per cent use alternative sources such as those highlighted above.

As illustrated in Figure 6.3 presented below, a staggering 62 per cent indicated that their alternative medication, when they fail to buy from chemists, is herbal medicine. When this group is combined with those who share with others or do not take anything at all, the figure goes up to 76 per cent which is quite significant. Whether herbal medicine could be relied upon in the absence of conventional medicine can best be answered by a medical expert. However, the fact that such a significant number of people depend on traditional medicine raises questions on their health status under the circumstances.

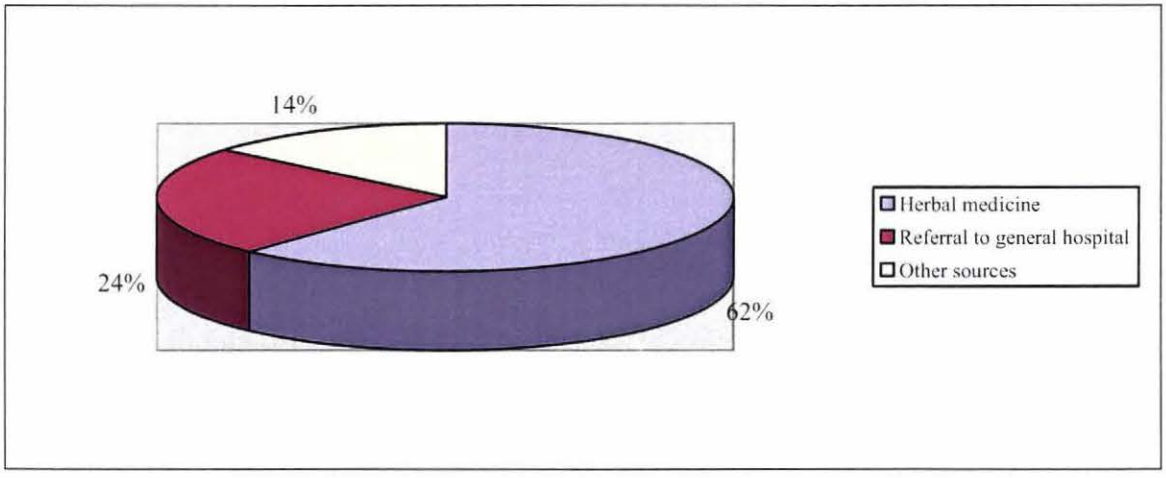

Figure 6.3 Percentage Distribution of Sources of Medication Other Than Chemists
Source: Field data

The human capital of the participants analysed in this section gives an indication of the capabilities of local people to participate in the opportunities that have come with the development of Kansanshi mine. Their education levels and health status are important in determining how effectively and actively they can participate in the transforming local economies. Given the rural set up of the communities studied, it is obvious that natural capital is important in their livelihoods activities.

6.3 *Natural capital*

As revealed in Chapter One, natural capital encompasses land, water and biological resources that people draw upon in pursuit of their livelihoods. These assets are explored in this section to provide some understanding of how the holdings have changed with the opening of the mine (Brocklesby and Fisher, 2003, p. 187; Ellis, 2000, pp. 31-37).

6.3.1 Land holdings

The communities captured in this research are subjects of Chief Kapijimpanga who is the custodian of the land. If one seeks to settle somewhere within the chiefdom, the chief allocates land to this person through existing structures like sub-chiefs and headmen. The size of land allocated comes down to the discretion of the chief and is based on the size of one's household and other factors like capacity of the person to utilise that piece of land. Culturally, the Kaonde[36] people do not stay close to their fields. They can have farm plots somewhere while they stay in distant places and just move there during farming seasons. However, there are exceptions where some people may decide to establish permanent structures where the fields are so as to reduce travelling costs in terms of time to and from the fields. The group that was relocated to State Ranch was such an exception as they used to stay just where their fields were. In the case of Mushitala and Kabwela communities, they did not reside where their farm holdings were.

In terms of the size of land holdings held by the community members participating in this research, only 9 per cent indicated that they did not have any land holdings prior to the opening of the mine (except the premises covered by their houses/huts). Forty (40) per cent of respondents revealed that they had land holdings ranging from 1 acre to 1.9 hectares, while almost 30 per cent indicated that their holdings were in excess of 5 hectares (refer to Table 6.2 below).

Land holdings before & after mining activities	Before		After	
	Frequency	Percentage	Frequency	Percentage
1 acre-1.9 hectares	22	40%	9	16%
2.0 – 2.9 hectares	9	16%	8	15%
3.0. – 3.9 hectares	2	4%	1	2%
4.0 – 4.9 hectares	3	5.5%	2	4%
> or = 5 hectares	14	25.5%	3	5%
None	9	9%	24	44%
Not determined	0	0%	8	15%
Total	55	100%	55	101%

Table 6.3: Distribution of Land Holdings Before and After Mine Operations
Source: Field data

[36] Kaonde-speaking people are one of the major ethnic groups in North-western province. Solwezi is one of the three districts in which Kaonde people are a dominant ethnic group in the province.

However, after the FQM Ltd.acquired titles to Kansanshi mining area, those who held farm land in the new mining area lost it as it became private property. The comparisons in land holdings before and after the mine opened are as illustrated in Figure 6.4 below.

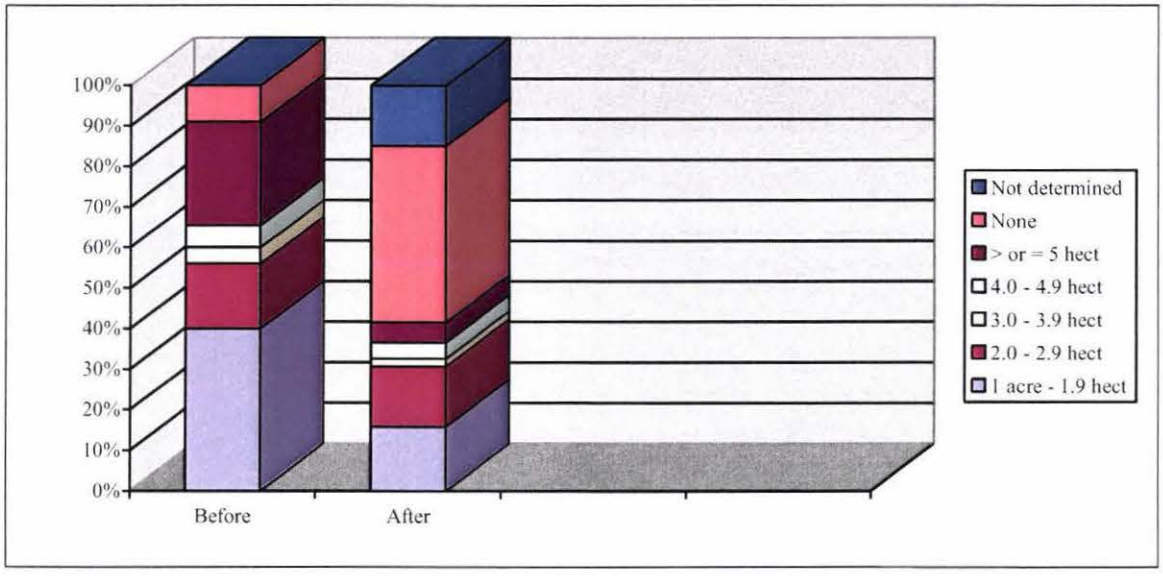

Figure 6.4 Percentage Distribution of Land Holdings Before and After Mine Development
Source: Field data

As highlighted in Figure 6.4 above, 44 per cent of participants indicated that their land holdings after Kansanshi mine opened were reduced to none. The percentage of participants who held 5 hectares and more both before and after the mine opened was reduced from 25 per cent to a mere 5 per cent. It is clear from Figure 6.4 above that a new category of people who did not know the size of their land holdings also emerged after the mine opened. This had a representation of 15 per cent of the total participants. These were actually the resettled State Ranch community. The State Ranch community indicated that they did not know how much land they held at the moment as it was not yet partitioned despite the fact that they have been living there since September 2005.

Out of 55 households covered in this study, 73 per cent of the participants indicated that they lost land to mining activities. In the case of Mushitala, the community had been affected twice in the sense that it has been engulfed within the planning boundaries of Solwezi Municipal council. The chief released Mushitala area to meet the growing

demand for land in the expanding town of Solwezi. After the extension of the planning boundaries, Mushitala residents acquired a "squatter community" status meaning that even the land where their houses sat is not theirs in legal terms. So the majority of the 44 per cent of participants in Figure 6.4 above who did not have any land holdings were from Mushitala community.

6.3.2 Crops grown

All participants revealed that the main crop they grew is maize. As a staple crop, maize is grown for consumption and if there is any surplus, it can be sold for cash or bartered in exchange for other family essentials. The crop is mainly grown yearly during the rain season between November and April. Before the Kansanshi mine opened, 91 per cent of the participants revealed that they used to grow their own maize for household consumption alongside other crops for sale. However, after the opening of the mine, the number of those who still grew for household consumption had been reduced to 56 per cent as highlighted in Figure 6.5 below.

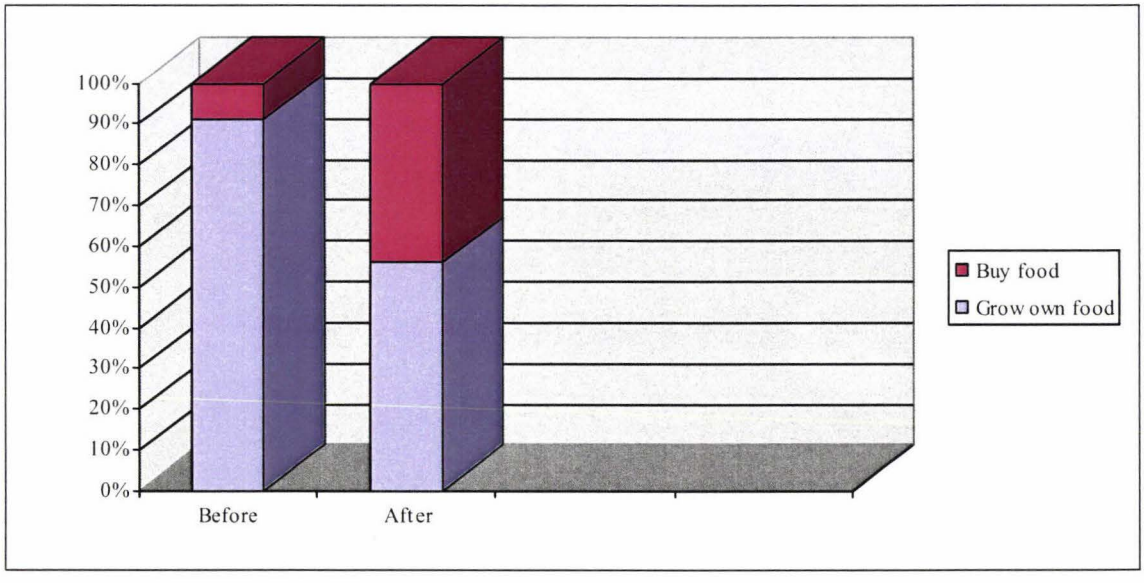

Figure 6.5 Percentage Distribution of Sources of Food Before and After Mine Development
Source: Field data

From Figure 6.5 presented above, the number of households growing their own food has dropped by 35 percentage points from 91 per cent before the mine opened to 56 per cent

after the mine opened. Within the same period, the number of households buying food has increased by the same 35 per cent from 9 per cent before the mine opened to 44 per cent after the mine opened. However, internal gaps have been narrowed after the mine opened within the two categories. For instance, the difference between those who indicated that they grew their own food and those who bought food before the mine opened was 82 per cent. However, after the opening of Kansanshi mine, the difference between the groups that grow their own food and those who buy food has been reduced to 12 percent. This means that 70 percent of the participants who grew their own food for consumption before the mine opened are now buying food.

In the case of the 40 participants who lost their land to mining activities, who represent 73 per cent of the total number of participants, 47 per cent indicated that they still grow their own food, though for some of them it does not last for the whole year, meaning that they have to start buying until such a time when they can grow their own. A significant 53 per cent indicated that they buy food as they no longer have land to grow their own food (see Table 6.3 below).

Source of food	**Frequency** f	**Proportion** $p = f/n$	**Percentage** $100 \times p$
Still growing own	19	.475	47.5%
Buying	21	.525	52.5%
Total	$n = 40$	1.00	100.0%

Table 6.4: Source of Food for Those Who Lost Their Land to Mining Activities
Source: Field data

From among the 47 per cent that still grow their own food, 63 per cent indicated that they are able to sell part of their produce. As for the participants who did not lose land to mining activities, 80 per cent indicated that they grow enough for sell. However, for those participants who maintained their farm holdings, their cultivation did not increase even with the increased demand for food in Solwezi town. Most of those who lost their farm land and are not able to grow for their own consumption argued that they are still waiting for their compensation packages before they can find alternative farming plots.

6.3.3 Compensation

Out of the 55 households that participated in this research, 15 did not lose any land or any other asset to mining activities, and therefore were not eligible for compensation. This was 27 per cent of the participants. However, the remaining 40 households, representing 73 per cent of households covered lost land to mining activities. After exploring issues surrounding compensation for those who lost land owing to the opening of the mine, it became apparent that the majority of them were not compensated. Field data show that only 8 households (20 per cent) out of the 40 eligible for compensation received their dues. The remaining 32 eligible households (80 per cent) indicated that they had not been compensated at the time of the conducting of this research.

6.3.4 Livestock holdings

The most commonly held livestock among the participating households was poultry. As shown in Table 6.4 below, more than 70 per cent of the respondents indicated that they owned poultry against less than 30 per cent who indicated that they did not. The second most popular form of livestock is goats, although these are held by only 31 per cent of the participants. Pigs are the least most commonly held livestock with only 5 per cent of the participants indicating that they owned pigs.

	Before mine opened			**After mine opened**		
Type of livestock	**Frequency** f	**Proportion** $p = f/n^*$	**Percentage** $100 \times p$	**Frequency** f	**Proportion** $p = f/n^*$	**Percentage** $100 \times p$
Poultry	32	.58	58%	40	.73	73%
Goats	13	.24	24%	17	.31	31%
Pigs	2	.04	4%	3	.5	5%

Table 6.5: Percentage Distribution of Households by Type of Livestock Holdings

Source: Field data

*N = 55 as the total population of participants.

There were differences observed in livestock holdings among the participants both before and after the mine opened. As shown in Table 6.4 above, 58 per cent of the participants owned poultry before the mine opened, but this number increased to 73 per cent after the

opening of the mine. This represented a 15 percentage point increase in the number of participants owning poultry. For those who owned goats, the number increased from 24 per cent before the opening of the mine to 31 per cent after. This represented a 7 percentage point increase in the number of those who own goats. Holdings of big animals like pigs showed only had a 1 percentage point increase – thus from 4 per cent before the mine opened to 5 per cent after.

These differences in the number of households holding livestock before and after the mine opened are shown in Figure 6.6 below. It is clear that there is an increase in the number of households owning livestock from the time the mine opened, although not so much with big animals.

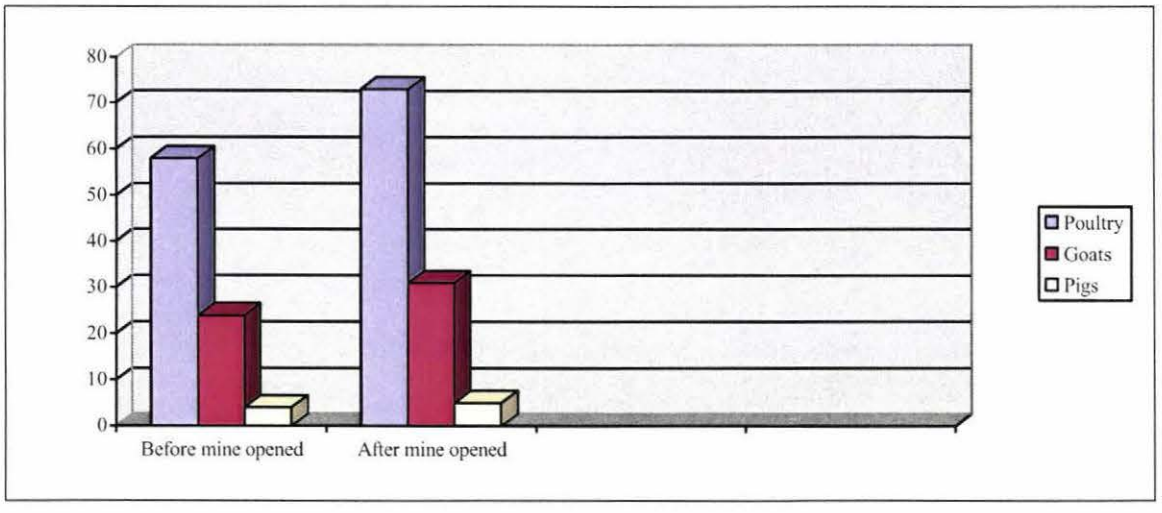

Figure 6.6 Percentage Distribution of Households by Type of Livestock Holdings
Source: Field data

A further analysis of the field findings shows that the majority of the participants who lost land to mining activities and did not own any livestock before actually own livestock now. From the 40 participants who indicated that they lost land to mining activities, the number of those who do not own poultry decreased from 45 per cent before the mine opened to 30 per cent by the time of this research. As for those owning goats, the number increased from 22 per cent before the mine opened to 35 per cent by the time of this research.

Livestock holdings	Frequency f	Proportion $p = f/n^*$	Percentage 100 x p
No livestock holding at all	10	.18	18%
No livestock holding but poultry	24	.44	44%
No livestock but goats	2	.04	4%
No livestock but pigs	2	.04	4%
Combination of poultry, goats & pigs	16	.29	29%

Table 6.6: Percentage Distribution of Households by Total of Livestock Holdings
Source: Field data

*N= 55 as the total population of research participants

According to Table 6.5 above, in which the total livestock holdings by households is compared, it is clear that 18 per cent of the total research participants do not own any form of livestock at all. When compared with the number of participants who indicated that they did not own any livestock prior to the opening of the mine, this percentage has reduced by 22 percentage points from 40 per cent. Table 6.5 further reveals that 44 per cent of research participants do not hold any livestock other than poultry. The percentages of those who do not hold any livestock other than either goats or pigs was as low as 4 per cent for each category. However, 29 per cent of the participants hold a combination of any of the three types of livestock (such as poultry, goats and pigs).

An analysis of the natural capital holdings of the participants has reveled that at most, the development of Kansanshi mine has led to the loss of productive systems, which have been pivotal in local people's livelihoods. Under favourable conditions, a combination of human and natural capitals is supposed to produce physical capitals that are equally important in the livelihoods portfolios of the rural poor.

6.4 *Physical Capital*

Physical capital comprises assets that are created through economic production processes, and these include buildings, water reticulation, energy, roads, tools, and machines (Brocklesby and Fisher, 2003, p. 187; Ellis, 2000, pp. 31-37).

6.4.1 Ownership of physical assets

The main physical assets created through economic activities found in these communities were bicycles, real estate (houses) as opposed to grass-thatched and muddy structures and farming tools (hoes and axes). The distribution of participant ownership by type of physical asset is highlighted in Table 6.6 below.

	Frequency f	**Proportion** $p = f/n^*$	**Percentage** $100 \times p$
No significant asset holding	8	.15	15%
Built/building a house	7	.13	13%
Owns a bicycle	34	.62	62%
Hoes & axes as farming tools	32	.58	58%

Table 6.7: Distribution of Physical Asset Holdings by Participants
Source: Field data

*N = 55 as the total population of research participants

The most commonly owned physical asset was a bicycle, with 62 per cent of the participants indicating that they owned one. Far away areas from Solwezi Township - such as State Ranch, Kabwela and Kyafukuma – recorded 99 per cent of participants stating that they owned a bicycle. In the case of Mushitala, 39 per cent of the participants indicated that they owned a bicycle. This low number for Mushitala could be due to its proximity to Solwezi town and also to the easy access to motor vehicle transport such as minibuses and taxis. Bicycles in the other communities are an indispensable mode of transport where motor vehicles are not easily accessible. Bicycles are used to transport agricultural produce either to the roadside or to Solwezi town where the returns tend to be higher. Bicycles are also an important means of moving patients to health centres.

According to Table 6.6 above, 13 per cent of the participants indicated that they either built, or are still building, standard houses as a form of investment. This is a percentage of the participants that were engaged in a wage earning job with the mine or other sub-contracting companies at the time of fieldwork or in the recent past.

All the participants engaged in agricultural activities indicated that they performed their tasks using basic tools such as hoes and axes. None of the participants were using advanced agricultural equipment like tractors or even ploughs using animal draught power. Axes and hoes are used to clear the portions of land that they have ear-marked for cultivation. During planting, hoes were used to make moulds on which seeds and tubers are grown. The hoes are further used to clear the fields of weeds. Relying on these kinds of tools for agriculture has an impact on the size of hectarage that a farmer can plant and also poses challenges with crop maintenance.

