

Bridging Sustainable Development Gap in the Gold Mining Sector of Zimbabwe: A Conceptual Framework on the Role That Can Be Played by Microfinance Institutions

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Abstract: Eventhough gold mining has both the positive and negative impacts on the environment, its negative impacts like depletion of natural resources, loss of grazing land and degradation of the environment tends to outweigh its positive contribution. This study was carried to see how microfinance institutions (MFIs) can use institutional force in compelling the gold mining sector to adhere to environmental management principles in Zimbabwe. The study explores the role that can be played by microfinance in promoting green goldmining in Zimbabwe. Green microfinance besides its traditional finance and social role also aims for the promotion of environmental management. Microfinance institutions play a critical role in promoting environmental sustainability, even though they are well misunderstood as the role they play on the ground requires a guideline. Therefore, to understand the role that can be played by microfinance institutions in promoting green gold mining this study advocate for a conceptual framework to act as a guide to microfinance institutions. The development of a conceptual framework for the role of microfinance institutions in bridging the sustainable development gap in the goldmining sector is the work's key contribution. Further work would include conducting in-depth interviews with key stakeholders in the Zimbabwean microfinance sector and gold mining sector to validate the framework.

Keywords: Microfinance, Sustainable Development, Green Microfinance, Conceptual Framework

1. Introduction

The microfinance industry has in recent years started looking at its environmental responsibility [4]. Microfinance institutions' (MFIs) roles have evolved to include non-financial products and services, such as incentives and assistance to promote environmental stewardship in developing countries [63]. The major goal of green microfinance is to attain its traditional financial role simultaneously with environmental and social goals [48]. They argue that this has been necessitated by the need for sustainable development which has become essential to researchers and the public at large. The call for sustainable development has been necessitated by environmental

degradation which is affecting most countries and their economies and people [63].

The term "sustainable development" refers to economic performance that meets both societies and individuals' requirements and wellbeing [19], to uphold and enforce environmental regulations [82], as a result, by internalizing and lowering negative environmental and social externalities, a positive society within planetary boundaries can be created, facilitating economic growth [18]. Sustainable development encompasses three aspects of well-being: economic, environmental, and social, and achieves a good balance between them [77]. As a result, determining the optimum frameworks for maximizing transparency, involvement, and accountability in the governance system is critical [11]. It is

possible to include the governance sphere in sustainable development, and as a result, green microfinance measures should be considered from an economic, environmental, social, and governance (EESG) standpoint.

The aim of this article is to present how MFIs can help promote greening of the goldmining sector and how other key stakeholders can help them achieve that role. The conceptual framework established in this paper attempts to provide a foundation for MFIs to employ in boosting the gold mining sector's environmental responsiveness. The research was motivated by challenges facing the gold mining sector and the need to find a holistic solution to them [67].

The rest of the paper is laid out as follows: The use of propositions to be followed in developing the framework for MFIs follows the introduction in section 1.1. Section 1.2 provides a brief discussion on the impact of gold mining on the environment. Section 1.3 provides the research questions and the objective that this study aims to address. Literature review is presented in section 2, followed by section 3 which presents materials and methods used in this study. Results are provided in section 4 which is followed by a validation of the preliminary framework in section 5. The study ends with section 6 which presents the conclusions and future work.

1.1. Use of Propositions

In this study researchers used propositions generated from literature and which were then used in developing the framework to promote sustainable development in the gold mining sector and SMEs. The propositions were developed around three sets of elements of entities in the framework, and association among the elements of the entities as follows:

- 1) Content propositions labelled as Cpa, $a = 1, 2, 3, \dots$, representing the contents identified and used in building the elements of our framework;
- 2) General propositions, denoted as Gpb, $b = 1, 2, 3, \dots$, representing information that maybe more general about the framework;
- 3) Association propositions, indicated by Apc, $c = 1, 2, 3, \dots$, used to show the links identified within the concepts and building blocks of the framework.

The use of propositions aligns with qualitative research choice and the interpretivist philosophy adopted for the study.

1.2. Impact of Gold Mining Activities on the Environment

Gold mining adds significantly to the Zimbabwean economy's Gross Domestic Product (GDP), but it is also said to have created a trail of environmental disaster [67]. Eventhough goldmining has positive contributions in terms of building roads, offering employment among other things, it is the negative impacts like air pollution, depletion of natural resources, eviction of local communities and loss of grazing and agricultural land that have given the sector a bad image and reputation [28, 66]. The effects of goldmining are not only confined to Zimbabwe but to the whole African continent [67]. Mining operations are seen as a hazard to the environment, having negative consequences on air, water, and soil [84].

There has been growing public concern about degradation of the environment [45], coming from chronic soil erosion, heavy metals overloading and acid mine drainage [46]. Natural resources are over-exploited to meet humanity growing needs for fresh water, fuel, fibers and lumber [30]. Poor countries' environmental circumstances are often worse in essential areas such as clean air and clean water [90]. Therefore, if not monitored gold mining activities are a threat to the environment.

