

EFFECTS OF STRUCTURAL ADJUSTMENT PROGRAMS IN THE MINING INDUSTRY ON
WOMEN IN ZAMBIA

By

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THESIS

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Abstract

Notwithstanding the many claims about the advantages of extracting minerals and about the level of demand for these commodities, the existing literature has shown that Zambian mines rarely benefit their host communities. This study details the challenges and opportunities perceived by women who work and live in the Kalulushi and Kitwe mining communities of Zambia. Drawing on contemporary Marxist feminist theory and on transnational feminist theory, a qualitative research design was applied whereby in-depth interviews were conducted with 18 women from the Kalulushi and Kitwe mine communities with the goal of assessing the challenges and opportunities perceived by these women, whether as formal or informal mine workers, or as homemakers. The findings show that, while some of the interviewed women have been negatively affected by Structural Adjustment Programs, others state that they have not been impacted at all. As such, this study points towards areas for future research.

Glossary

AIDS	Acquired Immune Deficiency Syndrome
ACC	Anglo American Corporation
AZWM	Association of Zambian Women in Mining
BSAC	British South Africa Company
CEC	Copperbelt Energy Corporation
DAS	Development Agreements
GAD	Gender and Development
GDP	Gross Domestic Product
HIPC	Heavily Indebted Poor Countries
HIV	Human Immunodeficiency Virus
ILO	International Labour Organization
IMF	International Monetary Fund
LME	London Metal Exchange
MMD	Movement for Multiparty Democracy Party
NIEO	New International Economic Order
OSISA	Open Society Initiative for Southern Africa
RST	Rhodesia Selection Trust
SADC	South African Development Community
SSM	Small-Scale Miners
TNCS	Transnational Corporations
UN	United Nations
UNIP	United National Independence Party
UNECA	United Nations Economic Commission for Africa
WB	World Bank
WHO	World Health Organization
ZCCM	Zambia Consolidated Copper Mines

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1. INTRODUCTION

At the time that the Structural Adjustment Programs were introduced, I was working at the Finance Building Society in Lusaka, Zambia where I held a position that required me to assist with new account openings. Through this position, I had the opportunity to meet with a steady stream of miners who had been laid off as a result the restructuring of the mining industry imposed by the IMF and World Bank. While helping these miners to invest their severance pay, it struck me as odd that only men were flocking into the bank to open long-term accounts. This observation sparked within me an interest to undertake this study as it begged two important questions. Are there any women working in the mines and, if there are any, what do they do?

1.1 Statement of the Research Question

The rise in the number of transnational mining corporations investing in developing countries has opened up serious debate on whether mines actually are beneficial to these countries (Mususa, 2010). This study details the challenges and opportunities perceived by women who work and live in the Zambian mining communities of Kalulushi and Kitwe. Despite the many claims about mineral wealth and the global demand for minerals, mines have not benefited Zambian communities as most of the health and social services that mining investors promise to contribute to the community never materialize; serious poverty is the result (Fraser, 2010). According to the United Nations Economic Commission for Africa (UNECA) (2014), the loss of land or the displacement that results from extractive activities lead to loss of livelihood, environmental damage and degradation, and the absence of equitable and inclusive policies. Zambia is a landlocked country located in the southern part of Africa (Figure 1) with a

population of approximately 14.54 million (World Bank, 2013). It is a country that is particularly rich in mineral resources, with copper mining being a major source of exports and revenue.

Figure 1: Map of Zambia



Source: *Zambian Provinces Website* (<http://www.zambian.com>)

This study focuses exclusively on women in Zambia's mining industry and surrounding communities because most of the existing literature is gender insensitive. Of particular importance is this study's attempt to determine how women in the Kalulushi and Kitwe mining communities have been affected by Structural Adjustment Programs. Structural Adjustment Programs are defined as lending policies, supervised by the World Bank (WB) and the International Monetary Fund (IMF), that offer emergency financial help to countries like Zambia that are struggling to make payments on their national debt (IMF, 1999; Zawalinska, 2004). In order to qualify for these loans, Zambia was required to privatize all state-owned companies, including its major conglomerate, Zambia Consolidated Copper Mines (ZCCM) (Fraser, 2010; Larmer, 2010). Privatization led many companies, including mining companies, to downsize or close, which resulted in massive job losses and, in turn, nationwide poverty (Touwen, 1996; Zawalinska, 2004). Rezapour, Zeynali and Shavalizade (2014) define privatization as the "process of transferring ownership of a business, enterprise, agency, public service, or public

property from the public sector (a government) to the private sector, either to a business that operates for a profit or to a non-profit organization” (p. 1).

Structural Adjustment Programs have been widely blamed for weakening Zambia and diminishing its capacity to lift itself and its citizens out of poverty (World Bank, 2000). Unfortunately, these programs have impacted the Zambian mining industry significantly and have left the country poorer than before, especially through the requirement to privatize state-owned mining companies and the resulting downsizing or even closure of those mines (Touwen, 1996). According to Lahiri-Dutt (2011), Zambian mining has a troubled history and a “problematic relationship with economic development” (p. 1). As such, this study highlights how Structural Adjustment Programs have impacted various women in the mining communities of Kalulushi and Kitwe. This study also reports on the perceptions of the economic opportunities available to women in these mining communities and on female homemakers’ daily and weekly activities.

1.2 Rationale

This study highlights the challenges experienced and the coping strategies employed by women in the Kalulushi and Kitwe mining communities in the context of formal, informal or unpaid work. On the one hand, Klapper, Amit, Guillén and Quesada (2007) define formal work as encompassing all jobs with regular working hours and wages on which tax is paid and for which worker entitlements are protected. Kucera and Roncolato (2008), on the other hand, define informal work as “production that takes place in unincorporated, small and/or unregistered enterprises” (p. 323). Woods & Sorenson (1979) define a homemaker as a person whose main responsibility is to take care of the family and home without pay.

Touwen (1996) asserts that mining has been portrayed as being risky and only suitable for men. Although the employment of women in the Zambian mining industry is a relatively new phenomenon, a few women in the Zambian mining industry hold positions as mine workers and as mine owners and less often as managers within large mining corporations (Dreschler, 2001). A mining activity of particular importance in the Lusaka region involves crushing and selling marble for use in construction, an activity that often is done by women (Dreschler, 2001). While successive reforms have seen the incorporation of women into the Zambian mining industry, this move has not been without challenges (Touwen, 1996). The introduction of women into Zambian mining has challenged the male gender stereotype and has created new problems for female mineworkers, mines and unions (Murray & Perez, 2010). On December 2, 1964, Zambia ratified the International Labor Organization Convention of 1935 (No. 45) which read, “No female, whatever her age, shall be employed in underground work in any mine.” The decision to ratify this convention eventually was denounced by the Zambian government on March 3, 1998, and consequently, Zambian women were granted the right to work in underground mining (ILO, 2012).

This study highlights the greatest challenges faced by women in Zambian mining communities when they try to occupy male-dominated formal and informal positions in order to earn a normal living. This study provides insight into what transpires in women’s lives when they have no alternative but to take up the only available occupations in order to support their family. Despite the continued importance of gemstone mining, there is only limited evidence of women’s participation in the Zambian mining industry (Hinton, Veigi & Beinhoff, 2003). Partly in response to this lack of documentation, this study looks at women in the Zambian mining

industry, specifically women in the Kalulushi and Kitwe mining communities. Hinton et al. (2003) state that “women in mining communities are critical to the community stability, cohesiveness, morale, and general wellbeing, and act as primary agents in facilitating positive change” (p. 8). The findings on women in the Zambian mining industry provide specific background information on the psychological and biological challenges experienced by women working in this context. According to Moodie (1994), “Mining is hard labour under conditions of extreme discomfort, deafening noise, intense heat and humidity, and cramped space exacerbated by tension stemming from the need to watch constantly for signs of potential hazard” (p. 16). Thus, the study provides information about actual experiences of women in the Zambian mining communities that have resulted from the introduction of Structural Adjustment Programs and from the pollution and environmental degradation associated with this industry.

1.3 Research Objectives and Question

While some research has already been done on the Zambian mining industry, very few studies have been gender specific (Volksen, 2009). This study adds to the body of literature on the Zambian mining industry’s impact on women by highlighting areas of concern to women who are working in formal and informal mining occupations and as homemakers. The research analyzes gender inequality in the Zambian mines in order to gain a more complete understanding of the types of work that are assigned to women and of the arguments that are used by those who attempt to justify inequality. According to Hinton et al. (2003), women involved in mining in developing nations are heavily represented in arguably less physically demanding occupations like sieving, sorting, washing and transporting minerals. They further state that, in addition to performing domestic chores, women predominantly provide goods and services in the

community and take up other jobs to supplement their income (Hinton, 2005). The study sought to uncover the impact of Structural Adjustment Programs on women in mining communities by addressing the following research question: What are the challenges and opportunities perceived by women who work and live in the Kalulushi and Kitwe mining communities?

1.4 Thesis Overview

This thesis has seven chapters. The first chapter briefly provides the focus of the study, the statement of the research question, the rationale for the study, and the research objectives and research question. This chapter also highlights the significance of the study. The second chapter provides a review of the existing literature through four subsections under the following subtitles: Historical Overview of Zambia's Mining Industry, Liberalization of the Zambian Mines, History of Women in Mining in Zambia, and Mining Environmental Degradation: Sustainability and Health. Chapter three presents the theoretical framework of the study, which is grounded in Marxist feminist and transnational feminist theories. Chapter four contains a discussion of the methodology, data collection and analysis, while chapter five details the findings of the study. Chapter six discusses the findings related to the challenges and opportunities perceived by women living in Kalulushi and Kitwe mine communities as formal mine workers, informal mine workers and homemakers. Chapter seven offers conclusions, practicalities, limitations and research dissemination and suggests areas for future research.

2. LITERATURE REVIEW

The aim of this project is to examine the impact of Structural Adjustment Programs on women who work and live in Zambian communities that depend on the mining industry. In order to shed light on the history of Zambian mines and on the lives of women in the mining industry, four elements were considered:

- 1) Historical overview of Zambia's mining industry
- 2) Liberalization of the Zambian mines
- 3) History of women in mining in Zambia
- 4) Mining environmental degradation: Sustainability and health

2.1. Historical Overview of Zambia's Mining Industry

An understanding of the historical background is essential for properly assessing the current situation of the mining industry in Zambia. The establishment of copper mines in 1920 transformed Northern Rhodesia into one of Africa's most important producers of valuable minerals (Larmer, 2010). The discovery of mineral deposits in Zambia started in the northern part of the country which later came to be known as the Copperbelt due to the world-class copper deposits found in the area (Limpitlaw, 2011). The Copperbelt emerged as a mining region in 1929 when Cecil Rhodes and his British South Africa Company (BSAC) secured mineral prospecting rights and uncovered massive copper deposits (Fraser, 2010). The Copperbelt Province of Zambia includes the towns of Ndola, Kitwe, Kalulushi, Chingola, Luanshya and Mufulira (Fraser, 2010).

The BSAC's detailed knowledge of the region's mineral potential enabled it to develop a concentration of industrial and urban development to the extent of transforming entire areas and

providing paid jobs to 30,000 men (Larmer, 2010). It should be noted that colonial legislation forbade the hiring of women in the mining industry in Africa, which was only open to men (Mwenechanya, 2009). The hired men were housed in new towns and thus were shifted from subsistence living to paid labour and the money economy, a move that led to a rise in their social status (Fraser 2010; Larmer, 2010).

Although insufficient capital investment and World War II slowed the growth of Zambia's mining industry, by the time of the country's independence in 1964 a large copper-mining complex had been developed in the region surrounding the five major towns mentioned above, all of which had become heavily dependent on mineral extraction (Limpitlaw, 2011). After Zambia gained independence from the British, the political discourse shifted to how the government could best use mining revenue to achieve sustainable development (Mwenechanya, 2009). The ruling party at the time, the United National Independence Party (UNIP), was accused by the opposition Movement for Multiparty Democracy (MMD) of diverting mining revenues to political activities (Larmer, 2007). Consequently, in the early 1960s UNIP took charge of the mine-workers' union in order to control wages, a move that sought to ensure that funds from mining were directed towards national development (Fraser, 2010; Larmer, 2010). In this regard, mining companies worked collaboratively with the state to curtail and suppress mine workers' demands for better working conditions and salaries (Fraser, 2010; Larmer, 2010; Mwenechanya, 2009).

By 1969, the mining industry was booming to such an extent that Zambia was ranked as a middle-income country with the highest per capita Gross Domestic Product (GDP) in Africa (Adam & Simpasa, 2010; Fraser, 2010). Income from the mines went into subsidizing urban

consumers, state companies, education and the health-care system, as well as other national development priorities (Adam & Simpasa, 2010; Fraser, 2010). Despite the seemingly beneficial and equitable distribution of mining proceeds, the mineral-selling practices inherited from the colonial era proved to be unsustainable for the Zambian economy (Fraser, 2010). Foreign mining companies remitted the profits to their own countries, leaving Zambia with little benefit (Hugland, 2010). Believing that it had found the best way to control mining proceeds, between the late 1960s and the early 1970s the state nationalized all of the mines owned by Rhodesia Selection Trust (RST) and Anglo American Corporation (AAC) (Mwenechanya, 2009). Zambia's mining industry has since undergone multiple changes, most of which have demonstrably worsened people's living standards (Mwenechanya, 2009). The rise in oil prices at the end of 1973 was followed by a global recession that caused a serious and long-term decline in international metal prices as quoted on the London Metal Exchange (LME) (Larmer, 2007). At this time, Zambia's ruling president, Kenneth Kaunda, came to the conclusion that the LME price quotes were unfair as they did not benefit most of the copper-producing countries that formerly had been colonized by European powers. As such, he worked in consultation with other leaders of copper-producing countries to campaign for the New International Economic Order (NIEO), which was a set of proposals to establish a cartel for fixing prices and quotas (Fraser, 2010; Bhagwati, 1977). According to Looney (1999), NIEO is an "18 clause document that seeks certain changes in the international system that would allow less-developed countries an opportunity to build their way out of the never-ending cycle of poverty" (p. 1). Looney (1999) lists the main clauses as follows:

- The adoption of an integrated approach to price supports for an entire group of developing-country commodity exports

- The indexation of developing-country export prices to tie them to rising prices of developed countries' manufactured exports
- An increase in official development assistance to reach the target of 0.7 percent of the Gross National Product (GNP) of each of the developed countries
- The linkage of development aid with the creation of the IMF's Special Drawing Rights (SDRS)
- The negotiated redeployment of some developed countries' industries to developing countries
- The reduction of tariffs on the exports of manufactures from developing countries
- The development of an international food program
- The establishment of mechanisms for the transfer of technology to developing countries that are separate from the mechanisms for direct capital investment (p. 2)

The general understanding of NIEO at the time was that the global economy was structured in a way that promoted the aggressive extraction of minerals from developing countries with the objective of enriching the developed countries (Fraser, 2010; Merchant, 2005). Although Kaunda envisioned member countries coordinating mineral prices in unison, the group was divided on how they should deal with the issue of decreasing mineral prices (Fraser, 2010). As such, the inability of developing countries to collectively negotiate for change led to the failure of NIEO (Murphy, 1984). More than 80 percent of copper-producing countries continue to use the LME for their metal trading and price-risk management (Rothstein, 1979; IMF, 1999).

The Copperbelt has continued to be the major producer of copper and other metals in Zambia. The historical record indicates that the exploitation and impoverishment of poor nations has continued for many decades and is resulting in environmental degradation, including the loss of clean water and arable land (Larmer, 2010).

2.1.1 The “Boom and Bust” Mining Economy

The “boom and bust” nature of the mining economy has a long track record as an effective indicator of whether some mines will remain open or will close (Fraser, 2010). Simpasa

(2010) defines a “boom” mining economy as a period when world mineral prices are rising and there is optimism that host communities will benefit from the opening of new mines in terms of job creation, capital infusions and improved infrastructure. Similarly, he defines a “bust” mining economy as a period when prices are falling, production is slowing down and mines are closing to the extent that there is massive unemployment and serious poverty (Simpasa, 2010). Before the introduction of Structural Adjustment Programs, “booms” in the mining industry created substantial wealth for the Copperbelt communities, as was reflected in the influx of cars, fashionable restaurants and European-style nightclubs (Larmer, 2007). Evidently all these luxuries, which were negotiated between the government and the union leaders, could only be sustained for as long as copper prices remained high.

Mining towns enjoyed a wide variety of luxuries that included free services and items from the state such as housing, education, electricity, water, food, transportation and even free diapers (Fraser, 2010; Larmer, 2007). The 1979 decline in the price of copper triggered an unexpected general slump in the Zambian economy that created huge budget deficits that forced the country to borrow from banks and international donors in order to continue providing the expected level of social services (Gewald & Soeters, 2010). The 1979 oil crisis pushed up interest rates, sending Zambia into a serious debt crisis that has persisted to the present day (Fraser & Larmer, 2010; Larmer, 2007). Needless to say, this debt crisis was the origin of Zambia’s economic recession which arose from the collapsed terms of trade and from the country’s inability to acquire capital funds (Fraser, 2010; Larmer, 2010). The state had no choice but to consider economic liberalization under the supervision of the WB and the IMF (Gewald & Soeters, 2010).

The sudden boom between 2004 and 2008 raised copper prices and brought hope for a better and improved economy (Fraser, 2010; Larmer, 2010). Given the fact that the national economy was hugely dependant on copper, the rise in prices between 2004 and 2008 left economists pondering what would be the best way to ensure long-term benefits for the country (Larmer, 2010). The periodic booms and slumps in mining have opened up dialogue on the need for the Zambian economy to diversify into agriculture and other areas in order to overcome the heavy dependence on copper (WB, 2002; Larmer, 2010). Although Sears (2005) acknowledges the importance of diversification, he argues that there is a need for increased investment in copper mining in order to generate the revenues required to support diversification. Mwenechanya (2009) argues that calls for diversification are only made when there is a slump in the price of copper, an observation that might suggest that the state is not fully prepared to develop the rural communities where most agriculture takes place. Historically, the evidence indicates that rural development in Zambia has been sidelined during mining-induced economic booms (Larmer, 2010; Fraser, 2010).

