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**The Social Effects of Midroc Gold Plc. and Ethiopian Mines,
Petroleum and Biofuel Development Corporation in Ethiopia: A
Case of Oromia Regional State of Guji Zone**

**A Thesis Submitted to the School of Graduate Studies of Addis Ababa
University in Partial Fulfillment of the Requirements for the Master of Art in
Public Administration and Development Management**

By: Jikssa Kidane

Advisor: Yohannes Workaferahu (Ph.D)

**ADISS ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS**

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Addis Ababa, Ethiopia

Declaration

I, the undersigned, declare that this thesis entitled “*The Social Effects of Midroc Gold Plc. and Ethiopian Mines, Petroleum and Biofuel Development Corporation in Ethiopia. A Case of Oromia Regional State of Guji Zone*” is my own original work and that all sources have been accurately reported and acknowledged, and that this document has not been submitted for a degree in any other universities.

Jikssa Kidane

Name of Author

Signature

Date

Statement of Certificate

This is to certify that **Jikssa Kidane** has completed his thesis entitled “*The Social Effects of Midroc Gold Plc. and Ethiopian Mines, Petroleum and Biofuel Development Corporation in Ethiopia. A Case of Oromia Regional State of Guji Zone*” is his original work and is submitted for examination with my approval as a thesis.

Yohannes Workaferahu (Ph.D)

Name of Advisor



Signature

Date

Addis Ababa University

School of Graduate Studies

This is to certify that the thesis entitled, *“The Social Effects of Midroc Gold Plc. and Ethiopian Mines, Petroleum and Biofuel Development Corporation in Ethiopia. A Case of Oromia Regional State of Guji Zone”* was carried out by **Jikssa Kidane** under the supervision of **Yohhanes Workaferahu (Ph.D)** submitted in partial fulfillment of the requirements for the degree of Master of Public Administration and Development Management complies with the regulations of the University.

Approved by the Examiners

_____	_____	_____
Name of External Examiner	Signature	Date

_____	_____	_____
Name of the Internal Examiner	Signature	Date

<u>Yohannes Workaferahu (Ph.D)</u>	_____	_____
Name of Advisor	Signature	Date

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Acronyms

ASRF	Ahafo Social Responsibility Forum
CIRDI	Canadian International Resources and Development Institution
CMC	Community Mine Continuation Agreements
CSR	Corporate Social Responsibility
IIED	International Institute for Environment and development
MMSD	Mining, Minerals and Sustainable Development Project
NGO	Non-Government Organizations
OTML	Ok Tedi Mining Ltd.
OTDF	Ok Tedi Development Foundation
OTFRD	Ok Tedi Fly River Development Program
SIA	Social Impact Assessment
SDG	Sustainable Development Goals
SLO	Social License to Operate
WB	World Bank

Abstract

As a result of the negative social impacts of mining companies operation with lack of adequate mitigation measure for the damaged caused on local communities, the relationship between local communities and mining companies filled with tension and even impossible to run operation. Thus, the goal of this thesis is to determine the negative social effects of Midroc Gold plc. and Ethiopian Mines, Petroleum and Biofuel Development Corporation mining activities on the local communities of Reji and Kenticha Kebeles living near the mining sites in Guji Zone of Oromia Regional State and to recommend how the sector be a net positive contributor. Respondents from each kebele selected based on stratified sampling technique. The survey was conducted with 312 respondents. Descriptive statistics and ordered logistic regression analysis were used to analyze the data with the aid of STATA version 13. The result showed Midroc Gold plc. and Ethiopian Mines, Petroleum and Biofuel Development Corporation mining operations affect local communities negatively in aspects of environment, health and safety; demography; economy, income and security; employment and education ; land use and territorial; and human rights respectively .

Keyword: *Mining companies, mining operation, social impact, unintended social change and local communities*

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

The global integration of economies and the rising demand for raw materials and commodities, mainly driven by urbanization, population, and economic growth, have increased the exposure of rural economies to investments in mining operations that result local communities to interact with large investors, even transnational corporations (Angelo, Paolo & Elisa, 2019). However, in developing countries, the government attention has always been on the economic contribution of mining sector to the general economic growth of the country (Bismarck & Darkoh, 2015) rather than social impacts on the local communities. For this reason, in Ethiopia, very little research has been carried out on the social impacts of mining on local communities.

A social impact is something that is experienced or felt (real or perceived) by an individual, social group or economic unit (Vanclay cited in Franks, 2012). In addition, social impacts may be quantifiable and tangible or symbolic and intangible that can have profound consequences for a person's wellbeing (Edwina, Jacki & Peter, 2014, p. 365). Further to this, social impacts can be both positive and negative (Lucia & Serenella, 2018).

Similarly, mining has a positive average effect but a negative distributional effect on local communities (Norman & Jamele, 2016). On the positive side, mining operations create jobs both directly and indirectly, transfer technologies and knowledge, and generate significant foreign exchange earnings, thus providing governments a financial base for the development of infrastructure and the provision of social services (World Bank, 2009). On the negative side, concerns have been expressed by local communities about inadequate housing, youth unemployment, family disorganization, school dropout rate, prostitution, drug abuse and high cost of living (Thomas & Abdulai, 2001), to mention a few.

As a result of the negative social impacts, local communities near the mining sites bear most of the social cost. Thus, the relationship between investors, government and local

Communities filled with tension that in turn affect operation of the project and even impossible to run (Peter & Michael, 2017, p.189). Therefore, understanding the social effects of mining activity may elucidate communities' perceptions on the benefits and damages stemming from mining activity as well as the changes needed for mining to be accepted by local communities (Norman & Jamele, 2016, p. 231) and help to ensure a net positive contribution of the sector.

This study aims to determine the social effects of Midroc Gold plc. and Ethiopian Mines, Petroleum and Biofuel Development Corporation mining activities on the local communities' in Guji zone of Oromia Regional State.

1.2. Statement of the problem

The Ethiopian mining operation regulation (423/2018) enforces companies that engage in mining (except artisanal miners) and as appropriate those engaged in exploration activity shall allocate some percentage of money from capital expenditure or operation expense or profit to be used for community development activities in a place where mining is conducted. The problem with such scheme does not take into account the negative effects of mining on local communities and it lacks addressing strategy. According to (Tony et al., 2017) such effects are conflict determinants that can result in social tension and even violent conflict within the community or between the community and the mining company or government (IIED, 2002).