Water points that were observed in the communities were hand-dug wells in State Ranch and hand-pump boreholes in Mushitala, Kabwela and Kyafukuma. These water points dotted in the communities are communal facilities that are accessed with equal rights. They are located at relatively short distances to most households though some of them take more than 20 minutes walking to get to the water points. Being communal sources of water, all the users have to be mindful of other households. Under given circumstances, it is not feasible for anyone to establish a garden nearby as the water volume yields of the water points may not satisfy the needs of all the users. In the case of Mushitala, only three boreholes were observed despite the community being so large, meaning that the facilities are overstretched and congested during peak times, which are mornings and evenings.

6.4.2 The road network

The participants' contribution on the road network in their community was based on their location in relation to roads that link them to the outside world. Communities like Mushitala and Kabwela that live close to Solwezi town and along the paved Solwezi-Congo road indicated that the road network is good. However, the isolated communities like the State Ranch indicated that the road network in their community is poor. The road that connects this community to the outside world is not paved and cuts through the thicket of the forest with wheels of vehicles marking its width (see Figure 6.7 below)

Figure 6.7 Photograph of State Ranch Road and Where it Joins the Solwezi – Congo Road
Source: Author.

Since the development of Kansanshi mine, the Kyafukuma community has lost the shortest route that used to connect them to the outside world. The road previously passed through the current mining area and has since been closed. However, the community is now connected to the Solwezi – Congo road through an unpaved road that has not been maintained for a long time.

6.4.3 Electricity

All the participants indicated that they did not have access to an electricity supply for either commercial or domestic use. While Kyafukuma community had a power supply servicing the health clinic, the community members were not connected to the grid. In the case of State Ranch, the community has no trace of power supply. In the case of Mushitala, the pylons connecting Kansanshi mine to the national grid pass over this community yet the residents are not connected.

Even though a low voltage power line could be seen in Mushitala community, none of the respondents indicated that they were connected except for one man who owns a hammermill. However, through observations, other dotted places were seen to be connected such as grocery stores and isolated houses. The school had power poles installed but connections were not done (there were no cables or a transformer). Key informants in the community revealed that power poles had been standing at the school since 2004.

6.4.4 Market Shelters

Market shelters in all the three communities participating in this research are non-existent. However, makeshift shelters were observed in Mushitala, Kyafukuma, and Kabwela standing by the roadside. Figure 6.8 below shows some of the typical temporary market shelters where traders sell their merchandise by the roadside in Mushitala. Some traders prefer to sell their merchandise at home rather than taking it to the makeshift market shelter. However, this group of traders was quick to mention that only residents who are aware of their businesses are their only customers and thus they are losing out on opportunistic customers on the road. In the case of State Ranch, not even a makeshift market shelter was present.

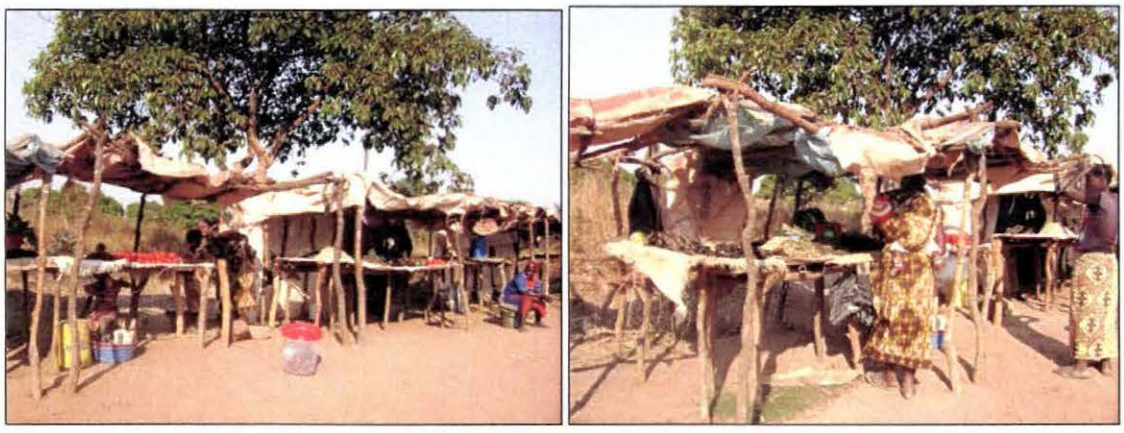

Figure 6.8 Photograph Showing One of the Temporary Market Shelters in Mushitala
Source: Author

Traders who use the makeshift market shelters such as the ones in Figure 6. 9 above mainly sell foodstuffs such as tomatoes, vegetables, dried fish, Irish potatoes, sweet potatoes, fritters and a local drink called 'munkoyo'. The lining of merchandise by the roadside is aimed at the miners and/or others going to look for employment opportunities at the mine and other sub-contracting companies. Other targets for the merchandisers are the locals themselves and other travellers going to rural areas and the border with the Democratic Republic of Congo (DRC) in Mushindamo.

Physical capital is a product of a combination of capitals such as human, natural and financial and as such is necessary to evaluate the participants' financial capital.

6.5 *Financial Capital*

Financial capital refers to the stock of money that can be accessed by a household. This encompasses income, savings, and credit (Brocklesby and Fisher, 2003, p. 187; Ellis, 2000, pp. 31-37).

6.5.1 . Sources of income

The major source of income recorded among the participants is the sale of crops and livestock. Sixty-nine (69) per cent of the participants indicated that sale of livestock and crops provided regular income for them (see Table 6.8 below). Crops such as Irish potatoes, sweet potatoes and beans are sold more regularly than maize and cassava. However, the amount of money required at any given time determines the kind of crop or livestock to be disposed of. Bigger animals like ruminants and pigs are sold only when an illness strikes, or when it is time to buy inputs or pay for school fees.

	Frequency f	**Proportion** $p = f/n$*	**Percentage** $100 \times p$
Sale of crops & livestock	38	.69	69%
Business	23	.42	42%
Wages	17	.31	31%
Other	3	.05	5%

Table 6.8: Distribution of Households by Source of Income on Regular Basis
Source: Field data

*N = 55 as the total population of research participants

The second most popular source of income on a regular basis and during emergency times is business. A staggering 42 per cent of the participants indicated that their sources of income are business-related activities. The most popular business activity is selling by the roadside at the makeshift market shelters as shown in Figure 6.9 above. Other business ventures that people are engaged in include the brewing and selling of local

beer, burning and selling charcoal, hairdressing, crushing and selling construction stones, carpentry, and running a grocery store. Wages as a source of income came third in the ranking. A significant 31 per cent of the participants indicated that wages were a source of income for them. These wages are either a salary for those working for the mine or one-off payments for those engaged in casual work. The other popular wage-earning activity is brick-making where they work for people who are in the business of moulding and selling bricks/blocks. Five (5) per cent of the participants indicated that they had other sources of income which included remittances and retrenchment packages.

A further analysis of field data revealed that 58 per cent of the participants had one main source of income on a regular basis, while the remaining 42 per cent had a combination of any of the three major sources indicated (for example, the sale of crops and livestock, business, and wages) – see Table 6.9 below. Sale of crops and livestock was the most popular single source of income with 33 per cent of all the participants indicating that it was their sole source of income. This was followed by those relying on business only, 13 per cent of all the participants. Those relying on wages as their sole source of income were only 7 per cent of the participants. From within the 42 per cent of participants who had a combination of sources of income, 33 per cent have a combination of only two sources while those with a combination of more than three sources were only 9 per cent of all the participants.

	Frequency f	**Proportion** $p = f/n^*$	**Percentage** $100 \times p$
Single source of income	32	.58	58%
Combination of any, or all, the sources	23	.42	42%
Total	N = 55	1.00	100%

Table 6.9: Distribution of Households Showing Sources of Income
Source: Field data

The sources of income highlighted above are also characteristic of communities captured in this study. Sale of crops and livestock is mainly prevalent in communities like State Ranch, Kabwela and Kyafukuma whose economies are heavily agriculture-based.

Mushitala is characterised by business and wage-earning activities as sources of income, while the sale of livestock (mainly chickens) is also prevalent.

6.5.2 Main items of expenditure

The most common item of expenditure indicated by 67% of the respondents was food as reflected in Table 6.9 below. The main foodstuffs that people buy include maize/mealie meal, relish (vegetables, fish, tomatoes, onion). Medical-related expenses such as paying for user charges and buying drugs were the second most popular items of expenditure, with 38 per cent of the participants indicating that on a regular basis they expend their income on medical expenses. School-related expenses are not very common probably because of the free education policy adopted by the government for primary education. Other items of expenditure include the buying of salt, cooking oils, sugar, soap, clothing, paying back credit and buying farming inputs. It is evident from field data that the most popular items of expenditure are consumption related, with almost 98 per cent of the participants spending their income on these regularly.

Main items of expenditure	**Frequency** f	**Proportion** $p = f/n^*$	**Percentage** 100 x p
Food	37	.67	67%
Medical expenses	21	.38	38%
School fees	7	.13	13%
Groceries	17	.31	31%
Other	11	.20	20%

Table 6.10: Distribution of Items of Expenditures by Households
Source: Field data

Although the items of expenditure are common in all the communities studied, they can still be analysed by community. State Ranch community had groceries and medical related expenses as their main items of expenditure. In Mushitala, the main items of expenditures were food, groceries and medical expenses. Kyafukuma recorded medical expenses, groceries, and school fees as their main items of expenditure. Kabwela scored high on medical expenses and clothing as their main items of expenditure. These variations in items of expenditure reflect the differing characteristics of the communities.

6.5.3 Credits

A significant 49 per cent of the participants indicated that they do not ask for credit for fear that they might fail to honour it. They revealed that uncertainties of ability to repay the credit due to their limited capacities to raise money hinder them from getting loans not only from formal but even from informal sources. However, the 51 percent that get credits obtain it from various sources, which include families, friends from within the community and informal money lenders within the community. The difference between those getting credit from family and friends and those who go to money lenders is just 7 percentage points. As reflected in Table 6.11 below, 29 per cent of participants indicated that they get credit from families and friends, while 22 per cent indicated that they get theirs from money lenders. These money lenders are actually operating businesses as usurers[37] charging exorbitant interest rates (almost double) on amounts loaned out.

Sources of credit	**Frequency** f	**Proportion** $p = f/n$	**Percentage** $100 \times p$
Family and friends	16	.29	29%
Money lenders (usurers)	12	.22	22%
Formal institutions	0	.00	00%
Don't get credits	27	.49	49%
Total	N = 55	1.00	100%

Table 6.11: Distribution of Households by Source of Credits
Source: Field data

Predominance of sources of credit identified above varies from one community to the other. Those who indicated that they depended on family and friends as sources of credit are mainly participants from State Ranch and Kyafukuma. Mushitala and Kabwela recorded high incidences of usury as a source of credit. Those who indicated that they do not get credit were spread across all the communities studied, although Mushitala claimed a larger percentage (17 out of 27 respondents who indicated that they do not get credit, which is 63 per cent). The most common form of credit which people request is cash. Cash was not only restricted to Mushitala and Kabwela, which are close to Solwezi town but was also common in outlying communities like Kyafukuma and State Ranch.

[37] Usury is a practice of loaning money at an exorbitant interest rate (Crozier et al., 2006).

However, Kyafukuma had a high incidence of getting things in kind as credit such as clothes and relish.

6.5.4 Savings and market-based activities

The most common form of savings cutting across all the communities participating is livestock rearing, especially poultry. A staggering 58 per cent of participants indicated that they rear poultry as a form of savings, which they can draw upon at any time (see Table 6.12 below).

Forms of savings	**Frequency** f	**Proportion** $p = f/n^*$	**Percentage** $100 \times p$
Farming	10	.18	18%
Livestock rearing	32	.58	58%
Business	19	.35	35%
Combination of any of the above forms	20	.36	36%

Table 6.12: Distribution of Households by Forms of Savings
Source: Field data

*N = 55 as the total population of research participants

Livestock rearing as a form of saving is not only popular in communities dependent on agricultural economies such as State Ranch, Kyafukuma, and Kabwela, but is also popular in Mushitala. The second most popular mode of saving, which is prevalent only in Mushitala and Kyafukuma, is business, with 35 per cent of the participants engaged in it. The kind of businesses that people are engaged in include selling foodstuffs by the roadside, carpentry, brewing local beer, and usury (money lending), buying and reselling agricultural produce (maize, beans, sweet potatoes and Irish potatoes). Farming as a mode of saving had a representation of 18 per cent of the total respondents and was mainly common in farming communities of Kyafukuma and State Ranch. A good number of respondents do not rely on one form of saving but rather rely on multiple forms and thus combine the abovementioned forms. A significant 36 per cent of participants indicated that they combine any of the forms identified in this section.

A significant number of participants interviewed revealed that they are involved in some sort of market-based activities either as a source of income or as a form of savings. According to field data collected, 64 per cent of the participants are engaged in market-based activities. The common activities cited include selling foodstuff (vegetables, dry fish, beans, tomatoes and fritters) by the roadside at temporary market shelters. Others are engaged in brewing and selling local beer, making and selling craft and carpentry products such as these shown in Figure 6.9 below.

Figure 6.9 Photograph of a Coffee Table Made by an Enterprising Carpenter of Kyafukuma Community
Source: Author.

Market-based activities that people engage in tend to be characteristic of their location. Mushitala community focused mainly on selling vegetables, tomatoes, dry fish, locally brewed beer, and crushing construction stones. Kyafukuma residents focused on selling agricultural produce, carpentry and craft, and charcoal burning and selling, while Kabwela residents were engaged in crushing construction stones and charcoal burning and selling. State Ranch was not engaged in any market-based activities except for the occasional selling of crops and livestock to raise money.

From an analysis of the financial capital of the participants, it is clear that the development of Kansanshi mine has transformed the local economy and opened up new opportunities for making money. However, most of the opportunities opened are beyond the capabilities of local people given their human, natural and physical capital holdings.

Given the transformation of the local economy, it is also expected that the social networks have also been altered. Depending on one's place in society, the development of Kansanshi mine has either created new networks for local people to participate effectively in the transforming local economy, or has caused the loss of social contacts that were formerly instrumental in their livelihoods.

6.6 *Social capital*

While the concept of social capital was not explored in detail, some observations could be made on the set up of the communities captured in this study. Most of the participating households in this research have a network of relations in their communities, either of family members or of long-standing family friends. This means that in time of need, these social networks serve as cushions. Probably this explains why a significant 29 per cent of respondents indicated that they get their credit from families and friends. Those who indicated that they did not get credit insinuated that they get things like food from other people within the community in reciprocity. The participants captured in this research were of different status in society. Some were headmen and headwomen, acting chief, sub-chief, compensation committee leaders and also common residents. Thus it may be construed that some of the participants have more social capital than others in the communities. The extent to which these leadership positions influence people's livelihoods was not ascertained, except for the chief who receives support from the mining company in various ways by virtue of his position.

6.7 *Conclusions*

In this chapter it has been shown that livelihoods of the people in rural Solwezi are diverse and dynamic. The high number of economic activities taking place in Solwezi owing to the opening of Kansanshi mine has had trickle-down effects that have reshaped the livelihoods of local people. As revealed in this chapter, the asset holdings of the participants have changed over time. Out of all the respondents who lost productive systems, only 20 per cent were compensated because they lived in the current mining area. The majority of those who lost land, with the exception of those who moved to State

Ranch, have no alternative land where they can continue growing their own food for consumption. Thus the loss of land to mining activities has undermined the capacity of the affected households to meet food requirements from their traditional means. It is clear that among the participants, 70 per cent who grew their own food before the mine opened are now buying instead.

The majority of the participants who lost land to mining activities have diversified from on-farm to market-based activities such as selling and hiring labour and trading. Hiring and selling of labour is popular among construction oriented activities such as brick/block making, bricklaying, and bricklaying assistants. Trading is another emerging livelihood activity into which people have diversified. Most participants are engaged in activities like selling foodstuff by the roadside, which includes vegetables, tomatoes, dry fish, fritters, and locally brewed beer. Others are engaged in the buying and reselling of cereals such as beans and maize. Other non-food related business initiatives embarked on include carpentry and craft, charcoal burning and selling, hairdressing, running groceries, and operating as money lenders through usury. The people engaged in the business activities identified their earnings as either a sole source of income or as savings. Despite the initiatives exhibited by the people in the communities concerned, supporting infrastructure such as market shelters, road networks and electricity supply were missing. Makeshift market shelters were observed in all communities except State Ranch where they have to cycle some 50 kilometres to Solwezi town if they have something to sell or buy.

The communities captured in this research proved to be heterogeneous in numerous areas although some homogeneity could be observed on certain issues. For instance, whereas the major source of income in State Ranch and Kyafukuma is selling crops and livestock, Mushitala and Kabwela scored highly on business and wage earnings. In terms of items of expenditure, while remote communities like State Ranch, Kabwela and Kyafukuma indicated medical expenses and groceries as top priorities, Mushitala scored high on food related and medical expenses. The reason for this difference is that Mushitala due to its proximity to Solwezi town has drifted away from exclusively farm activities and has

since diversified into off-farm activities, while the other communities continue to integrate off-farm and on-farm activities.

The main objective in this thesis is to provide some understanding of how the development of Kansanshi mine has impacted on local people's livelihoods viewed from four perspectives, which include opened up economic opportunities, enhanced capabilities, improved security against vulnerability and exposure to risks and whether they have been empowered in any way to influence decision making on issues that affect them. The results presented in this chapter have revealed that both positive and negative impacts of the mine have been experienced in the communities concerned where in some cases it has influenced the locals to either diversify or intensify their livelihood activities. However, there is more diversification observed than intensification. In the next chapter the researcher explores further the impact of Kansanshi mine on the local people's livelihoods vis-à-vis the four spheres of interest highlighted above. There is considerable reflection on input from participants in their own words without reducing them into figures, charts and graphs.

Chapter 7 Kansanshi Mine and Local Perceptions

7.1 *Introduction*

This is the second chapter presenting the fieldwork findings. The previous chapter was focused on presenting quantitative dimensions of local communities' livelihoods in the context of capital holdings including human, physical, natural, financial and social capital based on the information collected from interviews. In this chapter, a qualitative orientation is taken focusing on the local people's perceptions in terms of how the presence of Kansanshi mine has impacted on their livelihoods. Thus the material presented is based on the in-depth one-to-one and focus group interviews conducted in communities of interest. A qualitative account is fundamental for allowing the voices of the study participants to be truly heard without reducing them into graphs, statistics and tables.

The findings presented below are responses to three broad questions that were asked to provide an understanding of the local people's perceptions about the presence of Kansanshi mine. The open-ended questions were as follows:

a) *How has the development of the Kansanshi copper mine positively impacted on your livelihoods activities?*
b) *How has the development of the Kansanshi copper mine negatively affected your livelihoods?*
c) *What do you perceive to be the main problem behind your non-maximisation of benefits from the presence of the mine?*

These questions were important in gathering qualitative information on how the locals themselves perceive how their livelihoods have been impacted with the opening of the mine. These findings will be blended with other findings to ultimately answer the research question, which was presented in Chapter One.

7.2 *Local communities' perception of benefits from the presence of Kansanshi mine*

The question about how beneficial the presence of Kansanshi mine has been to local people's livelihoods generated many mixed reactions with some participants wondering whether there were any benefits to talk about, while others were quick to highlight what their perceived benefits were. The perceived benefits lean more towards diversification than intensification of livelihoods activities. Thus the presence of Kansanshi mine has led to the locals' diversification of their livelihood activities from heavy concentration of on-farm to off-farm activities. This was evident in all the four communities that participated in this study namely, Mushitala, Kyafukuma, Kabwela and State Ranch. The perceived benefits include, but are not restricted to, an increased labour market and increased circulation of money which has offered a favourable atmosphere for the emergence of market-based activities even in remote areas.

7.2.1 Positive impacts of the Kansanshi mine on local people's livelihoods

Increased labour market

It was a general perception that the presence of Kansanshi mine has broadened the scope of the labour market where the locals can sell their labour. Depending on their skills, they can obtain jobs either in the mine or with other sub-contracting companies who do business with the mine. Some participants revealed that their labour is proving to be more productive now they are working as miners than it was when they were in full-time subsistence farming. The labour market is not only restricted to the skilled labour force but also engulfs the unskilled fraternity. The unskilled labour force is mainly catered for by the construction industry where they sell their labour as brick/block moulders, bricklaying assistants, and carpentry and/or plumbing assistants. One respondent pointed out that "those who work in the mine are able to buy our labour for various activities meaning at the end of the day even some of us who do not work in the mine are able to earn a living" (Participant No. 4).