Economic growth was once thought to inevitably result in environmental degradation due to the consumption of nonrenewable resources, the overuse of renewable resources, and the production of waste and pollution [29]. This thinking was however, not aligned to the principles of sustainable development which came into force in the late 1980s [70]. The mining industry must demonstrate its contribution to the current generation's well-being without jeopardizing future generations' quality of life [8], hence the need for micro finance institutions to promote environmental sustainability since they provide finance for most mining activities. Because sustainability is based on dynamic decision-making and entrepreneurship, it tries to minimize negative effects by maintaining a balance between the elements of the triple bottom line, such as political justice and cultural aspects, in order to work toward a desirable planet for all species [59]. Decision makers are able to make sound policies from a picture if all the aspects are integrated into a green framework [81]. However, the development of a framework which address and integrates all sustainability issues to be used by an organisation remains a challenge [38]. Despite the fact that it's difficult coming up with a framework that accurately prescribes systematic steps to be followed, we argue that goldmining sector must decrease its footprint on the environment and that MFIs do play a crucial role and must be provided with a guiding preliminary framework to achieve that.

The above discussion leads to the first content proposition.

Proposition Cp1: Gold mining has a negative impact on the environment and the communities in which it takes place.

Following the global financial system's catastrophe in 2007, the nature and role of the investment business is becoming increasingly essential, and the question now is how economies expand [34]. They go on to say that SRI strategies are based on the concept that financial instruments and markets have the ability to influence social, economic, and environmental outcomes. The use of investment and shareholder activism as a vehicle for social change first appeared in the United States in the 1960s, when the peace and environmental movements prompted divestiture from certain industries [43]. Countries like Switzerland, France, Belgium, German and Netherlands were the first European countries to embrace SRI by 2000 had a profound influence on the concept of sustainable development [58]. Enterprises must now develop strategies that address the compatibility of productive activity with environmental sustainability [37], and social protection [87]. This implies that companies have to comply with current law in force and satisfy demands of stakeholder groups [84].

Hence, MFIs can assist the gold mining sector structure their operations along sustainable development goals.

Capital constraint to growth exists at both the national and household levels, which has been one of the cornerstones of postwar development strategies, and the response has been to make cheap loans available at both the macro and micro levels [51]. This study focus on how the microfinance business may support environmental management in the mining sector, and a conceptual framework that can be used in promoting environmental management is presented in Figure 2. In the field of development cooperation, the microfinance industry is one of the most dynamic industries [57], and is a fast-growing business with the potential to become the world's largest banking market by number of consumers served [61]. As a result, MFIs have the greatest ability to influence national policy because they are on track to become the largest banking market in terms of clients.

In the 1980s, microfinance became recognized as a critical tool for reducing poverty, and it was identified as a key tool for achieving the millennium development goals (MDGs) by the year 2015 [56, 79]. Though the evidence on the effects of microfinance is mixed, microfinance was found to result in a moderate reduction in poverty in another study, though some argue that this is not the case because it does not reach many of the poorest potential recipients [60]. Even the most creative financial programs frequently fail to reach the poorest members of society, who rely on low-wage labor and hence have limited access to capital [27]. The above discussion leads to the following propositions:

Proposition Cp2: MFIs are essential and can influence the gold mining sector to come up with sustainable and responsible investment strategies which ought to affect social, economic and environmental outcomes of a nation.

From the above it can be deduced that,

Proposition Cp3: MFIs have the potential of influencing the gold mining sector to adopt greener strategies.

Proposition Cp3 is further enhanced in literature review.

Proposition Ap1: In order to achieve sustainable development goals, MFIs and goldmining organizations must work together.

The preceding debate prompted the development of the following research questions (RQ) for the study:

1.3. Research Questions and Objective

The study seeks to answer the following questions:

- 1) What are the negative impacts of gold mining activities on the environment and surrounding communities? (RQ1)
- 2) How can MFIs promote green gold mining in Zimbabwe? (RQ2)
- 3) What is the relationship between an entity's environmental responsiveness and its financial performance? (RQ3)
- 4) Why must organizations commit to environmental management? (RQ4)

In respond to the above questions our objective is:

Develop a conceptual framework on the role that can be

played by MFIs in bridging sustainable development gap in the gold mining sector in Zimbabwe.

2. Literature Review

The discussion in section 1.2 revealed that goldmining activities do have an adverse environmental impact on communities in which they operate thereby addressing our first research question (RQ1). The following section discusses the development of green microfinance.

2.1. The Development of Green Microfinance

In the early 1990s, the concept of achieving economic, social, and environmental sustainability at the same time was widely promoted, and it became known as the "win-win" paradigm of sustainability [47]. In company management and performance, trade-offs and conflicts between economic, environmental, and social factors are more common than not [41]. Green/ethical market entrepreneurs make multiple trade-offs between three dimensions of sustainability: economic sustainability, environmental attributes, and social dimensions of their products and business models [47]. It can therefore be argued that there can be a trade-off between profitability and environmental sustainability within the mining sector, leading to:

Proposition Cp4: Sustainable development must be taken as a rule and all operating entities must abide to the rule, it's not an exception.