In that case, governments, civil society groups, and some investors and mining companies increasingly recognize that mining should not leave affected communities worse off than they were before mining started. This means that potentially negative social and economic impacts should be identified at the project level, acknowledged and addressed (Marta, Davide & Catherine, 2005). Thus, Social Impact Assessment (SIA) assists to identify key issues from the perspective of those potentially impacted by project; predict and anticipate change; and embed these understandings into ongoing systems and strategies to proactively respond to the consequences of development Vanclay and Esteves (cited in Franks, 2012).

Therefore, the study would identify and address the negative social effects of mineral operations carried out by companies within the Oromia Regional State of Guji Zone.

1.3. Research Questions

This study is expected to answer the following questions:

1. What are the negative social effects of mineral operation carried out by Midroc Gold plc and Ethiopian Mines, Petroleum and Biofuel Development Corporation on local communities?
2. To what extent the identified negative social effects of mining affect the local communities?
3. What are the strategies to address the negative social effects of mining?

1.4. Objectives of the Study

1.4.1. General objective

The general objective of this study is to examine the social effects of mineral operation carried out by companies that operate in Oromia National Regional State of Guji Zone.

1.4.2. Specific Objectives

To achieve the overall objective of the study, the following specific objectives are developed:

- To identify the negative social effects of mineral operation carried out by companies.
- To assess how the identified negative social effects of mining companies affect local communities.
- To investigate the causes for the negative social effects of mineral operation by companies.
- To suggest strategies to address the negative social effects of mining companies.

1.5. Scope of the Study

The study would be delimited to assess the negative social effects of mining companies in the Oromia Regional State of Guji zone. The companies selected are Midroc Gold plc and Ethiopian Mines, Petroleum and Biofuel Development Corporation that are federally licensed. The local communities would be selected from Adola and Kenticha wordas of Guji zone. The study would technically focus on companies that engage in mineral development (mining stage) and in terms of mining scale, large and small.

1.6. Significance of the Study

The study would provide information about the negative social effects of mineral operation on local communities to regulatory agencies, companies, affected peoples, development agencies and policy and program developers. It would also contribute to the social policy objectives that

guide mine operations to address social effects on the local communities. Finally, the study would contribute companies to give emphasis on the management of their impacts on surrounding communities.

1.7. Organization of the Study

This study would have four chapters. The First Chapter deals with background of the study, statement of the problem, objective and significant of the study, research methodology, sources of data, sampling, data collection tools and data analysis, limitation and scope of the study. Chapter Two contains the theoretical framework of the study. Chapter Three presents and analyzes all collected data. The last Chapter gives summary, conclusion and recommendations. Vital documents would be annexed at the end.

CHAPTER TWO

2. LITERATUR REVIEW

In this chapter theoretical and empirical concept on the role of mining companies, social effects of mining activity; negative social effects of mining and conceptual frameworks are included in detail.

2.1 Roles of Mining Companies

In today's world, population growth, urbanization, social and economic development and even demands for green or low carbon economy are all contributing to an increase in the demand for minerals and metals (Dan, Alan, Magnus & Anthony, 2014). As Casper, Gillian & Lisa (2016) reviewed that mining creates jobs and generates significant revenues through taxes, royalties and dividends for governments to invest in economic and social development.

However, in practice governments do not necessarily redistribute benefits directly to impacted communities and ensure that communities receive a fair share of the benefits that could be put to equitable and sustainable use often as a result of inadequate governance structure particularly in developing countries (Anne, Guy, & John, 2018; IIED, 2002) and due to the priority given to create a favorable investment climate in terms of a sound macro-economic regime (Labonne, 1999). These can lead to companies to play an active role in facilitating local development that could be done in paternalistic way or assuming the functions of the national or local governments (Esteves, 2008, p.37).

According to (Campbell, 2011, p 1) governance gaps need to be remedied and mining companies have to take Corporate Social Responsibility (CSR) role in order for the sector better contribute to development and poverty reduction. In this regard, an overarching objective of company's social responsibility should be to contribute to sustainable development (sustainable development, n.d.).

Moreover, The Sustainable Development Goals (SDG) initiative encourages both governments and the private sector to engage in the implementation of the goals: companies should commit for an improvement of the production processes' sustainability and policy makers at all levels are asked to align their strategies to the sustainable development principles of the Agenda (Lucia & Serenlla, 2018). Finally, whatever social policy the company decides to introduce, with or without the government, it should be participatory and based on mutual commitment with the community (Labonne, 1999).

2.1.1. Corporate Social Responsibility

As reviewed by Hamann and Kapelus (2004), the international prominence of Corporate Social Responsibility (CSR) in mining can be traced to mining's potentially significant negative social and environmental impacts, and the related criticism levied at mining companies from governments, NGOs, and local community organizations. According to Freeman and Hasnaoui (cited in Heidi 2009), there is no general consensus on a definition of CSR. But, Carroll's (2016) on his reviewed article of Carroll's Pyramid of CSR; Taking another Look he restated Carroll's four-part definition as: "Corporate social responsibility encompasses the economic, legal, ethical, and discretionary (philanthropic) expectations that society has of organizations at a given point in time". As illustrated by Carroll's, those four components of CSR are empirically interrelated, but conceptually independent. A brief review of each the four components of CSR are presented as follows:

2.1.1.1. Economic Responsibilities

As summarized from (Carroll, 2016, p2-3) in order for corporates to address social problems, it must be profitable and the profit must also be reinvested to benefit all stakeholders of the businesses. To do this, corporates employ many business concepts that are directed towards financial effectiveness (attention to revenues, cost-effectiveness, investments, marketing, strategies and operations). But Esteves (2008) argued that such social responsibility will always cause a manager difficulty in balancing short-term costs against long-term objectives in which the short-term approach will almost win and lead to little strategic benefit for the company and limited values to communities.

2.1.1.2. Legal Responsibilities

As stated by (Carroll, 2016), society established the minimal ground rules include laws and regulations under which businesses are expected to operate and function. These regulatory and legal frameworks are instrumental in shaping and establishing CSR including determining how the benefits from resource development flow to communities (e.g. royalty and compensation arrangements and regulations that serve to mitigate impacts, particularly environmental impacts) (Anne, Guy, & John, 2018).