Fraser (2010) and Larmer (2010) report that, contrary to previously held beliefs, Zambia has enough copper, cobalt and other minerals to last up to the end of the century. Therefore both scholars view the imposition of the Structural Adjustment Programs as a scandal that has impoverished and de-industrialized the country and has fuelled corruption (Fraser, 2010; Larmer, 2007). The economic opportunities for women were curtailed as many companies closed or downsized after the introduction of these programs (Dzodzi, 2013). Many theorists contend that Zambia was doomed from the beginning of the Structural Adjustment Programs because the suggested privatization policies had not previously been tried elsewhere (Touwen, 1996).

Therefore, neo-liberalism has been critiqued for imposing a one-size-fits-all, free-market model of development (Mwenechanya, 2009). Privatization led to the Zambian government becoming disoriented as a result of the sudden policy shifts between significant government intervention in the economy and extreme deregulation, as well as between the raising and lowering of mining taxes (Adam & Simpasa, 2010). Privatization was combined with the pressures associated with bailing out struggling mine owners and becoming dependent on foreign donors (Adam & Simpasa, 2010). Moreover, it should be acknowledged that “booms” and “busts” in mining are not easy to predict as mineral prices are constantly fluctuating on the world market. In addition to seeking to understand the impact of Structural Adjustment Programs on women in the mining industry in Zambia, I sought to understand the economic opportunities that are available to women in mining communities in a “boom and bust” mining economy.

2.2 Liberalization of the Zambian mines

The liberalization of the copper mines was a result of the Zambian government’s struggles to make payments on the nation’s debt (Hugland, 2010). Recommendations were made by the World Bank and the IMF for ZCCM to be split into five components and then to be sold in order for Zambia to qualify for Heavily Indebted Poor Countries (HIPC) debt relief (IMF & WB, 1999). One of the other major recommendations for funding stipulated by the World Bank and the IMF was for Zambia to change to a democratic, multiparty system of governance in order to promote transparency (Larmer, 2007). Thus, disgruntled, laid off mine workers, through their unions, played a major role in ending the one-party political system, which transitioned into a multiparty democratic system in 1991 (Fraser, 2010; Larmer, 2010). From 1984 onwards, the donor community has imposed free-market policies encompassing trade liberalization,

investment deregulation, privatization, the abolition or curtailment of subsidies, the reduction of the government labour force, wage freezes and reduced government intervention in the agriculture sector (Gewald & Soeters, 2010). Although the six World Bank and two IMF loans obtained between 1991 and 1996 involved various kinds of restructuring, the most significant condition was the sale of ZCCM (Larmer, 2007).

Fraser and Larmer (2010) argue that the privatization of ZCCM between 1997 and 2000 was hasty and ill-conceived as it entailed a serious looting of state assets and, as a result, the creation of high debt and extensive poverty. They further state that Zambia's dependence on foreign aid and debt relief was used as a tool to induce the government to enact laws that favoured international mining investors (Fraser & Larmer, 2010). These claims are explicitly reflected in the removal from the *Investment Act* and from the *Mines and Minerals Act* of previously enforced regulations and rules governing corporate behaviour (Gewald & Soeters, 2010; Fraser, 2010). With the stated goal of eradicating poverty, the World Bank and the IMF imposed on investors and the government a free-market model that defined the responsibilities of each party (Mususa, 2010). Investors were to be responsible for capital investment and job creation, while the state was to create an enabling environment that would include maintaining low taxes and only minimally regulating labour, health, safety and the environment (Adam & Simpasa, 2010; Bush, 2010). Even though this approach might have appeared to be evenly balanced, most of the agreements that the government entered into had stability clauses that were designed to safeguard the policies made in relation to these agreements for 15 to 20 years (Larmer, 2007). As a result, Zambia suffered significant losses because the investors were not paying any taxes, but instead were remitting all of the profits to their own countries and thus

were preventing the state from benefiting from any of the “booms” (Hugland, 2010; Adam & Simpasa, 2010). Also negatively affected were the Zambian mining suppliers who lost business because most investors opted to rely on suppliers located abroad due to quality and pricing preferences (Hugland, 2010; Adam & Simpasa, 2010; Larmer, 2010).

While the World Bank and the IMF are reportedly pleased with the effects of privatization in Zambia, it has been argued that the methods used to measure these effects create an unrealistically positive impression as they do not take into consideration the ways in which Zambian workers and communities have been impacted by Structural Adjustment Programs (Gewald & Soeters, 2010; Mwenechanya, 2009). As such, Gewald and Soeters (2010) contend that the Structural Adjustment Program policies were based on faulty assumptions that Zambia was only investing in urban areas and had encouraged urban migration while ignoring rural areas and agricultural development. Donor policy makers and financial institutions state that what they viewed as an urban bias was hindering economic growth and was preventing rural areas from developing (Gewald & Soeters, 2010). Gewald and Soeters (2010) argue that the Zambian urban population had been decreasing, especially in the Copperbelt, long before the era of Structural Adjustment policies.

Generally speaking, life in the Copperbelt deteriorated after the privatization of ZCCM, especially because this conglomerate had previously funded hospitals, schools and housing for the surrounding communities (Hugland, 2010). ZCCM had catered to the well-being of the community in many ways, including by providing funding for youth sports and for social and economic development (Larmer, 2010). The privatization of the Zambian economy included the removal of government subsidies for companies resulting in higher costs of production which, in

turn, led to many job cuts with women being laid off first based on the assumption that they had an excessive number of family commitments (Touwen, 1996). Thus, the liberalization of the Zambian mining industry has created a huge gap in social and health-care services and has worsened living standards to the extent that many citizens are questioning whether there are any real benefits to be derived from allowing huge transnational companies to engage in extractive activities in communities in which the owners and managers have no personal interest (Touwen, 1996). Yet, despite much criticism, the World Bank and the IMF still contend that the introduction of Structural Adjustment Programs was the best way to correct and sustain impoverished economies in Africa, even though these policies had not initially been tested elsewhere (Mwenechanya, 2009). As this study is centred on women in the context of Zambia's mining industry, the next section details the history of women in mining from independence up to the present.

2.3 History of Women in Mining in Zambia

As explained by Smith (2012), "History is important for understanding the present and is an essential part of decolonization" (p. 31). The role of women in the Zambian mining industry has been undervalued ever since the colonial era (Volksen, 2009). Before Zambia's independence in 1964, the mining work environment was male dominated, much as it is today, with women being overly represented in the agricultural sector (Mususa, 2010). According to Lahiri-Dutt (2011), men are seen as being naturally suited to the mining and construction environment, while women are characterized as being unsuitable and "the other." Therefore Lahiri-Dutt (2011) associates the use of heavy tools in capitalist mining with gendered meanings being imposed on the individuals who perform the mining tasks. Much like contemporary mine

owners, the British colonial mine owners in Zambia associated men with strength, technology and industry, and thus the role played by women in the development of the Copperbelt region was greatly underestimated (Volksen, 2009). The officials of the colonial government which supported Christian principles made and imposed rules that were based on the common interpretation of the Bible as justifying male dominance, and thus they contributed to rendering women invisible (Volksen, 2009). While the colonial government ruled Zambia from 1888 to 1964, it expected mine-community women to be good wives who would take responsibility for creating and maintaining stable families (Fraser, 2010). Women were assumed to be naturally suited for agriculture, home care and reproduction in addition to being needed in the villages for their labour (Murray & Perez, 2010). The colonial administration initially did not welcome married couples into the mining compounds as they preferred women to stay in the rural areas to till the land (Larmer, 2007). However, after deciding that men produced better results when they were married, the colonial administration allowed married couples who held a valid marriage licence to live together in the mining compounds (Wilson, 2012; Negi, 2010).

The traditional rulers in Zambia played a key role in ensuring that unmarried women and children below the age of 12 remained in their rural homes (Fraser, 2010; Larmer, 2007). Thus, the colonial system created a role of female dependence that left women with little opportunity to earn their own income as income-generating options were not available (Volksen, 2009). In addition to the legal barriers imposed by the colonial government to prevent women from working underground, most African men refused to work alongside women because of superstitions that women brought bad luck in the mines (Savage, 1999; Benya, 2009; Mwenechanya, 2009). Nevertheless, some women soon found ways of supplementing their

husband's meagre wages by going into trades like beer brewing, gardening and prostitution; this helped them gain a modicum of independence from their husband's income (Larmer, 2007; Fraser, 2010). Evidently, it was more difficult for women to establish themselves in industrialized towns because they were not regarded as being worthy of consideration (Volksen, 2009). Despite the worldwide belief that mining was men's exclusive domain, women proved to be the backbone of most Zambian mining communities, as could be seen in the way that they supported their husbands and participated in industrial disputes in demanding better pay and improved living conditions (Murray & Perez, 2010).

2.3.1 Women and SAP-induced Poverty in Zambia's Mining Communities

According to Zambia's Central Statistics Office Data (2010), a total of 92,810 people were on record as being formally employed in the mining and quarrying industry across the country, of which only 650 were female. Unfortunately, despite the increase in the number of women working in Zambia's mines, the figures continue to be quite low and hence the state now is pushing for more women to join the mining industry (Makayi, 2009). Research has demonstrated that women are more strongly represented in surface mining, with the majority reportedly playing a much larger role in the informal small-scale mining where approximately 9,000 women are currently working (Hinton et al., 2003). According to Hinton (2005), the direct and indirect participation of women in mining has increased because of the need to supplement incomes that have been damaged by poverty, drought and the effects of Structural Adjustment Programs. Hinton et al. (2003) contend that some of the main explanations for the increase in the number of women working in the mines include the fact that more men than women are either dying, retiring or migrating to other places, an evolution in gender roles, a lack of employment

alternatives, and high birth rates. The general perception in Zambian mining circles has been that the low number of women working in mines can be attributed to the genders having different coping mechanisms, with men allegedly feeling more at home in the mines than women (Benya, 2009). Benya (2009) alludes to the fact that some people view the inclusion of women in mining as challenging the industry's occupational culture.

2.3.2 Women as Formal Mine Workers

Bush (2010) contends that women in mining in Africa are generally given low-paying, low-status jobs with most working as equipment helpers, attendants and assistants. Lahiri-Dutt (2011) asserts that the “sexual division of labour in the mines is justified as the natural complementary of the roles of women and men, but is usually accompanied by a vertical sexual division of labour or a stratified division that concentrates women into the bottom strata, with discriminatory wages and poor working conditions” (p. 4). Technology is essential to the extractive business for the purpose of increasing productivity, enhancing safety and improving working conditions (Hinton et al., 2003). Unfortunately, men and women often operate in different contexts using different technologies that have become defined as male or female, a state of affairs that is often seen as justifying the gendered division of labour (Lahiri-Dutt, 2011). Given the fact that capitalism is never gender neutral, it is not surprising that historical and contemporary literature reveals that technological changes in the mines have imposed disadvantages on women, in particular through labour redundancy associated with the implementation of machines in the mining process (Lahiri-Dutt, 2011). Priority is given to providing men with training on how to operate machines while women are not provided with these opportunities (Lahiri-Dutt, 2011). According to Hinton et al. (2003), it is men who own the

mines and, as such, they “tend to dictate women’s roles in production; as a result they are usually consigned to transporting, washing and panning, and turning over the profits” (p. 17).

Although the research participants complained about being paid less money than their male counterparts, they did not reveal precisely how much they earned. As the extent to which and reasons for which female miners receive lower pay continue to be explored, other women’s experiences, such as how female homemakers account for their unpaid work, are also being addressed. According to UNECA’s (2014) report, women are often excluded from decision-making and from project-implementation plans. The report further states that, in addition to not being properly compensated for their work and for their loyalty to the mine, women typically are not prioritized for training opportunities as a result of being seen as almost non-existent in many African countries (UNECA, 2014).

2.3.3 Women as Informal Mine Workers

The loss of farmland and associated livelihoods as a result of the large-scale expansion of mining may have forced many women in Zambia to become involved in digging for low-value minerals (Lahiri-Dutt, 2011). The International Labour Organization (ILO) reports that informal mining in Africa poses many dangers to the miners as many people who are making a living from mining are using low levels of capital and technology (Lahiri-Dutt, 2011). Although informal mining contributes to the income of a large number of people, the practice is associated with “chaos and plunder, invoking fear and insecurity amongst economists and policy makers” (Lahiri-Dutt, 2011, p. 9). Undoubtedly, a variety of factors like rural poverty, high commodity costs and the displacement of small farmers have contributed to the growth of informal mining.

Concerned female citizens in Zambia have responded by forming the Association of Zambian Women in Mining (AZWM), an initiative that trains women in small-scale mining skills and in gemstone knowledge and technology (Makayi, 2009). Some members of AZWM have reported being confronted with many barriers while working in the small-scale mining industry. As is reflected in Marxist feminist theory, Zambian female miners are negatively impacted within the industry, largely as a result of their lack of access to land and resources (Bose, 2004). The majority of small-scale miners are sole proprietors who make use of very little hired labour and who work on a part-time basis (Carr, 1990). As was pointed out by Namakau Kaingu, the President of AZWM, cultural taboos in Zambia have contributed to the inequality that women face in the mines, with a common belief being that “women should not approach gemstone mines as the spirits of the stones would push minerals deeper into the ground, more so if the women are on their periods” (Lahiri-Dutt, 2011, p. 15). Furthermore, female mine owners in Zambia face hostility from local chiefs and headmen who hold the view that women are bad luck for mining, and this undermines women’s ability to be fully productive in this industry (UNECA, 2014). Hinton et al. (2003) concur with Ms. Kaingu in stating that traditional social systems have contributed to depriving women of the same mining rights that they offer to men as a result of traditional and superstitious beliefs. In reiterating Ms. Kaingu’s sentiments, Benya (2009) contends that the most common reason why women have been banned from working underground is the misconception that they bring bad luck. Yet, notwithstanding these rural Zambian superstitions, many countries around the world have reportedly authorized women to work in various underground roles in the mines (Ralushai, 2012).

Despite a large number of women showing an interest in working in the Zambian mining industry, Benya (2009) is of the view that high unemployment rates have played a significant role in forcing women to seek employment in both large and small-scale mines as this is the only way to earn an income. Moreover, in order to alleviate poverty, especially in single-parent households, many women and children are resorting to manually digging and sorting out flux stone and copper ore using hoes, picks or shovels, sometimes taken from dumpsites (Figure 2).

Figure 2: Photo of the Mopani Mine dumpsite



Source: Photo taken by Irene

This digging and sorting out of flux stone is reportedly causing many of these workers to develop respiratory complications, specifically as a result of exposure to mine dust (Benya, 2009). For this reason, Isla (2003) views mining as an assault on the community that can cause the loss of dignity, independence, security, livelihood and health, even to the extent of causing early death. The World Bank has adopted a Gender and Development (GAD) model that is aimed at reducing gender imbalances while increasing women's economic participation and development (Collison, 2003). Evidently, although women in Africa produce about 80 percent of the continent's food, they only receive 1 percent of the total financial benefits (Doyal, 1995).

Therefore, the general view in developing countries is that the World Bank has failed to fulfill its commitment to women as it still perceives Structural Adjustment Programs as being indispensable for poverty alleviation (Dzodzi, 2013).

2.4 Mining Environmental Degradation: Sustainability and Health

Sustainability: While the 1992 Earth Summit in Johannesburg officially accepted the idea that mining can be undertaken in ways that are consistent with the principles of sustainable development, Isla (2003) contends that mining is in fact inherently unsustainable as it involves the extraction of irreplaceable minerals. Isla (2003) defines sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (p. 23). She argues that the official characterization of mining as a form of sustainable development has only brought about new forms of domination, exploitation and oppression of local communities (Isla, 2003). Foster (1999) blames capitalism for the destruction of nature. He defines capitalism as a system of creative destruction in which the creative drive is to produce new commodities by combining materials and labour. He contends that the destructive result is systematic to the degradation, transformation and absorption of all elements of existence outside the systems orbit (Foster, 1999).

The World Bank and the IMF have promoted the idea that the expansion of the free-market system, property rights and foreign direct investment is the best way for Africa to catch up economically, with extractive sectors being emphasized as a major source of growth (Bush, 2010). These two organizations also have repeatedly stated that they are working on promoting sustainable mining in all countries, despite arguments articulated by scholars that no form of mining is sustainable (World Bank, 2008). Indeed, it is well known that large-scale mining is

often quite destructive and therefore is not sustainable (Foster, 2010). As industrial mining is almost invariably led by transnational corporations (TNCs) that wield enormous influence over national governments and the communities in which they operate, their impact on the environment often has been disregarded, and this is notwithstanding the United Nations' adoption of a voluntary code of conduct (Isla, 2003) and notwithstanding public calls for a greater commitment to environmentally and socially responsible mining by the World Bank, the mining companies and other companies involved in this industry (World Bank, 2012).

Bridge (2004) is of the belief that women's livelihoods have been jeopardized by the claim that economic growth is necessary and by the fact that development generally has proceeded only in an unsustainable manner. Even though the World Bank has declared that it aims to liberate the world from poverty, most of the strategies aimed at promoting women's sustainable economic development in developing nations such as Zambia cannot achieve their objectives through the World Bank's development model (World Bank, 1999).

Health: All mining, regardless of the scale, entails multiple forms of danger and has the potential to harm people's health and the environment (Foster, 1999). There are few studies that address the extent to which people who work and live in mining communities protect themselves from pollutants and toxins. According to the Open Society Initiative for Southern Africa (OSISA, 2013), mining conditions vary depending on the location, type and size of the operation. Despite the many elaborate claims about the benefits offered by the extraction of mineral wealth and about the global demand for minerals, mines rarely benefit the communities in which they are located (OSISA, 2013). Fraser (2010) contends that, apart from a few job offers, most of the investors' promises to deliver benefits to the community, including clean water, sanitation,

schools, clinics and roads, never materialize. Therefore, people in the Zambian mining communities are reportedly unhappy with living in polluted and toxic environments, a typical example being the case of the Konkola mine community (Benya, 2009). This community lies in the shadow of the giant Mopani Copper mines. Despite the enormous wealth that is generated by this mine and its employees, the majority of the people in this community are impoverished, with little or no access to basic health and social services (ILO, 1999). The people in this community are exposed to the dangerous fumes that emanate from the huge smelter chimneys, at the same time as the water sources have been polluted with raw sewage and waste (OSISA, 2013). Life in the Kalulushi and Kitwe mining communities, much like life in other mining communities, is full of hardships that are often even worse for female-headed households due to the severe limitations on women's opportunities to earn an income (OSISA, 2013). Many women have lost their husbands from mine-related illnesses, some of which could have been prevented if proper medical interventions had been made available (Health Guides, 2012). The loss of their spouse has left many women with few choices of how to earn an income (Mususa, 2010). Therefore, as mentioned above, many women rely on alternative sources of income like brewing homemade beer, farming on polluted mine land, illegal mining and doing sex work that exposes them to sexually transmitted diseases that include Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) (Mususa, 2010).