In the last decade there has been calls for the microfinance institutions to go beyond their traditional role and strive towards a triple bottom line of profit, people, and the environment [7], which has been viewed as meeting financial objectives of an organisation, whilst advancing social, and environmental objectives [72]. These developments led to the emergence of 'green microfinance', whereby microfinance institutions integrate sustainability in all aspects of its operations, and promote environmental responsibility [40]. Sustainable development is described as "development that meets current demands without jeopardizing future generations' needs and abilities to meet their own needs" [19]. Sustainable development has gained momentum because of the drawbacks of conventional accounting systems which have ignored environmental issues [36]. The addition of non-financial services like 'green microfinance' and 'microfinance plus' features targeted to both the rural and urban clients has been viewed as essential in promoting environmental responsibility [62], which is in line with the advocacy of sustainable development, which calls for a balanced development among economic, socio-environmental, and environmental aspects, as well as the promotion of environmentally friendly actions [3]. In addition, it has been argued that MFIs could be an essential vehicle to address the environmental challenges [63]. Therefore, there is need for a framework to guide the MFIs in promoting green goldmining in Zimbabwe?

The above discussion leads to the next propositions.

Proposition Cp5: MFIs and goldmining organizations

involved in greening of the environment ought to achieve multiple trade-offs that will come from economic, social and environmental dimensions of sustainability.

Proposition Cp3b: MFIs with assistance of key stakeholders are a vehicle to address environmental challenges of the gold mining sector (Refer to Cp3a).

Proposition Cp6: Sustainable development results in a balanced development among the economic, social and environmental aspects.

Proposition Ap2: There is an association needed between MFIs and goldmining organizations with regard to environmental responsibility.

Microfinance is the provision or offering of financial services to people and organizations that previously had no access to formal financial services [32]. They prove that in the developed countries some governments do promote microfinance as an essential strategy to support small businesses whilst advocating for environmental protections. This is due to the fact that environmental responsibility is only included as a key facet of financial organizations' corporate social responsibility (CSR) [21]. Hence, the MFIs must be monitored and be used as a strategy to promote green gold mining in Zimbabwe, leading to:

Proposition Cp7: Microfinance can be used as an essential strategy to support goldmining organizations whilst simultaneously advocating for environmental management.

Proposition Ap3: There is an association needed between MFIs and goldmining organizations with regarding to achieving expected outputs.

Green microfinance is a term that came due to the extended role of microfinance to include environmental responsibility [72]. Eventhough the environmental responsibility of MFIs has been studied, literature of green microfinance is scarce [32], with the exception of a few authors like Allet and Hudon who analyzed the role of microfinance in developing countries in [4, 5] while Forcella analyzed developed countries [31]. This study makes a contribution to the scarcity literature by developing a conceptual framework on the role that can be played by MFIs in promoting environmental responsibility in the gold mining sector.

The debate around microfinance environmental responsibility emerged due to intense competition which called for innovation within the sector [20]. Microfinance that supports the environment try to stay away from funding polluting activities and instead provide clean technology microcredit [4]. The author, on the other hand, claims that little is known about the scope of the problem and how MFIs have dealt with it. In their study [39] found that firms tended to carry deeper environmental responsibility actions if they were motivated by economic competitiveness more than those motivated by social responsibility. Research done by Allet found contrasting results to the above, where it was found out that MFIs that were proactively on environmental responsibility tended to be motivated to a larger extent by social responsibility and competitiveness and to a lesser extent by legitimation [4].

The above discussion leads to the following propositions:

Proposition Cp8: Government plays a key role in the promotion of greening of the environment by monitoring MFIs and also coming with strategies to ensure they work towards promoting greening of the environment.

Proposition Ap4: There is a shared association between environmental responsiveness with economic returns (profitability).

Based on the importance and role that microfinance institutions do play in promoting sustainability and their access to small business (including small-medium gold mines), this paper attempts to come up with a conceptual framework to bridge sustainable development gap in the goldmining sector. Besides contributing to environmental management, this paper comes up with a conceptual framework. The next section discuss the relationship between MFI and the environment.

2.2. Microfinance Institutions and Environmental Performance

Environmental awareness within the microfinance sector emerged recently [32], and many MFIs have begun environmental projects as a result of this, and it has expanded [4]. Authors like Forcella and Hudon argue that intensive competition in the market has forced MFIs to be innovative and come up with new products, which has resulted in the emergence of 'green' microfinance [32]. A study by Allet found social responsibility, competitiveness and stakeholder pressure as motivators to MFIs to take a proactive role in environmental management [4].

In China for example, the government has a strategy of reducing pollution emissions and has come up with green finance policies with the objective of reducing environmental degradations caused by operational activities [6]. Economic, environmental, and social components of sustainability can be positioned and examined in three interconnected dimensions [35]. Each must be balanced in order to be more representative in a long-term development [77]. The question of sustainability refers to how MFIs intend to solve environmental issues such as pollution, chemical use, efficient energy use, and degradation, among others [5]. Thus this study focus on the environmental responsibility aspect. Environmental performance has been a growing concern of MFIs, by not only providing access to financial services but also contributing to the living conditions of their customers [63]. They argue that green microfinance incentivizes those seeking financial services to participate in environmental initiatives, and that MFIs can build and sustain partnerships by developing their clients' know-how.

Some authors like Mia, Zhang, Zhang and Kim are of the view that the effort of MFIs to provide capital and technical know-how which are environmental to their clients will help these clients to expand on green initiatives [63]. They provide that some MFIs have started providing awareness programs on environmental management initiatives. In Bangladesh for example Grameen Shakti a MFI has brought solar energy to rural households through microfinance credit [52]. Studies have however, found more mature and established MFIs

performing better when practicing environmental responsibility initiatives [5, 32]. This study can therefore deduce that engaging in environmental responsibility is associated with financial performance of an entity. Hence, engagement of gold mine organizations in environmental management is closely associated with economic performance. Accordingly the discussion on relationship or association between MFIs and environmental are still limited and empirical evidence scarce [63]. The discussions above lead to:

Proposition Cp9: The government can provide the institutional force needed by MFIs to promote green goldmining in Zimbabwe.