As Anne, Guy, & John (2018, p132) reviewed that although regulatory frameworks afford some level of protection for cultural and environmental values, effective CSR strategy typically builds upon legislative frameworks through company strategies which engage with stakeholders. In this regard, the Constitution of the Federal Democratic Republic of Ethiopia (1995) Article 43 (the

right to development) also provides key rights and opportunities for local communities. This includes the right to participate in national development and, in particular, to be consulted with respect to policies and projects affecting their community. In addition to those, the quality of government institutions and public financial management is critical to the fiscal discipline needed for successful resource revenue management (Peter & Michael, 2017, p.189).

2.1.1.3. Ethical Responsibilities

Ethical dimensions of CSR are also significant in self-regulated models (Anne, Guy, & John, 2018). While meeting ethical responsibilities, important expectations of business includes being good corporate citizens by doing what is expected morally or ethically; and recognizing that business integrity and ethical behavior go beyond mere compliance with laws and regulations (Carroll, 2016). As suggested by Labonne (1999) mining company should aspire to become not only a good corporate citizen but a trusted member of the community by translating the triple bottom line (the need to strike a balance between economic growths, ecological needs and social progress) from a corporate culture to concrete actions with accountability.

2.1.1.4. Voluntary or discretionary Responsibilities

As reviewed by (Anne, Guy, & John, 2018) voluntary and discretionary aspects of CSR are shaped by the company's ethical approach, organizational values, scale of operation and need to gain and retain a social license. According to Thomson and Boutilier (2011) a social license to operate (SLO) is a community's perceptions of the accountability of a company and its local operations. Moreover, the mining industry's 'good neighbor' policies have also extended to economic development, including employing local residents in projects, using local suppliers, support for the development of new entrepreneurs, provision of infrastructures, etc. Esteves (2008); and Patrico (2001) also stated donations to the community in terms of money or goods.

Finally, Hamann and Kapelus (2004) highlighted that accountability and fairness as useful criteria to assess companies' CSR-related narratives and practices; and the needs to critically engage business towards sincere version of CSR. In a parallel manner, Campell (2011) stressed the need to integrate mineral policy with development policy to achieve fair and equitable fiscal and investment regimes, and to maximize the benefits derivable from mineral resources exploitation beyond the need to reinforce institutional capacity in Africa.

2.2 Social Effects of Mining Activity

Policies or project interventions cause social change processes (a discrete, observable and describable process which changes the characteristics of (parts of) a society, taking place regardless of the social context) that can be intended (for instance, conversion of economic activities) or unintended (for instance, job loss) which in turn may cause social impacts depending on the characteristics of the existing community and the nature of mitigation measures (Slootweg et al., 2001).

An impact is an actual experience of an individual or community (Vanclay, 2001). Mining has particularly strong environmental and social impacts on communities and areas near mine sites (Uyanga & Fabrice, 2018). On the contrary, mining developments have placed less emphasis on the management of their impacts on surrounding communities than on issues such as workplace health and safety, and environmental impacts (Alanna, Tess, Ashleigh & Sally, 2018). According to (Peter & Michael, 2017), the challenge is to ensure that the positive impacts such as job creation, education and skills development, fostering of urban and trade centers, and investment in the improvement of local infrastructure and services are sustainable.

To do so, (Vanclay, 2001, p.185) argued that attempts have been made by various social scientists to develop classifications of types of social impacts, but few have developed lists of specific social impacts. Accordingly, Lucia and Serenella (2018) reviewed and grouped social impacts of the mining industry into six categories based on main areas of social impacts. For the purpose of this study, aspects of the six categories of the negative social impacts of mining industry are reviewed.

2.2.1. Economical, income and security aspect

Mining could lead to a rise in local wages, reduce profit margins in agriculture, and lead to the exit of many families from farming something akin to a localized Dutch disease problem (WB, 2015). In addition, those who do not benefit directly from mining in their community face a resource curse, disadvantaged by lower incomes combined with inflated costs of living as a result of mining activity (Langton, cited in Alanna, Tess, Ashleigh & Sally, 2018). Further to this, artisanal miners find the presence of large scale mining companies as a threat to their livelihood and economic activities due to both party's computations for the same resources that in turn trigger conflict between them (Relations with artisanal miners, n.d.).

Moreover, the weak institutional and technical capacity at the national and local levels of government provides fertile ground for local conflict due to corruption, lack of transparency and accountability, leading to distrust of public authorities and negative association of companies (Tony et al., 2017). Besides this, without a so-called social license to operate, or the free and informed consent of the communities concerned, companies may face difficulties to continue operations and even impossible to run (Peter & Michael, 2017).

2.2.2. Employment and educational aspect

As reviewed from the findings of (Alanna, Tess, Ashleigh & Sally, 2018, p.26), childhood exposure to environmental contamination in mining communities leads to poorer cognitive and mental health outcomes spanning across childhood, early adolescence, and into early adulthood that impacts children's educational and developmental outcomes which in turn results poorer school readiness, educational outcomes, and a high student turns over particularly at junior levels as a result of mine workers took their families with them to new locations for better jobs.

Along with, employment requirements at the mine site can surge, but often local communities have limited capacity to take advantage of employment opportunities (Uyanga & Fabrice 2018) with the exception of the construction phase (IIED, 2002). Under those circumstances, the nature of the employment available for people is the low class type, which does not reward the people very much (Bismarck & Darkoh, 2015). Furthermore, lack of freedom to organize in trade unions and non-conformity with the requirement of the international labour organization conventions are categorized under the employment and educational aspects of social impact (Lucia & Serenella, 2018).

2.2.3. Land use and territorial aspect

One of the most serious negative impacts of mining is the physical displacement of thousands of people for undertaking mining operations in their residence areas (Pradeep & Raj, 2016). Similarly, (Uyanga & Fabrice 2018) stated that displacement is accompanied by the loss of physical assets, access to natural resources, social networks and cultural identity, leading to impoverishment that heavily affects indigenous peoples and marginalized communities. The mining, minerals and sustainable development project (2002) explained that such action may lead communities to lose their land and thus their livelihoods; disrupting community institutions and power relations that is to say a significant cause of resentment and conflict associated with large-scale mineral development. Moreover, Investigations into displacement have found other

potential risks that deeply threaten sustainability; these include joblessness, homelessness, marginalization, food insecurity, loss of common lands and resources, increased health risks, and social disarticulation (Theodore, 2002, p.8).