Bridge (2004) has argued that mining directly affects forests, rivers, landscapes, wildlife, homes, farms, health and heritage. Therefore, according to Bridge (2004), women have become resentful of the fact that mining companies have polluted the water, have spoiled their farmland and have contaminated their fruit with cyanide and mercury, thus structuring members of the

community into competing for the few available mining jobs. According to Bennholdt-Thomsen and Mies (1999), the effects of globalization in the developed and the developing countries have been analyzed and criticized differently despite the fact that women comprise 70 percent of the world's poor. As such, attempts to meet the needs of women in developing countries have fallen short of their objectives (Bennholdt-Thomsen & Mies, 1999). In relating poverty to women in mining, Labake (2003) argues that mining creates poverty for future generations as it results in the contamination of rivers, wild flora and fauna, as well as heavy metal and cyanide poisoning. Women cannot be said to be in full control of their environment if they have only limited access to safe housing and resources to help them cope with health and environmental issues (Thompson, 2003). Unfortunately, women, children and seniors are more prone to toxic exposure as their skin is biologically lighter and thinner in comparison with that of men (Thompson, 2003). As caretakers of the family, women are more exposed to poverty induced by Structural Adjustment Programs as they have to struggle with toxic environments in economies that degrade human and environmental health (Bridge, 2004).

When members of the community gain an understanding of the threats posed by mining to human health, they are typically much better able to protect themselves (WHO, 2012). As reported by Sophia Volksen (2009), mining can cause serious accidents and fatalities through explosions or collapsed mine tunnels that in turn affect miners and people living in the mining communities. The failure of mining companies to adhere to environmental and safety regulations threatens the vitality and survival of people and nature (Bush, 2010). Many mining operations in Zambia are owned by transnational corporations headquartered elsewhere (World Bank, 2012; Health Guides, 2012). According to Kambani (2002), most mining companies are only interested

in taking the maximum amount of wealth at the lowest possible cost, without fulfilling their promises to maintain health and social services through the provision of clean water, sanitation, schools, clinics and roads. Therefore, most people in mining communities are unhappy with the presence of the mines as they are forced to live in highly polluted environments without any offsetting economic or social benefits (Makayi, 2009). Communities are exposed to dangerous fumes emanating from huge smelter chimneys, while water sources are polluted with raw sewage and other forms of waste (OSISA, 2013; Simpere, 2010).

Life in mining communities is full of hardships, which are often worse for households headed by women as they are unable to provide food for their families through subsistence farming or fishing due to pollution that renders the land infertile (Health Guides, 2012; Simpere, 2010). Bush (2012) contends that mining has contributed to making the environment in the surrounding communities unsuitable for human purposes. Environmental degradation has contributed to high levels of poverty with farmland being rendered infertile while the water is poisoned; as a result, the population is forced to live in poverty with no alternative means of achieving a better quality of life (Benya, 2009).

All mining, whether on a large or small scale, is dangerous because toxic emissions have the potential to harm the environment and human health (Forster, 1999; Larmer, 2010; Lee, 2010). Generally speaking, all miners need to be physically fit and medically sound to be able to work under hot and humid conditions while carrying out this demanding work (Benya, 2009). Unfortunately, no studies were found that address the degree to which women working in mines or living in mining communities in Zambia stay healthy by protecting themselves from toxins and other pollutants. Nevertheless, Volksen (2009) contends that mining causes serious accidents

and fatalities through explosions or collapsed tunnels. Other risks to health result from exposure to and inhalation of dust, spilled chemicals, harmful fumes, heavy metals and radiation (Health Guides, 2010; Larmer, 2010). Exposure to environmental toxins further impoverishes women as their health is compromised to the extent that in some cases they are not fully able to provide for their family (Makayi, 2009).

The Zambian government has been blamed for a lack of commitment to its initial agreements with the new mine owners due to the secrecy surrounding the contents of the Development Agreements (DAs). The DAs were legal agreements between the new mine owners and the state that stipulated the specific terms of the privatization of the mines (Fraser, 2010). As explained by Larmer (2010), the release of the DAs revealed state-authorized exemptions from liability that included exemptions from the requirement to adhere to environmental standards. It has been argued that the development of close relationships between political decision-makers and some mining investors has contributed to failures to meet legal obligations related to health and safety, labour, immigration and the environment – especially through a lack of monitoring and enforcement (Larmer, 2010). The absence of regulatory oversight has encouraged some investors to neglect their responsibilities to the extent of refusing to fulfill the social requirements defined in their contracts and thus significantly contributing to the impoverishment of the Copperbelt mining communities (Fraser, 2010).

While international labour law prohibits child labour, many children in Zambia work in the mines helping their parents and in the process are exposed to toxins at an early age (ILO, 2010). In this regard, activists in a few developing countries have embraced the need to combat child labour in mining communities by going into the mines to educate and provide food to the

children (Murray & Perez, 2010). The work of the activists is based on the understanding that education, good health, and a happy and nurturing childhood are basic rights to which every child is entitled (Murray & Perez, 2010). Unfortunately, there is no literature to indicate the extent to which the Zambian government has been proactive in combating child labor in the mines. The next chapter presents this study's theoretical framework, which is grounded in Marxist feminist and transnational feminist theories.

3. THEORETICAL FRAMEWORK

The theoretical framework for this research study is grounded in Marxist feminist and transnational feminist theories and looks beyond the challenges that women face at work by examining the possible sources of oppression that place women in subordinate positions. The incorporation of Marxist feminist theory into this study flows from the fact that mining has become much more complex and has incorporated more women than in the past, as well as from the understanding that it is almost impossible to theorize about the exploitation and oppression of women outside this framework. While Marxist feminist theory states that women's oppression is rooted in capitalism, which encompasses the overall organization of the social reproduction of labour, transnational feminist theory draws on post-colonialist ideologies to understand the power dynamics embedded in the intersections of gender, race, class and world-scale economic exploitation as reflected in global capitalism (Sutton-Brown, 2010; Calixte et al., 2005; Gimenez & Vogel, 2005). Foster (1999) defines capitalism as a "system of creative destruction in which the creative drive is to produce new commodities through the combination of materials and labour" (p. 13). With reference to the Marxist feminist and transnational feminist theories, this research is premised on the assumption that women generally experience subordination. As such, as a researcher, I seek to identify and understand the economic opportunities that are available to women in mining communities. Despite the existence of a wide variety of feminist perspectives on the causes of inequality, no particular theoretical perspective fully explains the organizational practices used in Zambian mines. Gordon (2013) contends that the difficulty in finding a feminist method that is both satisfactory and distinctive is a reflection of the fact that methodology discussions are typically "intertwined with epistemological issues" (p. 15). According to Calixte,

Johnson and Motapanyane (2005), a feminist perspective entails addressing new ways of thinking about subjects and objects, as well as new ways of understanding what is relevant to women and their interests. Overall, the research that has been done so far reflects the presence of inequalities in the mining labour force and community that can be explained by reference to the patriarchal structure. Duffy (2005) defines patriarchy as “a social system in which males are the primary authority figures and are privileged to occupy roles of political leadership, moral authority, and control of property in which fathers hold authority over women and children” (p. 65).

The World Bank acknowledges that access to land is a key determinant of poverty in terms of collateral (World Bank, 2000). Given the fact that many women do not own property, it follows that they generally are unable to borrow money to help push their businesses forward or to even start one. The ILO (1999) reports that many women would like to earn money as entrepreneurs as this reduces their dependence on men while also providing a basis for improving their family’s quality of life. Unfortunately, inequality continues to be evidenced by women’s general lack of capital, limited political power, and restricted mobility and access to resources (Hinton, 2005). As such, it is likely that the positive impacts of mining have yet to be fully felt by women.

Feminist research has questioned the characterization of men as the natural industrial workers by bringing to light “gender selective impacts of capitalism in mining projects” (Lahiri-Dutt, 2011, p. 2). Marxist feminists have argued that masculinity should not be viewed as a natural order of mining “...as that perception ignores the complexities of gender within the mining spectrum and consequently devalues women in the economic activities” (Lahiri-Dutt,

2011, p. 2). Carino (2002) holds the view that transnational mining companies and the state have ignored the complexities of gender within the surrounding communities, and thus have promoted the model of the male as the head of the household. Machin and Mayr (2012) put forward the idea that superiority originates from men's privileged access to social resources such as education, knowledge and wealth. However, bell hooks (2003) argues that power can be more than merely domination from above as it can be reproduced when people justify domination as being legitimate. Large-scale mining therefore introduces social change that disproportionately negatively affects women due to their disadvantaged position which emanates from their lack of access to assets and resources (Carino, 2002).

Marxist feminist theory analyzes women's relationships with both paid and unpaid work based on the understanding that the gender division of labour is fundamental to women's oppression (Mandell, 2005). Marxist feminists believe that gender inequalities in the division of labour are reproduced within the hierarchical structure of organizations, which offer men better-paying and higher-status jobs while women are relegated to lower-paying and lower-status tasks (Benya, 2009). Drawing on the premise that the key function of capitalism is the generation of profits, Marxist feminists theorize that the division of labour between the home and the market economy is gender-based (Mann & Huffman, 2005; Mandell, 2005; Gimenez & Vogel, 2005). Therefore, Marxist feminists take the view that shared childcare, shared housework and the dissolution of the nuclear family as an economic unit will lead to women achieving economic independence (Mandell, 2005). Bose (2004) sees the alienation of farming and forest land, mining pollution, the inability of women to work on the remaining land and male absenteeism as being of major concern and as needing urgent attention if women are to be elevated from

subordination. While wage labour, scarce as it is, has become the major source of economic sustenance for some people in Zambian mining communities, others turn to earning their livelihood through informal activities in the mining context (Bose, 2004). Thus the Marxist feminist perspective has been very influential in defining inequality for the purpose of this study in terms of capitalism.

In addition to theorizing about how gender relations are situated within other forms of political and social relationships, transnational feminists commit to activism in order to create meaning and bring about change (D'Enbeau, 2011). Transnational feminist theorists also seek to find “new sites for action at the local, national, and transnational levels in which to enact new political, economic, and cultural practices” (Desai, 2002, p. 16). Mohanty (2003) holds the view that “ideologies of domesticity, femininity, and race are employed by capitalists to socially construct the ‘domesticated woman worker’” (p. 28). She further argues that the categorizing of women as “dependent housewives” allows capitalists to pay them low wages (Mohanty, 2003). Mahy (2011) contends that women’s lack of land ownership and production resources has shaped gender relations which have classified women either as “decent wives” or as “fallen” or sex workers in search of an income. Sutton-Brown (2010) therefore sees value in women working in solidarity because, through their shared material interests as “workers,” differences in nationality, race and social class are likely to be overcome. In line with feminist transnational theory, Sutton-Brown (2010) states that political solidarity among female workers has the potential to serve as a means of struggling against capitalist re-colonization.

Evidently, both Marxist feminist and transnational feminist perspectives are involved in an examination of the connections between the day-to-day activities and experiences of women

in the Zambian mine communities on the one hand and larger social processes on the other hand (Mandell, 2005). As gender is significant in both perspectives, it is quite clear that roles and definitions play an important role in creating meaning and in gaining an understanding of the challenges faced by women in the mining communities of Zambia. Guadalupe (2010) makes an interesting point in stating that “although biology does not define women, it cannot be denied that women’s bodies have played a major role in determining their roles in the mining industry” (p. 349). The examination of the complex interconnections between the research participants’ everyday lives on the one hand and the social, political and economic systems of power on the other hand help make sense of the challenges that women face in the contemporary mining industry and associated communities (Mandell, 2005). Given the fact that this research study also seeks to understand the nature of gender inequality by examining the Kalulushi and Kitwe mine community women’s social roles, experiences and interests in a variety of ways, the application of Marxist theory is inevitable.

It is evident that the incorporation of Marxist feminist and transnational feminist theories will foster an understanding of the exploitation and oppression of women since these perspectives view capitalism and the division of labour between the home context and the market economy as the origin of a gender-based division of labour (Mann & Huffman, 2005; Gimenez & Vogel, 2005; Sutton-Brown, 2010). Furthermore, both theoretical perspectives emphasize the experiences, reflections and perspectives of women in the home and in the formal and informal economies and manifest a common commitment to expressing the power relationships that exist between men and women as seen in the case of Zambian mines (Gimenez & Vogel, 2005; Mandell, 2005).

Attention must be paid to gender roles and relations in mining communities, specifically by examining women's work in the home, in the mines and around the mines in order to understand the negative social impacts of mining (Lahiri-Dutt, 2011). This study sheds light on the challenges and the opportunities perceived by women who live and work in the Kalulushi and Kitwe mining communities of Zambia through an attempt to understand the lived experiences of these women. The next chapter presents the research methodology which details the participant-recruitment procedures, the data-collection procedures, the ethical considerations and the data-analysis methods that are relevant to the study.

4. METHODOLOGY

4.1 Research Question

This study seeks to answer the following research question: What are the challenges and the opportunities perceived by women who work and live in Zambia's mining communities?

4.2 Research Design

The research design outlines the key elements of the work to be undertaken; it includes the method of data collection and analysis to be employed, and the ways in which the research strategy will address the objectives of the study (Ospina, 2004). This qualitative, narrative case study sheds light on the impact of Structural Adjustment Programs on women in Zambian mining communities. The study also explores the challenges that women face in the mining environment as workers and as residents. Burns and Grove (2009) state that “qualitative research is a systematic and subjective approach to describing life experiences and giving them meaning” (p. 15). Accordingly, I have seen value in using a qualitative research method to enable women working in formal and informal mining occupations and as homemakers to narrate their lived experiences. As stated by Keyton (2006), qualitative methods use an inductive approach to investigate a phenomenon, which means that they start from the specific and move to a general idea.

The UNECA (2014) Concept Note highlights the fact that, even though women are playing a major role in Africa's structural transformation, they continue to be undervalued economically, socially and politically. The report further states that the “dominance of extractive industries in many African countries coexists with macroeconomic vulnerability, fragile public institutions and information asymmetry resulting in minimal, exclusive development impacts that

lock out women and youth” (UNECA, 2014, p. 4). Therefore, the significance of this case study lies in my investigative nature of the field work that entails collecting data from 18 different participants who fall within the three categories of formal miners, informal miners and homemakers. According to Welman and Kruger (1999), “a case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially the boundaries between phenomenon and context are not clearly evident” (p. 21). This is a case study about a specific group of women that reside in the Kitwe and Kalulushi mining communities.

The methodology for this qualitative case study includes in-depth interviews that were carried out based on the assumption that each participant had unique but important knowledge about the community that could be shared through interviews. According to Hancock (1999), interviews are most commonly used in qualitative research data-collection methodologies. The data for this study were collected through the application of in-depth semi-structured interviewing techniques. Hesse-Biber and Leavy (2006) define an in-depth interview as a “qualitative data-collection technique that enables a researcher to present a participant’s perspective on a given research topic” (p. 119). According to Hesse-Biber and Leavy (2006), in-depth interviews are in part a conversation between the researcher and the participant that requires active asking and listening on a partnership level in order to create meaning. Bearing this in mind, I made every effort to make the participants feel as comfortable as possible by first introducing myself on a personal level, followed by an explanation on the importance of the participants to feel free to ask questions and to avoid answering any questions with which they felt uncomfortable. Hesse-Biber and Leavy (2006) assert that the researcher has to be careful about the way in which he or she phrases questions because it is likely that some interviewees

will feel that some questions are an attempt to invade their privacy. I also went through the formalities of reminding the participants of their right to withdraw from the interview if they so desired, and of the fact that they could do this without any penalty. As stated by Smith (2012), it is ethical for a researcher to be respectful and protective of the rights of the participants while at the same time being sensitive to their needs and interests. The interviewees who came to the lodge were offered a cup of tea or coffee at the beginning of the interview in order to reduce any sense of discomfort or inequality of status and thereby encourage them to be comfortable enough to speak freely.

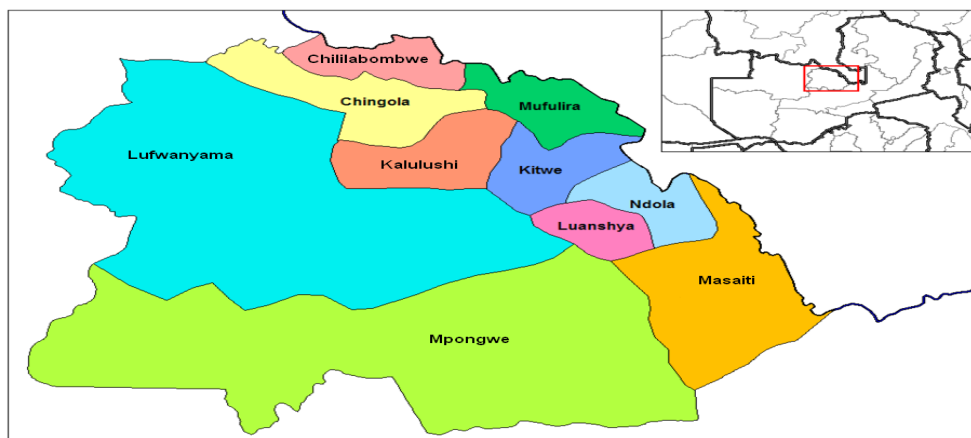
All the 18 interviews were carried out in one session, though the completion time varied between 45 minutes and 75 minutes. I proceeded with the interviews by asking the listed questions and by actively listening to the responses which were written down manually and at the same time audio recorded. The interviews involved a series of 24 open-ended questions that were intended to expose participant perspectives on, feelings about and experiences of living and working in the Kalulushi and Kitwe mine communities. The methodology of this research study was essential in framing the interview questions that were asked as they were intended to aid in answering the research question (Smith, 2012). Therefore, the research tools that were employed ultimately shaped the analysis. As was noted, this qualitative research study allowed me to become familiar with the participants on a personal level while they narrated their daily struggles and real-life challenges (Keyton, 2006). In line with the findings of Hesse-Biber and Leavy (2006), I observed that this group of marginalized women had hidden experiences and knowledge which would have otherwise been excluded from my understanding of social equity in the Kalulushi and Kitwe mine community. Therefore, this study re-affirms the idea that

interviewing as a method of data collection was the best way of accessing the Kalulushi and Kitwe mine community women's thoughts because I was able to gain access to a lot of hidden information. As these were structured interviews, all of the participants were asked similar questions within the three categories, which allowed for comparison and generalization of the results. All the participants appeared to be comfortable and relaxed enough to tell their stories without showing any signs of feeling intimidated.