Increased circulation of money

Increased circulation of money both in urban and rural areas of Solwezi was cited as the major contribution that the presence of the mine has brought. It was clear from the participants' submissions that the circulation of money in Solwezi has had an influence on local people's decisionmaking about which livelihood activities they intended to engage in. There has been a transformation of local economies, meaning that more people have been encouraged to engage in market-based activities, which have proved to have immediate returns in terms of monetary benefits. Those who have been employed by the mine and other sub-contracting companies are able to buy merchandise from other suppliers, even those from rural communities. Those engaged in farming activities are able to sell their produce to the ready market either in town or briefcase traders who move from village to village and in the process are able to buy other merchandise sold by fellow community members who run businesses. One respondent put it this way

> *We are happy that the mine has come with spillover effects where money is readily available in the market economy. Even if you are not working, you can still tap the benefits of these spillover effects by engaging in some activity which can give you money as people are ever ready to buy your stuff* (State Ranch focus group discussion).

Through observations made in all the communities covered in this study, there was evidence in all the communities, except for one, of off-farm activities, which the participating households were engaged in, either as a source of income or as a form of saving. There is evidence of transforming local economies from traditional agrarian to market-based ones where people have developed a capitalist mindset of attaching monetary value to things which they would have otherwise given in terms of reciprocity. Increased circulation of money in communities has stimulated initiatives among people to venture into activities where they can maximise benefits from the transforming economies. For instances, some research participants revealed that they are venturing into activities like growing vegetables, charcoal burning, carpentry, and crushing construction stones to supply the ready markets both in town and in their own communities.

Increased circulation of money was cited as an impetus for both intensification and diversification of livelihood activities among the participants interviewed. Some participants indicated that the ready market had compelled them to intensify their farming activities and they have since increased their amount of hectarage under cultivation. Those who are still engaged in farming revealed that in the past they had limited markets for their produce, but the influx of people into the mining town has provided a ready market thereby providing an incentive for increased productivity. One participant in Kyafukuma put it this way:

> *The mine has brought about a ready market for our produce. Whatever amount of produce you take for sale in town, it would finish. This has even forced us to increase our land under cultivation* (Participant No. 38).

Within the confines of on-farm activities, there was also an amount of diversification observed in terms of agricultural activities that households engaged in. Inasmuch as the farmers intensified their on-farm activities, they also at the same time diversified into growing more than one crop to maximise their returns. Participants indicated that whereas in the past they had grown mainly maize and beans, they have now included fast-selling produces such as Irish potatoes, sweet potatoes and vegetables. A good number of households indicated that they have also diversified into rearing livestock such as poultry and goats, which can easily be disposed of at any time, given the ready market, especially as people in both the rural communities and Solwezi town have changed their eating habits by increasing their protein intakes.

Diversification of livelihood activities was evident in all the communities studied. One of the common activities cited in rural communities of Kabwela and Kyafukuma, especially among young men, was charcoal burning and selling (see Figure 7.1 below). This was due to the growing demand for charcoal fuel in Mushitala as people have no access to electricity and have also lost access to their fields where they used to collect firewood. Charcoal fuel is also in high demand in emerging shanty compounds in town, as well as among middle income households in town who use charcoal as an alternative source of energy. Thus, charcoal fuel is used as a mode of savings when attempting to reduce

electricity consumption levels, which ultimately results into lower bills to pay. One of the people engaged in the charcoal business argued that

> *I know it has not been easy for me to get a job in the mine. So instead, I have just intensified my charcoal making business to meet the growing demand in Mushitala and town. Those people in town give us orders to supply them with charcoal on wholesale at least twice a month* (Participant No.48).

Figure 7.1 Photograph of Consignments of Charcoal Pending Collection by Retailers in Town
Source: Author.

Investment in children's education

The development of the Kansanshi mine has led to the stepping up of investments in children's education among the households consulted. It was clear from the submissions from participants that in the past some parents saw no reasons to invest in their children's education. Children could not be supported to higher levels of education than primary education. But now that the mine has opened within their area and they have seen potential employment opportunities available to the educated, they have reason to support their children to advanced levels of education, which can help them get a job either in the mine or other sub-contracting companies. One of the key informants from Mushitala revealed that people in the community have realised that they can not get a job in the mine because of their lower educational background and because they do not possess the required skills. Even those who are employed are paid low wages because they work as

casual labourers, falling under the unskilled labour-force category where the returns are meagre.

7.2.2 Negative impact of Kansanshi mine on the local people's well-being

Whereas only a quarter of respondents were eager to talk about the positive impacts that the opening of Kansanshi mine has brought to local people's livelihoods, almost all of the participants indicated that the coming of the mine has affected them negatively in one way or another. The negative effects cited are mainly economic and social in nature and thus include displacement and loss of productive assets like land, non-receipt of compensation packages, unemployment of the locals, overstretching of existing social facilities, and collapsing of social structures and breaking down of homes. These will now be discussed consecutively.

Displacement of local communities

The development of the Kansanshi mine led to the displacement of an entire community which was called *'Ba Israeli'* which was relocated to State Ranch. The displaced community used to stay in the current mining area, which is located about 15 km north of Solwezi town. Upon displacement, the community was resettled some 50 km away at the former State Ranch where the government under the Second Republic[38] had cattle paddocks. State Ranch was previously uninhabited and is just a thicket of forest with no facilities available. Thus the households that were resettled here complained about the absence of facilities and services that are necessary in their lives. There was widespread dissatisfaction with the way the households were relocated. They argued that in their previous settlement they had access to all the facilities they needed, but in their new settlement there is nothing. Some of the sentiments of the participants in the focus group discussion are presented below.

> *It is better either the government or the investors prepare the new areas where people will be relocated to before they are moved. You know it is difficult when you have*

[38] Zambia's governance is often divided into three republics which reflect the political ideologies promulgated in the country. The first republic is mainly the period between independence in 1964 to 1972 when the country had a multiparty system. In 1972, the multiparty system was abolished following the signing of the Choma Declaration and gave way to the emergence of a one-party state under Dr. Kaunda, which ended in 1991 after the re-introduction of multipartism. Thus the re-introduction of multi-party politics in 1991 marked the beginning of the third republic.

established yourself only to be moved to a new place where you have to start from scratch. It takes time for one to come back into full swing (State Ranch focus group interviews).

They had promised to continue supporting us but nothing has happened so far. We are not refugees. We are citizens of Zambia who have the right to live noble lives and deserve to have access to services. We should have a fair share of the national cake – why were we dumped here like this as if we are second-class citizens? (State Ranch focus group interviews).

It was clear from both the one-to-one interviews and the focus group discussion conducted in this community that the absence of facilities to service the community was a major concern. Some of the missing facilities, without any order of priority, include the following:

a) *Health facilities*

The nearest health clinic serving this community is about 35 kilometres away. Under such circumstances, visits to health centres are reduced unless one is critically ill. As an alternative to conventional medicine, the participants revealed that they resort to herbal medicine, which has implications for maternal health and children's health. One woman during a focus group discussion had this to say about health facilities; *where we used to be was much better than here. We had health facilities...nearby, but here these facilities are non-existent. How do they expect us to survive?* (State Ranch focus group interviews)

b) *Education facilities*

The community has no school established to cater for the school-aged children. These children in this community used to attend school at their previous settlement before being moved here. The nearest school is about 8 kilometres away, means that even a Grade one pupil aged 6 or 7 years is expected to cover this distance to and from school five days a week. One of the parents in a one-to-one interview registered his displeasure at the plight of the children in this community. This is what he had to say:

We have children of school age in this community but they are not attending any school because it is too far from here. These children have made a step backwards in life because where we used to be they used to go to school. They have the right to education and really need to go to school so that in future they may lead worthwhile lives. But here they are disadvantaged. How can you break the cycle of poverty like this? (Participant No. 3).

c) *Road network*

The road linking the State Ranch community to the outside world is unpaved. It was just a path that was widened by trucks that brought these people's assets at the time of resettling. Before you reach this community there is Kifubwa stream lying in a water-logged area spanning about 350 metres wide (see Figure 7.2 below). During the rainy season this area floods and has the potential to cut off the community from other parts of the world. The community had just erected a makeshift foot-bridge using logs to aid them across the river (see Figure 7.3 below). However, at the time of this research, the Kansanshi Foundation had sub-contracted a company to construct a metallic foot-bridge across the river. The bridge constructed is about 2 metres wide and 6 metres long (see Figure 7.4 below).

Figure 7.2 Water-logged Area of 350 m Wide between the Community and the Foot-bridge.
Source: Author.

Figure 7.3 Make-shift Foot-bridge Constructed by the Community across the Kifubwa Stream
Source: Author.

Figure 7.4 Metallic Foot-bridge Funded by Kansanshi Foundation across the Kifubwa stream
Source: Author.

The metallic foot-bridge constructed just covers the breadth of the stream. However, there are no plans to construct culverts that would link to the bridge so that water in the rainy season can drain under them. Research participants from the State Ranch community, however, raised concerns about the rationale behind the construction of a foot-bridge, which can not accommodate the smallest vehicle. They argued that the bridge is too small to accommodate an ambulance, especially when an expecting mother has a maternal complication. As a farming community, they raised concerns that the bridge would limit their accessibility to markets for their produce.

The extension of Solwezi Municipal Council's planning boundary to include Mushitala was also raised as one of the major concerns of the community. The expanding Solwezi town has led to the extension of the council's planning boundary to encompass areas that previously fell under Chief Kapijimpanga's jurisdiction, such as Mushitala. This extension of the township's boundary has turned the residents of Mushitala into squatters overnight liable to eviction in legal terms. The participants from Mushitala revealed that they are living in uncertainty following the council's taking over of the community. However, Solwezi Municipal Council resolved to give the sitting tenants plots after demarcating the area so that if they cannot afford to put up a standard structure, then they can sell it out themselves.

Nevertheless, the voices of the affected households in Mushitala attest to the fact that their pending displacement from their community is not a welcome idea. When asked why they could not move to pave way for the growing town, varied responses were given, which included social attachments to the area and economic and opportunity costs of relocating. Some of the responses are presented below:

> *We were born here – look at these big mango trees which were left by our forefathers – who do they want us to leave them for? Where do they want us to go? Even if we moved to a new place, who will build the houses we will be staying in? What facilities are there on the ground for us to use? Who will pay for clearing the area and other settling related costs?* (Participant No. 13).

> *We used to live far away from town, but now town has come to where we are, why should we leave it and continue staying in the bush? Who do they want us to leave this town for? Are there any special people that should be living in town and some of us should always live in rural areas?* (Participant No. 17).

> *We have lost our fields, and now they are after our dwelling place, so what is there for us to talk about the goodness of Kansanshi mine?* (Participant No. 18).

Loss of productive assets to mining activities

All the participants from State Ranch, Mushitala and Kabwela complained that one of the major negative impacts of Kansanshi mine on their livelihoods is the loss of their productive assets to mining activities. All these communities have had their fields ranging from 1 acre to over 5 hectares per household engulfed within the mining boundaries. The pieces of land lost to mining activities used to support the local people's livelihoods, which revolved around farming-related activities. The participants revealed that they used to grow their own crops for consumption and thus were assured of food security all year round. Crops grown for consumption included maize, cassava, beans, Irish potatoes, sweet potatoes and groundnuts. Produce such as beans, Irish potatoes and sweet potatoes were also grown in excess of household consumption needs with a view of selling the surplus.

Most households revealed that they also had gardens running alongside the Kansanshi stream where they used to grow vegetables such as rape, tomatoes, cabbage, and onion for household consumption as well as selling in town. The gardens had fruit trees such as guavas, bananas, and mangoes, also. But all this land has been taken up by mining activities, leaving the affected households with few activities to engage in that suit their capabilities and capital holdings.

Non-receipt of compensation packages

All the 32 participants from Mushitala and Kabwela complained that they had not received their compensation packages yet, although assessments of affected properties had been conducted. The issue of non- receipt of compensation packages was one of the prominent causes of dissatisfaction with the presence of Kansanshi mine among communities that lost productive assets. Different views were collected from key interested parties interviewed on the issue of compensation and how it was handled. Inputs were thus collected from FQM Ltd. (the mine owner), the royal establishment of chief Kapijimpanga, the secretary of the compensation committee, and Headwoman Mushitala and 32 households.

The responses from Headwoman Mushitala and the secretary of the compensation committee tallied with those gathered from participating households. These three sources maintained that the compensation process was marred with inconsistency and irregularities such that only a fraction of people affected were compensated. The compensated groups are those resettled to State Ranch and those who had their fields at the current golf-course area. The majority of the people, especially in Mushitala and Kabwela who had their fields in the area that was to be mined, have not yet been compensated. Box 7.1 below highlights the input from the secretary of the compensation committee. He recounts how flawed the handling of the compensation process was, meaning that up till the time of this research, the affected households were still battling for the settlement of their entitlements.

Box 7.1: Secretary of the Compensation Committee – Flawed Compensation Process

In 2003, FQM Ltd. fenced the mining area and told people to keep away from the premises, failure to do so would mean they would be cited for trespassing. People's crops were closed in and people could not harvest their produce even though they needed it. After 3 years Chief Kapijimpanga sent a representative in the company of officials from the Ministry of Agriculture and Cooperatives (MACO) to come and assess people's crops. This was a 'queer' arrangement because people had had no access to their fields for 3 years and some of their land had already been tampered with by construction and mining works. But the assessors needed to count crop stalks standing on affected people's fields as their compensation process was linked to crop stalks still standing as proof. After 3 years, where do you expect to find maize stalks? We construed this action and attitude to be a mockery.

So only a few obstinate people who did not fear threats of trespass charges continued to have access to their fields. At the time of field assessments, they were the only ones compensated as they had evidence of crop remains. Even for them it was not their entire fields but rather only small portions that were cultivated under fear of being caught. Compensation was not handled in a proper manner. Only a few people got their dues in December 2005; but the rest have not been paid yet. The mining company engaged a private person to assess compensation packages but the submitted report was not accepted, they argued that the list of claimants was more than what was expected. Because of this confusion the list has been infiltrated by outsiders – including civil servants living in town – such that the matter has become more complicated and controversial. The mining company has referred all matters of compensation to the Chief as the people's focal point person rather than dealing with any person who felt aggrieved. However, the issue is still pending as the chief is seriously sick and is out of the country for specialist treatment.

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You see people are fed up and have gone as far as wanting to sue the mining company. However, the money required to meet legal charges by the attorney to represent the community is still a challenge. The problem is that we can't grow crops any more which were an easy source of income. Nevertheless the lawyer has already started his work and has since given the mining company an ultimatum of up to August 2007, failure in which means the matter will be settled in court.

Source: Field data.

One of the uncompensated household participants in Mushitala had this to say on their unsettled compensation claims

> *We have lost our livelihoods through seizure of our fields. I can't grow anything at all and I am forced to buy food as if I am working class, which is straining me a lot. We haven't even been compensated yet so that we can move to some other place, but how can we go without receiving our compensation? We need that money to meet the costs of re-establishment in that new place. We need to clear fields and build houses – these all need labour and materials – which cost money* (Participant No. 11).

However, the mining company and the royal establishment indicated that the affected people were compensated reasonably. Nevertheless, the chief's representative recognised the fact that some people surfaced after the list of potential claimants had been closed.

Non-employment of locals

All the participants from all four communities captured in this study, except for those employed by either the mining company or a sub-contracted company, revealed that the locals had not benefited in terms of employment opportunities. Participants viewed getting a job in the mine or other sub-contracting company as a major benefit. Responses to this effect were: *"the mine has not brought anything good at all to some of us who are not employed"; "the only problem with the mine is that it has not employed people living close to the mine area"; "the mine has jobs for outsiders but not for locals"*. When asked why the locals had not benefited from the employment opportunities, nepotism and corruption were cited as the main reasons.

The participants in this research argued that the mine has employed people who are not locals at the expense of the local people. They argued that this is the case because the staff who are in management positions or influential positions come from outside the province and thus favour their colleagues. When seeking to appoint people, this process disadvantages locals who do not have representation at that level. However, the participants were quick to clarify that although the practice of nepotism may not be an official policy of the mining company, it remains rampant and is at the centre of recruiting mine workers. Some of the sentiments coming from participants on this issue are as presented below.

> *Kansanshi yes has brought about development to outsiders who came looking for jobs with skills and managed to be employed. But for the locals, I can say that the mine has killed us. It has taken us backwards in terms of development* (Secretary of the Compensation Committee).

> *These people coming from other parts of the country can be employed even a day after their arrival, while we the locals have been trekking to the employment site for years but to no avail. If it is experience they are looking for, there are people who have it, but are being sidelined because of nepotism. Those charged with the responsibility of recruiting people look at people's faces instead of credentials when employing* (Participant No. 20).

> *The mine is our pillow where we rest our heads because it is so near to us. But we are not employed. They just give us temporary jobs that don't last. Our friends who have finished their copper on the Copperbelt are the ones being employed on a permanent basis. Now these people being given preference, were they born with the so-called skills and experience from their mothers' wombs? The answer is no – they were just trained on the job – now what is so difficult in training us as well? Let them train us so that we can equally get the needed skills just like our colleagues who are highly skilled* (Kyafukuma focus group discussion).

> *You go to the mines – make an analysis – probably 99 per cent of workers are outsiders and very few locals. Meanwhile the person who gets affected negatively with the presence of the mine and its related activities is a local one* (Acting Chief Kapijimpanga).

Three-quarters of the participants cited corruption as one of the factors that disadvantaged locals from getting jobs in the mine and other sub-contracting companies. Those responsible for recruiting workers ask for "kickbacks" from potential employees. The locals thus complained that the amounts being asked for are too high for a rural person who has limited sources of income. Amounts mentioned ranged from ZMK300, 000 to ZMK500, 000 depending on how rewarding the job on offer is (this translates into US$79 to US$132 at the exchange rate of US$1 equals ZMK3, 800). Some of the participants put it this way

> *There is no fixed place where recruitments are being done – even on the street or at drinking places you can be offered a job if you are lucky – provided you have given the recruiting officer some "kickback"* (Participant no. 8). *For you to get a job at the mine, they want you to give them some money as inducements. Those at the centre of employing want bribes before they can employ you* (Participant No. 20).

Box 7.2 below gives a summary of issues raised by one participant who complained how the mine has impacted on his livelihood. It highlights the participant's views with regard to employment opportunities opened up by the presence of Kansanshi mine.

Box 7.2: Participant No. 36 – Front Loader Operator

Mr. X was born in Mushitala in 1968. He has a wife and five children. He and his wife used to work full-time on the farm prior to the opening of Kansanshi mine. They had 5 hectares for farmland, which they have since lost to mining activities. On this piece of land, the Mungwinjis used to grow crops like maize, cassava, and sweet potatoes for both consumption and sale. The couple admitted that life has never been the same since the mine opened as they have been struggling.

Mr. X recounts some of the unpleasant experiences he has had with the presence of the mine. *"The mine came and constructed a road passing through my yard – they behaved like Saddam – they did not even bother to talk to me about it. One day I witnessed a terrible accident. A vehicle came, lost control and overturned just directly opposite my house. My little children were playing outside in the sun. Can you imagine what would have happened if it had come in the direction of my house? It could have landed on my children".* George and family complained that they lost their farmland to mining activities, which was a pillar of their livelihoods, and they have not been compensated yet. *"The mine has put a wire fence enclosing our piece of land therein. Now this is where we used to collect firewood, mushrooms, and other forest products for sale and even for our own use"*

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When the wind of new economic opportunities swept through Solwezi, Mr. X was one of the early people to get jobs in the mine. He claimed that he worked for Kansanshi mine in various sections though he was laid off under suspicious circumstances. *"I worked for First Quantum Minerals Ltd in various sections starting with exploration, crushing, and as a front loader operator. If you went to check in their computers, you'll discover that my name comes out as one of the first mine employees. When the mine employed bosses who come from the Copperbelt, the new managers decided to terminate our contracts-25 of us – only to bring in their own relatives to take up our jobs".*

"If I showed you my credentials, you will agree with me that I have been dribbled. I have the experience they want – I worked with Zambia Consolidated Copper Mine (ZCCM), Cyprus Amax, and continued with this FQM – but they laid me off. I am a qualified front loader operator. If it is manual, I operate 988F. If it is automatic, I operate 966 Bell. But look at this, I went to Lumwana mine the other day, I was offered a job as a front loader operator. The mine which is 100 km away from where I stay gives me a job, yet the one which has destroyed my livelihood has failed? Who is a problem between Kansanshi mine and me?"

"Kansanshi mine is popular to outsiders and other communities far away from the mine area, but for Mushitala, they are terrorists who have no regard for people living near the mine. They have taken over my fields – and have decided to compensate me with a dismissal letter from their firm. I have even withdrawn four of my children from school because I can no longer afford to keep them all in school. The mine doesn't have jobs for locals who have been inconvenienced, but they have jobs for people coming from outside the province. Now these people who came from other places have started taking away our wives. We have been reduced to the nobodies – we have lost our fields and can't find employment – yet we have to provide for the family's needs. The problem is exacerbated because we live among people who have regular income from the mine".