2.2.4. Demographical aspect

One of the most significant impacts of mining activity is the migration of people into a mine area which results disputes over land and the sharing of benefits due to the influx of new comers that in turn can also lead to pressures on housing availability and affordability, local infrastructure and services, local employment opportunities, local business and economy, and other resources as well as bringing problems of sanitation and waste disposal (IIED, 2002).

Furthermore, as reviewed from the findings (Alanna, Tess, Ashleigh & Sally, 2018), an increased male non-resident workforce came a general sense of decline in community safety in which women felt unsafe in the community and increased concern for their children's safety because of the atypical demographic profile and gender imbalance of the population.

2.2.5. Environmental, health and safety aspect

Mining operations often require the intensive use of water resources (Angelo, Paolo & Elisa, 2019). That can lead to the reduction of water resources particularly in arid and semi-arid environments which in turn trigger water-use conflicts between mining companies and local communities (Uyanga and Fabrice, 2018). In addition to this, the recipient river systems are polluted with heavy metals, suspended and dissolved solids as a result of the potential risk of soil and water pollution due to the discharge of wastewater from the mine, if not properly treated, ultimately increase the health risk to human and livestock since livestock graze and drink in the area (Bismarck & Darkoh, 2015).

In a similar manner, health impacts from the discharge of toxic gases into the atmosphere from the processing activities of the mine has accounted for the disappearance of vegetation and contamination of soil, and respiratory diseases (such as cough, asthma, flu, chest pains, and tuberculosis, etc.) (Patricio, 2001; Bismarck & Darkoh, 2015). Furthermore, mining communities are also increasingly seeing a rise in sexually transmitted diseases, such as syphilis and HIV/AIDS as a result of large presence of mining workers in the industry that in turn increase sex trade (Community health and safety, n.d.).

2.2.6. Human rights aspect

As stated by Vanclay (2002), violation of human rights is a social impact that can occur when governments use force to allow a project to occur, or when public comment in opposition of the project is suppressed. In some cases, human rights abuse by police or security forces acting in the interests of the company may occur (IIED, 2002). Further to this, Theodore (2002, p.10) argued that homelessness or the replacement of a house with a structure that its occupants may not consider “a home” is often associated with a profound loss of identity and cultural impoverishment as the symbolic importance of place, in terms of family cohesion and a remembered location for mutual support, not only from the household but neighboring households, is disturbed.

Communities also demand the right to determine whether or not the project will actually proceed (free, prior and informed consent), and the absence of such a participatory relationship between companies, national and local government, and communities leading to rising tensions and the potential for conflict (Tony et al., 2013). In parallel manner, indigenous peoples have rights under international law and some national legal systems and have often experienced marginalization and discrimination since they usually have distinct cultural, economic, and political practices (Peter & Michael, 2017).

2.3 Empirical Literature

2.3.1. Newmont Ahafo Gold Mine

Newmont’s Ahafo mine, located in the BrongAhafo Region of Ghana, approximately 290 kilometers northwest of Accra is the first large scale mine to be developed in the region, which has a population of approximately 1.8 million. Newmont has experienced significant challenges in developing a positive relationship between the Ahafo mine and local community due to extensive changes as a result of the mine’s development, including resettlement, relocation, compensation (approximately for 1,700 households), ongoing human rights and environmental concerns expressed by Ghanaian and international Non-Government Organizations (NGOs) derived from perceptions of mining as a colonial practice, extracting wealth and leaving a negative social and environmental legacy for local communities.

To address such issues, Ahafo established a number of engagement mechanisms to improve the relationship between the mine and community. One of the mechanisms is the Ahafo Social Responsibility Forum (ASRF), was established in late 2005 to provide the community with the

opportunity to participate in the company's decision and plans, deliberate on issue of mutual interest, help build strong communication and decide how the community development fund would be allocated.

Newmont also developed a Social Responsibility Agreement that outlines the various responsibilities of the community and the company. It stipulated that, 'The company and the community agree that where any issue of potential conflict is identified or where any conflict arises between them they shall exercise patience and tolerance and resolve the issue through dialogue and negotiation so as to maintain good working relations.'

Further to this, Newmont established a procedure for the resolution of concerns and grievances. These can be lodged at a mine site grievance office and community information centers and must be set out in writing. A 'grievance officer' is responsible for the overall management of the system. A 'grievance and complaints committee' authorizes resolutions beyond the authority level of the resolving officer and, if necessary, escalates concerns and grievances to senior management or independent external bodies. Finally, as a result of the engagement mechanisms adopted by Newmont, the Ahafo mine was one of the five sites included in a global review and evaluation of Newmont's policies and practices relating to relationships with local communities (Complaints, disputes and resolution, n.d.).

2.3.2. Cameco, Uranium Mining in Northern Saskatchewan in Canada

A state-owned enterprise was engaged in uranium mining in northern Saskatchewan some decades ago. Northern Saskatchewan is a remote area home mostly to aboriginal peoples, who make up 87 percent of the population. Only 40,000 of Saskatchewan's 1 million inhabitants live in this area. Mostly, the state-owned enterprise employed people from outside the region. That resulted in mining town formation which in turn attracted migrants from all over the region and created social problems of crime, alcoholism, and prostitution. These resulted opposition to uranium mining from both southerners, for environmental reasons, and aboriginals, because of a lack of economic benefits and the perceived large social, cultural, and environmental costs.

To address those problems, the Bayda Commission appointed and has made several recommendations including privatization of the industry. More importantly, the Commission laid the foundation for uranium development in northern Saskatchewan that evolved and developed through the 1980s to include: best efforts (rather than targets) to deliver social and economic benefits; cooperative tripartite negotiations; increased monitoring of environmental and

occupational health and safety performances; community based consultation procedures; and recognition of social spending as a legitimate royalty deduction for companies.