4.3 Participant Recruitment

The study recruited 18 English-speaking female participants from the Kalulushi and Kitwe mining communities aged between 18 and 65 years (Figure 3).

Figure 3: Map of the Copperbelt Province of Zambia



Source: Zambian Provinces Website (<http://www.zambian.com>)

The choice of these two locations was based on the fact that Grace, my contact person, resided in Kitwe and had a vehicle that I heavily relied on for moving to different locations. Recruitment entailed creating an advertisement for research participants that was handed out in the form of a flyer rather than being placed as an advertisement in the local newspaper because this method proved to be the most cost effective and convenient for recruiting participants.

McMillan and Schumacher (2010) define recruitment as the “dialogue that takes place between an investigator and a potential participant prior to the consent process” (p. 21). To spearhead the recruitment process, 100 flyers were handed out from three different locations in Kitwe. In response to this advertisement, a range of people made phone calls to register to be interviewed. In each phone conversation, I provided details about the interviews as well as asked if the caller was interested in participating. A list of participants thus was compiled and interview dates and times were set by phone. Four dates were set for the interviews, which were January 19, 21, 22 and 23, 2015. The flyer highlighted the fact that this study was intended to assess the challenges that women face in the mining environment while working in formal and informal mining occupations and as homemakers. In general (as well as in this study), the main goals of recruitment are first to acquire a sample that adequately represents the target group and second to recruit enough participants for the study to be meaningful (Hulley, Cimmings & Browner, 2001). Therefore, the list of 18 women was compiled in order to arrive at a clear understanding of the challenges that the women faced. As mining is a hazardous occupation, the choice of 18 as the minimum age was based on the newly proposed ILO Conventions No. 138 and No. 182, which restrict the employment of children less than 18 years of age in hazardous occupations and processes (ILO, 2013). The choice of 65 as the maximum age was based on the official retirement age in Zambia (World Bank, 2013).

The participants’ freedom of choice also was protected by ensuring that they provided written informed consent in the form of a signed letter of invitation and consent form before the start of the interview (Hesse-Biber & Leavy, 2006). Ten of the participants were able to pick up their letter of invitation and consent form to read, sign and return on the day of the interview,

while the remainder preferred to read and sign the forms on the day of the interview. The objective of the letter of invitation and consent was to ensure that the participants fully understood the aim of the study, what their participation would entail and their rights which included the right to confidentiality (Bricki, 2007). Participants who were unable to pick up the required forms prior to the interviews were given enough time to read, sign and to ask questions to ensure that they fully understood what they were signing up for. Given the fact that the participants were committed to spending between 60 and 90 minutes of their time in order to be interviewed, an amount of K100.00, the equivalent of 20 Canadian dollars, was offered at the time as an incentive for participating in and completing the interview. This incentive was paid to the participants at the beginning of each interview as compensation for their time, inconvenience and travel expenses. All of the terms of payment, including possible prorated costs in the case of participant withdrawal, were stipulated as well.

4.4 Pilot Study

According to Bricki (2007), pilot studies in qualitative research are usually very small as they aim to generate useful data for the study despite not generally being representative of the broader population. A pilot study of a sample of the broader population was carried out on the first six women who came for the interviews on the first day. At the end of the first day, the recordings generated through the pilot interviews gave me the opportunity to determine if there were any weaknesses in the research plan in terms of there being flaws in the audio recording and sound system or if the location and the time gap between the interviews were adequate. Unfortunately, the initial plan of interviewing two women from each of the three categories had to be changed. Given my dependence on the participants' availability, four homemakers and two

formal workers were ready to be interviewed on the first day. The rest of the women were interviewed on the days that followed.

As a result of the differences among the three categories, the interview questions were framed to suit each group. According to Hancock (1999), participants need to be assured that the data received from them are not going to be exposed to anyone else and that no personal or identifiable information will be recorded or printed in the study. At the start of each interview each participant was assured that her actual name was not going to be mentioned in the study. As such, pseudonyms have been used instead of real names. The participants were also reminded of their right to withdraw from the interview without penalty if they so desired. Fortunately, all of the participants stayed until the end of their interview.

The interview guides were re-evaluated at the end of the first day and after part of the next day to note what needed to be changed. Both the field notes and the audio-taped interviews were appropriately analyzed while some of the data were transcribed verbatim. Verbatim transcription is the typing out of “every word and sound on a recording” (McMillan & Schumacher, 2010, p. 30). The participants were offered the option of viewing the draft of the typed data before reporting to ensure the accuracy of the information, but none of them showed an interest in following up. With all of the logistics in place, the pilot study indicated that no changes needed to be made in the research plans and, as such, the interviews proceeded as planned.

4.5 Data Collection / Interviews

Since the methodology employed in this study included conducting in-depth, face-to-face interviews, I estimated that the involvement of 18 participants was sufficient to reach data

saturation in some respects. Hesse-Biber and Leavy (2006) define data saturation as the point in qualitative research when no new information is being obtained. In this study, I was able to reach saturation in all three categories as there was no new information provided half way through the interviews.

During the interviews, I asked 24 open-ended questions that were intended to allow participants to highlight their lived experiences, reactions, beliefs, and ideas about their roles and responsibilities in the mining community (Bricki, 2007). As the study aimed at gaining an understanding of the challenges and the opportunities perceived by women who work and live in the Kitwe and Kalulushi mining communities, the interview questions were designed to guide me towards obtaining answers to the research question. Although most of the interviews lasted between 60 and 90 minutes, some of the interviews required less than an hour. It was observed that the length of the time depended on how quickly the respondents spoke. While some respondents understood the questions and responded accordingly, others needed clarification; as such, I had to rephrase the questions. The level of detail provided in the participants' responses helped guide me in identifying questions that needed to be addressed again.

Seven of the participants for various reasons opted to be interviewed from their homes located in the Kalulushi mining community, while the remainder were interviewed at my rented residence, a lodge in Kitwe. All of the face-to-face interviews were conducted within the prearranged time which ranged from 10 a.m. to 8:00 p.m. and were categorized as per Table 1 below:

Table 1: Interview Timeline: January 19, 2015 – January 23, 2015

Date	Number of Interviewees	Category Interviewed
01/19/2015	6 (pilot study)	2 formal workers, 4 homemakers
01/21/2015	4	1 formal worker , 2 informal workers, 1 homemaker,
01/22/2015	4	2 formal workers , 2 informal workers
01/23/2015	4	1 formal worker, 2 informal workers, 1 homemaker

Sources: Interview Guides

Given the fact that all the interviews were conducted in English, there was no need for a translator. All of the listed questions were asked in the same way, and I probed for clarification or additional information where necessary. In some instances, there was a need to skip or alter the questioning sequence due to individual circumstances. For example, three of the informal workers were self-employed and had neither an office location nor people working for them; therefore it was evident that some of the questions were not suitable for them. However, the same questions were suitable for other people in the same category. While I manually collected data and wrote down additional notes immediately after each interview, I also thoroughly examined each recorded interview at the end of each day. Although I noted that the participants sometimes talked about issues that I had not thought to include in the questions, I saw value in all of the collected data as they helped shed light on the reality of the situation.

All of the interviews were successfully carried out within four days in the two mining communities. Four of the six formal mine participants worked at the Chibuluma mine and lived in the Kalulushi mining community, while two worked at the Mopani mine and lived in the Kitwe mining community. All but two of the informal mine participants lived in Kitwe, even though they conducted their mine supply business at the Mopani mine in Kalulushi. All of the homemakers resided in the Kalulushi mining community. The interview responses indicate that

both of these Copperbelt communities of Kitwe and Kalulushi were owned and supported by ZCCM before the introduction of the Structural Adjustment Programs. Only before privatization did mining workers and their families occupy all of the houses in the mine townships.

4.6 Data Analysis

The data analysis for this study entailed me labelling, breaking down and summarizing collected data based on categories, patterns, themes and concepts (Bricki, 2007). Hesse-Biber and Leavy (2006) define coding as “the analysis strategy many qualitative researchers employ in order to help them locate key themes, patterns, ideas and concepts that may exist within their data” (p. 349). Through the coding process, I assigned words to the text by putting similar texts together, which then were compared and contrasted in order to generate the analytical concepts (Hesse-Biber & Leavy, 2006). Polit and Beck (2008) state that it is important for the researcher to individually examine both manually collected and recorded data while ensuring that all information is captured correctly. Hence, the thematic analysis within the study provided a general sense of the collected information. Braun and Clarke (2006) describe thematic analysis as the process of categorizing themes that emerge as being important to the description of the data. In summary, qualitative data analysis creates thematic categories, coding patterns and relationships among the organized categories of data, thus bringing to light similarities in the information obtained from the participants (McMillan & Schumacher, 2010). As stated by Hancock (1999), a thorough analysis of the transcripts helps to categorize the data into similar themes and thus enables the researcher to interpret the findings more easily.

When manually coding the raw data, four themes and eight subthemes were considered which were as follows:

1. Extent of the change after introduction of Structural Adjustment Programs
2. Opportunities for women as formal mine workers in Zambia
 - Women in mining career paths
 - Workplace challenges
 - Safety at work
3. Women's sense of ownership in informal mining in Zambia
 - Women as mine suppliers: work challenges
 - Mine supply contract allocation
 - Women as small-scale miners
4. Community life after privatization: homemakers' perception
 - Economic opportunities for homemakers
 - Community health challenges

I mostly used the narrative form of writing as the mode of reporting the data simply because of the complexity of the reporting, analysis and representation of the collected data (Richardson, 1995). I also used verbatim reporting to add validity to the data collected. According to Richardson (1995), the narrative form of writing “reflects the universal human experiences and link the past, present and future” (p. 218). Richardson (1995) further states that the narrative form of writing exposes personal challenges as collective identities and solutions. All in all, I was able to put similar text together after comparing and contrasting the data per category in order to generate concepts.

4.7 Data Validity and Reliability

Qualitative validity refers to the accuracy of data while qualitative reliability refers to the consistency of the data collected (Hancock, 1999). Johnson (2008) states that “before reporting the data, validation of the data is necessary” (p. 4). Similarly, Kohn (1997) argues that qualitative analysis must consider threats to reliability and validity. The terms reliability and validity are

used to describe the quality of a quantitative study (Kohn, 1997). In discussing the quality of a qualitative study, terms like credibility, conformability, consistency and applicability are used (Lincoln & Guba, 1985). Morse, Barrett, Mayan, Olson, and Spiers (2008) report that credibility, conformability, consistency and applicability are the four aspects of trustworthiness. In a case study, according to Kohn (1997), an overload of data can affect the reliability and validity of a study. Therefore, in order to minimize this problem, this study ensures consistency in data collection and quality control by only including data that are relevant to the study based on responses to the interview guide (Kohn, 1997). Lincoln and Guba (1985) suggest that an audit trail, member-confirmation during the coding process, the confirmation of results with participants, peer debriefing, negative case analysis, structural validation and referential material competency help ensure trustworthiness in a study. The questions were asked as worded in the interview script, while the order of questioning was maintained throughout, in order to help me manage reluctant responses. I also asked follow-up questions in a way that repeated the participants' exact words in order to help them elaborate on their previous comments or answers. The next chapter presents the detailed findings of the study as well as the interview responses in verbatim and paraphrased formats.

5. FINDINGS

This chapter presents the detailed findings of the study which involved conducting in-depth, face-to-face interviews with a total of 18 women who had at least some ability to speak English. I use the expression “some ability” because some of the participants clearly struggled with the English language. As reported in chapter four, the original intention was to recruit and report findings drawn from 18 women. Unfortunately, one woman from the homemakers’ category asked for her data not to be published because her husband had spoken against the idea of her sharing personal information. At her request, the data were removed and destroyed and the audio recording was deleted as well. As such, the study findings are based on responses to 17 interview sessions from which a large amount of information was collected. At the end of the interview sessions, I thoroughly examined the raw data and manually differentiated between the relevant and irrelevant data.

This chapter presents the collected data and the themes that emerged that will in turn provide a better understanding of the impact of Structural Adjustment Programs on women who work and live in the Mopani and Kalulushi mining communities. Reporting the findings of this research involves describing the data in a clear and detailed narrative form. The interviews represent the views of the 17 women who live and work in the two mining communities. In this research, I present the women’s responses in both paraphrased and direct-quote formats under the appropriate themes.

5.1 Extent of the Change after the Introduction of Structural Adjustment Programs

10 of the 17 interviewed women lived in mining communities prior to the introduction of the Structural Adjustment Programs. In response to the question about how they compare life in

the mining community before the sale of ZCCM to life under the present ownership structure, these women felt that life was better before privatization because the mines took good care of the community in various ways. The women individually explained how life has been for them before and after the privatization of ZCCM. For instance, one of the participants affirmed that:

The life has changed tremendously. Before ZCCM was sold, we were okay. So many people are not working. I can give you an example of where I stay now, in an area of 30 people only one person works you can imagine. Because before you could go to get sugar or salt from the neighbours, but these days you can't because even the person you are going to has nothing.

However, the most common sentiment expressed by the 10 women who lived and worked in the mining communities before privatization was that, through ZCCM, the inhabitants of the mining towns enjoyed items provided free of charge by the state such as housing, education, electricity, water, food, transportation, sports and even free diapers. According to Kabwe, "ZCCM did a lot of good for the community and also supplemented our incomes; we were very happy employees." Therefore, in comparison with life after privatization, these 10 participants stated that the new mine owners have not been doing much for the community. Their general perception was that life was better before privatization. Three of the 17 women said that they were very young and could not remember much of what ZCCM had to offer to their parents or guardians. These women felt that life is better now as they have their own sources of income. The remaining four women were part of the influx of non-mining families that purchased houses that were sold cheaply by former miners who either moved out because they found a job elsewhere or were desperately in need of money after having lost their job. These four women saw no difference in their quality of life after they moved into the mining communities and, as such, they were not able to perceive the impact of the privatization of ZCCM. It is important to

note that the responses to these questions helped guide me to ascertain the economic opportunities that are available to women in the mining communities. Generally speaking, regardless of the amount of time lived in the mining community, the challenges and opportunities perceived by the interviewed women shared a striking number of similarities, as described in the upcoming sections.

5.2 Opportunities for Women as Formal Mine Workers in Zambia

Table 2: Formal Worker Participant Description – Ages 24 to 60

Participant	Job Title	Job Description	Education Level
Kabwe	Secretary	Filing, typing, screening visitors, organizing meetings, taking minutes	Grade 12 Certificate Advanced Secretarial Certificate
Maria	Dump Truck Driver	Dump Truck Toro40 Driver	Grade 12 Certificate Manufacturer's Training
Chakuza	Office Manager	Reading the job schedule, allocating jobs to staff, checking production injuries, checking workplace targets, determining why targets were not met, taking care of superintendents' reports	Grade 12 Certificate Advanced Secretarial Diploma
Rista	General Worker	Cleaning the workshop and offices, washing and shining mine machines, carpentry, painting and plumbing	Grade 9 Certificate One month of training in machine washing and polishing
Mavis	Store Keeper	Finding approved requisitions for end users on a daily basis, servicing all requisitions	Grade 12 Certificate Purchasing and Supply Diploma
Eulalia	General Worker	Cleaning the workshop and offices, washing and shining mine machines, carpentry, painting and plumbing	Grade 9 Certificate One month of training in machine washing and polishing

Source: Formal Workers Interview Guide

Table 2 above indicates each participant's job title, job description and educational level. As already mentioned, six women were interviewed under the category formal workers. Three of the six women reported being the head of their household and the provider for their family. Two

reported having their own parents as heads of their household, while one reported being married to a man who holds a regular paid job, albeit a contract position. The interviews revealed each candidate's work title and experience which ranged from 17 months to 34 years. Although Kabwe, Maria and Chakuza are employed in the mines, they believe that community life has drastically changed for the worse following the introduction of the Structural Adjustment Programs. As reported by Kabwe:

Lack of employment has altered community life. When people used to work, you would invite people to kitchen parties or weddings and they would come. But now if you invite them, they will not come because they have no money for gift.

Kabwe, Maria and Chakuza further reported that the new mine owners do not care for the needs of the employees and the community in the same way as ZCCM. Therefore the general belief in this group is that the new mine owners have disadvantaged the communities by eliminating work benefits and community services.

5.2.1 Women in the Mining Career Path

The participants were asked to explain what prompted them to apply to work in the mine. The reason for asking this question was to find out the extent to which the women had an authentic interest in working in the mines because, as reported by Touwen (1996), most mine jobs were previously reserved for men. My intention as a researcher was to ascertain if these women were forced to seek mine jobs due to circumstances that had left them with no alternative. In response to this question, Kabwe stated:

Being a daughter of a miner and growing up in the mines, your mind was centred on the mines and nothing else. And you had an upper hand in getting a job in the mine.

What stood out in this category is that only three of the women genuinely wanted to work in the mine while the other three stated that the lack of job opportunities in the mining

community forced them to look for mine jobs as that option was better than staying at home without an income. Rista affirmed this by stating that:

I am happy that am working in the mine rather than staying home because no one can give me the money that I get paid.

Other participants, such as Mavis, went to college and took courses that were directly related to the work that they do in the mine. Unfortunately, Mavis did not want her voice to be recorded. As such, I only obtained the hand-written copy of the interview. Mavis alluded to the fact that her career in mine purchasing and supply, though tiring due to continuous standing and frequent movement, has exposed her to copper-production skills that she is happy to have acquired. While the SADC (2015) report on women in mining indicates that there are more women working in mines in Zambia than previously, the study revealed that most women in this industry are still performing traditional tasks like secretarial or clerical duties, office cleaning, washing and polishing mine machines, and various general duties. According to Chakuza,

Mostly the women are forced to take up lighter jobs for fear of the unknown. You know what, men always like themselves and they think they are superior and think they are clever than women and that women lack knowledge. They should be told that we are equal.