Proposition Cp9 is further enhanced in section 2.4.

Proposition Ap5: There is an association needed between stakeholder pressure, goldmining organizations and MFIs with regards to the adoption of sustainability initiatives in Zimbabwe.

2.3. Environmental Responsibility

Scholars have looked into the link between an organization's environmental performance and its financial performance. Results from a study by Wahba who studied the relationship between environmentally conscious businesses and market value concluded that the market compensates environmentally conscious businesses [85]. Other results from a study done by Konar and Cohen reveals that poor environmental performance is inversely connected with an organization's intangible asset value [53]. This aligns well with the results from a study done by Orlitzky, Schmidt and Rynes, who after conducting a meta-analysis, discovered that business virtue in the form of environmental stewardship is more likely to result in higher financial returns [68]. Despite the fact that the majority of studies have found a positive correlation between environmental performance and economic performance, questions have been raised about the strength of the correlation, which is still unknown [86]. Therefore, the gold mining sector must respond to environmental management demands since this is linked to profitability of an entity.

Questions have been raised if it makes sense to burden microfinance agenda with promoting environmental friendly development, whereby microfinance would be seen as the linchpin of global change when they are still burdened with ongoing discussion of poverty impact [15]. 'Microfinance plus' approach has been given as one response to this insight whereby financial and non-financial services are combined [76, 13, 14]. This could offer better perspectives for promoting beneficial change to interconnected social, economic, cultural and ecological systems [14]. However, with the rise of 'green microfinance' [42, 3], it becomes also essential to reflect on the analysis of human-nature interactions [14], whereby environmental challenges requires an analysis of productive economic systems as embedded in and interacting with both the life support of nature and the socio-cultural system of human society [73].

The microfinance sector worldwide is catching up with the global trend of bringing environmental sustainability to the

forefront of business practices, alongside financial and social bottom lines [1]. This follows a shift in the international investment landscape where focus is now on green investing, sustainable finance, clean energy and climate change finance [50]. Therefore microfinance approaches are required to complement traditional financing mechanisms, within the transformation, to a larger number of smaller-scale projects that would remedy environmental-related challenges [49]. Current research has shown that there are a global increasing number of microfinance institutions that are willing to engage in green initiatives alongside their business as-usual practices [2]. This study therefore argues that MFIs in Zimbabwe must move in tandem with global developments and bring environmental responsiveness to the front of business practice.

However, if these microfinance institutions are allowed to operate without oversight and are provided to people who engage in risky and environmentally unfriendly business practices, the result could be a minimalist microcredit approach that fails to promote long-term green business development [74]. The author adds that the eventual consequence will be a microcredit scheme that not only ignores sustainable development but also kills the earth and people who are most reliant on it. This concurs with the need to develop a framework on the role that can be played by microfinance sector in bridging sustainable development gap in the gold mining sector. Since the early 1990s, evidence in the literature shows that the mining industry has been looking at ways to integrate the challenges of sustainability into its core business practices, with a growing interest in social and environmental issues [45]. People-centered, multi-level, environmental sustainability, responsive and participatory governance, and social economy stewardship are all fundamental core elements of sustainability [23]. Green business is a community-based ecological economy's alternative environmentally friendly business program [74], fosters a people-centered approach to social justice, environmental sustainability, and inclusion for everyone [25]. The discussion above leads to:

Proposition Cp10: Environmental responsiveness must be embedded in the vision and mission statements to become a necessary business practice.

From the above we can infer that:

Proposition Cp11: MFIs if left to operate freely without control and monitoring, they can promote environmental terrorism by sponsoring organizations that practice unsafe business and mining operations.

The discussion in section 2.1 and this section provides an answer to RQ 2 and 3 namely:

- 1) How can MFIs promote green gold mining in Zimbabwe? (RQ2)
- 2) What is the relationship between environmental responsiveness and financial performance of an entity? (RQ3)

2.4. Motivation for Environmental Responsibility

There are reasons why organizations must commit to

environmental management. The first reason is that organizations must work towards improving their environmental performance so as to enhance their reputation [64, 32]. Therefore, organizations must respond to environmental demands, so as to safeguard their image and reputation [32].

Microfinance is the provision of financial services to low-income consumers through a variety of services such as microcredit, micro insurance, micro savings, and money transfers [71, 83]. Microfinance programs, have the potential to promote equitable and long-term development [78], and the sector has been noticed to have attracted significant public attention as a contributor to the strengthening and expansion of the formal financial system [16, 55]. Microfinance has been observed to affect sustainable development through its activities both directly and indirectly [17]. Three essential reasons for the relevance of microfinance to the environmental management have been given which are: 1). Environmental concerns are very important to the increasing poor standards of living and quality of life, 2). Green technologies and connections that are most transformative are perfect for establishing sustainable livelihoods while also increasing quality of life, and 3). Microfinance is a decentralized kind of investment that is perfectly suited to decentralized green production methods [74]. Some authors like Stevens and Morris believe that microfinance programs have long been viewed as a means of incorporating unemployed stakeholders in the process of achieving long-term development [78]. Because of the expense, distance, and difficulty to meet the standards for creating accounts, 50% of adults use informal financial services around the world [89], leading to:

Proposition Cp12: Improving environmental performance can enhance the reputation of an organisation.