By the end of the 1980s, the state was no longer involved directly in uranium mining. Hence the provincial and federal state-owned companies merged to form Cameco Corporation, which in turn was quickly privatized. Cameco and other privately owned uranium mining companies moved rapidly in the 1990s to take advantage of the lessons learned during the years of state-run mining operations. They have worked with the communities and various levels of government to dramatically increase the levels of benefits to residents of northern Saskatchewan. At the same time, they have been fulfilling more and more stringent environmental regulations (Felix & Gary, 2002, p.13-14)

2.3.3. Ok Tedi Mining, Ltd., New Guinea

The Ok Tedi Mine, located in the Western Province of Papua New Guinea, has had significant environmental effects on communities living downstream from its activities because of the practice of dumping tailings and waste into the Fly River. As understanding of the environmental impacts of the riverine damage grew, Ok Tedi Mining Ltd. (OTML) entered into community mine continuation agreements (CMCAs) in 2001 that predicate continued operations on community consent.

The CMCAs also commit OTML to make investment and development payments through eight trusts and six “mine” villages. The payments are to benefit all of the 152 villages affected by the mine. Each of the eight trusts covers a different geographical area; to date each has managed its compensation payments independently. In 2002, OTML registered the Ok Tedi Development Foundation (OTDF) as a non-profitable company to support community development and future generations by administering the CMCA trust funds.

As a result, the Ok Tedi Fly River Development Program (OTFRDP) established as a subsidiary of the OTDF that is charged with managing the trust funds on behalf of the beneficiary communities. Although the administrative functions needed to manage the trust funds had been supplied by the OTML for many years, the OTFRDP now covers all of the costs associated with trust management in response to community unease about access to the funds.

Further to this, managing trust funds intended for 152 villages affected by the environmental damage caused by the mine places a significant responsibility on the governing body of the

OTFRDP. The organization is divided into four ordinary shares that are to be transferred from the OTML to reputable development organizations in the country before the mine closes. Each shareholder will nominate a director the OTFRDP's governing body. In this organization the level of participation of beneficiary communities is critical, and whose concerns are heard through four associate directors who come from the affected areas. While the associate directors do not have voting rights, their voices are given considerable power in the decisions taken by the governing body. To further enhance the contextual understanding of the governing body and improve participation, the associate directors are guided by an 18-member advisory committee drawn predominantly from the affected communities (Elizabeth & Remi, 2011, p.45-46).

2.4 Conceptual Framework of the Study

The mining industry plays an important role in the global economy. Though the economic impacts of mining have been thoroughly explored, the social impacts caused from it recently have received growing attention. As a result, mining developments are being required to consider how they affect local communities and implement strategies to minimize negative impacts they may be causing. Therefore, this study focuses on the negative social effects of Midroc Gold plc. and Ethiopian Mines, Petroleum and Biofuel Development Corporation mining operations on the local communities of Reji and Kenticha Kebeles in Guji Zone.

Accordingly, mining operation cause social change processes that can be intended or unintended which in turn may cause social impact depending on the characteristics of the existing community and the nature of mitigation measures. Since the negative social impact of mining company depend on the untended social change aroused from lack of adequate mitigation measures and respondents were taken only near mining sites , the study has the independent variable untended social change and dependent variable the negative social impact.

The figure below shows the proposed conceptual framework adopted and modified from literature



Fig. 1 Indirect effect of mining operation

Source: Adopted from Mark. P. (1996).

CHAPTER THREE

RESEARCH METHODOLOGY

This study examines the social effect of mining companies that operate at the Oromia Regional State of Guji Zone. Under this chapter the research design and method, types and sources of data, methods of data collection, sampling technique and sample size, data analysis technique and ethical considerations are discussed as follows;

3.1 Research design and Method

A research design provides a framework for the collection and analysis of data (Bryman, 2008). This study used descriptive research design. According to Anol (2012) a case study is an in-depth investigation of a problem in one or more real-life settings (case sites) over an extended period of time and used in this study to examine the negative social effects of mining operations in a specific place of Guji Zone taking the activities of mining companies (Midroc Gold Plc and Ethiopian Mines, Petroleum and Biofuel Development Corporation) as a single case to study. The study also used quantitative method to examine relationships among variables.

3.2 Types and Sources of data

The study used both primary and secondary sources of data.

3.2.1 Primary data

Primary data are original data gathered by researcher for the research at hand. The primary data needed for this study collected through dispatching structured and unstructured survey questionnaire to different respondents of local communities living close to the mining operation sites.

3.2.2 Secondary data

Secondary data are often in the form of raw data and published materials. The secondary data for this study were collected from various books, dissertations, publications, journals, articles and reports on websites and government documents. Secondary resources are mainly used to understand the social effects of mining operations by analyzing definitions offered by various scholars. Moreover, the secondary resources will help in preparing theoretical framework for this study.

3.3 Methods of Data collection

The study used self-administered structured and unstructured survey questionnaire to collect primary data. According to Koteri (2004) structured questionnaires are simple to administer;

relatively inexpensive to analysis and the provision of alternatives helps to understand the question clearly. Therefore, a structured questionnaire with each of the questions on five point Likert response items is designed to collect data about communities' perception on the negative social impact of mining company. And closed ended question is used to determine the mitigation measure adopted by companies is adequate or not. Louis et al. (2007) noted that open ended questions enable participants to write a free account in their own terms, to explain and qualify their responses and avoid the limitations of preset categories of response. As a result, the study also used open ended questions.

3.4 Sampling technique and sample size

Total populations of the study were households of Reji and Kenticha Kebeles living close to the mining operation sites. There are a total of 14, 782 households. The list of households in the two kebeles obtained from the respective kebele administrations. Since mining operations are conducted in Reji kebele of oddo shakiso and Kenticha kebele of Sebba Boru woredas, the two kebeles were selected based on purposive sampling.

The study respondents were sampled from two kebeles. According to Mugenda (2003) sample size determination formula, the sample size calculated for the study is 389, at 95% confidence level and 0.05 precision levels.

The formula below is used to determine the sample size:

$$n = \frac{N}{1+N(e^2)}$$

Where:

n is the sample size

N is the population size

e is the level of precision or sampling error

To divide the population into groups and select respondents from each kebele, the study uses stratified sampling technique.

Table1. Proportionate Sampling Determination

No	Kebeles	Total No of Households	Sample Size
			Proportion of Sample
1	Reji	8,864	$[(8,864/14,782) \times 389] = 233$
2	Kenticha	5,918	$[(5,918/14,782) \times 389] = 156$
	Total	14,782	389

3.5 Data analysis technique

In this study descriptive analysis is used to describe and present data .Ordinal regression model is used to describe the relationship between an ordered categorical response variable the negative social impact of mining company and the independent variable the unintended social change aroused from lack of adequate mitigation measure. Since the dependent variable is ordinal that measured in terms of Likert response, ordered logistic regression analysis is used to determine the association between dependent and independent variable. In addition, ordered logistic regression analysis is done using STATA13.