Mr. X has two concerns that need to be addressed so that he can appreciate the presence of the mine. The first one is the integration of the locals in the employment system so that they can be helped cope with the fast changing economies, failure which they will never recoup. He says, "even if I don't get a job, but as long as my neighbour is employed and builds a decent house, it would make a difference in our community". Secondly, he hopes for an improved rapport between locals and the mining company so that both parties understand each other's expectations as this will reduce tension and suspicion.

Source: Field data

Overstretching of existing social facilities

Two thirds of the participants in Mushitala pointed out that access to social services had become problematic. The influx of people from other parts of the country in search of opportunities means that there are too many people requiring services that were meant for a smaller population. One of the participants narrated the experience he had one day when he escorted his wife to the antenatal clinic: *"I took my wife to Solwezi Urban clinic for antenatal clinic the other day at 05:00 a.m. to line up and we were attended to only after 2p.m. This was not the case a few years ago before Kansanshi mine opened"* (Participant No. 15). Another participant had this to say: *"We no longer have easy access to health services due to heavy congestion experienced either at Solwezi General Hospital or Urban clinic. You see in an effort to strictly keep Solwezi General as a referral Hospital, they are now charging user fees for consultation and other services. Now, where are people like us who have lost their livelihoods expected to get the required money?"*(Participant No. 35)

Parents with school-aged children who participated in this research expressed worry that effective learning was becoming an illusion at most of the schools in Solwezi, especially those close to the mining area, because of excessive enrolments. The growing economic opportunities owing to the opening of the mine in Solwezi have attracted many people who have come with their families and thus need to place their children in existing schools. However, these schools have their own capacities, which were designed to meet the needs of the locals. One teacher from Tumvwang'anai School, who sought anonymity, revealed that the school has a current enrolment of over 2,600 pupils against its initial capacity of around 900. The teacher further revealed that a Grade one class at this school has over 90 pupils and the least crowded class has 70 pupils. This is what he had to say: *"We received a directive from higher offices to keep on enrolling miners' children. If you say that there are no places the government officials responsible will ask you where you think the miners will take their children. This has posed a great challenge to effective learning under such circumstances".*

The Deputy Head Teacher at Mushitala School revealed that the opening of the mine has also brought about conflicts in languages used in schools and the language spoken in the wider community in their homes. He argued that since most of the employees on the mine have come from the Copperbelt where Bemba[39] is largely spoken, these people have come with their language such that there is a gradual change from the use of the Kaonde language to Bemba. *"Children learn Kikaonde in class but speak Bemba in the community. This tends to have a negative effect on their learning process and their rate of assimilating concepts is reduced"* (Deputy Head Teacher).

Collapsing of social structures

About half of the participants indicated that the coming of the mine had also led to the degeneration of the social fabrics that had been part of society for a long time. One participant argued that people are getting obsessed with the capitalist mindset such that money is taking precedence over family and friendship. It is no longer easy to get help from your neighbours or friends based on reciprocity; rather, you have to pay in one way or another. The most common approach is to sell labour in exchange for either material help or cash. One of the institutions that have suffered from the collapsing social structures is marriage. There were concerns that marriages were breaking down, especially in Mushitala since the mine opened. Several reasons were cited as being the root-causes. The first one is attributed to loss of supportive livelihood activities by the husbands. Some of the responses from participants on this issue were as follows:

> *If I am not working, a woman cannot stick around when I cannot provide for her needs. She would rather go to someone who can meet her needs. Marriages have broken down here because the locals can not provide for their families' needs – they have not benefited from the employment opportunities – yet they have lost their farm land* (Participant No. 31).

[39] Bemba language is one of the seven major languages spoken in Zambia and is mainly dominant in Luapula, Northern, and Copperbelt provinces. Its wide use in mining settlements has a history which dates back to the colonial era when most of the labourers on the mines migrated from Bemba-speaking regions while the other ethnic groups concentrated on agricultural-based economic activities.

If you are working, a woman cannot get money from another man because she knows that even the husband gets a similar salary – but as the situation is now our marriages are at stake (Participant No.12).

How can your wife fall for another man if you can provide for her needs? But if you are a loafer and your neighbour is always seen in a blue overall suit carrying a hand-bag – and in the evenings there is a nice aroma coming from his house – your wife will fall for him. I saw it when I was working for the mine before I was laid off, women became loose and easy to get, including the married ones (Participant No. 36).

The financial independence of women working in the mine and other sub-contracting companies was viewed as a threat to the patriarchal society, which viewed a man as a provider and not a woman. They felt that women were becoming difficult to control because they could stand alone financially and thus were becoming a misfits in a typical traditional marriage. One participant put it this way: *"how can you feel you yourself, today your wife pays rent, tomorrow she brings in sausage, the other day she buys you a shirt, meanwhile you can't even afford the cheapest lotion on the market for her?"* (Participant No. 20).

Moral corrosion was cited to be a huge problem also, especially in Mushitala according to the older folks who participated in this research. They argued that there has been an influx of sex workers from other parts of the country to trap miners who have come into Solwezi without families. The sex workers who have come from other towns are mainly confined in town. But in Mushitala, a new crop of prostitutes has emerged from within the locals, and some of them are formerly married women who ran away from their husbands who could not provide for their families. This development has had school-girls as casualties as well. A teacher and the Parent-Teacher's Association (PTA) chairperson for Mushitala revealed that numerous teenage pregnancies have been recorded among school-girls in the recent past. One of the parents spoke so ardently on this issue:

Our girl-children have been spoiled. There are very few innocent girls remaining in this community of Mushitala – unless she is married – because of Kansanshi. If you think am

exaggerating I challenge you to bring your own children and stay with us here for some time. I can assure you that the angels you will come with would have been turned into 'Casanovas' in the shortest possible time before you realise it (Participant No.31).

Suffice to mention that the social structures have been eroded due to the influence of people coming from other parts of the country; most of the submissions in this category were from men who felt that their position in society has been challenged due to the crumbling of the patriarchal system which favoured them. In terms of the overall contribution of the presence of the Kansanshi mine to the local communities, local people have incurred more costs than benefits.

7.3 *Who is not doing what?*

The participants were asked to identify what impediments they faced in tapping the benefits from the presence of Kansanshi mine. The mining company was criticised for the way it has handled its social corporate responsibility such as when they failed to handle the compensation programme as discussed in Section 7.2. The company was also criticised for failing to adequately cater for the locals in its employment issues as highlighted in Section 7.2 above. The community of Mushitala argued strongly that the mining company has failed to support the Mushitala School despite its strategic geographic location. Household participants and key informants, who included the PTA chairperson and a teacher from the school, revealed that the community had submitted proposals more than four times highlighting areas where they needed help, but they have not received any response, let alone an acknowledgement of receipt. The school projects that need support include: electrification of the school, construction of ten staff houses, construction of seven classrooms, and sinking of a borehole.

The government also received a share of the blame for why locals have not been able to maximise benefits from the presence of Kansanshi mine. The government was criticised for its emphasis on economic growth at the expense of the local people's interests and welfare. Some of the submissions from participants on this issue are as quoted below:

We don't want what we call in our language 'street smartness' where one looks brushed up and smart on the road but their home is stinking dirty. The government should not just be bragging about positive economic growths the country is recording owing to huge investments in the mining sector when the local people in areas where mines are operating are bearing heavy costs in terms of negative impacts. You can not give your children bones whilst reserving steak and brisket for your neighbours; what kind of a parent are you if you did that? There must be something wrong with your mental state if you could ever do such a thing (participant No. 37).

As Mushitala community, there is nothing that we can appreciate such as dividends paying of having a mine in our area. Well, maybe at macro level there could be some positive economic contributions made, we can't speak for the experts. Otherwise at our local level, we haven't seen anything. If there are houses and other infrastructural developments mushrooming, they are not ours but for those investing in them; this is not a communist society where things are communally owned, but rather a capitalist where properties are privately owned (Secretary of the Compensation Committee).

Poor communication and information flow among interested parties such as government, the mining company and the locals were cited as some of the disincentives to communities. The local communities expressed concern that communication takes a horizontal line (between the government and the mining company) when it should have been triangular shaped to incorporate the locals who are directly affected by the presence of the mine. In the process, the locals felt that the government was not interested in their welfare but only the interests of the investors because of the material gain they extract from the mining company in revenue.

Flow of information is not well structured. The mode of communication and information sharing is known only by the politicians and not the people that matter on the ground where operations are taking place; yet they are cut off in the communication line. We blame the government for giving investors undue attention and special treatments at the expense of the citizens. This attitude displayed by the government has painted a bad picture of the investors and has caused them to be unpopular among the people in our communities. The investors in our community are seen as ruthless and heartless

imposters who connive with the elites in government to steal our resources as they reduce as to nobodies in the process. We don't know whether it is the rules governing investors in this country not to maintain cordial relationships with the communities in which they operate. But on the other hand, It appears like the mining company deals with the government but the government breaks the chain and does not care whether the citizens at community level are taken on board or not (Participant No. 37).

One quarter of the participants argued that the inadequate participation of the locals in discussing the terms and conditions of the investment is now back-firing as the expectations of the parties involved, especially locals, are not known to the others. It was revealed that consultative meetings held were not consultative at all – rather they were informative as the development agreement had already been signed between the government and the investors. Others argued that they could not differentiate between political rhetoric and a serious development agenda because pronouncements about the coming of Kansanshi mine were being made at campaign rallies. This obscured any discussion around issues such as clarifying the expectations of all the players involved, including the state, the mining company and the local people. Some of the contributions in this line are as presented below:

Me, I thought it was mere campaign that Kansanshi mine would open. I don't even know what the place of the local people is in FQM Ltd's plan of action. Politicians were too much in the forefront announcing the opening of the mine instead of letting the investors speak for themselves and articulate issues on how their operations would affect the locals. We are left to wonder whether the government gives investors guidelines of dealing with communities at arms' length and never to mind about the welfare of the people that get affected in the process. I wonder whether they even tell investors to maintain the dignity of the local people staying in mining areas. The attitude of hero-worshipping investors exhibited by the government leaves it without any room for objectivity in dealing with trade-offs between protecting investors or citizens' interests. (Participant No. 37).

The investors are just okay but the problem is with our own people – local and national leaders – who are not straight in their dealings. In the process the investor gets a bad

reputation in the eyes of the communities where they operate because they are the ones who are never in contact with people (Kyafukuma focus group discussion).

The government is the one which is bad. This mining company just came recently. In fact the government knows that the investors are on business and will soon go back to wherever they came from (Participant No. 52).

Us as a community had had no role to play in the negotiations of mining investments at Kansanshi – we did not participate at all. We just saw the chief come and introduce the investors to us telling us that we should keep them well. He told us that 'you shouldn't steal from them; you shouldn't do bad things to them. If you keep them well, they will develop this region'. There wasn't any chance of asking questions interrogating the chief about the details of their prior discussions with these investors and where the community's interests have been placed in this arrangement (Secretary of the Compensation Committee).

In this section, it has been shown that the process that was followed in developing Kansanshi mine was not consultative and that the consequences have undermined the ability of the local people to maximise benefits from the presence of the mine.

7.4 *Expectations of the local people and Kansanshi mine.*

The participants were asked to state what they would have expected to see come with Kansanshi mine for them to appreciate the presence of the mine in their area. In response, the following issues scored highly in all the communities and among all the participants. Firstly, all the non-working participants indicated that they wanted jobs, either in the mine or in other sub-contracting companies. The working participants pointed out that the mining company should have broadened its employment criteria so as to capture the locals as well. If anything, the mining company was called upon to make deliberate efforts in capturing locals for employment opportunities realising that they have lost their livelihoods and are still coping with the new lifestyles that are emerging.

Secondly, water supply was cited as one of the highest ranking priorities in all the communities. Field data revealed that the water points servicing the communities captured are not adequate to meet the current needs of the people. Field observations confirmed that State Ranch had 3 hand-dug wells, while Mushitala and Kabwela had 3 boreholes each installed across these vast communities. As alternatives, residents use shallow wells to supplement their daily needs for activities such as bathing, washing dishes and laundry. Water from boreholes is used mainly for drinking and cooking purposes. However, as of late the shallow wells are recording low yields, which might be a result of mining activities that involve pumping out water from underground for easy extraction of mineral ores. This tends to lower the water table in a given catchment area.

Thirdly, an improved road network was a priority in State Ranch and Kyafukuma communities. In Kyafukuma the participants complained that there is a need for either the government or the mining company to open a shorter route that would connect the community to the outside world. Since the closure of the road that previously connected Kyafukuma, it has not been easy for the residents to get to the general hospital and other places of importance to them. They feel that that if the shorter route was opened, it would also enhance their links with the flourishing market in town. In State Ranch, they wanted a paved road to link the community to the main Congo-Solwezi road. They also revealed that they needed a bigger bridge than the foot-bridge that was being constructed across the Kifubwa stream.

Fourthly, other expectations included things such as: building of a school and health centre in State Ranch, upgrading of the schools and health centres in Kyafukuma, Kabwela and Mushitala; construction of standard market structures in all the communities studied; and support with agricultural packs in farming communities of Kyafukuma, State Ranch, and Kabwela. The uncompensated affected households also expected to have their dues settled as soon as possible so that they can reorganize themselves in life.

7.5 *Conclusions*

In this chapter it has been shown that the participants could not deny the fact that the opening of Kansanshi mine has come with certain benefits, which include expansion of the labour market where people have an opportunity of selling and hiring labour. Opened up opportunities are not only restricted to the skilled labour force but also engulf the unskilled labour force who are mainly restricted to the growing construction industry. The opening of Kansanshi mine has also brought about an increased circulation of money in the local economy, which has helped the local people to either intensify or diversify in their livelihood activities. Some participants revealed that the ready market and increased circulation of money have been the driving forces behind their diversification of activities from on-farm to off-farm activities where they are participating in market-based activities. Those still engaged in on-farm activities have also diversified into a myriad of farm activities such as growing of a mixture of crops and even going into livestock rearing so as to maximise the market potentials. The coming of the mine has also helped most parents invest in their children's education, with a view that they might be able to integrate into the labour market in future, especially in the mines.

Despite the benefits highlighted above, the participants were not short on complaints about the presence of the mine in their midst. They argued that it was subjective to think that Kansanshi mine had brought development, especially to the locals looking at the costs they are bearing. It is clear from their submissions that though the government statistics as presented in Chapter Four indicate a positive contribution of the Kansanshi mine to the economic growth of the country, the experiences of local people as discovered in this thesis show that there are more costs than benefits accruing to people at the micro level. The first negative impact of Kansanshi is either the displacement of the communities from their settlements or the loss of their productive assets to mining activities. This has in the process led to the loss of livelihoods and it has not been easy to regain the lost status. Those who have been resettled in a new settlement have complained that the place has not been prepared at all for human habitation as it is void of essential services and facilities such as schools, health centre, market shelters and adequate water points. Mushitala community also complained that the extension of the

municipal council's planning boundary to include Mushitala has overnight rendered the residents illegal squatters who are liable to be evicted at any time.

Participants from Mushitala revealed that the loss of productive assets like land had impacted negatively on their livelihoods as it has not been easy for them to integrate into the market economy to earn a living. They complained that even the compensation process was marred with irregularities such that most of the people are still waiting for their dues. The inability by most of the locals to secure employment in the mine and other sub-contracting companies was one of the hot issues as well. The participants argued that the mine had failed to employ the locals even after taking over their fields without compensating them. They revealed that the employment process was marred with nepotism and corruption, which put the locals at a disadvantage when it comes to getting jobs in the mine.

The economic boom being experienced in the district has attracted a lot of people from all over the country who are searching for potential opportunities to venture into. This increased number of people has implications for the adequacy of service delivery, as the services were mainly constructed for a smaller population. The most affected are health facilities which are congested and schools that are recording overenrolments. The participants further revealed that even social structures have been affected where marriages are experiencing turbulence, especially in homes where husbands cannot provide for their families. It was revealed that those who lost land to mining activities and who are not able to secure jobs in the labour market are losing their wives who opt to be independent and fend for themselves. Some of these women end up as sex workers who are targeting the miners who come from other parts of the country without families.

The government was put at the centre of the local people's blames as to why they are failing to maximise their benefits from the presence of Kansanshi mine. They argued that the government is riding on their vulnerability and powerlessness in the way the contracts have been signed and how the mine should relate with the locals. They trace all their problems to inadequate consultation with the communities to establish their expectations

and needs at the time of planning for investment. This was all because the politicians took the centre-stage in announcing the coming of the mine, which resulted in the overlooking of the issues that mattered including consulting with the locals. Otherwise the locals expected that the mine would create employment for them, upgrade the existing services such as schools, health centres, market structures, road networks and water supply.

Having presented the fieldwork findings in the previous and this chapter, in the following chapter, the researcher will discuss the implications of these findings in the light of the four spheres that were analysed in Chapter Three. In the following chapter link between the SLF, which was discussed in Chapter One and the conceptual framework that shapes the structure of this thesis will be synchronised to address the research question.

Chapter 8 Discussion

8.1 *Introduction*

In the previous two chapters field findings from the four communities studied, were presented, highlighting the local people's asset holdings and what their perceptions about Kansanshi mine are. In Chapter Six, the asset levels of the local people, which are crucial in shaping the livelihood portfolios that households are likely to engage in were explored. In Chapter Seven, the voices of the participants were presented and analysed from a qualitative perspective, focusing on how far the expectations of the local people had been met following the development of the Kansanshi mine. It is clear from the field findings that the local economies and other structures have been transformed owing to the opening of the mine, which has had a bearing on local people's livelihoods.

In this chapter, the researcher thus endeavours to answer the central research question presented in Chapter One:

> *What are the micro-effects of large-scale mining on the local people's economic opportunities, capabilities, security, and empowerment in the case of Kansanshi mine in Solwezi, Zambia?*

In answering the central research question, the researcher draws heavily on the field findings, literature review, and the conceptual framework shaping the scope of this thesis. As adequately covered in the conceptual framework in Chapter Three, development theory makes causal linkages between investment in large-scale mining and poverty reduction, especially within the communities in which mining takes place. It is in this context that the experiences of the local communities surrounding Kansanshi mine will be analysed so as to ascertain whether or not the opening of the mine has opened up economic opportunities in which the locals can participate, improved their capabilities to pursue their livelihoods; enhanced their security (reduced their exposure to risks and vulnerability), and empowered them to participate in issues that affect their lives.

8.2 *Microeffects on economic opportunities*

In this section the researcher explores the contribution of the mining sector toward government revenue generation in general and what Kansanshi mine's contribution in this effect has been in terms of taxes and royalties. The effects of the mine in terms of the ability of the local people to participate in economic activities such as the employment opportunities available, intensification or diversification of their economic activities will be explored.

8.2.1 Revenue generation and distributional effects

Revenue generation by the government

As highlighted in the conceptual framework in Chapter Three, investment in large-scale mining is encouraged due to causal linkages promulgated between increased revenue generation by the state and channelling of realised resources to poverty reduction programmes. Thus large-scale mining leads to substantive taxes, royalties and foreign exchange revenue for the state, which could be channelled towards funding poverty reduction intervention (Pegg, 2006; Weber-Fahr et al., 2002). It was further argued in Chapter Three that, apart from higher fiscal income contributions that private-owned mining firms would make to the government in terms of taxes and royalties, privatising the sector would disengage huge resources that would have otherwise been used as subsidies. These savings would be redirected to finance poverty reduction programmes (Weber-Fahr et al., 2002). However, the mining policies that were developed following economic reforms of the 1990s under the banner of SAPs hand-tie the governments in mineral-rich countries from realising substantive revenue out of the mining sector (Kumah, 2006; Pegg, 2006).

Zambia, as a mineral-rich country that implemented economic reform policies, developed a mineral policy that is investor-friendly with many tax concessions, which undermines the ability of the government to maximise revenue generation. New owners of former ZCCM mines are required to pay royalties on the net back value of minerals produced at 0.6 per cent and corporate income tax was reduced from 35 per cent to 25 per cent (Australian Trade Commission, 2007; Fraser and Lungu, 2006; Ministry of Mines and

Minerals Development, 1997). The country thus loses much revenue through various tax concessions. As pointed out in Chapter Four, mining companies are exempted from paying withholding tax on dividends, royalties and management fees to shareholders or their affiliates, and on interest payments to shareholders or their affiliates, including money lending organisation to the affected mining companies. Other incentives also include exemption from customs, excise duties and value-added-tax, remission and deferment of royalties, development agreements, international arbitration and security of tenure for mining rights (Australian Trade Commission, 2007, p. 4).

It is therefore questionable how much revenue the country is generating from the mining sector with these kinds of conditions that are bent towards maximising profit margins for the mining firms. It is expected that since the country's economy has a history of dependence on copper mining and continues to be so, given the high quality of the mineral deposits and the high rate of extraction (Thurlow and Wobst, 2006), the government would charge relatively high taxes and royalties. But the opposite is the case and the country is regarded as charging low taxes by international standards - even lower than those of neighbouring countries in Southern Africa (Dymond et al., 2007; Fraser and Lungu, 2006; Matshediso, 2005). A survey by the IMF of tax and royalties in developing countries revealed that royalty rates that are charged range from 5 to 10 per cent, with some charging as high as 30 per cent (Dymond et al., 2007; Fraser and Lungu, 2006). In the case of Botswana, Debswana (the country's largest diamond mining company) pays no less than 70 per cent of its profits to the government in terms of taxes, royalties and dividends (Dymond et al., 2007).