The other reason is due to external forces, especial key stakeholders who are demanding and motivational for organizations to commit to environmental management. It was found out in a study which was conducted by Henriques and Sadorsky that 'pressures' from customers, shareholders, government and community was the major motive for organizations to respond to environmental calls [44]. However, recent study by Babiak and Trendafilova find strategic motive as the major motivation for organizations to commit to environmental management [10]. Another essential motivation for the adoption and commitment to environmental responsiveness is management commitment and governance of an organisation. The presence of leadership committed to environmental management issues plays an essential role [26]. This leads to the following propositions:

Proposition Cp9b: Pressure from key stakeholders is key for organizations to respond to environmental demands.

Proposition Cp13: Management commitment and governance is a motivation for adoption and commitment to environmental responsiveness.

Proposition Gp1: Good leadership is a vehicle for workers to commitment environmental management. (Note: This can be taken as a content proposition in other spheres of life and is a complement to most of the propositions).

From the above we can also infer that:

Proposition Gp2: Engagement of key stakeholders is crucial to share a common vision.

Bansal and Roth employed qualitative technique to identify three drivers of environmental responsiveness: legitimacy, competitiveness, and social responsibility, which they used to create a model [12]. Because it has been empirically validated and used by other scholars, the model has been described as straightforward and applicable to all sectors [39, 33]. The three motives of environmental responsibility can be combined and are interrelated [12], as a result of their combined effect, a corporation may decide to engage in environmental management activities. The three motives are discussed below:

2.4.1. Legitimation

Legitimation is a firm's desire to function in accordance with a set of societal standards, norms, values, and beliefs [12]. This implies that a firm must respond to stakeholder and expectations as to be social acceptable and gain legitimacy. Stakeholder pressure is at most accepted by an organisation when exerted by a powerful stakeholder like government who can use power or rewards [22].

Investors, donor rating agencies and regulators have been observed as stakeholders that do have power in the microfinance sector and of late they have been identified as having a growing interest on environmental responsiveness of MFIs [4]. The government as the regulator can look at MFIs network for the enforcement of environmental practices [42]. Legitimation has been identified in some studies as having influence in the manufacturing sector [12, 88]. In the manufacturing sector were legitimation is the most driver, it has however, been noted that organizations adopt a reactive approach so as to comply with regulation. The discussion above leads us to a complementary proposition.

Proposition Cp9c: Legitimation is an essential strategy for the microfinance sector and may result in environmental responsiveness.

2.4.2. Competitiveness

Competitiveness was identified as another driver for environmental responsiveness by an organisation [12]. They provide that organizations are motivated by competitiveness, and do believe that if they invest in environmental management initiatives, that could lead to an improvement in their economic returns leading to increased profits. Competitiveness has been identified as a primary motivator for MFIs to participate in environmental management projects since it would require a clear strategic vision that would lead to profitability [4]. Some scholars believe that when tackling environmental challenges, many stakeholders would sympathize with them and in the process MFIs would attract donor funds from environmental sensitive donors, which would increase their capital base, leading to growth of the business [40, 69].

Going green would be beneficial to MFIs, in that it could lead to improvement in the public image of the organisation thereby, stimulating staff morale, and in the process enhance market expansion, improve external relations which could

result in the avoidance of bad reputation risks that have the potential of negatively impacting on their operation [7, 42]. Competitive has been identified as the second most power driver to environmental responsiveness in the manufacturing sector after legitimation [12]. The discussion leads us to our content proposition:

Proposition Cp14: Competitiveness is a driver for environmental responsiveness in MFIs and leads to proactive strategies.

2.4.3. Social Responsibility

The worry that an organization has a social commitment for the good of society is referred to as social responsibility [4], which has been identified in Bansal and Roth model, as the third driver for environmental responsibility. Consequently MFIs should be motivated by ethical considerations before considering economic rewards, and that ecological responsibility is inextricably linked to MFIs' social goal [4]. Scholars say that MFIs should begin with environmental management in order to effectively contribute to poverty reduction and sustainable development [40, 42, 80]. These

scholars are of the opinion that micro entrepreneurs are essential and must be engaged to activities that are risk and pollute the environment (for example chemicals use) or unsustainable use of natural resources (for example over exploitation and land degradation). Due to the importance of sustainability environmental management responsibility must therefore, be promoted not only as something good for the globe but also for people, animals as well as the clients for MFIs [4]. In the manufacturing sector, social responsibility was rated as the least important driver of environmental management responsiveness [12]. When social responsibility is the driving force, they discover that businesses adopt more independent and inventive tactics, such as making donations. This leads to our content proposition:

Proposition Cp15: That social responsibility when is the dominant driver for environmental responsiveness does lead to proactive strategies.

This section's discussion gave us an answer to our fourth question, which was: Why must organizations commit to environmental management?