Thereafter, Z- Test is used to test the influence of independent variable. In addition, the P- value is used to determine association between the response variable negative social impact and the term unintended social change is statistically significant. Finally the study used odds ratio to determine the probability negative social impact to occur in the presence or absence of adequate mitigation measure taken by mining companies.

3.6 Ethical Consideration

An ethical issue of confidentiality and privacy is considered in the study. The researcher clearly informed the respondents the purpose of the study is academic, their participation in the study was based on their consents and the information collected used for this study only. Finally, all the materials that is used for this study are duly acknowledge.

CHAPTER FOUR

4. DATA PRESENTATION, ANALYSIS, AND INTERPRETATION

This chapter includes the data presentation, analysis and interpretation of the findings. The analysis starts with a description of the respondents demographic profiles. The survey was conducted with 312 respondents representing 80.2 percent of the sample size.

4.1. Descriptive Analysis

4.1.1. Personal Background of Respondents

Table 4.1: Gender of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	216	69.2	69.2	69.2
	Female	96	30.8	30.8	100
	Total	312	100	100	
Total		312	100		

Source: Own survey (2020)

The respondents were asked to indicate their gender and the results are shown above. Table 4.1 indicates 216 (69.2%) of the respondents were male and 96(30.8%) were female. From this, the number of female respondents is by far less than males.

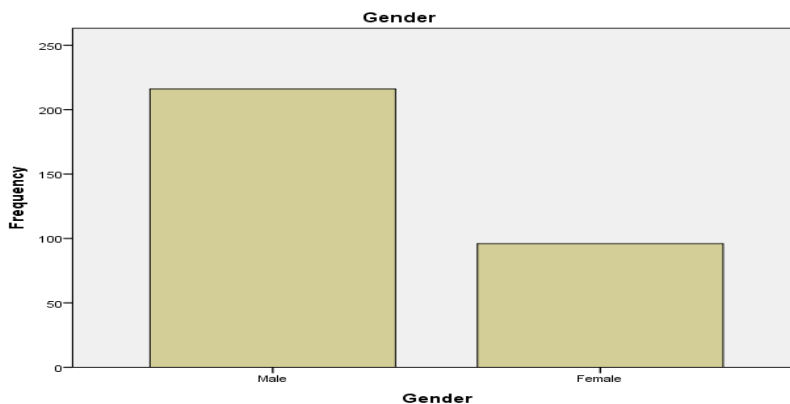


Figure 4.1: Gender of respondent

Table 4.2: Age of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-28	56	17.9	17.9	17.9
	29-39	145	46.5	46.5	64.4
	40-50	94	30.1	30.1	94.6
	greater than 50	17	5.4	5.4	100
	Total	312	100	100	
Total		312	100		

Source: Own survey (2020)

The age distribution of the respondent who participated in the study is provided in Table 4.2. The sample age categories were divided with a range of 10 years except the age category above 50. Accordingly, the results showed that 17.9% were aged between 18 and 28 years old and 46.5% were between 29 and 39 years of age while 30.1 % were between 40 and 50 years. Respondents in the group of above 50 years old were 5.4%. This implies that most of the respondents were middle aged followed by young; the smaller proportion of respondents were older than 50 years old.

Table 4.3: Educational level of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Literate	65	20.8	20.8	20.8
	Primary	87	27.9	27.9	48.7
	Secondary	46	14.7	14.7	63.5
	First Degree	36	11.5	11.5	75
	Others	78	25	25	100
Total		312	100	100	

Source: Own survey (2020)

The educational level of the different respondents is shown in Table 4.3.As summarized in the table, the respondents' educational levels were listed on respondent's specialty literate, primary, secondary, first degree and others with the respective proportion of 20.8, 27.9, 14.7, 11.5 and 25%.This is an indication that the respondents are also at adequate education level to understand the negative social effects of mining operations.

Table 4.4: Occupational category of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mining	144	46.2	46.2	46.2
	Agriculture	71	22.8	22.8	68.9
	Services	57	18.3	18.3	87.2
	Others	40	12.8	12.8	100
Total		312	100	100	

Source: Own survey (2020)

The occupational category of the different respondents is shown in Table 4.4. As summarized in the table, the respondents' occupational categories were listed on respondent's specialty mining, agriculture, services and others with the respective proportion of 46.2, 22.8, 18.3 and 12.8. This is an indication that respondent's occupational category helps to investigate the social effects of mining operation on different economic sector in the locality.

Table 4.5: Respondents' Community

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Reji	166	53.2	53.2	53.2
	Kenticha	146	46.8	46.8	100
	Total	312	100	100	
Total					

Source: Own survey (2020)

The respondents' community is shown in Table 4.5. As summarized in the table, 53.2% of respondents were from Reji and 46.8% were from Kenticha kebele of Guji Zone. This is an indication that the respondent's location near companies mining operation site experience different negative social effect as respondents is drawn from different localities

Table 4.6: Respondents' years of living in a community

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5 years	35	11.2	11.2	11.2
	6-10 years	46	14.7	14.7	26.0
	11-15 years	102	32.7	32.7	58.7
	above 15 years	129	41.3	41.3	100
Total		312	100	100	

Source: Own survey (2020)

The year distribution of the respondents living in communities is provided in Table 4.6. The sample year categories were divided with a range of 5 years except the year category above 15. Accordingly, the results showed that 11.2% were lived between 0 and 5 years, and 14.7 % were lived between 6 and 10 years while 32.7% were lived between 11 and 15 years. Respondents in the group of above 15 years were 41.3%. This implies that most of the respondents were lived above 15 years in the communities.

4.2. Interpretation of Results

This section discusses the results of the survey about perception of communities on the negative social impact caused by Midroc Gold plc. and Ethiopian Mines, Petroleum and Biofuel Development Corporation using indicators like economy, income and security; employment and educational; land use and territorial; demographical; environmental, health and safety and human rights. In addition, the results of the survey about unintended social change as a result of mining operation are presented below.