The Zambian government actually admitted to the fact that the country is not maximising its revenue generation from the mining sector. When opening the second session of the Tenth National Assembly on January 11, 2008, President Levy Mwanawasa revealed that the price of copper on the international market had risen sharply from its lowest rate of US$1,714 per tonne in 2001 to a record high of US$6,893 per tonne in 2007, reflecting an increase of over 400 per cent. Despite this windfall, the mining companies continued to enjoy concessional taxes. From the total earning of US$4.7 billion the mining

companies made in the 2005 and 2006 financial years, they paid only a paltry US142 million in taxes and royalties (Phiri and Chanda, 2008). The President argued that if the prevailing prices and production forecast held, the mining companies under the development agreements' tax regime would earn an estimated income in excess of US$4.0 billion in the 2008/9 financial year while they would pay only an estimated US$301 million in taxes to the treasury (Phiri and Chanda, 2008).

As reflected in Chapter Four, the Kansanshi copper mine is one of such mines where tax concessions are evident. According to FQM Ltd.'s 2006 annual report and its annual information for the year ending 31st December, 2006, the mining company realised a combined revenue of about US$1 billion between 2005[40] and 2006[41] from Kansanshi mine (First Quantum Minerals Ltd., 2007a, 2007b). Being a former ZCCM mine whose mineral royalty rate stood at 0.6 per cent on the net back value, it is expected that the company paid only about a combined value of US$6 million to the government in 2005 and 2006. Though on top of this the company is obliged to pay a corporate income tax of 25 per cent, the exemptions and allowances stipulated in the development agreement such as carry over of losses may result in this tax not being paid at all. According to the World Bank's International Finance Corporation, "while it is standard practice to allow losses to be carried over and offset against future profits, the net effect of this and other tax exemptions is that mining companies in Zambia can legally enjoy a marginal effective tax rate of 0 percent" (Dymond et al., 2007, p. 10).

Distributional effects

In Chapter Three it was discussed in detail how huge revenue generated from the mining sector could be used to fund poverty reduction programmes. It was argued that governments would have funds to expend on poverty reduction interventions once mine owners started paying taxes and royalties to the treasury (Pegg, 2006; Weber-Fahr et al., 2002). It was therefore expected that the funds collected by the national government in taxes and royalties would be channelled back to mining communities to finance their priority poverty reduction programmes. However, the findings of this study cause this

[40] US$259,448,000
[41] US$745,688,000

linkage to be questionable. Firstly, it appears, from the sources interviewed both at the Ministry of Finance and National Planning and the North-Western Provincial Administration, that the government does not have a distributional system where revenue generated in taxes and royalties from the mines is shared between the Central government and hosting communities. All the money received goes to the national Treasury and is allocated by Parliament according to the budgetary ceilings reflected in the Green Paper. Though the ceilings are determined according to the developmental needs of a region, those needs are a factor of the region's population size. It can therefore be argued that ceilings are calculated based on the population of the region regardless of its needs and contribution to the national Treasury.

The allocation of funds is operationalised through the national budget, which is a reflection, interpretation and implementation of PRSPs' macroeconomic policies through the MTEF. A review of Zambia's 2007 budget revealed that of all the PRSP-funded programmes in Solwezi through the Provincial Administration, there was no poverty reduction programme undertaken in the communities studied. A thorough check of the programmes implemented under the HIPC initiative at the Provincial Planning Office[42] revealed that no Poverty Reduction Programme (PRP) had been undertaken in the communities of concern since 2002. The only programmes verified on the ground through field observations were the expansion of Mushitala School through sector-pool funding and a completed Zambia Social Investment Fund (ZAMSIF[43]) funded project at Kyafukuma rural health centre. The other two communities, State Ranch and Kabwela did not have any trace of programmes being implemented.

The challenge still remains as to how the local communities in mining areas could benefit from taxes and royalties paid to the national government. One could argue that local communities benefit from investors' presence through their social corporate

[42] The Provincial Planning Office is the provincial secretariat responsible for socioeconomic development related issues. It is responsible for the preparation of the Provincial budget, monitors the implementation of government programmes and its progress reports feed into the National Report.
[43] ZAMSIF was a World Bank loan contracted by GRZ to fund community initiated projects aimed at reducing poverty.

responsibilities, but the fact that investors are not welfare organisations and are not experts in service delivery implies that even under this initiative the locals still lose out.

Social corporate responsibility

According to FQM Ltd.'s 2006 Annual Report, the mining company revealed that Kansanshi mine established the Kansanshi Foundation, which is responsible for the mining company's social responsibility undertakings (First Quantum Minerals Ltd., 2007a). The foundation has since implemented projects including

> drilling and equipping of waters bores to supply clean water to villages and communities surrounding the mining licence, resurfacing of the Solwezi town market, repairs to town infrastructure including bridges and roads, and the supply and installation of a new chilling compressor and repairs to the mortuary at Solwezi General Hospital....and promotion of beekeeping (First Quantum Minerals Ltd., 2007a, p. 35).

The Kansanshi Foundation also supports the government's programme of 'roll back malaria' in Solwezi. The Foundation provides logistical support such as labour, mosquito spraying equipment and chemicals such that in 2006, a total of 24, 000 houses were attended to (First Quantum Minerals Ltd., 2007a). However, the implementation of these projects must be understood in the context of the statement below where FQM Ltd. argued that

> The company... has no royalties, liabilities or other payments due to third parties, other than the mineral royalty of 0.6% payable to the Government of the Republic of Zambia (GRZ) (First Quantum Minerals Ltd., 2006a).

Hence, the mining company is not obliged to spend money in communities in which they operate, which is considered to be a liability on their part as they are already paying taxes and royalties to the government. If the mining company decides to help the community, it is at its own discretion and it can decide what project to work on based on the budget provisions of the Foundation. Closer scrutiny of the programmes supported by the Kansanshi Foundation shows that these projects actually are located outside the communities that surround the mining area. Of all the projects highlighted above, it is

only water projects that were executed in communities surrounding the mining area. Perhaps this explains why the communities, as highlighted in Chapter Seven, argued that they have not seen many benefits arising out of the development of the Kansanshi mine. Indeed a great discrepancy can be observed between what the communities expected to receive by way of benefit from the presence of the mine and what the mine owners have undertaken in the name of social responsibility (see Table 8.1 below).

Sector	Communities' expectations	Executed projects under Kansanshi Foundation
Education	- construct school in State Ranch; - upgrade Kabwela community school; - upgrade Mushitala school;	- Refurbishment of Solwezi Technical High School; - Expansion of Tumvwang'anai, Kimakolwe, and Kapijimpanga Basic Schools
Health	- construct clinic at State Ranch; - establish health clinic at Kabwela and Mushitala; - Need treated mosquito nets in all the communities studied	- attended to the mortuary at Solwezi General Hospital; - sprayed 24,000 houses in Solwezi town and provides treated mosquito nets to employees at subsidised prices;
Roads and transport	- pave the Sate Ranch road from Solwezi-Congo road turn-off; - pave road from Kipushi turn-off to Kyafukuma; - construct motor-vehicle bridge across Kifubwa stream to connect State Ranch ;	- worked on township roads only and nothing on feeder roads to link rural areas to the outside world; - constructed a footbridge instead which can accommodate only bicycles and motorcycles;
Water supply	- adequate sources of water in all the communities studied;	- 3 water points provided in each community in form of boreholes and wells
Infrastructure	- construction of market shelters in all the communities studied;	- refurbishment of the main market in town and approved construction of a new market structure at Kyawama township; - refurbishment of Solwezi airport;

Table 8.1: Communities Expectations against Projects Undertaken in Reality
Source: Compiled from field data and FQM Ltd. 2006 Annual Report.

It is clear from Table 8.1 above, that even through the mining company's social corporate responsibility, the communities surrounding the mining area are not benefiting to their satisfaction. Most of the projects implemented by the Foundation are executed outside these communities and where they have been directed about location (like the water supply and bridge construction), they have fallen short of local communities' expectations. Since the mining company is not obliged to support any community-based projects, it is at liberty to implement any project in the name of social responsibility and often the projects settled upon are those that either directly or indirectly benefit the mining company. Thus the project does not need to be of relevance to the community, especially the rural communities. Such projects falling in this category, as highlighted in the table above, are the upgrading of Solwezi airport and township roads.

8.2.2 Income generation among the local people

Investment in large-scale mining is by and large promoted because of the potential it has in job creation, especially for locals and other people in the wider spectrum of society (Weber-Fahr et al., 2002). The jobs created can be either within the mining company or other sub-contracting companies who are engaged in business with the mining company. In the case of the Kansanshi mine, numerous factors can be explored to ascertain whether or not the opening of the mine created employment opportunities for locals, especially those living near the mining area. These include employment process, and education and skills levels of the local people.

Shifting goalposts in the employment procedure

Active employment at Kansanshi mine started in 2004. In the initial stages, the mine was employing its workers through the Ministry of Labour and Social Security at the Labour office in Solwezi. However, the local people complained that they were being excluded through this process as the Labour officer was favouring people from other regions. As a result, the mining company advised that new employment procedures would be adopted. This gave rise to the labour brokering business in order to capture all interest groups, including local people who despised the earlier system, arguing that it was favouring people from other parts of the country. In light of this, MITEC Company, as a representative of Chief Kapijimpanga, was registered to recruit the locals. Nonetheless,

due to the low education and skills levels of local people, "most of the jobs sub-contracted to them fell in the unskilled category such as excavation and construction related" (Acting Chief Kapijimpanga).

According to the Labour officer in Solwezi, "since labour brokering is still illegal in Zambia, those who went into the labour brokering business registered as employment agencies under the Ministry of Labour". Despite registering as employment agencies, the companies involved operated as labour brokers – as that was the condition from the mining company. Under this arrangement, the employees recruited by the labour brokers were the employees of neither the broker nor the mining company. This caused insecurity on the part of the employees as the mining company saved by evading statutory obligations of paying pension schemes and associated benefits. Nonetheless, the government later intervened and put an end to labour broking. It is clear from the aforementioned that the much promised jobs created with the opening of large-scale mines came with little benefits, especially for the local people who mainly just worked as unskilled labourers. The jobs created were also highly insecure.

Locals' education and skills levels

In Chapter Six, field findings revealed that 75 per cent of the research participants either did not go to school or had attained just primary education. Only 2 per cent indicated that they had attained tertiary education. The fact that mining is a specialised industry and requires huge capital investment in infrastructure, technology, and services (Pegg, 2006; Weber-Fahr et al., 2002), explains why locals with such high levels of illiteracy can be catered for only in the unskilled labour-force category. Though the locals complained of being excluded from getting jobs in the mines as amplified in Chapter Seven, it should be understood that the capital-intensive and specialised nature of the mining industry cannot accommodate people with only basic education levels and skills such as those possessed by the locals.

The Labour Office in Solwezi actually told the researcher that the office was asked by the mining company to recruit 10 artisan boiler makers and 15 welders, but for more than two weeks they could not find these people. Some people had been taken for interviews

to the mine site but they did not meet the minimum requirements. So when such jobs are floated to the general public, the locals complain that they are being excluded and jobs are offered corruptly. Owing to the history of mining in Zambia as highlighted in Chapter Four, it is obvious that most of the skilled people required for jobs like these mentioned above would come from other parts of the country.

Other labour-exchange opportunities

The opening of Kansanshi mine has broadened the scope of the labour market. Apart from the formal employment sector where people can find employment in the mining company or sub-contracted companies, there are also opened up opportunities in the informal sector where people can sell or buy labour. As highlighted in the fieldwork findings, Chapters Six and Seven, the local people are able to sell their labour especially in the construction industry where unskilled labour becomes productive. Prior to the opening of Kansanshi mine, the infrastructure base of the town was poor (First Quantum Minerals Ltd., 2007b; SACCORD, 2007). Since the commencement of mining activities at Kansanshi, Solwezi has experienced an unprecedented outbreak of construction activities where individuals and business units are investing in real estate, mainly residential homes and guest houses. Hence, the growing construction industry has created a market for some of the unskilled labour-force who sell their labour as brick/block moulders, bricklaying assistants, and carpentry and plumbing assistants.

Agriculture-based income generation

Agriculture-based activities support the livelihoods of about 90 per cent of the population in Solwezi (Central Statistical Office, 2004). According to field findings presented in Chapter Six, 69 per cent of the participants revealed that agriculture-based activities such as the sale of crops and livestock are the main source of income on a regular basis. Sale of crops and livestock is actually the sole source of income for 33 per cent of the research participants as amplified in Chapter Six. The opening of the mine has thus provided an incentive for this group of people to intensify their activities so that they can capture the ready market for food in town. Field findings presented in Chapter Seven revealed that those engaged in agricultural activities have diversified into growing more than one crop to maximise their returns. It was clear from the field findings that a good number of

people have diversified into livestock rearing, especially poultry, either as a source of income or as a form of saving. For instance, a teacher at Mushitala School observed that prior to the development of the Kansanshi mine he was the only one who used to rear chickens for business purposes, but after the mine opened "a good number of people in Mushitala entered the poultry business due to increased demand for chicken and eggs in the townships" (Deputy Head Teacher).

However, exploitation of opportunities in terms of agricultural-based income generation was not to its full scale. This was due to a number of factors such as loss of fields to mining activities, the basic nature of farm implements that farmers use, and obsession with finding formal jobs in the mines. To start with, all the communities surrounding the mining area, save for Kyafukuma, lost their fields to mining activities and are not able to supply the ready market for food in town. These factors will be discussed in detail below.

Firstly, local small-scale farmers cannot turn their subsistence farming activities into money-making ventures due to their limited capacities. Even after losing their land to mining activities, the compensation process that was followed was flawed such that a good number of them in the affected communities claimed that their compensation payments were still outstanding. As revealed in Chapter Seven, most of those affected and non-compensated local people had not moved to other places to start life anew. They needed the money to clear their fields, construct new houses and expend on other settling-related costs.

Secondly, the residents of State Ranch and Kyafukuma who are in full time agricultural activities have also failed to maximise revenue generation through increased production due to the simple nature of implements they use. Field findings in Chapter Six revealed that the farming communities rely on hoes and axes to cultivate their fields. None of the participants is using advanced farming implements like tractors or even ploughs using animal draught power. These tools are just too basic for one to produce enough for domestic consumption and for the market. As Deininger and Pedro (2000) argue, small-

scale farmers fail to tap the opportunities that the agricultural industry offers because of low productivity and poor market access.

Thirdly, the locals in this region are obsessed with getting a formal job in the mines or other sub-contracting companies and have therefore abandoned the economic activities in which they possess comparative advantage. This attitude is sponsored by two lines of thinking. Firstly, as amplified in Chapter Seven, at the time that Kansanshi mine was being redeveloped, it was the politicians who were in the forefront announcing the opening of the mine and the benefits that would accrue to locals such as employment opportunities. And now that the mine is operational, just as pronounced by the politicians, it also entails that even the jobs that should come along as promised must be there. At the time of fieldwork, groups of people were observed both at the entrance to Kansanshi mine and the Labour Office premises crowding waiting to be employed. It does not matter to them whether they have the minimum qualifications and skills required; all they are looking for are jobs as promised.

Secondly, according to the expectations of local people, Kansanshi mine should take after the ZCCM model, which was a government parastatal. It was revealed in Chapter Five how ZCCM operated like a welfare institution providing services and other amenities to mining communities. As a state-owned firm, ZCCM had to assimilate so many people in the labour-force and a lot of them were training on the job. Since this is the kind of mining development model that locals know about, they expect Kansanshi mine to employ them even without experience, claiming that they will train on the job just like the people on the Copperbelt did under ZCCM. In the process, locals are incurring opportunity costs unknowingly because they are wasting a lot of time seeking formal jobs that are beyond their skills levels at the expense of intensifying their livelihoods activities. And as the District Commissioner for Solwezi observed, it is the farmers on the Copperbelt, which is 180 kilometres away, instead, who are feeding the growing population in Solwezi (Mulaliki, 2008).

Nonagricultural-based opportunities

It is undeniable that the presence of the Kansanshi mine in Solwezi has transformed local economies such that more people are getting engaged into market-based activities either as a form of savings or as a sole source of income. As underscored in the fieldwork findings chapters, the increased circulation of money in both rural and urban areas (as a sign of ready market) has provided incentives for people to engage in market-based activities that have proved to have immediate monetary returns. Some of the activities that people are engaged in include selling foodstuffs (vegetables, dry fish, sweet potatoes, and beans); charcoal burning; and crushing stones. Though a significant number of research participants indicated that they participated in market-based activities, they were quick to admit that the sector was not void of challenges given their situations.

The first hardship they have is capital-related. To start with, these are the people who have lost their productive systems to mining activities and have not been compensated three years down the line, yet they need to make a living. For them to participate in the market economy, they need capital to settle for a befitting activity. As reflected in Chapter Six, none of the participants indicated that they got loans from formal institutions. Instead, their main sources of credit were families and friends followed by usurers that charged at prohibitive interest rates. In fact almost half of the respondents indicated that they did not get credit for fear that they might fail to pay back. Under such circumstances, it is obvious that a person engaging in the market economy with this kind of financial capital might not reap the full benefits offered by the sector. One of the participants who used to sell vegetables had this to say:

> *Getting engaged in market-based activities is not easy due to capital issues. It is not easy to raise the required capital to prosper in the sector. I used to sell vegetables but I stopped because I used my capital to meet other needs at the time. This business of petty-trading is good only if you have other sources of income rather than solely relying on it. Otherwise you will end up using your capital to meet your consumption needs* (Participant No. 24).

Another participant, who was still running a business of selling vegetables at the time of the interview, recounted the challenges that she had to go through to generate income in the market economy:

> *It has not been easy running a business of selling vegetables, especially that we have to order from Copperbelt and some of our colleagues who did not lose their fields to mining activities. The bundles which they tie for wholesaling can't give you any profit if you retailed at reasonable quantities that a household can use. Since I also have to recoup my transport costs and my capital, I end up putting about 5 leaves of rape per bundle, which tends to discourage the customers as well* (Participant No.21).

The second hardship is the nonexistence of standard market shelters where traders can take their merchandise, which is a disincentive for them to exploit the full benefits of the sector. Many more people who would have bought the merchandise at the market stands are discouraged under prevailing circumstances where shelters are makeshift and are short of minimum hygienic requirements.

8.2.3 Economic growth and rural poverty reduction

In Chapter Three, it was explored at length how mineral-led economic growth leads to poverty reduction. It is argued that "growth in national income has been shown to benefit all groups, including the poorest...thus, growth in gross domestic product (GDP) per capita...can also be expected to reduce poverty profiles overall" (Weber-Fahr, 2002, p. 13). Policies that are construed to be pro-economic growth are adopted on the premise that they would gravitate towards poverty reduction in the long run (Ross, 2001). Probably this explains why Zambia's PRSP was aimed at achieving sustained economic growth, which was seen as a "powerful tool for reducing poverty" (Ministry of Finance and National Planning, 2002, p. 13). As highlighted in Chapter Four, Zambia's economy has continued to grow since 2002 when the implementation of the PRSP macroeconomic policies became effective. According to the country's Economic Reports 2005 and 2006 and the budget speech for 2008, Zambia's real GDP between 2002 and 2007 grew at an average rate of 5.7% as shown in the Figure 8.1 below. Inflation also continued to decline over the same period from 26.7 per cent in 2002 to a record low of 8.2 per cent in 30

years in 2006 (Ministry of Finance and National Planning, 2005, 2007) and sustained the single-digit figure of 8.9 per cent in 2007 (Magande, 2008).