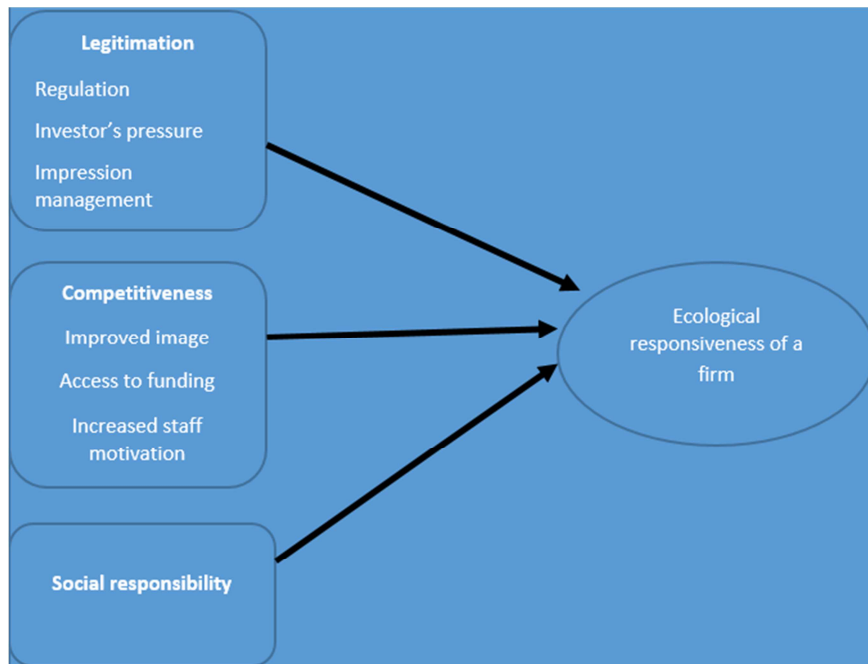


Figure 1. Motivation for ecological responsiveness of firm (Source Bansal & Roth, 2000).

3. Materials and Methods

The purpose of this article is to develop a conceptual framework on the role that MFIs can play in promoting green goldmining in Zimbabwe, based on stakeholder and institutional theories. The research methodology for this study was motivated by Saunders, Lewis and Thronhill research onion and was developed following it [75]. In the first layer of the onion, the study adopted the interpretivist research philosophy in which researchers inductively, though subjective develop a theory through interactions among individuals [24]. Creswell states that interpretivist philosophy

falls under qualitative study, which aligns well with this study. Researcher made an interpretation of concepts they found from comprehensive scholarly literature search. In the next layer of the research onion, researchers chose the inductive research approach which involves working back and forth between themes and the literature until researcher establish a comprehensive set of themes [24, 9]. Researchers in this case combed through the literature until they came up with a conceptual framework for the function of MFIs in bridging sustainability challenges in Zimbabwe's gold mining sector. Three sets of propositions that we came up with and defined in this article were used to build the framework.

Moving to third layer of the research onion, the researchers

chose survey research strategy, which was driven by a comprehensive literature review. This aligns well with the attempt to build ideas from an investigation of patterns, themes, and common categories uncovered and identified in observational data is known as an inductive approach [9]. Moving on to the following layer, a qualitative research approach was adopted for this study, which included a review of the literature. The conceptual framework in Figure 2 is the result of a qualitative theorization process. The conceptual framework for MFIs' role in bridging sustainable development gaps in Zimbabwe's goldmining sector is based on three sets of propositions derived from a thorough literature review and aligned with qualitative research choices.

Moving to the 5th layer of the research onion, the study adopted the cross-sectional time horizon, which involves events at a given time. Moving to the inner and last layer of the

research onion, comprehensive literature review was used as the data collection technique, which was followed by narrative data analysis. As indicated in table 1, three sets of propositions were used in developing the framework.

4. Results

Table 1 presents a summary of propositions raised through this study. The propositions are grouped into three sets: content propositions, association propositions and general propositions. The development of our framework was informed by these three sets of propositions which centered on the role that can be played by MFIs in promoting green goldmining in Zimbabwe. The framework's blocks represent content propositions, while the links between the blocks represent association propositions. Figure 2 depicts our framework.

Table 1. Summary of propositions.