5.2.2 Workplace Challenges

The phenomenon of women working as dump-truck drivers in Zambian mines suggests that there is indeed a trend of change in the industry as was evidenced by the participants including one woman who works underground as a dump-truck driver. All of the participants reported that men outnumber women in all departments. When asked for her opinion regarding the source of the gender imbalance, Kabwe responded by saying, “I think most of us women like to become teachers or nurses, and not miners.” She further stated that men are given much more

demanding and better paying jobs, while women are heavily represented in less demanding office and workshop positions.

Contrary to Kabwe, Chakuza argues that “Women are capable of doing heavier work and are willing to do the work, yet we are forced to take up lighter duties.” In line with Mavis’s sentiments, Maria reported that many women who work in the mines have been denied the opportunity to work underground even though they have demonstrated that they are capable. While acknowledging that some women have displayed fear of going underground, Maria emphasized that the main factor contributing to women not working underground is that some men are not happy with the idea of women working underground because they believe that it challenges their masculinity. As a result, the women who have had the opportunity to work directly with men have been forced to work harder and to a higher standard in order to prove that they are able to work as well as men. Maria explained that:

The problem is that working with people like men, you need to be strong enough because they put you under pressure. For example, I’ll say if we are two and the boss tells us you have to clear this work. If am with a lazy man, he will be pointing a finger for me to do the work.

The findings reveal that Kabwe, Maria and Mavis strongly believe that men generally do not like the idea of working with women in the mines based on the encounters that they have had while working below the surface. As Kabwe stated, “There are those men who are willing to teach and work with women. But there are those who feel challenged because a woman’s touch produces good results.” These four women have had the opportunity to work with men in various locations within the mine, though these locations were mostly above the surface and not underground. These participants reported having experienced discrimination of some sort while working in this male-dominated environment. Mavis attested to the fact that managers have

openly told her that women are not capable of completing work satisfactorily and therefore should only be given easy tasks. Similarly, Kabwe argued that men have the perception that they are superior to women and, as such, they do not want to work with them, especially below the surface. Her observation is that women predominate in less physical surface jobs providing supply, engineering, auto-electrician and general-contractor services. Discrimination reportedly is even evident in the area of staff training. According to Maria, “There is gender discrimination in training. They would prefer first they send men rather than women.” Moreover, Chakuza sees men as having a bossy and superior attitude that includes downgrading women by labeling them as weak people who lack knowledge.

Two of the women have a somewhat different perception, one that echoes some of the views expressed by men. Rista stated her impression that “Women are not as tough as men. Therefore they choose not to do heavy work, and end up getting paid little money.” It is interesting to note that Rista and Eulalia, who do the same types of tasks as general workers, reported not having been subjected to any kind of discrimination while working with men. They further stated that men like working with them and that this is one of the reasons why they have never experienced discrimination.

All of the participants in this category individually agreed that, while the number of women holding supervisory or managerial positions in the mines has increased slightly, the numbers remain very low. Some of the titles of the management positions held by these women were listed as senior buyer, superintendent, chemical engineer, human-resources manager, electrical engineer and mine captain. Unfortunately, none of the managerial staff responded to my call for interviews, and therefore none of these individuals were interviewed. When the

participants were asked what possible advancement opportunities were available in their work, the question was seemingly challenging for them as most had no idea how they could possibly advance. Generally speaking, the participants confirmed knowing at least one or more women who had been promoted to higher levels and therefore they were of the view that, with the investment of more effort, women could hold almost any position in the mine. When probed to ascertain if completing higher education would help the participants to excel at work, Rista and Eulalia said that they had no idea simply because they had not made any effort to find out. The study shows that, even though none of the women were satisfied with their income, they did not appear to have any solution to the problem of being underpaid. The findings show that the interviewed women believe that men are being paid more money, and that this is related to the more physically demanding nature of their work assignments.

When asked on how they rate their pay for the amount of work that they do, none of the women reported being fully satisfied with their salary or hourly wage (see Table 3). Extracts of their responses are as follows:

Table 3: Formal Worker Pay Responses

Participant	Response
Kabwe	“Highly underpaid. Secretaries get more money in other organizations.”
Maria	“The pay is fair as I manage to support my family from it; but more would be better.”
Chakuza	“A 70 percent salary increment could be better.”
Rista	“They pay me very little and it’s not enough for the work that I do.”
Mavis	“It feels underpaid due to the inflation.”
Eulalia	“The salary is okay for me as no-one would ever give me that kind of money or the equivalent of it for free, although it’s little.”

Source: Formal Workers Interview Guide

When asked what their perception of mines is as workers and residents of the Mopani and Kalulushi mining communities, all participants revealed that they perceive the mines to be of great importance to the community as they provide their employees with an income. According to Maria, “the mines contribute to the well-being of the community, as can be seen from the gifts that the mines give to the community at Christmas time.” Rista said that “mines are important to the community because through the mine, I can do carpentry, painting and plumbing which I did not know how to do before I came here.” Rista, who is a general worker, reported that:

the mine has been helpful to the community as the company has been teaching women how to perform first aid and how to do tailoring and design, as well as personally educating me on how to close ditches left by old mine.

Kabwe, Chakuza and Mavis view the mines as high income earners for the country in addition to being their own source of income. Interestingly, Eulalia reported that she realizes that the mines are of importance, but she refused to say in what ways and to whom. Taken as a whole, the interviews show that the participants in this category have different perspectives on the ways in which and the extent to which the mines are helping the community. Regardless of the differences among these perspectives, the study findings show that all of the women would look elsewhere for better prospects if the opportunity were to arise.

5.2.3 Safety at Work

When asked if the company places a high priority on ensuring that all employees are safe at work, the interview revealed that all of the women in this category have been adequately trained for their respective jobs. As such, they are able to safely and comfortably operate all the necessary machines that are related to their work. Furthermore, all the women had the opportunity to take mine-safety training before starting in their role. The findings revealed that,

although the women in this category hold various work positions, all of them are required to wear Personal Protective Equipment (PPE) when moving around the plant. The participants listed PPE clothes as reflectors, helmets, goggles, safety boots, gloves, glasses and respirators, as well as equipment designed to protect the worker's body from injury, depending on the department that they visit. Kabwe stated that "PPE is meant to protect us as miners from hazards like heat, chemicals, biohazards, and other matter in the air." According to all of the participants, the PPE is comfortable and adequate for their work as miners. Although none of the participants reported having had any bad experiences wearing PPE, there was a general acknowledgement of the fact that working in underground mining is especially hot. This was reported by Maria who further stated that

When you are underground, you can't take off your PPE, no matter how you sweat. Immediately you take it off, power might go off and someone might not be able to see you because the PPE have reflectors. If you feel hot, you tell your supervisor then you go to a place where there's fresh air.

When the women in this category were asked if they have been exposed to any unhealthy situations, Mavis and Eulalia reported having been exposed to fumes from spillage, as well as to excessive heat and dust. They further stated that these incidents were reported to the departmental heads, but that nothing was done to change the situation in both cases. Mavis also emphasized safety shoes as one of the major causes of health problems because they are often the source of fungal infections. Therefore, on the issue of safety, all of the women reported that this is of great importance to the company, as is evidenced by the requirement that all employees wear appropriate PPE when visiting high-risk areas. All of the women acknowledged that mining is a hazardous and physically demanding occupation. According to Maria:

It's tiring and dangerous to work in the mines. I would say tiring because in the areas where we work, it's very hot. You find that within an hour, your overalls are wet and you're sweating. Dangerous because each and every day, they are blasting. Each and every day again they are drilling, so there are loose rocks so you have to be cautious. You have to be aware that where am standing is a rock. The only danger you have there is the rock. You don't have to sit down or sleep.

Nevertheless, none of the women expressed concerns about the issue of safety at work or about the washroom facilities which they stated are clean and adequate for all women. Men and women have separate washrooms both underground and on the surface and, as a result, they are satisfied in this regard.

5.3 Women Involved in Informal Mining

In a similar manner to the women in the formal workers category, six women were interviewed for the informal workers category. Once again, pseudonyms are used in order to protect anonymity and confidentiality. This particular category is comprised of two different groups of self-employed women who work in the mining community, these being small-scale mine suppliers and small-scale mine owners. A total of six women were interviewed for this category, four small-scale mine suppliers and two small-scale mine owners (Table 4).

Table 4: Informal Mining Participant Information – Ages 24 to 54

Participant	Job Title	Job Description	Education Level
Belani	Supplier-owner	Mine supplier	Grade 12 Certificate - No purchase training
Chimwe	Supplier-owner	Mine supplier	Grade 12 Certificate- No purchase training
Wamu	Supplier-owner	Mine supplier	2 Year College Diploma - No purchase training
Sepo	Supplier-worker	Mine supplier	Grade 12 Certificate - No purchase training
Cathy	Small Scale Mine Owner	Small scale miner	2 Year College Diploma - No mining training
Liz	Small Scale Mine Owner	Small scale miner	University Graduate, BA- No mining training

Source: Informal Workers Interview Guide

The rationale for interviewing people involved in these two rather different occupations was simply that these were the individuals who responded to the researcher's advertisement and it so happened that they fitted within the informal workers' category. According to the ILO (1999), most small-scale mining operators tend to work in the informal sector; as such, they are often rendered invisible by the government and by decision-makers. Women's involvement in small-scale mining is significant, with women being fully involved in such functions as "prospecting, exploration and the actual mining as well as marketing" (UNECA, 2014, p. 5).

When asked to share their experiences of living in the mining community after the introduction of the Structural Adjustment Program, Belani, Chimwe and Wamu reported that life after privatization has been extremely hard for them. Participants like Sepo, Cathy and Liz had never lived in the mining community before ZCCM was privatized; therefore they were unable to make comparisons of life before and after privatization. Chimwe reflected the sentiments mentioned above in saying that,

My husband has worked for ZCCM and things have really changed. Even they were giving bonuses, paying fees for child assistance, but nothing now. Like where he's working now, he's not happy with his salary. In a week, he's off for three days and works for five days. He goes to work at 6 a.m. and comes back home at 8 p.m. He overworks.

5.3.1 Women as Mine Suppliers: Work Challenges

The interviews revealed that all of the above-listed mine suppliers have been contracted by both the Chibuluma and the Mopani mines. The women all have been registered to supply various operational items that are required for daily mining operations. Apparently, all mine suppliers are required to have trade licences as no contract will be issued to an unlicensed contractor. When asked to explain what exactly she does as a mine supplier, Wamu reported that

female suppliers have been sidelined to only supplying basic mine requirements that exclude machinery. As she explained,

I can just say I do general supplies. When you say you want to supply machinery, they say you are a woman, you will not know the machines. Female suppliers are allocated things such as kitchen towels, work clothes, stationery, but not machines.

Much like in the formal sector, Sepo and Wamu commented that men have less faith in women dealing with mining equipment or machinery in the Zambian mines. They further went on to say that consequently, smaller orders are allocated to women while larger and better paying orders that involve ordering machinery or equipment are allocated to men. According to Wamu,

Usually men intimidate women. They think like there are some jobs we cannot do. They give bigger contracts to men. It's difficult because we don't know where to complain. If we had someone to talk on our behalf, it would be better.

Unlike the other women in this category, Sepo is the sole employee of a female small-scale supplier. As she is the person who is responsible for running the company, the owner suggested that I interview Sepo on her own behalf. The information provided by Sepo and the other women in this category revealed that they experienced similar challenges as small-scale suppliers and as residents of the Chibuluma and the Mopani mine communities. The women assert that working as a supplier requires them to work extra hard and for longer hours in order to prove that they are capable of performing at the same level as men and in order to earn an income that in most cases is a supplement to their low household income. When asked what prompted them to enter the supply business, the most common response was that they needed to generate an income to help lift them out of poverty as they were unable to get regular mine jobs. Most of these participants reported simply being happy to earn their own income despite the

difficulty of obtaining contracts. As Belani stated, “From the time we started, life is better now, because I am self-employed.”

These individuals were unable to find regular paid jobs in the mines; therefore they decided to pursue informal business opportunities. According to Belani and Chimwe, their respective husbands’ income from casual work is too low to sustain all their family members. As was revealed during the interviews, most mine employees work on a casual basis, which averages three days per week and barely generates enough income for the household. Belani said that, rather than accept living in poverty, she looked for alternative ways of earning an income by registering as a mine supplier. She further stated the following:

It’s not always that we have jobs like every month, just something to keep you going. But then there are always challenges especially for us womens. We’d just have a job just to keep us going. They tell us, we can’t give you this job because it’s for men. They think womens can’t do it, but trying us we can do what men can do.

Despite the hardships that they face in trying to acquire contracts, the women stated that they are happy that they made the decision to enter the supply business. The mere fact that these women are able to earn their own income, despite its sporadic nature, is perceived by the participants as a positive achievement.

5.3.2 Allocation of Mine Supply Contracts

Especially notable was the fact that all of the suppliers expressed disappointment at the way in which the mines have been allocating contracts. As earlier stated, the women believe that male suppliers have been obtaining larger and better-paying contracts, while the female suppliers are being given relatively small contracts that pay very little money. Another observation was that men were receiving repeat contracts while women had to struggle to obtain even the most basic contracts. When asked what might be the cause of the imbalance in the allocation of

contracts, Belani reported having been told that men are more capable of doing specific work than women. Chimwe continued by saying that:

It all depends on the administration. The old administration was fair in giving contracts. Things are hard now, very, very tough. Even to be registered as a supplier is impossible, especially for us women. I have seen that men who have come after us are really doing fine. They have bought houses. I have not seen any woman who has progressed much through supplying.

While agreeing with the above sentiments, Wamu disagreed with the stereotype that female suppliers in Zambian mines are incapable of completing any work. She expressed the view that, as far as she could recall, the mines have never tried to allocate any large contracts to female contractors and therefore they do not have any evidence that women cannot do the work as well as the male suppliers. As a result, these women reported feeling marginalized and hopeless in situations where they believe they could do better if given the opportunity.

After asking for information about the specific work performed by the women as mine suppliers, it was reported that a typical work day included looking for contracts and preparing quotations for bid submissions. Each day, the suppliers contact the mines to find out what is required. The next action is to source the items to supply to the mine, and this can involve local or international travel, which can be challenging. As Wamu explained, “Before privatization, everything they used in the mine was produced locally. But now, everything is imported from abroad.” When asked what they would like the mines to do to make business and life better for them as female suppliers, each of the participants had a different opinion. According to Sepo,

They should be fair even to us women. Male suppliers are selfish. They are not helpful because they look at us as competitors. All they say is be strong and continue working, but they will not tell you how they are getting contracts.

Sepo is the only salaried employee in this category and she reports being very poorly paid as a result of the company hardly getting contracts, a fact that the company uses as a justification.

Chimwe pointed to an attitude problem:

The other thing is that they think women will not keep a secret because in some cases, the buyer will say I'll give you this contract but am in it too.

The interviews revealed that, quite often, the people who are in charge of buying items for the mine expect to be paid a certain percentage of the total amount of the contract as a personal kickback once the payment has been approved. Given the fact that this is always a private arrangement about which the mine owners ostensibly know nothing, the buyers appear to be more comfortable dealing with men based on the belief that male suppliers will not expose them for engaging in illegal transactions.

The interview findings also reveal that, even though women are reportedly overrepresented as suppliers, they are still less numerous than men. According to Belani and Chimwe, there are about 80 percent more male suppliers than female suppliers. Belani attributes the lower number of female suppliers to the fact that men allocate contracts to other men through deals negotiated in the context of social gatherings. She further stated that she believes that the contracts are allocated on the basis of who knows whom rather than on the basis of merit. Chimwe reiterated the view that, as a result of some men repeatedly saying that mine jobs are for men and not for women, there has been a negative impact on the allocation of contracts. She therefore believes that there is a range of factors that have contributed to men being awarded better-paying contracts than women. Thus, the participants in this category have found obtaining contract allocations to be an especially challenging part of their work as they believe that they

have no voice or representation and that they are essentially on their own. Hence the view expressed by Sepo that “Women are being continuously suppressed into lower levels.”

A positive aspect of this qualitative research is that the participants usually have a large amount of information to share, some of which I did not anticipate (Ospina, 2004). The research findings reveal that, while some women are fortunate enough to have more than one contract at a time, these repeat contracts are seldom obtained in a fair manner. Belani and Chimwe highlighted the issue of sexual exploitation in the mine-supply business having a negative impact on the way in which contracts are allocated. While being interviewed, Belani reported that many of the men who are in charge of issuing contracts have demanded sexual favours from her and other female suppliers. In other words, the buyers are asking the women to have sex with them in order to approve their contracts. As Belani explained,

We don't accept what the buyers want. Some women are giving their bodies for sex to have jobs in the mine. Like they ask you to meet the buyers at a certain place at night. Now seeing a married woman staying up to 24 hours is sad. A married woman, she wants to go home at that time.

Chimwe cited an example of three women who have greatly benefitted from engaging in sexual relations with the buyers:

Especially in Mopani, there are three groups of women who always have more than three contracts at a time. Here you find one has a child with this buyer or you hear that one is going out with that buyer, just like that. But looking at them, you'll hear that she has a kid with that buyer.

Furthermore, some large supply companies have been known to use women to obtain contracts on their behalf through sexual favours. As Chimwe explained,

There are some big, big companies, they like using women to get contracts. They will use the women and at the end of the day, the company owners will get the money.

When I asked for ideas on a solution to the problem of sexual exploitation, Chimwe stated the following:

The solution would be for what I'd say is they should follow the rules of CEC. Let the government come in and what I'd ask is that they follow the rules of CEC. In Mopani, it's the same people who are working.

Chimwe therefore challenges the government to take steps to ensure that the mines abide by the Copperbelt Energy Corporation (CEC) contract guidelines, which require the issuance of at least one contract per year to all registered suppliers. Chimwe explained that CEC is an independent power transmission company that supplies electrical energy to the mines.

One of the facts that emerged from the interviews is that none of the participants had received any specific training for this kind of work. While Belani stated that she possibly could do better as a supplier if she were to return to school to acquire training in purchasing and supply management, Chimwe expressed a very different view: "All one needs is just brains and a grade 12 certificate to be able to read and understand the contracts."

On a positive note, none of the interviewed women reported ever being exposed to unhealthy situations at the mines. When asked if safety was of prime importance for the mine companies, the participants confirmed that the Mopani and Chibuluma mines both take safety seriously. All suppliers and mine employees are required to wear PPE while in the mine context for safety reasons. As Wamu said, "Mining is dangerous. You'd never know a stone can come from anywhere so you have to wear protective gear while on the plant."