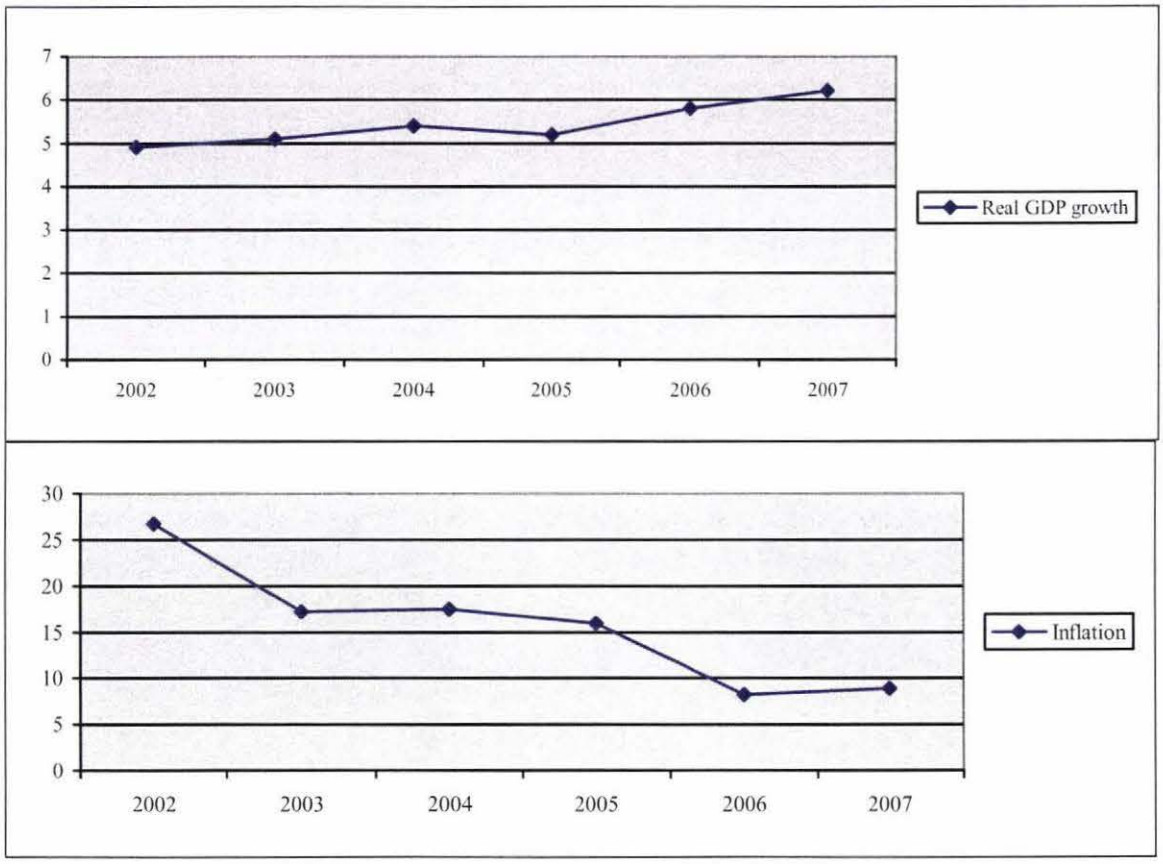

Figure 8.1 Real GDP Growth and Inflation Performance between 2002 and 2006
Source: Based on figures presented in Table 4.1. in Chapter Four (Magande, 2008; Ministry of Finance and National Planning, 2005, 2007).

At the real GDP growth rates presented above, it can be argued that Zambia's per capita growth between 2002 and 2006 has been 2.73 per cent given the fact that the country's population growth rate between 1975 and 2005 was 2.7 per cent on average (UNDP, 2007). Theoretically, it can be argued that "poverty is therefore reduced because of balanced growth and rising per capita GDP" (Thurlow and Wobst, 2006, p. 615). The recorded positive growth performance of the economy is attributed to "the record high copper prices and increased export volumes"(Ministry of Finance and National Planning, 2007, p. 6).

However, some scholars have argued that though Zambia has been experiencing growth in its economy, the growth has not been equally good for the poor. The reason is simple. The current economic structure is supported by huge investments in the mining industry and the "ability of the poor to participate in the growth process remains limited" (Thurlow and Wobst, 2006, p. 617). The agricultural sector, which supports a big population in Zambia and over 90 per cent in Solwezi, has declined in the recent past owing to the revived mining sector (Thurlow and Wobst, 2006). As Thurlow and Wobst point out, Zambia's economic growth can translate into actual benefits among the rural poor only if the country adopts national development strategies that focus not only on accelerating economic growth but also on increasing the participation of the poor in the growth process. In other words, the policies should be more pro-poor. Economic growth can be termed pro-poor if it allows the participation of the poor who are generally unskilled or semi-skilled (Ross, 2001; World Bank, 2001).

An illustration of the weak linkages between Zambia's economic growth and poverty reduction was also provided in Chapter Four where the country's performance in various development indicators was reviewed. The point that stands out clearly is that the impressive performance of the domestic economy has not translated into any improved conditions of living among average Zambians as the incidence of poverty still stands at 68 per cent(Central Statistical Office, 2005). As at 2005, the country had 63.8 percent of its population living on less than US$1 per day, while 87.2 per cent of the population would fall under the poverty datum if it were to be raised to US$2 per day (UNDP, 2007). According to the 2004 Living Conditions Monitoring Survey, the country's under-five mortality rate stood at 162 per 1000 children, while the infant mortality rate remained high at 110 per 1000 live births (Central Statistical Office, 2005, p. 2).

At regional and local level, the local economy is not growing to its maximum level such that trickle-down effects can impact positively on local people due to the region's limited infrastructure capacity. Most of the people employed in the mine have come from outside Solwezi. Due to the poor infrastructural base in town, especially housing units, most of the workers are in Solwezi only during working days and spend their weekends and

holidays with families on the Copperbelt. Consequently, the money is earned in Solwezi but spent outside town. This kind of development is a disincentive for the growth of the local economy, especially in economic activities in which the rural poor are able to participate such as sale of agricultural produce and other market-based enterprises.

8.2.4 Creation of upstream and downstream industries

In theory, the opening of a large-scale mine creates opportunities for the establishment of companies that would provide goods and services either to the mines or meeting the growing demands for service provision owing to the growing population. The growth in consequential industries would eventually lead to poverty reduction through job creation, economic growth and increased revenue generation (Pegg, 2006). However, the sections that have been covered above have revealed that in practice, large-scale mining does little in creating jobs that are suitable for the rural poor who are unskilled or semiskilled. It has also been revealed that economic growth that hinges on mineral production does not take the poor on board and thus limits their participation. Insofar as revenue generation is concerned, it was also revealed that "the amount of government revenue generated depends on the design and implementation of the fiscal system" (UNCTAD, 2007, p. 94).

The limited capital capacities of entrepreneurs in developing countries act as impediments to the establishment of consequential industries that would deliver on the causal linkages leading to poverty reduction. As Otto (2006, p. 119) points put, mainly local entrepreneurs are able to open only business dealing in "activities such as catering, cleaning, and in some cases, construction services". In Solwezi, the acting District Commissioner revealed that a lot of local companies had opened up that are specialising in cleaning, landscaping, catering, and construction. Some of the local companies cited include MITEC, BRESMAR, Silondwa and Lamamuda. However, the clause in the development agreement, which allows the mining company to exercise discretion in awarding contracts, has seen the local companies losing jobs to international companies-even in cleaning and catering fields. In January 2008, Kansanshi mine decided not to renew contracts for local companies but instead awarded them to foreign companies. According to Chansa and Mulaliki (2008), Kansanshi mine management awarded Mr. Clean, a South African Company, a contract to clean offices, ablution blocks, and the golf

estate, while Allterian Services Group ATS, a Ghanaian owned Company, was awarded a catering contract to run the mine canteen.

The awarding of contracts to foreign companies who will eventually come with their own staff undermines the potential of the causal linkages between large-scale mining and rural poverty reduction as it fails to create employment opportunities for locals. The local economies also suffer as the Kansanshi mine's development agreement allows expatriates who are associated with the mine to remit all their income earned within Zambia out of the country without any restrictions (Government of Zambia and Kansanshi Mining Plc, 2001). If the money earned in the mining area is repatriated, it means that local economies indirectly are affected as the money is not spent locally on economic activities that support the livelihoods of local people.

8.2.5 Physical infrastructure development

In Chapter Three, the linkages between large-scale mining, infrastructure development and rural poverty reduction were explored in detail. Investment in large-scale mining stimulates the upgrading of physical infrastructure, which would support the economic activities of the locals. The development of the road network for instance, contributes to increased agricultural production and reduces the economic distance, especially in rural areas. It also lowers transportation costs which eventually lead to reduced input and market costs for farmers (de Ferranti et al., 2005). However, in practice, the causal linkages promulgated are difficult to realise as observed in the case of Kansanshi mine. Field findings revealed in Chapters Six and Seven show that infrastructure development in the communities studied is either missing or is not relevant to the needs of local people. Details of such mismatch are presented in the following sections:

The road network

The opening of Kansanshi mine stimulated the paving of Solwezi-Kipushi road, which links Zambia and the Democratic Republic of Congo (DRC). Prior to the opening of the mine, this road was in a bad state such that reaching the border post took not less than three days although it is just about 50 kilometres away. The wear and tear costs on the part of vehicles were also very high and only heavy-duty vehicles used this road, which

would damage it further. However, since the mine opened, the government has also moved in to maintain this road as a way of promoting cross-border trading between Zambia and the DRC. The improved condition of the road has also reduced travelling costs such as time spent as well as wear and tear. This has facilitated the transportation of agricultural produce such as maize, beans and sweet potatoes from the Zambian side to DRC where the returns are higher. Notwithstanding the upgrading of this trunk road linking the two countries, the feeder roads at local level, which are more important to the rural economies, have not been attended to.

As underscored in Chapters Six and Seven, the community of State Ranch does not have an access road which can link them to the outside work. The road that connects the community to the outside world is not paved and cuts through the thicket of the forest with wheels of the vehicles marking its width as shown in Figure 6.7. Even the bridge constructed across the Kifubwa road is a misfit as it does not serve the interests of the community. Kansanshi Foundation contracted a company to erect a foot-bridge of 2 metres wide and 6 metres long (as shown in Figure 7.4), which cannot accommodate the smallest vehicle, let alone an ambulance. The project leaves out a water-logged area covering about 350 metres wide, which requires culverts that would connect the community to the bridge. This means that the community automatically gets cut off in the rainy season and people have to wait until the water has subsided for them to reach the bridge and connect to the outside world. Technically, the community does not have easy access to markets, health centres, and education facilities in the rainy season.

Market shelters

Fieldwork findings presented in Chapters Six and Seven revealed that none of the four communities studied had access to market shelters where traders can take their merchandise. The existing makeshift structures as shown in Figure 6.9 fall below minimum hygienic requirements. Despite having a lot of people engaging in market-based activities as a way of coping with the transforming local economies, neither the mining company nor the government supported the initiatives of local people by constructing standard market shelters. Instead, the mining company under Kansanshi

Foundation refurbished the town centre market and approved the construction of a new market shelter in Kyawama Township, which are beyond the reach of rural people.

It is evident as discussed through section 8.2 that the development of the Kansanshi mine opened up numerous economic opportunities, which had the potential to impact on the livelihoods of local people. However, a further analysis revealed that most of the opportunities are concentrated in categories that are beyond the scope of local people. The ability of local people to participate in new economic opportunities is highly dependent on their capabilities.

8.3 *Microeffects on capabilities*

The presence of a large-scale mine in an area has potential to increase the capabilities of local people through a diffusion of skills provided to miners. As underscored in the conceptual framework in Chapter Three, mining companies may train local suppliers and contractors; may provide support to social services (Weber-Fahr et al., 2002) and even work on infrastructure that can support the livelihoods activities of the local people. In this section the researcher thus explores whether or not the presence of Kansanshi mine has increased the capabilities of the local people to pursue their own livelihoods.

8.3.1 Training local suppliers and entrepreneurs

According to Kansanshi development agreement summarised in Chapter Four, the mining company is not obliged to train or lend money to any person or organisation as a way of building capacity for them to do business with the mines (Government of Zambia and Kansanshi Mining Plc, 2001). The mining company further negotiated for provisions to alter the training and human resources management programme so that they engage only staff who that are already qualified and require minimum training on the job. It is difficult for the mine owners to build capacities of local people through skills-transfer due to the system being used in providing services to the mines. The officer interviewed at Kansanshi mine put it this way:

> when the labour broking system was being used, the brokers would provide labourers and the mining company did the supervision, but this time around, the works are

subcontracted and it is up to the contractor to mobilise the workforce and do the required job to specifications (Environmental Officer, 2007).

Whereas other mining companies like Lumwana mine's Equinox Minerals (located 100 km west of Kansanshi mine) and Konkola Copper mines on the Copperbelt are sponsoring students studying mining engineering at the universities in Zambia, Kansanshi mine does not offer any scholarships to students. Instead, the mining company offers internship opportunities for students studying relevant programmes. GRZ equally as a partner in development has not devised any deliberate effort to offer tailored courses at its Solwezi Trades Training Institute to meet the needed skilled manpower at the mines.

8.3.2 Supporting social service provision

The opening of a large-scale mine in an area can lead to enhanced capabilities of the local people through improved health services and education facilities (Weber-Fahr et al., 2002). If the mines are not directly involved in providing these social services, at least their presence would indirectly influence both private and public service providers to improve the quantity and quality of service provision. Improving people's education levels gives them opportunities to participate in economic activities, which improves their well-being. Similarly, improving their health conditions gives them ability to engage in productive activities as people are more productive when they are in good health.

Health service provision

In the case of Kansanshi mine in Solwezi, the mining company has supported government efforts in providing both health and education services. According to the information obtained from the Solwezi District Health Management Team (SDHMT) and Kansanshi mine, the mining company has been supportive in programmes such as malaria control and children's mass vaccination campaigns against preventable diseases which include measles, and polio, and the provision of vitamin A supplements. Other programmes supported directly include cleaning of the township under the public health campaign, and refurbishment and equipping of the Solwezi General Hospital mortuary.

The mining company is also running an HIV/AIDS programme known as CHAMP[44], which is aimed at sensitising both the locals and mine workers on issues surrounding the pandemic. In terms of the emergence of private health service providers, the presence of Kansanshi mine led to the opening of a private hospital in Solwezi known as Hiltop Hospital. In fact, mine workers hold medical schemes with this hospital, which also caters for their families. The opening of this private hospital has broadened the health services base in the district, which gives residents a wide variety of service providers to choose from (in addition to private and public facilities that existed before).

However, despite the direct and indirect positive contribution of Kansanshi mine to the provision of health services in Solwezi, there are shortfalls that can be identified. Firstly, most – if not all – of the programmes outlined above are biased towards the urban set up and no attention is paid to the rural communities, especially those living close to the mining area. According to the field findings from among community members presented in Chapter Six, almost all the participants revealed that they are given only paracetamol and malaria drugs when they visit clinics. Consequently, a staggering 76 per cent revealed that they resort to using herbal medicine or do not take anything at all in the event that they failed to buy the prescribed drugs. This development undermines the health status of such people and their capabilities to engage in productive activities.

Secondly, investment in the health-related infrastructure by both the government and the mining company is minimal. There has been an influx of people into Solwezi, who have been pulled by the perceived opened up opportunities. These people have to rely on the infrastructure base that was developed to cater for a small population, so that now the facilities are overstretched, causing congestion. As one respondent highlighted in Chapter Seven, people resort to waking up at dawn to queue up only to be seen by a Clinician after 2 o'clock in the afternoon. Despite all this pressure on existing infrastructure, the Provincial Minister revealed that the government has no deliberate policy put in place to develop the infrastructure base to match the growing demand for services. Otherwise any

[44] CHAMP is an acronym for Comprehensive HIV/AIDS Management Programme, which is supported by USAID.

funding has to be based on the current financing system, through the annual budget allocations according to provincial ceilings. Nonetheless, about 47 per cent of the rural residents – especially in communities surrounding the mining area – spend three hours and more to get to the nearest health facility. In the case of the relocated community in State Ranch, their nearest health facility is about 35 kilometres away.

Education facilities

Kansanshi mine under its Kansanshi Foundation has been supportive of the education sector. According to the Foundation's coordinator, Emmanuel Chihili, the mining company through the Foundation had spent over ZMK1 billion (equivalent to US$263,157 at the exchange rate of US$1 equals ZMK3,800) in constructing and refurbishing schools in Solwezi district (Mulaliki, 2007). Some of the beneficiary schools are Kikombe in town and Kimakolwe located miles away from Solwezi town and the mining area. The Foundation also upgraded Vision Community School by building infrastructure such as a block of three classrooms plus two dormitories.

The observations made in the pattern of support for health services are similar for those under the education sector. The Kansanshi Foundation has spent over ZMK1 billion on schools that are located in communities that had not been directly affected by the mines' operations. Meanwhile, the mining company moved people to State Ranch and 'dumped' them there without constructing even a simple school structure to cater for the school-going children. Schools in town thus received support at the expense of communities like State Ranch where children cover an estimated 8 kilometres to the nearest school traversing through the forest.

8.4 *Microeffects on security*

As explicitly covered in Chapters Two and Three, vulnerability and security are a function of assets in that the more assets are at one's disposal, the less vulnerable they are and the lesser their asset holdings, the greater their insecurity (Moser, 1998; Narayan et al., 2000). The "risk of livelihood failure determines the level of vulnerability of a household to income, food, health, and nutritional insecurity" (Baro and Deubel, 2006, p.

528). Mining is thus believed to increase the poor people's security by reducing their vulnerability and exposure to risks through higher incomes owing to wages earned from working in the mines or from spillover effects (Weber-Fahr et al., 2002). However, mining activities have also great potential for the local communities living near mining areas to expose them to higher vulnerability and risks through displacement and seizure of natural assets. Mining activities have been cited for fostering induced displacement and dislocation of local communities living in the vicinity of mining areas (Ballard and Banks, 2003). The affected households are subjected to enormous trauma and violation of human rights such that they end up either being exploited as contract labourers who are trapped in perpetual poverty or they reappear in slums of the mining town as squatters (Downing, 2002, p. 7). Development- induced displacement breeds widespread social, economic, and environmental changes which carry along with them consequences that impact on the affected people's livelihoods (Downing, 2002).

Michael Cernea's Impoverishment, Risk and Rehabilitation (IRR) Model[45] identifies Landlessness, Homelessness, Marginalization, Food insecurity, and Loss of access to common property resources as some of the risks that communities suffer at the hands of development (Cernea, 1997, pp. 1572-1576, 2000, p. 14). As Downing (2002) points out, any inadequate measure to mitigate or avoid these risks may generate "new poverty," as opposed to the "old poverty" as the poor people tend to become more poor than before. (Downing, 2002, p. 8) further argues that "measured in terms of daily survivability and human dignity, the loss for the poor, of even a small bit of resource, is devastating". As highlighted in the results Chapters (Six and Seven), it id clear that the opening of Kansanshi mine is no exception to exposing the local communities to some – if not all – of the risks identified above.

[45] "The IRR model captures the socioeconomic contexts of forced displacement and reestablishment. It identifies the key risks and impoverishment processes in displacement as: (a) landlessness; (b) joblessness; (c) homelessness; (d) marginalization; (e) food insecurity; (f) loss of access to common property resources; (g) increased morbidity; and (h) community disarticulation. Conversely, the model suggests that reconstructing and improving the livelihood of those displaced require risk-reversals through explicit strategies backed up by adequate financing" (Cernea, 1997, p. 1569).

8.4.1 Homelessness

Homelessness can be defined as "the loss of house-plots, dwellings and shelter" (Downing, 2002, p. 10). For many affected people, homelessness might be temporary, but in poorly planned and implemented displacements and resettlements, it remains chronic. The problem of new poverty emerges if the loss involves more than the simple loss of a structure (Cernea, 1997; Downing, 2002). "The affected people tend to lose identity and suffer "cultural loss as the symbolic importance of place, in terms of family cohesion and a remembered location for mutual support, not only from the household but neighboring households, is disturbed" (Downing, 2002, p. 10).

The facts on the ground as presented in Chapters Six and Seven concerning the affected communities following the development of Kansanshi mine are not far from the theoretical insinuations of the IRR model. Kansanshi mine displaced a community, which lived in the current mining area and resettled it some 50 kilometres away. As opposed to their counterparts in Ghana's Osofo Mensakrom community residents who were "dumped at a new settlement of one-room houses" (Ayine, 2001, p. 92), the Kansanshi residents were dumped in a new settlement void of any structures in the thicket of the forest. They had to build housing structures on their own and clear fields at their own expense. They had to wrestle with the virgin forest using simple tools such as hoes and axes in preparing their new dwelling places (see Figure 8.2. below).

Figure 8.2 Photograph Showing the Clearing of Farmland in the New Settlement of State Ranch.
Source: Author.

8.4.2 Landlessness

"Expropriation of land removes the main foundation upon which people's productive systems, commercial activities, and livelihoods are constructed. This is the principal form of de-capitalization and pauperization of displaced people, as they lose both natural and man-made capital" (Cernea, 1997, p. 1572, 2000, p. 18). Decapitalisation and pauperisation are perpetuated not only by the loss of land to mining activities, but also as a result of the failure of the displaced to find suitable replacement land (Downing, 2002, p. 9). From the results presented in Chapter Six, it is clear that the communities surrounding the mining area were decapitalised through loss of their farm-land to mining activities. The field findings reveal that 44 per cent of participants who held land prior to the development of the mine had nothing by the time of fieldwork. As for those who held 5 hectares and more before the mine opened, the percentage had reduced from 25 per cent to a mere 5 per cent.

Loss of productive assets to mining activities has impacted negatively on the livelihoods of the affected communities. The local people's capacities to participate in the transforming economies have proved to be limited and one of the reasons is loss of productive assets. As highlighted in one of the sections above, whereas the local people would have intensified their farming activities to feed the growing population in town, the market is being supplied by farmers on the Copperbelt. Landlessness has also posed risks of food insecurity among the affected communities, especially Mushitala.