Table 4.7: Economy, income and security

Economy, income and security	Frq.	Percent	Cum.
Low	2	0.64	0.64
Moderate	67	21.47	22.12
high	217	69.55	99.67
Very high	26	8.33	100
Total	312	100	

Source: Own survey (2020)

The table 4.7 above indicates among 312 respondents, 69.55% of the respondents responded that mining companies created income inequality, inflated the cost of living, have few economic benefits, engaged in conflict with artisanal miners due to competition for the same resource and negatively associated with national or regional level of government due to corruption as a result they distrust public authorities and, rated the impact of mining on aspects of economy, income and security is high. While 21.47%, 8.33% and 0.64% of the respondents responded that the impact of mining on local communities on aspects of economy, income and security is moderate, vary high and low respectively.

Table 4.8: Employment and educational

Employment and educational	Frq.	Percent	Cum.
Low	34	10.9	10.9
Moderate	74	23.72	34.62
high	187	59.94	94.55
Very high	17	5.45	100
Total	312	100	

Source: Own survey (2020)

The table 4.8 above indicates among 312 respondents, 59.94% of the respondents responded mining companies mostly offer temporary and low class type of jobs, brought poor school

readiness and educational outcomes of children’s due to environmental contamination, affected employees’ freedom to organize in unions and, rated the impact of mining on aspects of employment and education is high. While 23.72%, 10.9% and 5.45% of the respondents responded that the impact of mining on local communities on aspects employment and education is moderate, low and very high respectively.

Table 4.9: Land use and territorial

Land use and territorial	Frq.	Percent	Cum.
Low	4	1.28	1.28
Moderate	28	8.97	10.26
Very low	19	6.09	16.35
High	159	50.96	67.31
Very high	102	32.69	100
Total	312	100	

Source: Own survey (2020)

The table 4.9 above indicates among 312 respondents, 50.96% of the respondents responded that mining companies created unemployment, landlessness and homelessness, loss of common resources and impoverishment of living standards as a result of expropriation, population displacement and resettlement, and rated the impact of mining on land use and territorial aspects is high. While 32.69%, 8.97%, 6.09% and 5.45% of the respondents responded the impact of mining on land use and territorial aspects is moderate, very low and low respectively.

Table 4.10: Demographical

Demographical	Frq.	Percent	Cum.
Low	6	1.92	1.92
Moderate	49	15.71	17.63
High	214	68.59	86.22
Very high	43	13.78	100
Total	312	100	

The table 4.10 above indicates among 312 respondents, 68.59% of the respondents responded that mining operation caused migration of people in to mine area (influx of new comers) as a result community safety declined and, dispute overland and sharing of benefits resulted; and rated the impact of mining on aspects of demography is high. While 15.71%, 13.78% and 1.92% of the respondents responded the impact of mining on aspects of demography is moderate, very high and low respectively.

Table 4.11: Environmental, health and safety

Environment, health and safety	Frq.	Percent	Cum.
Low	2	0.64	0.64
Moderate	23	7.37	8.01
High	224	71.79	79.81
Very high	63	20.19	100
Total	312	100	

The table 4.11 above indicates among 312 respondents, 71.79% of the respondents responded that mining operation created scarcity of water, caused respiratory and sexually transmitted diseases, destroyed vegetation, caused human injuries, contaminated the soil and, caused mental health issues such as depression and anxiety both boom and bust periods; and rated the impact of mining on aspects of environment, health and safety is high. While 20.19%, 7.37% and 0.64% of

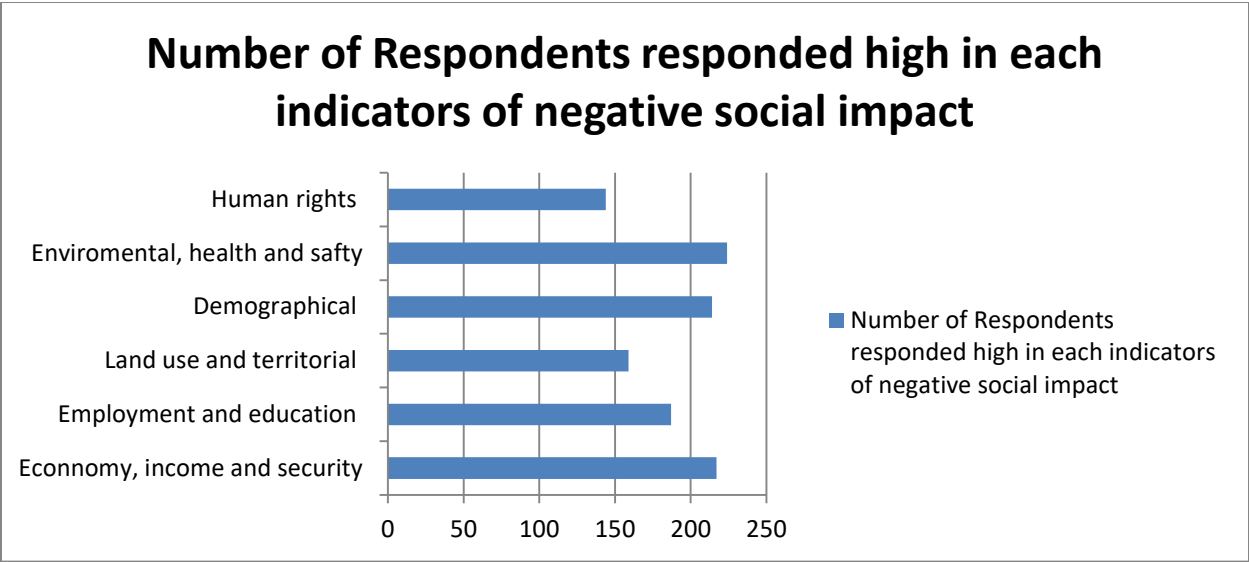
the respondents responded the impact of mining on aspects of environment, health and safety is very high, moderate and low respectively.

Table 4.12: Human rights

Human rights	Frq.	Percent	Cum.
Low	4	1.28	1.28
Moderate	16	5.13	6.41
Very low	1	0.32	6.73
High	147	47.12	53.85
Very high	144	46.15	100
Total	312	100	

The table 4.12 above indicates among 312 respondents, 47.12% of the respondents responded that companies abused human rights by police or security forces acting in the interests of the company, lack of free, prior and informed consent, indigenous people were marginalized and discriminated, and lack of respect to the rights of indigenous people; and rated the impact of mining operation on aspects of human rights in the communities is high. Followed by respondents responded the impact of mining operation on aspects of human rights in the communities very high is 46.15%. While 20.19%, 7.37% and 0.64% of the respondents responded the impact is moderate, low and very low respectively.