| Proposition number | Proposition |
|---------------------------------|--|
| Set 1: Content propositions | |
| Proposition Cp1 | Gold mining activities have adverse effects on the environment and surrounding communities. |
| Proposition Cp2 | MFIs are essential and can influence the gold mining sector to come up with sustainable and responsible investment strategies which ought to affect social, economic and environmental outcomes of a nation. |
| Proposition Cp3a | MFIs have the potential of influencing the gold mining sector to adopt greener strategies. |
| Proposition Cp3b | MFIs with assistance of key stakeholders are a vehicle to address environmental challenges of the gold mining sector. |
| Proposition Cp4 | Sustainable development must be taken as a rule and all operating entities must abide to the rule, it's not an exception. |
| Proposition Cp5 | MFIs and goldmining organizations involved in greening of the environment ought to achieve multiple trade-offs that will come from economic, social and environmental dimensions of sustainability. |
| Proposition Cp6 | Sustainable development results in a balanced development among the economic, social and environmental aspects. |
| Proposition Cp7 | Microfinance can be used as an essential strategy to support goldmining organizations whilst simultaneously advocating for environmental management. |
| Proposition Cp8 | Government plays a key role in the promotion of greening of the environment by monitoring MFIs and also coming with strategies to ensure they work towards promoting greening of the environment. |
| Proposition Cp9 | The government can provide the institutional force needed by MFIs to promote green goldmining in Zimbabwe. |
| Proposition Cp9b | Pressure from key stakeholders is key for organizations to respond to environmental demands. |
| Proposition Cp9c | Legitimation is an essential strategy for the microfinance sector and may result in environmental responsiveness. |
| Proposition Cp10 | Environmental responsiveness must be embedded in the vision and mission statements to become a necessary business practice. |
| Proposition Cp11 | MFIs if left to operate freely without control and monitoring, they can promote environmental terrorism by sponsoring organisation that practice unsafe business and mining operations. |
| Proposition Cp12 | Improving environmental performance can enhance the reputation of an organisation. |
| Proposition Cp13 | Management commitment and governance is a motivation for adoption and commitment to environmental responsiveness. |
| Proposition Cp14 | Competitiveness is a driver for environmental responsiveness in MFIs and leads to proactive strategies. |
| Proposition Cp15 | That social responsibility when is the dominant driver for environmental responsiveness does lead to proactive strategies |
| Set 2: Association propositions | |
| Proposition Ap1 | There is an association needed between MFIs and goldmining organisation with regard to achievement of sustainable development goals. |
| Proposition Ap2 | There is an association needed between MFIs and goldmining organizations with regard to environmental responsibility. |
| Proposition Ap3 | There is an association needed between MFIs and goldmining organisation with regard to achieving expected outputs. |
| Proposition Ap4 | There is a shared association between environmental responsiveness with economic returns (profitability). |
| Proposition Ap5 | There is an association needed between stakeholder pressures, goldmining organizations and MFIs with regards to the adoption of sustainability initiatives. |
| Set 3: General propositions | |
| Proposition Gp1 | Good leadership is a vehicle for workers to commitment environmental management. (Note: This can be taken as a content proposition in other spheres of life and is a complement to most of the propositions) |
| Proposition Gp2 | Engagement of key stakeholders is crucial to share a common vision. |

5. Validation of the Preliminary Concept Framework

Three sets of propositions were used to create our framework in Figure 2. In the framework, related concepts from content

propositions are grouped together. Association between blocks are identified and then linked among the blocks.

The framework recognizes the role that can be played by MFIs in promoting green goldmining in Zimbabwe. Within the framework good corporate governance for both MFIs and goldmining organizations is recognized as key to achieving green goldmining in Zimbabwe.

Within the framework goldmining organizations are viewed as perpetrators of environmental degradation and must facilitate economic prosperity by internalizing and reducing adverse

environmental impacts. The mining industry must demonstrate a commitment to contributing to the current generation's well-being without jeopardizing future generations' welfare.