8.4.3 Food insecurity

Communities that have lost their land are liable to experience reduced food crop availability and are thus prone to undernourishment. Loss of productive assets like land "increases the risk that people will fall into chronic food insecurity, as rebuilding regular food production capacity at the relocation site may take years" (Cernea, 1997, p. 1575). The field findings presented in Chapter Six revealed that the development of Kansanshi mine exposed the local communities to risks of food insecurity. Before Kansanshi mine opened, 91 per cent indicated that they used to grow their own food, but after losing their land to mining activities, only 56 per cent indicated that they still grew their own food.

The field findings further revealed that 70 per cent of the participants who grew their own food prior to the opening of the mine are now buying. Threats of food insecurity in the studied communities compel the residents to spend most of their income on food-related expenditures. According to the field findings presented in Chapter Six, 67 per cent of the participants indicated that they spend their income on a regular basis on food-related items. If expenditures like salt, cooking oil, and sugar are captured, the percentage of participants spending on food-related costs increases to 98 per cent.

8.4.4 Economic insecurity

The opening of Kansanshi mine has led to the transformation of the local economies. The emerging economic giant is offering many opportunities for personal advancement, except for the rural poor of Solwezi. The transforming local economies entail that even the rural poor who live close to the mining town have to move with the tide, even though they have been incapacitated with the loss of productive assets. Kansanshi mine has exposed the local people to economic insecurity by taking away productive systems, which they would have otherwise used to produce goods to sell in the growing market. Even after taking away people's productive systems, the compensation process was flawed. Almost all the research participants in Mushitala indicated that they did not receive their compensation package. The affected households argued that the compensation process was marred with inconsistency and irregularities such that only a small number of people who had their fields in the current golf-course area and those relocated to State Ranch were compensated.

The way the compensation process was handled in Kansanshi is similar to the experiences of some communities in Ghana's Tarkwa district. Ayine (2001, p. 92) revealed that in Ghana, most mining companies either failed entirely to compensate people who lost farms or other productive assets to mining activities, or they paid compensation packages that were neither fair nor adequate. If the compensation process in Kansanshi is compared against Glenn Banks' 'General Framework for Compensation' as applied in Papua New Guinea, it falls below the minimum threshold. Banks (1998) within his compensation framework identifies three major types of compensating the local communities. The first one is where a one-off payment is made as damages for loss

of productive assets such as land, bush, structures and lifestyle. The second one is where the mining company pays an annual rental fee to the hosting community for disturbance to their communal properties and lifestyle. The last one is where the mining company pays a certain percentage of the gross value of mineral production as royalties to the local communities (Banks, 1998, p. 55).

In the case of communities affected by Kansanshi mine's operations, the form of compensation received was a one-off payment to individuals without any annual rental fees or royalties payable to the community as a group. It was made clear by the mining company that it has "*no royalties, liabilities or other payments due to third parties, other than the mineral royalty of 0.6% payable to the Government of the Republic of Zambia" (GRZ)* (First Quantum Minerals Ltd., 2006a). Probably this explains why the compensation process was handled so poorly because the mining company believes it has no obligation of making any payments to anybody apart from the royalties payable to the government – even that one at an insignificant rate of 0.6 per cent of the gross value of minerals produced. Non-compensation of the affected households has undermined their ability to either intensify or diversify their livelihoods activities, which makes them prone to economic shocks and insecurity. One participant who had not received their compensation package by research time put it this way: "we looked forward to compensation packages so that we diversify our livelihoods activities, but up to now we still remain unpaid" (Participant No. 31).

Communities which did not lose land to mining activities like Kyafukuma complained that they are exposed to risks of losing their crops to wildlife that was introduced in the mining area. The animals break the wire fence and end up in the neighbouring community's fields. Though the affected farmers are compensated, the money received may not entirely be spent on food as there are other competing needs that equally need financing. This in a way exposes affected households to many and serious insecurities such as food and economic.

8.4.5 Other potential risks

It was revealed in Chapter Four that the mining company secured water rights on Kyafukuma River until May 2017, which allows the mining company to impound and pump 2,435 cubic metres from the said river in any 24 hour period (First Quantum Minerals Ltd., 2006a). Meanwhile, there are communities downstream that are dependent on this river for a living. Kyafukuma community is known for its agricultural-based activities, especially growing of mixed beans, vegetables, and Irish potatoes. Some of these crops are grown by regular watering and are normally grown along the stream. The impounding and diversion of such high cubic metres of water entails that the communities' livelihood activities downstream that depend on this river are affected negatively. The communities of Mushitala and Kabwela raised environmental concerns of exposure to dust due to heavy traffic frequenting the mining area, coupled with poorly maintained roads. The exposure of local people to dust puts them at high risk of developing respiratory diseases.

The other potential risk that has come with the opening of Kansanshi mine is increased exposure of local people to communicable diseases such as sexually transmitted diseases (STDs) and HIV/AIDS. Catherine Campbell gives an experience in South Africa gold mines where miners migrate from their homes and families to stay close to the mines. In the process, a commercial sex industry springs up, with women coming from all corners of the country to offer services to men who moved without their wives (Campbell, 2000). The experiences in the South Africa mines are not different from what is being experienced in Solwezi. As underscored in Chapter Seven, a commercial sex industry involving local women, some of who were formerly married but divorced because their husbands could not provide their needs after losing farm land and could not find jobs in the labour market has emerged. The changes in lifestyles, which are no longer purely traditional but have been infiltrated with urban mentality has led to moral decay with high levels of promiscuity cited as the ultimate climax. This behavioural change in people's lives puts them at great risk of contracting communicable diseases.

8.5 *Microeffects on empowerment*

In the conceptual framework Chapter (Three), empowerment was defined as "the expansion of assets and capabilities of poor people to participate in, negotiate with, influence, control, and hold accountable institutions that affect their lives" (Narayan, 2002, pp. xviii,14). These institutions are both formal (laws, rules, and regulations championed by the governments, markets, civil societies, and international organisations) and informal such as norms that are upheld by society (Narayan, 2002, p. xix). Investment in large-scale mining is said to empower the locals through increased access to information on issues that affect their livelihoods, and enhanced participation in the opened up economic opportunities (Narayan, 2002; Weber-Fahr et al., 2002). However, investment in large-scale mining has great potential of disempowering local communities in the way mining and land rights are obtained from the governments (Weber-Fahr et al., 2002).

8.5.1 Kansanshi mine and access to information

If the poor people have access to information, they will be better placed to exploit available opportunities, access services, exercise their rights, and hold accountable both the government and non-government actors for their actions (Narayan, 2002, pp. xix,19). In the case of Kansanshi mine, access to information is the prerogative of the state and the mining company. As highlighted in Chapter Seven, the local communities expressed concern at the line of communication adopted by the government and the investor. They feel it has taken a horizontal line (government and the mining company) when it should have been triangular to incorporate the locals who are directly affected by the presence of the mine. The Acting Chief argued that the rapport between the locals and the mining company is not satisfactory. According to the Acting Chief, even the representative who sits in on the mine's board meetings represents the interests of ZCCM-IH or the government as shareholders and not those of local people. Though the mining company has done a lot for the Chief in his personal capacity by refurbishing his palace and subsidising his living expenses, the Acting Chief had this to say: "The chieftaincy is about the people, not an individual Chief. The general populace has not benefited from this mine" (Acting Chief Kapijimpanga).

Even the flow of information between the government and the mining company is not well structured. The Provincial Minister revealed that the interaction between the provincial administration and the mining company is poor such that the government at provincial level does not have much information about what is happening at the mine. It seems the communication ties are much stronger as you go up the hierarchy. Under such circumstances, the rural poor – who are the most affected by the presence of the mine – have no access to information about the mining company's operations. Lack of access to information has disempowered locals in the sense that they have continued to cling to their unrealistic expectations from the presence of the Kansanshi copper mine, which do not conform to conditions under which the mine was developed.

The locals' high expectations are based on their experience with the ZCCM model of mining investment, (discussed in Chapter Four), during the Second Republic before the neoliberalism era when the government owned the mines. The government, through ZCCM, provided services and supported community initiatives in mining communities such as health facilities, road networks, recreation facilities, funding youth development schemes and women's special programmes (Chisala et al., 2006; Fraser and Lungu, 2006). Now that the mines are in private hands, the government has not explained the difference between a privately and government owned mine. This has cost the local communities the chance to utilise the opportunities in whatever capacity they can to either intensify or diversify their livelihood activities and benefit from the presence of the mine. This is the highest form of disempowering that a community can ever experience.

8.5.2 Kansanshi mine and local people's participation

It was argued in Chapter Three under the conceptual framework that poor people and other excluded social groups need opportunities to participate in the decision-making process on issues that affect them (Narayan, 2002). The process followed in Zambia when developing the Greenfield investment in the mining sector has no room for communities' input at an early stage. The Senior Mining Engineer in the Mines Development Department at the Ministry of Mines and Minerals Development revealed that communities are involved only after the mining licence has already been issued. They get involved only when the Environmental Council of Zambia (ECZ) invites public

comments on project briefs submitted by the developer. This kind of consultation has limited effects, especially where such huge projects always affect the rural poor who are incapacitated in a number of ways. Firstly, they would rarely hear about such invitations – which are mainly advertised in the media – as they tend to have limited access to televisions and newspapers. Secondly, the documents are always presented in technical language which is beyond their comprehension (Weber-Fahr et al., 2002) given their low education levels (like the ones observed among local people living near the Kansanshi copper mine in Solwezi.

According to the field findings presented in Chapter Seven, it is clear that the communities that participated in this study revealed that they had no role to play in the investment negotiations for Kansanshi mine. Meetings that were called for local communities were informative rather than consultative as they were meant to inform them that the mine would be opening and the residents were expected to let the investors do their job without any disruptions. The government was also cited as having hijacked the process and assumed the public relations role for FQM Ltd. and made pronouncements about the opening of the mine at political rallies. For some people, they could not differentiate between political rhetoric and a serious development agenda that needed to be handled in a wider consultative process. This suppressed many issues of concern surrounding clarification of expectations of parties involved which should have been spelt out before operations started. However, since the opening of the mine was politicised by the government and its ruling party, all those with genuine concerns about the operations of the mine and what plans had been put in place to mitigate the exposure of local communities to vulnerability land risk conditions, were viewed as being sponsored by the opposition parties to sabotage the well-meaning development programme. This partly explains why the compensation process was patchy – because a proper consultative process was not followed.

The resulting effect of this downplayed consultative process is the inability of the rural poor in the mining communities to participate in the transforming economies as discussed in some sections above. The opening of the mine has disempowered the locals through

their loss of productive systems and leaving them to survive as best as they can in the emerging market economies when their asset holdings and capabilities have been reduced. Neither the government nor the mining company has stepped in with a special programme to empower them either with relevant skills or supporting alternative livelihoods activities, except for a beekeeping programme, which is being undertaken in communities that did not lose any assets to mining activities at all.

8.6 *Conclusions*

In this study the linkages made between investments in large-scale mines and rural poverty reduction were explored taking a case of the Kansanshi copper mine in Solwezi. Theoretically, large-scale mining has potential to contribute towards rural poverty reduction through opened up economic opportunities, enhanced capabilities, reduced exposure to risks and vulnerable conditions, and empowering the locals to participate in decision-making processes on issues that affect their lives. It is clear from the discussions, and analyses made in this chapter that despite the outlined potential benefits that investment in large-scale mining offers, reaping them (benefits) in practice is a challenge.

It was revealed in the chapter that the government's potential to generate a lot of revenue from mining companies like FQM Ltd. is undermined by the pragmatic mining policy that was developed under the influence of neoliberal policy frameworks, favour the investors at the expense of the government and mining communities. The distributional system used by the government also disadvantages mining communities in that the revenue generated goes to the national Treasury and is then distributed by parliament through the national budgets based on factors other than where it came from. With the weak linkages between poverty reduction programmes and the budgeting system, it becomes difficult to establish the causal linkages advanced in theory that investment in large-scale mining leads to poverty reduction through increased funding to poverty reduction oriented programmes. Though Kansanshi mine has created a lot of employment in the district, the local residents have not benefited significantly due to factors such as their limited skills and education levels given the fact that the mining industry is a

specialised sector, which requires high skills levels. Nonetheless, the opening of the mine has led to increased circulation of money, which has acted as an impetus for the locals to diversify or intensify their livelihoods activities. It is evident that the local economy has transformed from typical agrarian to a market economy, where labour productivity has increased and many non-farm activities have emerged, though the infrastructure to support such initiatives still remains undeveloped, especially roads and market shelters.

The mine's impact, either directly or indirectly, on the local people's enhanced capabilities is marginal. The mining company in the development agreement excused itself from getting involved in building the capacity of local suppliers and entrepreneurs through training or assistance with financial capital. Through its social corporate responsibility, either it has not supported the local communities or the projects worked on were located far from the communities that were directly affected by the mining operations.

It was established in the chapter that the opening of Kansanshi copper mine subjected the affected communities to risk and vulnerability conditions such as homelessness, landlessness, marginalisation, food insecurity, economic insecurity, loss of access to common property resources, and environmental risks. Also, the process followed in developing this investment was disempowering for local people, as they were not involved in the negotiation process and as a result have limited access to information that concerns them. The communication channel tends to sideline local communities, which confirms that they had no part to play in designing the flow of information among stakeholders. Inasmuch as the community's minimal benefit from the presence of Kansanshi mine is a function of their own making, they are working in an unsupportive environment and circumstances. The government has failed to reach out to the communities concerned and inform them about the nature of the investment and thus support their efforts to maximise their potential based on their comparative advantage. This negligence exhibited by the government has potential opportunity costs on the part of the local people.

Chapter 9 Conclusions

9.1 *Introduction*

The Zambian economy has been recording positive growth trends over the years since early 2000. The real GDP growth rate has been averaging 5.2 per cent and as of 2006, inflation had fallen to a record single digit for the first time in 30 years (Ministry of Finance and National Planning, 2007). The recorded positive growth performance of the economy is attributed to "the record high copper prices and increased export volumes (Ministry of Finance and National Planning, 2007, p. 6), which is the result of increased investment in the mining sector. However, behind these positive economic figures, there are experiences of local people living near mining areas that remain unheard and unfactored in economic reports and growth models. Thus the aim of this study was to elucidate the experiences of local people living near the Kansanshi copper mine in Solwezi. Applying the sustainable livelihoods framework (SLF), this study explored the central research question:

> *What are the microeffects of large-scale mining on local people's economic opportunities, capabilities, security and empowerment in the case of the Kansanshi copper mine in Solwezi?*

This central question was answered by investigating the following sub-questions, which also shaped the structure of the thesis:

a) To what extent has Kansanshi mine opened up economic opportunities in which local people are participating for a livelihood?
b) To what extent has Kansanshi mine directly or indirectly increased the capabilities of local people of Solwezi to pursue their livelihoods?
c) To what extent has Kansanshi mine reduced the vulnerability and insecurity of the livelihoods of local people?
d) How has the development of Kansanshi mine either empowered or disempowered local people?

As the concluding chapter to the abovementioned study, this chapter will consists of three main sections. The first section is a summary of key findings in relation to the central research and sub-questions presented as highlighted above. The second section contains an analysis of the policy implications of these findings in relation to the Zambian government, the Kansanshi copper mine and the communities studied. The last section of this chapter focuses on potential areas of future research with regard to mining and development.

9.2 *Summary of key findings*

This section presents four major findings of this study in relation to the four spheres discussed in Chapter One. These key findings are summaries as follows:

9.2.1 Available yet unreachable economic opportunities

Although the development of Kansanshi copper mine opened up economic opportunities, most of the opportunities are in areas where local people have low capacity to participation in

There is evidence of a shift in economic activities from purely agricultural-based to market-based. Makeshift market shelters could be seen dotted along the road leading to Kansanshi mine. Local traders sell various items such as vegetables, tomatoes, onions, sweet potatoes, Irish potatoes, and dry fish. Others sell locally brewed drinks called *munkoyo*. These items are strategically placed alongside the road to Kansanshi mine to trap miners, the subcontracted labour force and job seekers. The development of the Kansanshi copper mine was credited with bringing about increased circulation of money in Solwezi, which has helped the locals engage in market-based activities that provide immediate financial returns. There is also a ready market for agricultural produce, crafts and many other items that can attract a market value.

The presence of Kansanshi mine in Solwezi has broadened the scope of the labour market as the locals are able to sell labour. Depending on one's skills level, one can get jobs either in the mines or in subcontracting companies. The unskilled labour force is also

catered for in the construction industry where they can sell their labour as brick/block moulders, bricklaying assistants, and carpentry and plumbing assistants. Due to increased construction activities in Solwezi town, some of the people in outlying areas – including Mushitala and Kabwela – are supplying locally available building materials such as crushed stones and burnt bricks. Heaps of crushed stones could easily be seen alongside the main road and stacks of burnt bricks throughout the communities, waiting for potential buyers. It is clear that people are taking advantage of the high demand for these indispensable building materials to support the growing infrastructure development in Solwezi, especially housing units. Most builders are using burnt bricks for their houses, which has triggered high demand for the commodity such that people are working hard to satisfy the market. Some have gone a step further to start hiring labour for either crushing stones or moulding bricks.

The paved and well-maintained Solwezi-Congo road following the opening of the mine has helped members of the communities studied involved in cross-border trading increase their frequency of doing business. The improved state of the road has reduced the travelling time they have to spend getting to the border as there is reliable transport all the time. Previously where they could take almost 5 days to get to the border post, they now take only about two and a half hours under the current conditions of the road. However, although the improved road has brought about efficiency in doing cross-border trading, it has also brought about increased competition among the traders, which leads to lower returns per trader compared to when only a few of them were engaged (those who could withstand the poor state of the road).

The positive impacts of the development of Kansanshi copper mine on the livelihoods of local people resonate with the experiences of Geita residents in Tanzania. According to the study done by Kitula (2006), the findings were that the development of Geita gold mine "created a multitude of income opportunities for the inhabitants of Geita District" (Kitula, 2006, p. 408). The development of a mine in Geita has created market opportunities for local farmers who have a ready market for the agricultural produce. The ready market is created by the influx of people in search of economic opportunities in the

mining town and thus increase demand for goods and services, which increases opportunities for local people to sell their produce (Kitula, 2006).

The findings of this research and the study done in Tanzania by Kitula imply that development of a mine in an area "significantly contributes to the incomes of local people" (Kitula, 2006, p. 409) that are engaged in agriculture through increased market opportunities. The influx of people also creates a lot of opportunities for market-based activities, which can support the livelihoods of local people. However, the development of a large-scale mine can also undermine the ability of local farmers to tap the opportunity of increased demand for food through displacement and seizure of productive systems ((Kumah, 2006) as has been covered extensively in Chapters Six and Seven.

Despite the positive contributions mining makes towards increased market opportunities for agricultural-based activities, the industry's impact on job creation for local people has been minimal. This is all because the employment opportunities created in the mines and subcontracting companies are beyond the skills-levels of most of the local people. The capital intensive nature of the mining industry (Pegg, 2006) also entails that the number of jobs created are limited. However, the locals in Solwezi argued that their non-engagement in formal employment is not because of their limited skills but rather a function of corruption and nepotism being practised by those responsible for recruiting. Bribery and nepotism were cited as rampant in the recruiting system where one expects to give some kind of inducement in order to be considered for jobs, which the poor villagers who have lost their productive assets cannot afford. The mining company also subcontracted most of the jobs as a way of reducing the workforce, which reduces its financial obligations in terms of remuneration and other statutory requirements. This is a sign that private mine owners are not interested in creating so many jobs, rather their interest is in maximizing profit margins and eliminating all potential liabilities in the process. The experiences of local people in Zambia's mining communities is similar to the Ghanaian experience where "huge investment in the mining sector has not created more jobs for Ghanaians" Kumah (2006, p. 320).

Most of the economic opportunities that have been opened in Solwezi owing to the development of Kansanshi mine are beyond the scope of the rural poor; especially those who lost their productive systems to mining activities. They lost their land, which they could have otherwise used to intensify their agricultural activities and grow enough to meet the growing demand for food in town, but for now food consumed in Solwezi is supplied by farmers on the Copperbelt (Mulaliki, 2008), some 180 km away.

Market accessibility by the households that were displaced and relocated to State Ranch is limited. To sell their produce, they have to either cycle or cover on foot a distance of 50 km to Solwezi town where there is a ready market. Alternatively, they can only sell their produce along the Solwezi-Congo road, which is also 8 km away, hoping the travellers going either to Solwezi or Congo border can be interested in their commodity. Meanwhile prior to their displacement, those people had easy access to the markets. The economic opportunities being offered in Solwezi for the agricultural sector can be tapped only by overcoming the low productivity of the farmers and breaking poor market accessibility (Deininger and Pedro, 2000; Thurlow and Wobst, 2006, p. 617).

Further on, the forward and backward linkages between revenue generated by the central government from mining companies and rural poverty reduction programmes at community levels are weak if not nonexistent. This is because all the revenue generated is held by the national Treasury and is distributed by parliament through the national budget, which is based on provincial or sectoral ceilings that are arrived at through some criteria other than developmental needs and provincial contribution to the Treasury.