All of the suppliers in this category received introductory safety training before starting work at both mines. The study revealed that the Mopani and Chibuluma mines take security seriously and therefore, much like the requirements for formal mine workers, informal workers

are required to wear protective clothing whenever they are on the mine premises. All four participants perceive the mines as being of great importance to the community as they provide an income for suppliers, miners and schools.

When asked to state if mining companies supported the local communities, the participants provided responses as shown in Table 5 below:

Table 5: Informal Worker Responses

Participant Name	Participant Response
Belani	“Yes. They built a school for the community.”
Chimwe	“No, I have not seen it.”
Wamu	“Very little, unlike in the ZCCM days. Mines are forced to help like patching the roads mostly.”
Sepo	“They only support when they are asked to.”

Source: Informal Workers Interview Guide

Based on the responses listed in Table 5, it is evident that some the participants are not sure of what exactly the mines are doing or are supposed to do for the community. Therefore it is difficult for them to determine whether it is the state or the mining industry that is responsible each time that a small development project is carried out. When asked about other economic opportunities that might be available to women who are not working in the mining community, the respondents stated that women are heavily represented in agriculture and in selling food items or used clothing at the market. As a result of the many struggles that these women go through in acquiring contracts in the mine, three out of four reported that, if another job opportunity in mining or outside of it were to be offered to them, they would leave their business for that new opportunity. In contrast, Chimwe reported that she would never go back to being employed as she actually enjoys being an independent business person. In summary, the findings

show that, although the participants are generally happy to be self-employed as informal workers, they worry that they are essentially invisible to the government as the issues that they are experiencing as contractors in the mines are not being addressed by any government department. They believe that it is possible that, if the government were to become involved, there would be more fairness in the allocation of contracts.

5.3.3 Women as Small-Scale Miners

The last two participants in this category are small-scale mine owners who acquired mining licenses long after privatization. Cathy and Liz have individually owned open-pit mines for six years. Neither of them lived in the vicinity of the mines before the privatization of ZCCM. While Cathy lives in the Kitwe mining community, Liz lives in the Kalulushi mining community. Even though they reside in different communities, they report similar challenges based on the obstacles that they have been facing as women in the mining business. Notwithstanding the fact that more men than women are working as small-scale miners in Zambia, Lahiri-Dutt (2011) argues that masculinity should not be seen as an essential characteristic of this activity, especially because this view devalues and even disregards the important role played by women in this part of the economy. Indeed, Lahiri-Dutt (2011) adds a new perspective to the world view that sees men as more suited to mining jobs, by presenting mining “as an informal and highly feminine economic endeavor” (p. 1).

Though located in different parts of the country, with one in Mkushi and the other in Luapula, both mines produce manganese. According to the Jefferson Lab (2015) Periodic Table of Elements, close to 90 percent of all the manganese that is produced worldwide goes to the production of steel with railway tracks being a typical example of steel products. Manganese is

also commonly used in giving glass and amethyst gemstones colour (Jefferson Lab, 2015). The interviews revealed that Cathy and Liz are very happy with idea of owning their own mine, especially as women operating in an environment that previously was considered to be an exclusively male domain. They stated that the most satisfying aspect of owning a mine is being their own boss and knowing that there is a possibility of obtaining huge payments from the sale of minerals. The least satisfying aspect is the fact that neither mine has reached the production stage. Both mines are reportedly at the exploration level, which they defined as the stage of assessing the presence and availability of minerals as well as various logistics. This stage apparently has taken longer than usual as a result of the lack of financial resources.

The other challenge discussed by the participants pertained to the quality of the foreign investors. The interviews revealed that many women purchased mines during the period of privatization in the hope of eventually finding an investor, in particular a foreign investor, with whom to enter into a partnership. Given the fact that most of these women did not have enough money to run a mining business on their own, a partnership with a wealthy investor was seen as the only viable option. According to Cathy and Liz, each investor was to have a 49 percent ownership stake, while the mine owner was to have a 51 percent stake. Cathy and Liz alluded to the fact that while some small-scale miners have managed to find a genuine investor, the majority of female small-scale miners have not been that fortunate. As a result, most of the inactive mines have been invaded by illegal miners who have been extracting minerals in the owner's absence by using picks and shovels.

When asked if they have had any success at all with foreign investors, Cathy stated the following:

I thought I was lucky at one time when I got a Chinese investor. He went to the mine and got a few samples of the minerals. He said he was going to find a market for the minerals in Europe and China. For that he gave me a small deposit and promised to pay the rest once the minerals were all sold. I have not heard from this investor, and it's been three years since I heard from him. I have lost touch with him.

Liz stated that

Mining is very expensive and requires heavy investment in machinery. Most of us do not have that kind of money. But again, it's all a matter of finding genuine investors.

Both participants expressed the need to find genuinely committed investors in order to be able to move forward with mining operations. When asked how they would determine if an investor is genuinely committed, Liz explained that

It's our duty to do detailed research on the credibility of the credentials presented by the investors by going through the government database and also by using other available tools provided by the *Ministry of Mines, Energy and Water Development*. You have to know the past history of the investor's dealings with other miners. If one has done business in the country before, there is a chance that you will know their history. But we can also go further by looking at other research methods like getting referrals from the miners they claim to have done business with. In that way, there is a possibility that you would know what kind of investors you are dealing with.

Much like the other women in this category, Cathy and Liz report that they wear protective clothing whenever they go to the mine site in order to ensure their safety and security. On the other hand, the findings reveal that neither mine yet has washrooms or other structures on site and that they often use portable toilets when exploration is in progress.

Despite the fact that both Cathy and Liz acknowledged that there are more men than women working as small-scale miners, they have different understandings of the reasons why this is the case. While Cathy expressed the view that "Women are under-represented in small-scale mining due to a lack of skills in machine use," Liz stated that:

The low numbers of women in small-scale mining is due to lack of financial capacity and the work being too hard for us women. You know mining is very expensive and most of us can't afford financially.

Unfortunately, female miners have inadequate access to political power, money, capital assets and general contacts with the outside world as alluded to by Lahiri-Dutt (2011). Unlike the suppliers, Cathy and Liz explained that male small-scale miners have been very supportive of female miners. When asked to explain the ways in which men have been helpful, the response was that male miners have been encouraging them to work harder and to never give up. As such, they perceive men as being helpful. Based on the UNECA (2014) Concept Note, most female small-scale miners in Zambia own open-pit mines. The UN Concept Note also highlights the fact that female small-scale miners in Zambia dominate as stone crushers and mineral sorters (UNECA, 2014). On the issue of security, both Cathy and Liz view safety as being of great importance in their mines. Both participants expressed the view that safety entails wearing full protective gear as outlined in the safety code of the Ministry of Mines. Liz stated that:

I have already started looking at ways of making my mine safe for me and the other people I'll be working with. I have all the information required and will be able to implement once I find an investor. I really care for my life as well as everyone else's I'll partner with.

When asked what training they had received for their work, both participants reported that they had never received any mining-related training for work. They both believe that they need to receive training in the use of industrial mining machines and in mineral processing as this will help to control operational costs and thus will benefit them financially once their mine has become fully operational. According to Hilson (2001), training is vital as “inexperience in mining and lack of knowledge about chemical exposure are a major risk factor for injury and illness” (p. 9). Liz acknowledges the fact that:

Getting educated on mineral processing and what generally goes on in the mine is vital, especially for us who intend to go into partnerships with investors. So yes, training is important and I need to educate myself on a lot of things related to mining soon.

As explained by Hinton et al. (2003), education is critical in transforming gender stereotypes, especially because it empowers women to gain more from mining.

When asked if mines are of importance to the community, the two participants responded that they view mining as a great asset to the country based on the various taxes and fees that mining companies pay to the government. Liz made an interesting point in stating that it is their duty as miners to invest in community infrastructure. Therefore, both women reported that they intend to give back to the community by helping to build community infrastructure once their respective mines have become fully operational. Given the fact that it is taking a considerable amount of time to prepare their respective mines for production, the researcher asked if they would sell their mine if other work opportunities were to become available to them. Cathy responded by explaining that “I would only sell the mine if I completely failed to find investors, but I have not considered that at all for now.” Liz stated that “I would consider the option to sell the mine only if the other business is less risky than mining.” The findings revealed that both participants looked forward to partnering with viable investors in order to ensure that both mines would eventually thrive. The study further revealed that obtaining capital funding is a major concern to both participants. They currently do not have enough money to start the mining process. When asked what they have tried to do in order to acquire financing, the participants reported that they have applied for loans from the local banks but have not been successful. Therefore, their only hope is to find genuine investors.

5.4 Community Life after Privatization: Homemakers’ Perceptions

Six women were interviewed within the category of homemakers. However, as mentioned above, the findings contain data from only five women as the sixth participant

withdrew her data after the interviews were conducted. Similar to the other participants, all homemakers are listed under pseudonyms (Table 6).

Table 6: Homemakers' Participant Descriptions – Ages 29 to 62

Participant	Job Title	Job Description	Education Level
Yanja	Homemaker	House cleaning, laundry once in a while, cooking, volunteer tailoring for a club making school uniforms for a mine school, gardening	Grade 12 Certificate I Year College Diploma
Vicky	Homemaker	House cleaning, cooking, laundry sometimes, taking care of the children, gardening, volunteering at church at times	Grade 9 Certificate No college training
Lucy	Homemaker	House cleaning, cooking, going to the market for supplies, watching TV, sometimes going to church, farming	Grade 12 Certificate Shorthand Typing Certificate
Flora	Homemaker	House cleaning, cooking, looking for mine contracts to do odd jobs three times per week, doing laundry when necessary	Grade 12 Certificate I Year College Diploma
Patricia	Homemaker	House cleaning, cooking, washing husband's work clothes, preparing children for school, doing home visits	Grade 9 Certificate No college training

Source: Homemakers Interview Guide

All of the participants within this category are married and are fully dependant on their husbands. The intention of creating this category was to find out what challenges or opportunities the women experienced as homemakers in the Chibuluma and the Mopani mine communities. I also wanted to find out if the women had any interest in taking up formal jobs or simply preferred to be homemakers. The initial findings revealed that all five women were quite capable of engaging in basic formal employment as they all had some level of literacy as evidenced by their ability to converse in English without much difficulty. When I asked about what community life was like before privatization, Vicky, Lucy, Flora and Patricia reported that life was much better when the mines were owned by ZCCM. They individually stated that ZCCM

offered many free services to the community which included frequently painting their houses, and giving them free education and even some free meals. Vicky is of the opinion that

Before privatization, things were good. They used to paint houses which are dilapidated now (Figure 4). They used to teach women how to manage the gardens, cleaning the houses and they used to teach women how to cook, how to sew things, how to keep the house, how to be a good wife. So there were many things that ZCCM used to do.

Figure 4: Dilapidated building due to environmental pollution



Source: Photo taken by Irene

The women also reported that ZCCM was committed to ensuring that water, electricity and garbage collection were always available to the community. As such, Vicky, Lucy, Flora and Patricia independently lamented the fact that life is now full of hardships which are exacerbated by the fact that many people do not have a regular paid job. Lucy mentioned that “Now many men are not working so they are just busy drinking beers.” When probed about how the men could possibly afford to buy beer when they have no job, Lucy responded by explaining that

Most men pick up odd community jobs here and there and get paid K20 or so which they use to buy beer. Also when people used to work, you’d invite them to kitchen party or wedding and they could come, but now they will not come if you invite them because they have no money to buy gifts.

When asked to share what she felt could be the solution to the issues in the community, Vicky stated that,

I've got a son, first born is not working. Most of the deaths are happening in the homes because there is no money to take them to the hospital. So sensitizing our children about AIDS, the government can pay them through job creation to make a difference.

In contrast with Vicky, Lucy, Flora and Patricia, Yanja only moved into the mining community after her family bought a house in the mine area. Most likely as a result of her relatively recent arrival, she believes that life is better now and claims not to have benefitted from ZCCM in any way. Yanja said that she is particularly happy with the new mine owners' funding initiatives which include supporting women's groups, tailoring clubs and a local school. She explained that

Chibuluma mine built a school and supports women to do tailoring. The mine supports the first aid school. Like where I am, the mine, that is Chibuluma mine, have given us women groups. We are doing tailoring. We are sewing some uniforms for the schools. Chibuluma mine supports three schools. We have Kamichanga, Milemu and I've forgotten the other one.

In short, Yanja has not noticed any negative changes or trends that have altered community life since moving into the mine community. On the other hand, according to Flora,

Privatization has taught people to be self-reliant. ZCCM made a lot of people dependent on free services such that living without handout became very hard for a lot of people. The new mine owners have not been supportive of the community.

Vicky, Lucy, Flora and Patricia all contend that privatization has led to a loss of unity in the community as people have stopped caring for each other in the way that they had done before privatization. One of the major complaints from the participants who lived in the mining community before privatization is that the influx of new residents who have never been miners has robbed the community of its peace and security. Lucy maintained that

Mostly foreigners have occupied formerly mine-owned houses. Men have sold their houses and some have gone to stay on their small farms. So many have died from various diseases like depression, and starvation.

Lucy is particularly saddened by the fact that the lack of jobs has altered community life to the point where people have become resentful of one another. Lucy therefore stated that

There is no sense of community anymore as people have lost the concept of sharing the little that they have. In the past we cared for each other and shared the little that we had, but that's not the case anymore.

In addition to the fact that most people lost their job after privatization, Flora believes that the new mine owners do not appreciate their employees at all. She backed up her claims by giving an example of how miners are forced to retire with only small terminal benefits once they become ill. Furthermore, Patricia reported that, whereas ZCCM made it a priority to hire qualified Zambians for key positions, the new mine owners are placing highly educated people into low and poorly paid positions. When asked about what they perceived as being the most satisfying aspect of living in the mining community, Patricia reported that she was happy to see women now being hired for mine positions that were previously held by men, including as dump-truck operators and boomers. In her opinion, she states, “this signifies that gender has been balanced,” although many formal workers would argue that the contrary is true. When asked to explain what prompted them to live in the mine community, Flora responded that the “Mine area used to have beautiful houses. Even when you have good neighbours, children have good morals.” All but one respondent, Yanja, reported either having grown up in the mining community or having moved there after getting married to a miner. None of the women expressed any regret at her decision to live in the mining area. According to Lucy, “Living in

mine areas was warm, friendly and conducive for family life prior to privatization. There was a lot of security in mine areas in comparison to the locations.”

In line with the beliefs of women in the homemaker’s category, Hinton et al. (2003) assert that the women who live in mining communities are often responsible for sourcing food for the family; as such, they are quite competent in agriculture. All of the participants advised that apart from owing small backyard gardens, their other major food sources are the market, community grocery stores and some farms. None of the participants had any idea about where the food sold at the market comes from. When asked if the women had a backyard vegetable garden, they provided responses as indicated in Table 7 hereunder.

Table 7: Backyard garden ownership responses

Participant	Do you have a backyard garden?
Yanja	“I have a backyard garden, but the vegetables are polluted and therefore I cannot eat them”
Vicky	“Yes, I have a vegetable garden, but the vegetables fail to grow on their own; but I always use fertilizer to help the vegetables grow”
Lucy	“Yes, I have a vegetable garden that thrives and has not been affected by the pollution”
Flora	“Yes, I have a vegetable garden, but because of water shortages in our area, my garden has not been doing well.”
Patricia	“No, I do not have a backyard garden because the vegetables have failed to grow due to pollution”

Source: Homemakers Interview Guide

In order to supplement their husband’s income, Yanja, Vicky, Flora and Patricia have tried to look for alternative ways of growing vegetables. Nonetheless, as mentioned by Yanja, some people worry that their vegetables might be polluted and therefore might be unsafe to eat. In addition to owning a backyard garden, Lucy and her husband own a farm from which they

obtain most of their food; this is especially important because they do not have a regular income.

According to Lucy,

I have a vegetable garden that is doing fine. Mine you can find chibwabwa (pumpkin leaves), kalembula (sweet potato leaves), cabbage. If you want something, you have to put in much effort.

All of the participants acknowledge that their backyard gardens can only thrive through the use of fertilizer. Lucy raised an interesting point about not being comfortable to eat fish from the Kafue River, “because all the dirt and spillage from the mines go there.” The rest of the participants in this category did not raise any issues with river pollution. When asked what she and other participants perceived to be the most satisfying and the least satisfying aspects of living in the mining community, the participants who lived in the mine area before privatization reported that the children who were growing up in the area had good morals. In reporting her perception of the least satisfying aspect of life in the mining community after privatization, Vicky said the following:

The other thing that has affected us after ZCCM closed is the maintenance. The neighbourhood was good with great homes and people minded their own business. These new owners don't have interest in that. Even welfare, where children would go and play are no longer there. In my opinion, it was not a good thing.

The least satisfying aspect for Flora is that people are exposed to mine pollution, though she did acknowledge that this has been tremendously reduced. As Flora stated,

When they are producing copper, that air that comes out it smells bad. Nowadays, they just dig copper, the smelter has moved to somewhere else. Sometime when the smells come, they burn trees. So we need to plant trees to promote the environment.

The participants all maintained that some of the other major challenges in the mining community include the continuous water shortages and the fact that the garbage is rarely collected by the municipality. All of the participants expressed the need for the city to upgrade

the water pipes as well as to increase the frequency of garbage collection. Lucy is dissatisfied with the influx of non-mining families into the mining communities. She is particularly saddened that people were forced to sell their houses in order to provide for their family; she believes that job creation would have resolved all of the financial issues that forced people to sell their home.

5.4.1 Economic Opportunities for Homemakers

The interview revealed that all of the participants in this category have considered working in the mine and that, if any opportunity were to arise, they would take advantage and try to apply for that opportunity. Interestingly, the participants had various reasons for wanting to work in the mine. These range from “I would cope better if I had a job” to “I need financial freedom.” The bottom line is that all of the interviewees concluded that it is very hard to be hired in the mine as a woman but that, if they were given a chance to be employed, they would all agree to work. Patricia asserted that the relatively low number of women working in the mines is a result of the mines only hiring people whom they know directly, or whom they know of through people whom they already know. She views this as a problem because she fears that the chances of her being hired to work in the mines are very low because she does not know any influential people. The findings revealed that all of the participants in this category would like to earn an income as they individually expressed an interest in being involved in income-earning ventures. With this in mind, I then asked the participants what economic opportunities are available to women in the community.