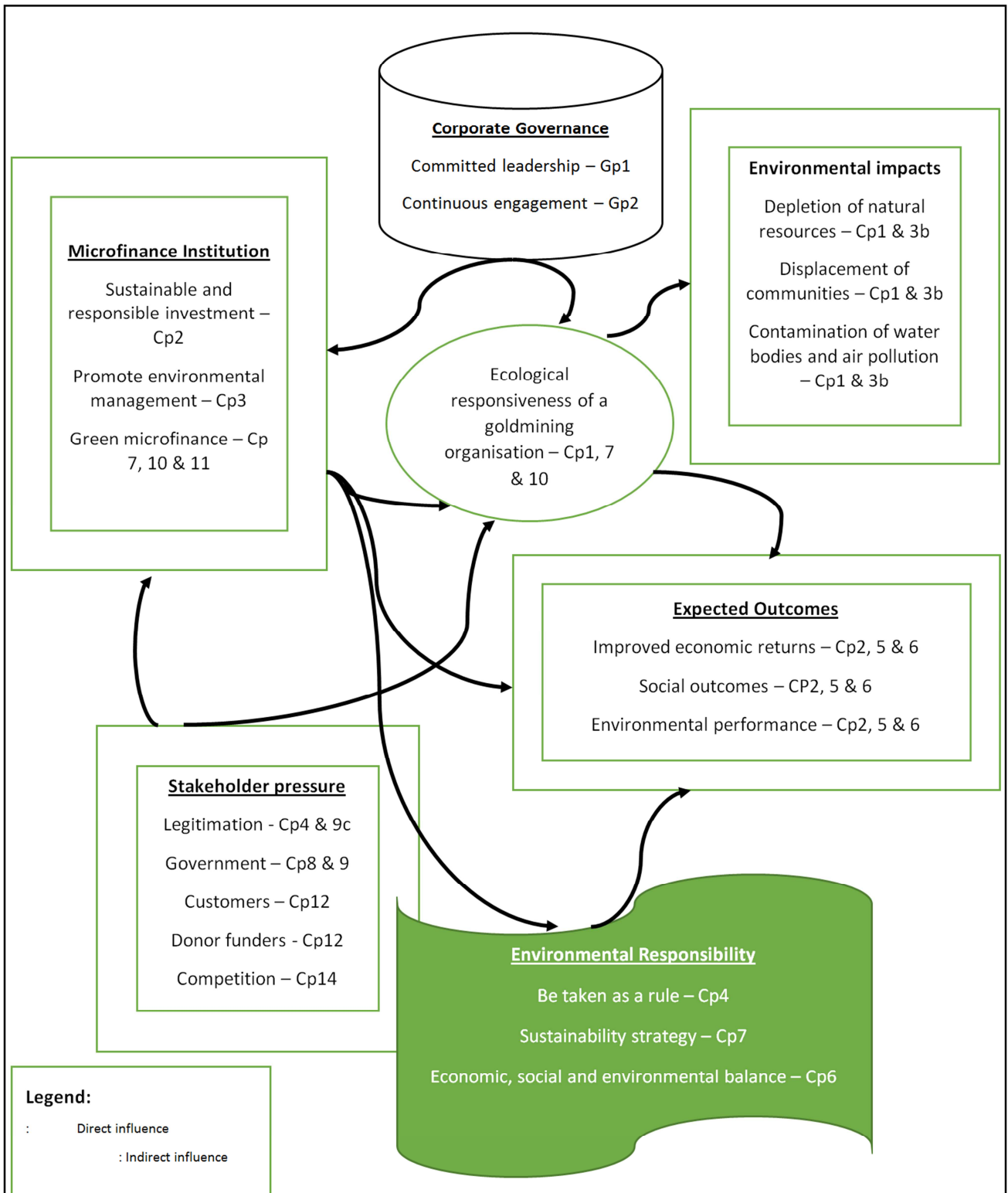


Figure 2. Preliminary conceptual framework.

MFIs are seen as having the ability to influence the goldmining sector's social, economic, and environmental effects. MFIs are seen as having the greatest ability to

influence environmental and developmental issues due to their dynamic character.

Environmental responsibility is viewed as the concept that

MFIs must sell to the goldmining sector.

Environmental responsibility is the goal to be achieved by the goldmining sector with the assistance from MFIs, stakeholder pressure. In the end the goldmining is viewed as going to take environmental management as a rule and not an option and thereby come up strategies of managing it. The framework recognizes that firms that are environmental responsible ought to be compensated by the market since environmental responsibility has been observed to having an association with financial performance of the goldmining sector and MFIS.

Stakeholder influence is viewed as providing the monitoring aspect to both MFIs and the goldmining sector to embrace sustainable development. The framework recognize that the goldmining sector and MFIs recognize and respond to stakeholder pressure when exerted by a powerful stakeholder like the government, rating agencies and donor funders. The government is viewed as able to use MFIs as an essential strategy to advocate for sustainable development by including it as a key dimension of CSR for MFIs. This is because the government is able to provide the institutional force needed by MFIs to promote green gold mining.

The last section of the article give conclusions and future direction for research.

6. Conclusions and Future Research

The function of MFIs in supporting green goldmining in Zimbabwe was examined in this paper.

According to the literature, MFIs' roles have diversified, and they now provide non-financial services like incentives and assistance to promote environmental responsiveness in developing countries, in addition to their traditional role of providing financial and social services. It was noted that goldmining sector must operate in a sustainable nature by embracing the triple bottom line (economic, social and environmental). It was observed that finding the best structure and balance among the key dimensions of the triple bottom line was key, which motivated the development of the framework.

It was revealed that goldmining have adverse environmental impacts and its operations must be monitored. The environmental impacts of goldmining were noted to be worse in developing countries. Responsible investment strategies, discovered in this study, were critical to an economy's growth because they balanced the three dimensions of the triple bottom line: economic, social, and environmental. It was revealed that the notion of sustainable development represent a rule and not an option in which all operating entities must adhere too.

In addition MFIs were viewed as change agents to many small business and could play a potential role in influencing the gold mining sector in adopting green strategies. Due to the large number of MFIs available and the potential of becoming the largest banking sector in terms of people served, MFIs are now expected to contribute to sustainable development goals through promotion and sponsoring of environmental friendly activities.

Governments of other countries were noted to now be using MFIs as an essential strategy to support business with finance, whilst advocating for environmental management. Green microfinance grew due intensive completion and the need to come up with innovative products that makes organizations attractive within the global village. It was observed that government must play a key role by coming up with policies that force MFIs to promote green gold mining in Zimbabwe. In addition it was also revealed that engaging in environmental management is associated with financial returns, which make it very health and worth undertaking.

It was revealed that most of the activities of MFIs must be regulated if they are to be actively involved in the promotion of environmental management within the gold mining sector. It was also observed that organizations commit to environmental management as a strategy to enhance their reputation. It was also revealed that organizations do commit to environmental management programs due to pressure from key stakeholders like customers, donor funders, governments and the community in which they operate that demand that they engage in environmental management. The other reason that was revealed on why organizations commit to environmental management was management commitment and governance of environmental issues. It was felt when management is committed to environmental management it will act as a motivator to employees.

Investors, donor rating agencies and regulators were identified as key stakeholders having a growing interest in environmental responsiveness of MFIs. Competition was also identified as another driver for environmental responsiveness by an organisation. Engaging in environmental management initiatives has been revealed to lead to improvement in the public image of an organisation, which in turn motivates staff, resulting in market expansion, improved external relationships and avoidance of bad publicity.

The conceptual framework on the role that can be played by MFIs in promoting green goldmining is preliminary and future research work could be taken through validation process in the form of in-depth interviews, focus group and case study analysis, thereby strengthening our inductive research approach.

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