9.2.2 Minimal capacity building programmes

Both the government's and the mining company's efforts to enhance local people's capabilities are minimal

From a theoretical perspective, it was expected that Kansanshi copper mine would lead to increased capabilities of the locals through provision of life-skills, social services, and other infrastructure that would support the livelihoods of the locals. It was discovered in this research that the mining company negotiated for conditions that would not compel

them to build the capacities of the locals through provision of life-skills or financial capital to fit in the market economy. Nor does the government have any deliberate plans to build the capacities of the locals through support programmes that would help them to cope with the transforming local economy.

It came out clearly from the field findings and the discussion chapters that investment in the social sectors by both the government and the mining company is minimal. Although Kansanshi mine through the Kansanshi Foundation has supported health, education, market shelters and road network projects, the programmes have been implemented in places that were not directly affected by the development of the mine. The State Ranch community, for instance, was resettled to an area where there were no health and education facilities at all. Meanwhile, the Kansanshi Foundation funded refurbishment of the mortuary unit at Solwezi General Hospital and spent over US$260,000 supporting township schools. Yet the school-going children in State Ranch have to walk a distance of 8 km to the nearest school. Under such conditions, the youngest children stay out of school until they are of age to cover this distance. The older children who manage to go to school attend only intermittently as they cannot manage to cover such a long distance on foot for five days a week. The violation of children's rights to education observed in State Ranch community was also observed among the mining communities of Atuabo and Akontanse in the Tarkwa District of Ghana. Ayine (2001) argued that these two community had had their schools demolished to pave way for mine development. This was done without the mining companies concerned providing alternative schools for the affected children, leaving them without education.

The nearest health centre where this community goes for medical treatment is almost 35 km away. As a result, a visit to the clinic is made only when one is seriously ill and can no longer respond to herbal medicine.

The development of physical infrastructure that can support the livelihoods of the local people, such as market shelters and roads, is either non-existent or it is below or beyond what is relevant for the rural poor. Firstly, the transforming economies in Solwezi have

seen a lot of people engaging in market-based activities, especially among the Mushitala people who are close to Solwezi town. Within the market economies into which they have diversified, they need market shelters – which are nonexistent – to sell their merchandise. In the absence of such structures, local traders use their initiative to erect makeshift shelters (see Figure 6.9), which fall below the minimum hygienic standards. Instead of supporting such efforts of the rural traders, the Kansanshi Foundation channelled its resources towards refurbishment of the council market in town and construction of a new one in Kyawama. Lack of support for market shelters in the communities studied is costing the traders opportunistic buyers, who would have otherwise supported these small businesses.

Secondly, the State Ranch community has no road linking them to the main Solwezi-Congo road. The only access road leading to this community is not paved and can be classified as a track that might have been opened up by the trucks that transported the residents at the time of relocating. It winds through the thicket of the forest with tall grass almost engulfing it. In between the community and where this road ends, there is a stream which lies on a wetland of about 35 km in width (Figure 7.2 & 7.3). The Kansanshi Foundation subcontracted a contractor to build a foot-bridge of about 2 metres wide and 12 metres long across this stream (Figure 7.4). This bridge was an issue of concern among the community as it cannot accommodate the smallest vehicles – only bicycles and motorbikes. Even though the Kansanshi Foundation failed to construct a standard bridge across the Kifubwa stream in State Ranch, it sponsored the upgrading of township roads and Solwezi airport.

9.2.3 Increased insecurity

The development of the Kansanshi copper mine has increased local people's vulnerability and exposure to risks through displacement and confiscation of productive systems

Instead of enhancing the security of people living near the mining area, Kansanshi mine has exposed them to vulnerability and risk conditions. Under the theoretical framework, this research revealed that vulnerability and security are functions of assets in that the

more assets one commands, the less vulnerable one is and the lesser one's asset pool, the greater one's insecurity (Moser, 1998; Narayan et al., 2000). And mining has great potential for exposing mining communities to conditions of vulnerability by confiscating their productive systems, displacing them and bringing other risk conditions such as susceptibility to sexually transmitted diseases (STDs) and other communicable diseases (Weber-Fahr et al., 2002). In the case of Kansanshi mine, the mining company displaced and "dumped" a community in an unprepared area without any basic facilities like health and education services. The other two communities (Mushitala and Kabwela) lost only their productive systems such that their asset holdings cannot support their livelihoods to maximise the opportunities opened up with the transforming local economies. For those who lost their land and other assets, the compensation process was flawed and patchy such that some had not received their dues by the time of fieldwork in May/July 2007 since 2004 when the mining area was fenced.

The taking over of local people's farm land by mining activities has exposed some households, especially those in Mushitala, to food insecurity. These households lost their fields and cannot get jobs in the mine or other subcontracting companies yet they need to eat. It was clear from the field findings chapters that about 70 per cent of the people who used to grow their own food are now buying after losing their fields to mining activities. The affected villages are not only exposed to food insecurity but have also lost their ability to generate income from selling produce. Local people had expected to supply the growing population in town with vegetables and other foodstuffs that could be irrigated, but now they cannot. It is a double tragedy because they cannot get jobs in the mines either. The communities that did not lose their farmland have their crops destroyed by the wildlife that was introduced in the mining area. Though the affected people are compensated, the situation is such that households are exposed to food insecurity as they would definitely spend the money received as compensation on necessities other than food.

9.2.4 Informative consultation process

The process followed in signing the investment contract between the government and the mining company was less consultative and disempowering

The local communities were not involved in the investment negotiations and contract signing, which saw the opening of Kansanshi mine. The meetings called for the involvement of the local people were more informative than consultative as the development agreement between the government and the mining company had already been signed. This nonparticipation of the locals meant that even their expectations from the presence of the mine were not known to either the government or the mining company. The local people's participation was overshadowed by the government and the ruling party's heavy involvement in the pronouncements about the development of the Kansanshi mine. Those who wanted to raise concerns about the place of the local people who would be affected in the process were seen as envoys of the Opposition political parties with deliberate ploys of sabotaging progressive government programmes. This has cost the local communities a lot in terms of maximising the opportunities in which they thought they would have comparative advantage as they have expectations that are far from the context within which the investment is taking place.

This confirms that the local people have little access to information that can help them make informed decisions. From the field findings it was clear that the locals blamed both the government and the investor for not being upfront in sharing information. The communication line is strong between the government and the investor, while the local communities, who are directly affected by the operations of the mine, are left out of the equation. The locals have high expectations based on their experience with mining investments during the first and second republics before the neoliberalism era (under the ZCCM) when the government was the main player in the sector. The profits were ploughed back into the communities to support various community initiatives (Chisala et al., 2006; Fraser and Lungu, 2006). However, the government has not explained to local people the conditions under which the Kansanshi copper mine is operating. This has cost the local communities the chance to tap into the opportunities in whatever capacity they

had to either intensify or diversify their livelihood activities and benefit from the presence of the mine.

9.3 *Policy implications*

This research has revealed that if things are left to chance without deliberate measures being put in place, investment in large-scale mining breeds more costs than benefits for local communities. Nonetheless, the following recommendations are made bearing in mind that Zambia's mineral resource will always be exploited. Even more so as mining development will always play a major role in the Zambian economy, thus there is a need to counter the less than desirable work of mine development.

Firstly, there is the need for the country to revise its investment regulations so that prospective investors conduct a thorough consultative process, which will ensure that the voices of the local people are captured within their investment plans. This will help in reconciling the expectations of both the local communities and the mining companies. This would require a clear separation between politics and development programmes so that issues that concern the parties involved are explored to the core.

Secondly, the government could develop a framework for guiding the compensation process for affected local communities in mining areas. As part of the compensation package, the framework could emphasis the type of services that need to be provided for the displaced communities such as health facilities, education services, road networks, standard housing units and water and sanitation. These facilities must be put in place; either by the government or the mining company, before those communities who are to be shifted relocate.

Thirdly, the government could review its fiscal system to ensure that a certain percentage of the revenue generated from mineral royalties and taxes is channelled back to the mining region. This will ensure that the communities that are directly affected by the mining operations get a fair share of the benefits accruing to the state.

Fourthly, it would be better if the government did not just finance the development of infrastructural base that supports the development of mines such as trunk roads and airports, which facilitate the movement of mining equipment. Instead, deliberate investment in infrastructure that supports the livelihoods of local communities such as feeder roads and market shelters should occur. The government could further increase the capacities of local people by helping them adapt to the transforming local economies. Initiatives such as providing microcredit and agricultural input packs would be a start. Within this context, the government could be more upfront with local people and informing them about the framework within which the mines are developed, rather than 'bragging' about job creation and other opportunities that are generally out of reach of many rural communities. The government could also be more sensitive to the needs of the poor as opposed to overprotecting the interests of the investors.

Fifthly, the government should adapt the models that have worked well in tourism-oriented community-based natural resource management initiatives to allow for the local communities to be shareholders in the mines. This will ensure that dividends paid to the community go towards addressing priority development needs that might not be captured by the national government through the annual budgeting process.

9.4 *Areas for future research*

This thesis has also identified two key areas where future research would be beneficial. Firstly, mining is a sophisticated sector that needs proper coordination and regulation to ensure that all the stakeholders involved receive balanced costs and benefits. A balanced distribution of costs and benefits can be achieved only with a strong government capacity. It therefore becomes imperative to assess the capacity of the Zambian government to coordinate and regulate the sector. If the government can fail to spend in excess of ZMK9 billion (equivalent to US$2.2 million) from the 2007 budget (Sinyangwe, 2008), it becomes questionable whether the government can effectively spend the revenue generated from the sector even if the tax regime were to be revised.

Secondly, social capital was not adequately covered in this research due to limited time in the field and scope of the study. In times of transforming local economies and social structures, it would be worthwhile investigating how local communities' social capital evolves in terms of bridging and bonding in mining communities because local communities in Solwezi have experienced economic and social transformations.

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Appendix 1: Information Sheet

Introduction

Thank you for your interest in the proposed research; this is a research project about rural poverty reduction and large-scale mining.

My name is Kingsley Haanyembe Cheelo and I am in Zambia to do fieldwork for my thesis as a partial fulfillment for a master's degree in development studies. I am a student at Massey University based at Palmerston North campus in the School of Environment, People and Planning enrolled in the Master of Philosophy in Development Studies programme.

The purpose of this study is to understand what the experiences of the local people of Solwezi (especially those living around and near Kansanshi mine) have been following the opening of the mine. These experiences are in the context of the economic opportunities opened, their capabilities to pursue their livelihoods, their security against vulnerability and exposure to risks, and their ability to participate in issues that affect their lives.

I intend to interview a cross-section of individuals living in communities that surround the mine site. These interviews will be followed with group discussions at community level. Relevant public and private agencies that can provide valuable information with regard to issues of poverty reduction and mining will be consulted as well. All my participants must be above the age of 15 years old.

Participant Recruitment

At community level, participants are recruited on the basis that they live near or have lived previously near or in the area currently falling within the boundaries of the mine. At institutional level, participants must be associated with a public or private agency that is relevant to issues of mining and poverty reduction.

Participant involvement

If you are interested in participating in this research, you are invited to spend time with me and are welcome to ask any further questions regarding your participation in the research. If you wish to participate in this research, you will be asked to sign a consent form. You will be involved in one to two interviews, lasting about one hour each, depending on the time you have available.

Participant's Rights

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- *Decline to answer any particular question;*
- *Withdraw from the study (specify timeframe);*
- *Ask any questions about the study at any time during participation;*
- *Provide information on the understanding that your name will not be used unless you give permission to the researcher;*
- *Be given access to a summary of the project findings when it is concluded.*
- *Ask for the audio/video tape to be turned off at any time during the interview.*

Project Procedures

This data will purely be used for academic purposes. The data obtained will only be accessed by the researcher and the supervisors and it will be stored in a secure place. After its use, this data will be held at Massey University for a period of 5 years before it is destroyed. To ensure privacy, the tape-recorded data will be transcribed by the researcher, where necessary with the help of the research assistant(s) who will be required to sign a confidentiality form. Neither identifying details nor your name will be used in any publications or reports.

Project Contacts

Please feel free to contact me or my supervisors if you have any questions about my project.

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Ethical conduct

This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. I am therefore responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you wish to raise with someone other than myself, please contact *Professor Sylvia Rumball, Assistant to the Vice-Chancellor (Ethics & Equity), telephone 00646350524; E-mail: humanethics@massey.ac.nz* .

Appendix 2: Participants' Informed Consent Form

This consent form will be held for a period of five (5) years

I have read the Information Sheet and have had the details of the study explained to me. My questions about the study have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I also understand that I may decline to answer any questions during the interview, and I may request that any comments be taken 'off the record'. I understand that I can answer any question and not be recorded or have notes taken at the time. I also understand that I have the right for the audio-tape recorder to be turned off at any time during the interview.

I agree to provide information on the basis that it will only be used for the purpose of completing the research project. I understand that I will not be identified by name and that I may specify any further degrees of anonymity.

I agree to participate in the study under the conditions set out on the information sheet. I agree/do not agree to the interview being audio taped. I agree to not disclose anything discussed in the Focus Group.

Date:

Signature: .....

Full Name - printed .....

Appendix 3: List of Key informants

A number of key informants were talked to in the light of their strategic relevance and specific contribution to make towards this research.

a) Ministry of Finance and National Planning (MFNP)

The MFNP was asked questions relating to fiscal policies that the government applies in the mining sector to generate revenue and how the revenue generated is linked to government expenditure. There was a need to understand the distributional effects of revenue generated – thus whether there is any percentage that goes back to mining regions after the government has received the revenue from mines in terms of taxes and royalties.

b) Ministry of Mines and Minerals Development (MMMD)

The MMMD provided insights into what kind of mining codes Zambia has in place, why the country settled for such codes and whether they had yielded the benefits that the government anticipated when designing them. The MMMD also provided insights into the regulatory framework that the government has for ensuring that the investors are operating within the provided laws and regulations such as environmental regulatory laws, labour laws, and fiscal policies.

c) The Area Member of Parliament

As a civic leader, the MP's input was necessary in understanding how the interests of the electorates who happen to be the voiceless often times in society are being handled.

d) The Provincial Minister

This official was required to clarify government policy on supporting the economic boom in the region. It was necessary to understand what measures have been put in place by the government to ensure a balanced distribution of benefits to the mining region either in terms of government programmes or social corporate responsibility of the mining company.

e) The District Health Management Team

Getting an input from SDHMT was aimed at have a comprehensive understanding of the micro-effects of the mine towards capabilities and security issues of the locals. There was need to look at the accessibility and quality of the health services. With the high influx of people coming into the region, how far has service provision been stretched and any plans to expand the current capacity.

f) The Labour Officer

The department of labour was relevant in providing an understanding of issues surrounding employment in the mine and other sub-contracting companies. There was need to know the trends in employment levels over time since the mine opened. Issues of interest were: the criteria used in recruiting workers; security of such jobs; any life-skills training programmes conducted by either the mine or the government; any mine training academy for people lacking skills or any tailored courses offered in conjunction with trades training colleges or vocational training colleges.

g) The Deputy Head-teacher at Mushitala

The teacher was approached being elite in society who could provide an independent reflection on how the mine has impacted on the livelihood activities of the locals. It was necessary to talk to this teacher as a way of triangulating the findings from both the focused group discussions and one-to-one interviews conducted.

h) Civil Society for Poverty Reduction (CSPR)

CSPR was approached being an organisation that is active in poverty related activities in the province. I needed an independent input on my research from a civil organisation that has similar interests to my work. Apparently I discovered that CSPR had just finished conducting a mini-assessment on the impact of the mine among the locals equally taking a livelihoods approach. However, though there were similarities with my work in that we both looked at similar communities and even certain issues of interest were similar, CSPR's work had no strong linkages to any theoretical ideologies and even their analytical framework is different from mine.

i) District Commissioner

As head of government at district level, the District Commissioner was needed to provide insights on what process of developing the Kansanshi mine was followed, how the compensation process was handled for the affected households and where the displaced have been relocated to.

j) Kansanshi Mining Plc

The mine was contacted understand the relationship that exists between the mining company and local communities. It was important to understand what initiatives the mining company has introduced in the communities surrounding the mining area as a way of building capacity, even the programmes that are funded by the Kansanshi Foundation.

k) The Royal Establishment for Chief Kapijimpanga

The Royal Establishment of Chief Kapijimpanga was interviewed in order to have an understanding of how much the locals were involved in the signing of mining contracts. It was necessary to get to know how the opening of the mine has changed the livelihood activities of the local people both positively and negatively. There was also need to get to know about the communication relationship that exists among the interested parties, that is the. Government, the mining company and local people.

l) Headwoman Mushitala

Understand the interaction among the players in mining development (the mining company, the government, and local people) from the traditional leadership's perspective, especially at village level.

m) Secretary of the Compensation Committee

As a representative of the households affected by the development of the Kansanshi mine, this participant was important to triangulate information on compensation related issues gathered from the mining company, the government, and locals.

Appendix 4: Interview schedule for community participants

Research question: ***What are the micro-effects of large-scale mining on local people's economic opportunities, capabilities, security, and empowerment in the case of Kansanshi mine in Solwezi?***

1. **Personal details**

a. Sex.....

b. Age.....

c. Education level

Lower Basic □ Upper Basic □ Junior secondary □ Senior Secondary □

Tertiary level □ None □

2. **Livelihoods assets**

i. Human capital

a. Who do you live with?.....

b. If you live with other people, where do they work

Fulltime: Farm □ Mine □ Trading □ other, specify.....

Part-time: Farm □Mine □Trading □ Other, specify.....

c. Do you participate inn any kind of labour exchange? Yes/No

If yes, please specify.....

d. Distance to the nearest health facility (time distance).....

e. What are the staffing levels at the said health facility?.....

f. Are drugs always available to patients? Yes/No

g. If not, what how do you ensure that you get the needed treatment?.....

.....

h. Are there any life skills training offered to you by Kansanshi mine and or government? Yes/No if yes, please specify.....

ii. Natural capital

Prior to opening of the mine

a) How much land did you own? .....

b) What was on that piece of land?.....

c) How far was it located from home (time distance)?.....

d) What kind of crops did you grow on that piece of land? .....

e) How much livestock did you own?

Chicken: .....

Goats: .....

Pigs: .....

Cattle: .....

Others, specify: .....

f) How did you acquire the piece of land you owned in your former place? Private ownership □ clan ownership □ village membership □ Other, specify.....

g) How did women access resources?.....

h) Were there any common property resources?.....

i) What was the mode of access?.....

With aid of mapping techniques, the following information will be elicited:

a. How much land do you own here?.....

b. How far are your fields in time distance from the house?.....

c. What is on the piece of land right now?.....

d. What do you grow fro consumption?.....

e. What do you grow for sale?.....

f. How may of the following kind of livestock do you own here?

Chicken: ..... Pigs: .....

Goats: ..... Cattle: .....

Other, please specify: .....

iii. Physical capital

. Ownership of physical assets that are created through economic activities (e.g. tools, machines). Were they acquired prior to the opening of the mine or after? How were they used then and now?

a. Availability of other physical infrastructure (e.g. roads, electricity, market shelters, etc) and how they are used to enhance livelihoods (e.g. diversification)

iv. Financial capital

a. What are your sources of income?

Regular sources: .....

Emergency sources: .....

Stress periods: .....

b. What are your main items of expenditure?

Regular: .....

Emergency: .....

Stress periods: .....

c. What are your sources of credits?

Family □ Others in the village □ Moneylenders formal lending institutions □

d. What forms of credit do you get? □ Cash □ Food □ Others, please specify: .....

e. Have any savings [cash or resources/assets that can be drawn upon for cash in the future, to build wealth, e.g. livestock]

3. Livelihoods activities

i. Farm

f. crop types and how much income they provide to the participant

g. comparison with past trends prior to opening of the mine

ii. Non-farm

h. Market-based kind of activities

4. **How do livelihood assets, strategies and outcomes change during the year?**
    i. seasonal calendar [stress periods and coping strategies]
    j. compare with situation prior to opening of the mine [reasons for any discrepancies]

5. **Empowerment issues**
    k. Flow of information between the community and development agencies [government and the mining company] on issues that impact on the livelihoods of the local people.
    l. Involvement of the locals in the signing of mining contracts
    m. Involvement of the locals in deciding where goes the revenue generated by the government
    n. Transparency on the expenditure of such funds
    o. Existence of local organizations that work for the rights of the locals to disentangle obstacles of common interest.

6. **Local people's perceptions about the presence of Kansanshi mine**
    i. How has the development of the Kansanshi copper mine positively impacted on your livelihoods activities?
    ii. How has the development of the Kansanshi copper mine negatively affected your livelihoods?
    iii. What do you perceive to be the main problem behind your non-maximisation of benefits from the presence of the mine?

&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&

[Twasanta kya kine pa kimye kyenu]

Thank you so much for your time