In response to the question about economic opportunities, Patricia stated that she believes that women should be able to work in all fields. Four other participants listed the economic opportunities available to women as working in the grocery business, boutiques or salons, or

selling items like fruits and vegetables, chickens, fritters or munkoyo, a traditional non-alcoholic beverage. Despite these economic opportunities, the findings revealed that the participants do not have the start-up capital necessary to engage in any kind of business. Therefore they have no choice but to stay at home to do unpaid work. To prove this point, Lucy said that

Women do not have money to start business. The city council built a large market in the community which is empty with only two people selling there. The market has 20 stalls, but only two women are selling there.

Despite women lacking the money to launch a business, the study revealed that they are over-represented in agriculture and food sales while men mostly work in the mine. Hinton et al. (2003) believe that, apart from working in or for the mines, women in mining communities are heavily represented in fields where they serve as cooks, sex-trade workers, shop owners and housekeepers. The gender imbalance is compounded by their lack of access to resources such as credit, education, technology and legal protection, as well as by their lack of a voice in forums for local and national decision-making (UNECA, 2014).

Taking into consideration the fact that most women in the community are homemakers, I asked about men's attitudes towards dependent women (Table 8).

Table 8: Responses to men's attitudes towards women in the mine community

Yanja	"No problem. I have not had any issues"
Vicky	"I don't know. Some men are good, others are bad"
Lucy	"Men are savages, mostly abusive due to frustrations of having no money"
Patricia	"Men look down on women and they consider them as helpers"
Flora	"Men believe women should be at home while men go to work. This is common misconception"

Source: Homemakers Interview Guide

As shown above, the participants provided various answers. Thus, the research revealed that there are significant differences among the various women's experiences, and that this accounts

for the variations in the answers. Notwithstanding Isla's (2005) view that mines are bad for their community, all of the participants in this category believe that mines are important to the community as they provide household income through salaries. As Vicky stated, "Mines give us an income. It would be total chaos if we did not have mines. It would be zero-zero." The participants in this category further stated that the mines are beneficial to the community in terms of helping to eradicate malaria in the surrounding area through their malaria eradication program. This involves the company spraying pesticides to kill mosquitoes and providing mosquito nets to the residents.

5.4.2 Community Health Challenges

One of the major challenges revealed by two of the participants was in the form of illnesses, including sneezing and coughing, that they experience as a result of inhaling mine fumes at the same time as they are exposed to spills from the cobalt smelter. Vicky, Lucy, Flora and Patricia confirmed having been exposed to unhealthy situations in the past, including to mine chemicals, fumes from the cobalt smelter, sewer spillage, mine dust and uncollected garbage. Some of the issues, such as sewer spillage, were resolved upon reporting them to the authorities in charge, while others are still ongoing. Patricia reported that she has in the past suffered from pneumonia and tuberculosis as a result of exposure to mine dust. She reported having recovered after she received treatment at the hospital. The interviews revealed that, despite having remained in the mining community for a long time, Vicky, Lucy, Flora and Patricia are willing to move outside the mining community if economic opportunities become available elsewhere. On the other hand, Yanja said that she would only move if she were able to sell the house that they

recently purchased in the community. The next section provides a discussion of the findings with a view to answering the research question.

6. DISCUSSION

This chapter discusses the study's findings related to the challenges experienced and the opportunities perceived by women living in the Kalulushi and Kitwe mining communities as formal mine workers, informal mine workers and homemakers. The study findings show that, while 10 of the 18 participants state that they have been negatively affected by Structural Adjustment Programs, 8 state that they have not been impacted at all. In answering the research question which is, what are the challenges and the opportunities perceived by women who work and live in Zambia's mining communities? One theme and four subthemes were considered as follows:

1. Women's Challenges/Opportunities in the Kalulushi and Kitwe Mining Communities

- Patriarchy at work
- Mining for survival
- Lack of finance
- Health and Safety

Data analyses for the three categories were presented individually because of the distinctiveness of the realities presented by each of the groups. Notwithstanding some similarities in the challenges experienced by the formal and informal workers, there are important differences in their respective work situations and these are associated with differences in their respective work experiences. On the other hand, even though the study participants fall into three distinct categories, the issues that they face as residents of the Kalulushi and Kitwe mining communities outside the work context are similar, and this reaffirms the idea that patriarchy plays a major role in the oppression of women. It is evident from the interviews that both the formal and informal workers are being forced to do low-ranking, poorly paid jobs by

virtue of being women in an environment that is considered to be more suitable for men. Maria, a formal worker, asserts that the act of giving women low-ranking tasks in the mines could indicate that men are not yet ready to accept women as equals. In both of these categories, women are convinced that they are just as capable of working as the men. The interviews revealed that all the participants are fully aware of the fact that men consider them unfit for labour-intensive mine jobs. Unfortunately, there is no evidence to show that the mines have tried to verify the proposition that women are not capable of working to the same standard as men. Although none of the homemakers reported experiencing work-related gender biases, most of the indications are that the general population perceives mining jobs to be more suitable for men.

6.1 Challenges/Opportunities for Women in the Kalulushi and Kitwe mining communities

As confirmed by all participants, the mining industry in Africa remains largely male-dominated relative to other industries, with the integration and growth in participation of women proceeding at a very slow pace, something that Kaingu (2003) discusses in her paper. She further states that gender discrimination is embedded in and is reinforced by all economic sectors, with women working longer hours than men in nearly all countries (Kaingu, 2003). The prevalence of gender discrimination in the mining community is reflected by the fact that this phenomenon was listed by 15 out of the 18 participants as the major challenge in the mining industry. According to David Magagula, a human-resources manager at a mine in South Africa, the expansion of the employment of women in the mines challenges the perception that mines are a male domain and hence normalizes mining as a career option that is and should be accessible to all (Ranchod, 2001). Magagula sees benefits in the industry hiring women as the results include the creation of

a more equitable work environment, the empowerment of women and the reduction of poverty (Ranchod, 2001).

The paucity of employment opportunities is also a major challenge in mining communities, as was attested to by all the participants. According to Maria, “the few households that have a regular income are living paycheck to paycheck on contract jobs that pay very little.” Even though several decades have elapsed since privatization took effect, my visit to the Kalulushi and Kitwe mining communities clearly showed that the majority of people are struggling to put food on the table as there are virtually no jobs available in the market; this conclusion is consistent with the findings of Benya (2009). Based on the fourth *World Conference on Women* held in Beijing in 1995, the United Nations states that poverty has a woman’s face as 70 percent of the world’s poor are women (UN, 1995). While it is important to acknowledge that poverty is indeed a complex issue, it is clear that the scarcity of jobs, assets and other opportunities in mining communities makes it even harder for women to survive (Hinton, 2005). Given the obvious gender imbalance in the Kalulushi and Kitwe mining communities and, in particular, women’s relative lack of education and skills development (as is exemplified by the cases of Liz and Cathy), women generally struggle to access the financial resources that they need. Although Zambia is one of the countries that has pledged to eliminate inequality in women’s access to and participation in economic-development structures and policies, poverty eradication remains a matter of critical concern for the country (Ranchod, 2003). The scarcity of job opportunities is clearly evident in the two mining communities, where very few people have regular employment – a fact that underlies the widespread belief that life was better before privatization.

Patriarchy at work: This discussion is informed by Marxist feminist theory and transnational feminist theory, both of which view patriarchy and capitalism as the principal sources of women's oppression. According to Harris (2010), the success of transnational feminism depends on its "ability to embrace the rich diversity of perspectives, belief systems, experiences and goals that emerge from women around the globe and their unique communities" (p. 5). By looking at the past, present and future, transnational feminism in practice goes "beyond the assumed global sisterhood and examines the multiple historical and contemporary intersections of race, gender, sexuality, economics, and nationality on a global scale" (Harris, 2010, p. 5). While feminists have seen the need for and the possibility of solidarity, they also acknowledge the possible risks associated with trying to create a shared platform (Harris, 2010). As such, transnational feminists have reportedly taken it upon themselves to fully understand the complex patterns of women's lives and conditions of subordination in order to make their contribution to transnational feminism more meaningful (Hegde, 1998).

While Marxist feminist theorists have a keen interest in analyzing women's relationships with both paid and unpaid work, transnational feminists view the phenomenon of women working in the mines with low pay and poor working conditions as a form of abuse (Mandell, 2005; Hegde, 1998). They therefore see the need for a "transnational movement to effectively address the many forms of violence against women and girls while remaining relevant, as well as accessible, across the global spectrum of context and experience; it must be intersectional, collaborative, and self-reflexive" (Harris, 2010, p. 2). Unfortunately, the issue of gender in mining has not been adequately researched. Indeed, it is clear that there is a "need for greater research attention to be paid to the race and gender dimensions of the mining industry and the

health and safety implications for women working underground” (Ranchod, 2001, p. 3). Women labouring in the mines are now doing work that was previously believed to be strictly for men (Volksen, 2009). There can be no doubt that the trend of women increasingly performing tasks that previously were performed only by men is an indication of the fact that the mining industry is undergoing a transformative process, though evidently at a slow pace as is alluded to on the SADC (2015) website.

Despite the fact that Cathy and Liz have not yet made any progress in extracting minerals from their small-scale mines due to the lack of resources, research indicates that women worldwide are playing a much larger role in small-scale mining than in large-scale mining (Hinton, 2005). In her report on gender issues that have an impact on sustainable development in the mining industry, Ranchod (2001) confirms that the South African Development Community (SADC) mining industries, of which Zambia is a member, have remained much more male-dominated than other industries, as the participation and integration of women have moved forward at an extremely slow pace. Consequently, the SADC mining industry has been characterized as the last essentially male-dominated field of employment; this is largely based on the fact that women’s participation is mostly on the surface (Ranchod, 2001).

While two participants stated their belief that there are some jobs that are physically demanding to the extent that they should only be done by men, two other participants reported that they enjoy the challenge of performing the same tasks as men. As noted in the study, some men have openly ridiculed women who have shown interest in performing the same tasks as them; this ridicule, according to Maria, is an indication that a great deal still has to be done to ensure acceptance of the fact that women are as capable as men. Another possibility is that the

men who ridicule these women are concealing or attempting to compensate for their own job insecurities and, in particular, the fear that their jobs could be given to women.

Although my principal focus is on women's experiences within the mining community, it is important to note that the study goes beyond the challenges that women face at work by investigating the possible sources of oppression that have continued to place women at subordinate levels in the work and home contexts. Unfortunately, the available literature does not indicate the salaries received by men before and after the start of their employment in the mines in Zambia. In summary, the findings indicate that female mine workers in the Kalulushi and Kitwe mining communities believe that they are underpaid based on the fact that they are relegated to low-status light work while men are given higher-status heavy work based on their perceived strength.

Based on the interview responses, it is evident that these women would never openly question any of the injustices that they have encountered for fear of being dismissed from their employment. This fear was confirmed when two formal workers requested that I not reveal their true identity in the thesis. My perception is that, by confining women to non-productive sections of the mines, women are being deprived of the opportunity to acquire the same skills in machine operations as men, which is a phenomenon alluded to by Hinton et al. (2003). Evidently, the stereotypes about women not being suited to certain types of work are negatively affecting their careers in mining. Overall, the study reveals that women have not been given the chance to work in more challenging positions and, as a result, they are lagging behind in terms of technical skills. It would be advantageous to women if they were placed in positions where they could work with men as this would confirm that many if not all of them are fully capable of achieving

success in physically demanding roles. Thus, in line with the statements of four formal workers in the Kalulushi and Kitwe mining communities, there is no evidence to prove that women are not able to work in the more challenging mine positions. However, the recent trend of women working as dump-truck drivers might suggest that incremental changes are taking place in the mining industry. Also, progress has been made in that there has been at least some increase in the number of women who hold a managerial position – though it should be acknowledged that the percentage of women in these roles remains quite low.

Mining for survival: Although Isla (2003) reports that mine are dangerous for members of the community and for the environment, it was interesting to note that none of the 18 participants saw it that way. All the participants are of the belief that mines are good for the country's economy and for the community as an income earner. None of the participants reported having been moved from their farmland to allow for mining operations on their land.

Not all of the women living in the mining community have been negatively affected by privatization as some either were new to the area or were young at the time of the restructuring of the industry. Nevertheless, in regard to issues related to the treatment of workers and to care for the community as a whole, a common sentiment is that the new mine owners are less willing to contribute to community services than ZCCM. Unfortunately, as earlier reported, the mines are components of large transnational companies that strive to maximize their profits by extracting as much revenue as possible while spending as little as possible.

Given the growing significance of women's involvement in small-scale mining, the last several years have witnessed an increasing number of "women take up ownership of small-scale mines with functions that include prospecting, exploration, actual mining and marketing"

(UNECA, 2014, p. 5). Although Kaingu (1999) reports that there are approximately 600,000 female Small-scale Miners in the SADC region, there are no statistics to show how many women are working as Small-scale Miners in Zambia or what minerals are commonly extracted by these individuals. According to Beinhoff (2003), the proportion of women in small scale mining in the SADC region varies, between the ranges of 5 to 10 percent in South Africa and Malawi; 25 to 30 percent in Tanzania, Mozambique and Zambia (Table 9).

Table 9: The Nature of the Small-scale Mining Sector within Southern Africa

	Malawi	Mozambique	Tanzania	South Africa	Zambia	Zimbabwe
Formal large & medium scale mining employment	14, 000	87, 000	365,000	1,350,000	300,000	350, 000
Number of small-scale miners (estimated)	40, 000	60, 000	550, 000	10, 000	30, 000	350, 000
% informal small-scale miners (estimated)	90.0%	95.0%	90.0%	n.a.	60.0%	85.0%
% women in small-scale mining (estimated)	10.0 %	30.0%	25.0%	5.0%	30.0%	50%

Source: Courtesy of Bernd Dreschler 2001, pg 4.

Despite the lack of specific statistics, women who are well established in the mining business like Ms. Namakau Kaingu, and even those who are new to the business like Cathy and Liz, have confirmed that there is indeed an opportunity to generate significant profits once the business has begun to operate (Kaingu, 1999). Liz and Cathy reported that they entered the small-scale mining sector with a genuine interest in generating a profit from this type of business. It is sad to note that, while small-scale mining provides opportunities for women to be

active in the mining industry, there is a need for them to be supported during the development phase of their business in order to ensure that their enterprise is viable, as pointed out by Kaingu (1999).

While there are variations in the kinds of work performed by members of the informal worker category, these participants share some similarities in terms of the challenges that they face at work. Members of both formal and informal workers category report having failed to progress due to capitalist and traditional systems that do not recognize women as being capable of working as hard as men. Hinton et al. (2003) quoted one member of the Association of Women in Mining as explaining the following:

We face a lot of rejection and we are not taken serious by the people in the field. There are a lot of traditional obstacles along the way. Chiefs feel undermined when they see women coming to mine areas. They are hostile.

At the time that the research for this study was conducted, no literature was available on the challenges faced by female mine suppliers. The interviews revealed that the four female suppliers rarely receive a contract despite being registered to supply at both the Chibuluma and Mopani mines. When these contracts are offered, they typically are small as the better paying ones are reserved for men. The women in this category identified many possible reasons why they as women are disadvantaged in the supply business. What especially stood out was the pattern that women are not able to obtain bigger and better paying contracts that involve the purchase of equipment as most mine managers do not believe that women know enough about machines. One could argue that these women do not need to know how to operate mining equipment as the contracts in question only involve sourcing and purchasing items for the mines to use. Therefore it would seem to be illogical to deny women contracts based on that argument.

Moreover, the specifications for the required items are often provided to the supplier by the mine; therefore it is clear that there are no significant barriers to individuals of either gender fulfilling this role.

Although none of the participants specified what the extra work entails, I was left to wonder why the women have to work harder in order to obtain contracts if the methods of doing the work are the same. Another challenge that female suppliers are facing is that many buyers are using unethical means of allocating contracts with the intent of benefiting either through cash payments or sexual favors. One might wonder why none of the participants have reported the buyers to the mine owners, especially given the fact that the buyers are employees of the mines and are not the owners. It is possible that reporting the unethical buyers would help women to gain contracts while helping to protect them from continuous sexual harassment. Unfortunately, the suppliers might also forbear from reporting the buyers for fear of possible negative outcomes from this course of action.

Lack of finance: Although the two small-scale mining participants report being very happy to own a mine and to be their own boss, they face multiple challenges of which the most significant is the difficulty of obtaining capital investment. Most women in Zambia lack the collateral necessary to borrow money from the bank as they often do not own land (Longwe, 1985). With this challenge comes the need for small-scale miners to partner with investors. Unfortunately, few women have been successful in building partnerships with reliable investors despite having the tools necessary for searching for these individuals. As reported during the interviews, mining is a very expensive undertaking and requires significant capital investment and heavy machinery which both Cathy and Liz cannot afford individually. Another challenge

faced by small-scale miners is that most of them lack training pertaining to mining operations. Related to the lack of training is the risk of injury or illness and an overall lack of understanding of the requirements for business success. Therefore, knowledge of and skills in mineral processing and sales are of great importance, not least because they challenge gender stereotypes, something that Hinton et al. (2003) also found.

As alluded to by Zawalinska (2004), the historical gender-assigned roles that place men in the position of breadwinners and women in the position of homemakers have disadvantaged women in the Kalulushi and Kitwe mining communities by making them into dependants in the domestic sphere. Initial findings reveal that the scarcity of jobs in the community is a major challenge in homemaker's category as all the interviewed women are dependants. These women are unable to pull themselves out of poverty due to a lack of personal income. The interview responses suggest that the only economic opportunities that homemakers have in the community are in sales at the market or in the streets. It is sad to note that, even though these women are homemakers, they are capable of engaging in formal employment as they evidently have some level of literacy. Yet the lack of employment opportunities has structured them into staying at home and taking care of their family. Thus, the creation of more economic opportunities for women in the communities surrounding the mines could help to reduce poverty as this would enable these women to more fully provide for their family and hence to reduce their level of dependence on their spouse.

Health and Safety: Lucy identified vegetable gardening as being of great importance to all the participants in the homemaker's category as it reportedly helps to reduce costs and to supplement the household income. Lucy further stated that the challenge with gardening is that

pollution has harmed vegetation. Most backyard gardens are not thriving, and this is the result of factors that include the exposure of the land to pollution and the low level of water in the community. This means that the community has had to rely on fertilizers to promote the growth of vegetables. Given the importance of avoiding consumption of contaminated vegetables, one might ask what the government is doing in regards to assessing pollution levels in the mine area. Based on information above, it can be difficult to acknowledge that mining in a sustainable manner is actually a possibility as communities become more and more impoverished as a result of environmental degradation in the form of pollution of the land, rivers, lakes and air.

Mining companies should take steps to protect the community and surrounding region from harmful chemicals and fumes. As reported by Kambani (2002), all proposed mines require an Environmental Impact Assessment (EIA), which is a study that determines the environmental and social impact of the mine. This report is and should always be available to be viewed by all members of the community. Health activists have argued that, for any health plan to work, community members should be involved in the decision-making process, something that Health Guides (2012) also recommends. According to three participants who lived in the mine community before privatization, the defunct ZCCM operated based on a sound plan that included the provision of social services in the form of health clinics, schools, clean water and sanitation. Relatively speaking, women from all three study categories reported that the new mine owners can be characterized as uncaring. The participants in the study maintained that the mining communities regularly experience water shortages, while the garbage is rarely collected by the municipality. The community members live in fear that the uncollected garbage and lack of water are likely to expose them to health problems. The next section is the conclusion which

presents a summary of the study and highlights the practicalities, limitations, recommendations and research dissemination of the study.

7. CONCLUSION

This chapter presents a summary of the research and includes remarks on the findings, recommendations, practicalities and limitations of the study. This study was aimed at uncovering the impact of Structural Adjustment Programs on women in the Kalulushi and Kitwe mining communities of Zambia by addressing the following research question: What are the challenges and opportunities perceived by women who work and live in the Zambian mining communities? This part of the study outlines these women's challenges and opportunities and their perceptions of those challenges and opportunities. Using a qualitative research methodology that draws on contemporary Marxist feminist theory and on transnational feminist theory, in-depth interviews were conducted with 18 women from the Kalulushi and Kitwe mining communities with the goal of identifying and assessing the challenges and opportunities of women in mining communities and their perceptions of those challenges and opportunities, whether as formal or informal mine workers, or as homemakers. The findings show that, while some women in the mining community have been negatively affected by Structural Adjustment Programs, others state that they have not been impacted at all.

Many transnational mining corporations are investing in developing countries, a move that has opened up serious debate on whether mines actually are beneficial to these countries (Mususa, 2010). The findings of this study are relevant to this debate, especially because many of them relate to the impact of the Zambian mining industry on gender relations. The mining industry in Zambia remains largely male-dominated, with the integration of women proceeding at a very slow pace (Kaingu, 2003). As reported by Maria, the government is working to ensure that more women are employed in the mines, however, the mining companies seem to be

unwilling to make much effort to train, upgrade and empower women to work underground as well as in specific surface positions that are overwhelmingly held by men. Although four of the formal worker participants claim to be capable of performing the same tasks as men, the majority of the women who are employed in the mining industry are reportedly working in lighter, lower-paying jobs on the surface. This study clearly highlights the fact that, while working in the mines offers benefits in terms of providing an income for families in the community, the women experience multiple challenges as formal or informal mine workers, or as homemakers.

While some participants stated that they are happy to have a mine job, the general perception is that the mines have not benefited the mining communities as most of the health and social services that mining investors promise to contribute to the community never materialize, a breach of commitment that contributes to serious poverty (Fraser, 2010). Based on the interview responses from the three participant categories, the main challenges encountered in the mining community are set out hereunder:

- With the mining industry still being largely male-dominated and with the integration of women proceeding very slowly, the participants experience discrimination from men as they are forced to perform low-paying jobs while better-paying and more strenuous jobs are given to men.
- Capitalist and traditional systems do not recognize women as being capable of working as hard as men, a problem that is combined with the hostility displayed by village chiefs who feel undermined when they see women coming to the mine areas.
- There is a lack of employment opportunities for women, as is reflected in the fact that very few people have regular jobs or low-paid contract job.

- Women in the informal mining category report lacking access to financial resources, access to training and skills development, training in mine safety, and knowledge and skills in sustainable approaches to mining.
- Female mine suppliers seldom receive repeat contracts as they often are expected to provide sexual favours and, when they do this, they receive only small contracts, with the better paying ones going to men.
- Buyers are using unethical means of allocating contracts with the intent of benefiting themselves, either through cash payments or through sexual favors.
- Given the fact that mining is an expensive venture, the challenge of finding reliable investors has forced the two small scale miners to remain at the exploration stage for an unduly long time.
- Cathy and Liz are not adequately trained to work in the mines as small scale miners. This lack of training is a major risk factor for injury or illness, and increases the probability of financial losses and ultimate business failure.
- Women are unable to pull themselves out of poverty due to a lack of financial resources, which means that as homemakers their only available economic opportunities are as vendors in the market or in the streets.
- Most backyard gardens are not thriving due to the pollution of the land and the inadequacy of fresh water; community members therefore are forced to rely on fertilizers.
- Mining communities regularly experience water shortages, while garbage is rarely collected by the municipality. As a result, residents are living in constant fear of exposure to health hazards.

The main opportunities perceived by women living in the Kalulushi and Kitwe mining communities are set out hereunder:

- Progress has been made in the mines in the sense that more women are now holding managerial positions, although the numbers remain very low compared to men.
- Some men are willing to work with women in the mines, and they are willing share their skills by teaching the women to perform painting, plumbing and other minor jobs.
- Working in the mines has helped some women acquire new skills such as closing holes left by old mines, painting and plumbing.
- Small-scale mining has given women the opportunity to own a business and be their own boss.
- Small-scale mining generates a substantial profit once the business has begun operations. The findings confirm that, while some women in the Kalulushi and Kitwe mining

communities have been negatively affected by Structural Adjustment Programs, others stated that they have not been impacted at all. One of the findings of this study is that most of the women who reported having been negatively affected by privatization are those who had been living in the mining area at the time that ZCCM was sold off. On the other hand, those who were young or new to the area claim not to have been impacted in any way.

7.1 Recommendations

The findings further reveal that the documentation and analysis of the mining community women's experiences can be useful for making recommendations for policy change by both the mining companies and the government. Set out below are recommendations that are intended to help eliminate the injustices that women face while working and living in the Zambian mining communities.

- Mines could increase the low number of female miners by hiring and training more women to work alongside men, in both surface and underground mining.
- Mine training could be inclusive of both genders. This inclusiveness means that women could be trained to operate various types of underground and surface mining equipment; this will provide women with the technical knowledge and skills necessary to help them advance in their career. Moreover, this training will help boost their self-image and morale, while reducing fatalities due to unsafe or inexperienced mining skills.
- Mine companies could be encouraged to hold seminars and workshops for educating men about the fact that women are as capable of working in mining as men.
- Workplace policies, such as the sexual-abuse policy, the code of conduct, the grievance policy, and the health and safety policy, could be read by all employees in order to ensure that they are all familiar with what is expected of them.
- Disciplinary action to be taken against men who sexually harass women, who refuse to work with women or who grant contracts based on gender preference.
- Free skills training could be offered to female employees, while low-rate education loans or bursaries should be offered to improve educational standing.
- Female employees could be informed about possible promotions in order to encourage them to strive for high achievement.
- The government could offer free educational workshops and seminars to small-scale miners in order to make them more knowledgeable about mine operations and safety.
- The government could devise a system for monitoring the allocation of contracts to suppliers to ensure that this process is fair and balanced.

- Health and safety inspectors could frequently visit mining communities to measure mine pollution levels with the aim of ensuring that they are within a normal range that is not harmful to residents; they also could ascertain whether the environment is free of poisonous chemicals that could be harmful to backyard vegetables that are ingested by residents.
- The government could offer special low-interest loans to female small-scale miners to enable them to become fully involved in the exploration and mining process.
- Training could be offered to community women on how to combat the health issues that arise from exposure to mine pollution.
- The government could introduce low-rate credit to community women to start small enterprises or to launch marketing cooperatives that will give them an alternative source of income.

7.2 Limitations

As this was the first time I had ever been to the Copperbelt, a lack of familiarity with the area contributed to the limitations of the study. The interviews were conducted during the rainy season when many roads were impassable. Therefore, given the fact that mobility was not as smooth as expected, Grace had to drive over to pick up the participants from their homes in order to avoid unplanned expenses resulting from delays combined with the high price of gasoline in Zambia. At this point, I came to the realization that a study can easily be confronted by challenges and limitations that need to be considered in advance, as alluded to by Hancock (1999). One limitation is that the small sample size means that the study's findings are not easily generalizable outside the Kalulushi and Kitwe mining communities. It is important to bear in

mind the fact that Holloway and Wheeler (2002) are of the opinion that qualitative research is not entirely precise and, as such, “complete objectivity and neutrality are impossible to achieve due to limitations in the accuracy of the study findings” (p. 17).

7.3 Contribution to Knowledge

While engaged in conducting this study, I noticed that a substantial amount of the literature on women in African mining specifically pertains to South African mines where women have been working underground since 1996 (Ranchod, 2003). This body of literature points to the fact that there is great potential for further research to be done on the experiences of skilled and semi-skilled women working in both underground and surface mining in Zambia. Despite its limitations, this study adds to the discourse on the effects of Structural Adjustment Programs on women in the mining industry in Zambia. The study offers insights on the challenges and opportunities of women in mining communities and on their perceptions of those challenges and opportunities, whether as formal or informal mine workers, or as homemakers. The findings show that, while some women in the mining community believe that they have been negatively affected by Structural Adjustment Programs, others believe that they have not been impacted at all. This distinction points towards areas for future research.

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APPENDIX I

Letter of Solicitation

Title of the study: Effects of Structural Adjustment Programs in the Mining Industry on Women in Zambia.

Researcher: Irene Barankariza - Department of Women's Studies

Faculty of Graduate and Postdoctoral Studies University of Ottawa, Ontario. Canada.

Supervisor: Professor Donatille Mujawamariya, Ph.D. Faculty of Education

Faculty of Graduate and Postdoctoral Studies University of Ottawa, Ontario. Canada.

Dear.....

You are invited to participate in the above mentioned research study conducted by Irene Barankariza, who is being supervised by Professor Donatille Mujawamariya, Ph.D. at the University of Ottawa, Canada, Ontario.

The purpose of this study is to investigate the challenges and opportunities perceived by women in mining communities as formal or informal mine workers, and as homemakers. You will be asked to reply to a set of questions through a face to face interview that take about 60-90 minutes. The data that you provide will be kept confidential and anonymous. Only the researcher and supervisor will have access to the information you provide.

Your participation in this study is completely voluntary. If you initially wish to participate but change your mind later, you will be able to withdraw from the study. An incentive of K100 will be paid for the time, inconvenience, and travel expenses at the end of each interview.

Your participation in this study will contribute to a better understanding of the impact of Structural Adjustment Programs on women who live in Zambian communities that depend on the mining industry.

If you have any questions, please feel free to contact me.

Thank you.



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APPENDIX II

Consent Form

Title of the study: Effects of Structural Adjustment Programs in the Mining Industry on Women in Zambia.

Researcher: Irene Barankariza - Department of Women's Studies
Faculty of Graduate and Postdoctoral Studies University of Ottawa,
Ontario, Canada

Supervisor: Professor Donatille Mujawamariya, Ph.D. Department of
Education Faculty of Graduate and Postdoctoral Studies University of
Ottawa, Ontario. Canada.

Invitation to Participate: I am invited to participate in the above
mentioned research study conducted by Irene Barankariza under the
supervision of Professor Donatille Mujawamariya, Ph.D.

Purpose of the Study: The purpose of this study is to investigate the
challenges and opportunities perceived by women in mining communities
as formal or informal mine workers, and as homemakers.

Participation: My participation will consist of a face to face in-depth
interview session that is estimated to last between 60 and 90 minutes. The
researcher will ask me questions about the challenges I face as a woman
living in the mining community.

Risks: Although my participation in this study entails that I volunteer very
personal information, I understand that there is no risk involved in
participating in this study. I have been assured that none of the
information I provide will be shared with outsiders and that it will be
discarded after five years.

Benefits: My participation in this study will contribute to a better
understanding of the challenges and opportunities perceived by women in
mining communities as formal or informal mine workers, and as
homemakers.



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Compensation: I understand that an amount of K100.00 will be offered as an incentive for participating and completing the interview. This incentive will be paid for the time, inconvenience, and travel expenses at the end of each interview.

Voluntary Participation: I am under no obligation to participate and if I choose to participate, I can withdraw from the study at any time and/or refuse to answer any questions, without suffering any negative consequences. If I choose to withdraw, all data gathered until the time of withdrawal will be discarded.

Acceptance: I, _____, agree to participate in the above research study conducted by Irene Barankariza M.A. student of the Department of Women's, Faculty of Graduate and Postdoctoral Studies, University of Ottawa which is under the supervision of Professor Donatille Mujawamariya, Ph.D.

If I have any questions about the study, I may contact the researcher or her supervisor.

There are two copies of the consent form, one of which is mine to keep.

Participant's signature:

Date:

Researcher's signature:

Date:

Authorized third party Signature

Date:

APPENDIX III

Interview Guide: Formal Employment.

1. What is your name?

2. How old are you?

18-30	31-40	41-50	51-60	61-70
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3. Please advise who the head of your house hold is and what their source of income is?

4. For how long have you been working in the mine?

5. Can you share your experience of living in the mining community after the introduction of Structural Adjustment Programs?

6. What prompted you to apply for this mine job? Are you happy that you made that decision?

7. What do you perceive as the most and least satisfying aspects of working in the mine? What would you change?

8. What are your job responsibilities in a typical day or week? What educational background is necessary for this position?

9. What kind of training did you receive for operating machines or equipment? Did you find the training sufficient?

10. Can you describe the kind of protective clothing or equipment you wear at work? Is it comfortable and sufficient for you?

11. Would you say there are as many women as men working in the mine? Please explain. What are men's attitudes towards women at work?

12. Under which sections do women mostly dominate in the mine and why?

13. What problems, if any, do you encounter while working in the mine? What would be the solution?

14. Have you ever been exposed to any unhealthy situations? If yes, what did you do about it?

15. Do you know of any women occupying managerial or strategic positions in the mine? What positions do they hold?

16. What advancement opportunities are available for women in the mines?

17. How do you rate your pay for the work you do? Please elaborate.

18. How tiring and dangerous is it to work underground? Is safety of prime importance to the company? Do you have any concerns?

19. Can you please shed light on the washroom facilities that are available for employees? Is there need for improvement?

20. Are mines important to the community? Can you explain more about your answer?

21. Do mining companies support your local community? In what ways?

22. Apart from working in the mine, what other economic opportunities are available for women in the mining community? Please explain.

23. If other job opportunities became available outside of the mine, would you go? Why?

24. Is there any other information you would like to share?

APPENDIX IV

Interview Guide: Informal Employment.

1. What is your name?

2. How old are you?

18-30	31-40	41-50	51-60	61-70
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3. Please advise who the head of your house hold is and what their source of income is?

4. For how long have you been working in the mine?

5. Can you share your experience of living in the mining community after the introduction of Structural Adjustment Programs?

6. What prompted you to apply for this mine job? Are you happy that you made that decision?

7. What do you perceive as the most and least satisfying aspects of working in the mine? What would you change?

8. What are your job responsibilities in a typical day or week? What educational background is necessary for this position?

9. What kind of training did you receive for operating machines or equipment? Did you find the training sufficient?

10. Can you describe the kind of protective clothing or equipment you wear at work? Is it comfortable and sufficient for you?

11. Would you say there are as many women as men working in the mine? Please explain. What are men's attitudes towards women at work?

12. Under what section of informal mining do women mostly dominate and why?

13. What problems, if any, do you encounter while working in the mine? What would be the solution?

14. What gender dominates in your work environment? Why is that the case? What positions do women hold?

15. Have you ever been exposed to any unhealthy situations in the mine? If so, how? What did you do about it?

16. How tiring and dangerous is it to work in an informal mining environment? Do you have any concerns? Is safety of prime importance to the company?

17. What washroom facilities are available for workers? Is there need for improvement?

18. What career advancement opportunities are available for women in informal mining occupations?

19. How do you rate your pay for the work you do? Please elaborate.

20. Are mines important to the community? Can you explain more about your answer?

21. Do mining companies support your local community? In what ways?

22. Apart from working in the mine, what other economic opportunities are available for women in the mining community? Please elaborate.

23. If other job opportunities became available outside of the mine, would you go? Why?

24. Is there any other information you would like to share?

APPENDIX V

Interview Guide: Homemaker

1. What is your name?
2. How old are you?

18-30	31-40	41-50	51-60	61-70
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3. Please advise who the head of your house hold is and what their source of income is?
4. What is your source of income?
5. Can you share your experience of living in the mining community after the introduction of Structural Adjustment Programs?
6. How do you compare community life before the sale of Zambia Consolidated Copper Mines and to what it is now? Please explain.
7. What current trends or changes have you noticed as having altered mine community life either positively or negatively? Please explain.
8. Can you please elaborate on what factors influenced you to live in the mining community? Are you happy that you made that choice? Why?
9. What do you do on a typical day from morning to sunset? Has your work schedule always been like that?
10. What are the most and least satisfying aspects of living in your community? What would you change?
11. Have you considered working in the mine? Why or why not?
12. What economic opportunities are available for women in the mining community? Do you think they are sufficient?
13. What challenges, if any, do you encounter while living in the mine community? What would be the solution? Please explain.
14. Have you ever been exposed to any unhealthy situations in the community? If so, how? What did you do about it?
15. Tell us about your experiences growing a backyard fruit or vegetable garden? Do you own one? Why or Why not.
16. How comfortable are you eating fish from surrounding rivers or lakes?
17. What is your family's major source of food supply?
18. What economic activities do most homemakers dominate in? Why, please explain.
19. Are mines important to the community? Can you explain more about your answer?
20. Do mining companies support your local community? In what ways?
21. What are the attitudes of men towards women in the mine community?
22. What are the chances of you getting hired in the mines if possible? Please explain.
23. If an opportunity became available for you to move out of the mine community, would you go? Why/why not?
24. Is there any other information you would like to share?



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Certificate of Ethics Approval

Social Science and Humanities REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>	<u>Role</u>
Donatille	Mujawamariya	Education / Education	Supervisor
Irene	Barankariza	Social Sciences / Women's Studies	Student Researcher

File Number: 09-14-22

Type of Project: Master's Thesis

Title: Effects of Structural Adjustment Programs in the Mining Industry on Women in Zambia

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