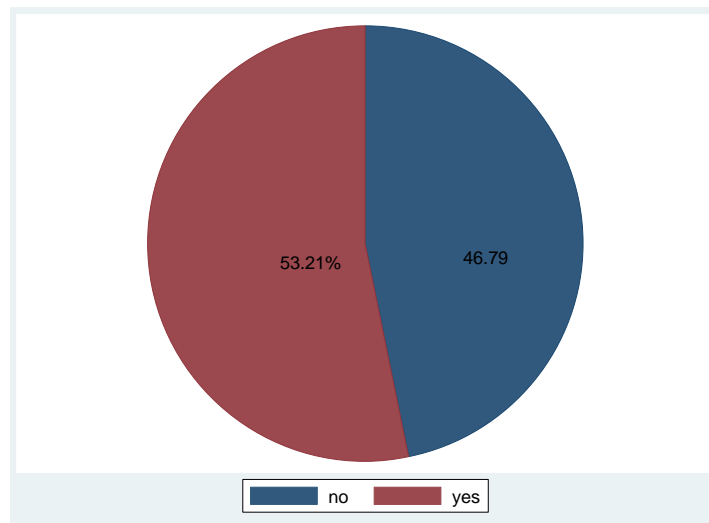
From table 4.7 – 4.12, the impact of mining on each aspect of negative social impact is high and shown on the graph below:



Graph1: Number of respondents responded high in each indicator of negative social impact.

The above graph shows Midroc Gold plc. and Ethiopian Mines, Petroleum and Biofuel Development Corporation mining operations have a higher impact on environment, health and safety aspects of communities living close to the mining site followed by demographical aspect; economy, income and security aspect; employment and education aspect; land use and territorial aspect; and human right aspect respectively.

Finally among 312 respondents, 53.21% of the respondent responded companies in the community do not have adequate mitigation measure to minimize the impact of mining in the community. While 46.79% responded companies adopt adequate mitigation measure to curb the negative social impact of mining.



Pie chart1: respondent responded on companies' mitigation measure

4.3 Ordered logistic regression analysis

Below an ordered logistic regression analysis is presented. The data were collected from 312 communities of Reji and kenticha Kebles of Guji Zone close to where mining operation is conducted by Midroc Gold plc. and Ethiopian Mines, Petroleum and Biofuel Development Corporation respectively. The outcome measured in this analysis is negative social impact of mining companies. The perception of communities towards negative social impact of mining companies is measured in terms of Very low, low, moderate, high and very high; and changed into dichotomous variable using command in STATA 13 and logistic regression analysis is conducted to see what relationships exist with unintended social change that depend on the nature of mitigation measure (adequate or not adequate) adopted by mining companies. The table 4.12 interprets the coefficients in terms of ordered log-odds (logits) and table 4.13 interprets the coefficients in terms of the proportional odds.

Iteration 0: log likelihood = -133.73761

Iteration 1: log likelihood = -129.48396

Iteration 2: log likelihood = -129.29472

Iteration 3: log likelihood = -129.29408

Iteration 4: log likelihood = -129.29408

Z test

The above table indicates the Z test statistic for the predictor unintended social change is 2.8. That means the regression coefficient for unintended social change has been found to be statistically different from zero in estimating negative social impact given that unintended social change and adequate mitigation measure taken by mining company in the model. This in turn means the unintended social change has a significant influence on negative social impact (the dependent variable).

P- Value

The table above indicates the P- value is 0.005 that is less than significant level of the study 0.05. Which means there is statistically significant association between the response variable negative social impact and the term unintended social change.

Odds ratios

The above table indicates the odds ratio of very high negative social impact versus the combined high and moderate negative social impact is 3.091719 times lower for mining company that have adequate mitigation measure compared to companies that do not adopt adequate mitigation measure, given the other variables are held constant in the model. In other words, since the odds ratios greater than one, the probability of negative social impact to occur from mining company having adequate mitigation measure is less likely compared to company with no adequate mitigation measure.

4.4. Summary of Findings and Discussion

This section presents the summary and discussion of the findings of the study. But as a reminder, earlier demographics of the population were presented in the form of frequency analysis. On top that Ordinary logistic regression analysis was used to determine the association between dependent and independent variable using STATA13. Furthermore, the Z-test and P- value was used to determine the association between the unintended social change (independent variable) caused due to lack of mitigation measure by mining companies and negative social impact (dependent variable) and to test the statistical fitness of the model respectively. Therefore,

summary discussion and finding of the study with respect to objective of the study and research questions is presented below.

- The Z test statistic for the predictor unintended social change is 2.8. That means the regression coefficient for unintended social change has been found to be statistically different from zero in estimating negative social impact given that unintended social change and inadequate mitigation measure taken by mining company in the model. This in turn means the unintended social change has a significant influence on negative social impact (the dependent variable).
- The P- value is 0.005 that is less than significant level of the study 0.05. Which means there is statistically significant association between the response variable negative social impact and the term unintended social change.
- The odds ratio of very high negative social impact to occur versus the combined high and moderate negative social impact is 3.091719 times lower for mining companies that have adequate mitigation measure compared to companies that do not have adequate mitigation measure, given the other variables are held constant in the model. In other words, since the odds ratios greater than one, the probability of negative social impact to occur from mining companies having adequate mitigation measure is less likely compared to companies with no adequate mitigation measure.
- The rate of high negative social impact to occur on local communities living near the mining site by company that lack adequate measure is 61.32%. In addition, all the indicators used to measure the negative social impact rated as high.
- The intensity of negative social impact from mining is higher (71.79%) on aspects of environment, health and safety of communities followed by aspect of demography (68.58%); aspects of economy, income and security (69.55%); aspects of employment and education (59.93%); aspects of land use and territorial (50.96%) and aspect of human right (47.12%) respectively. Even if 47.12% of respondents responded that the impact of mining on human is high, the combined rate of high and very high under aspect of human right is 93.27 %. That means mining operation in Guji zone has a higher impact on human rights of communities living near the mining sites.
- The study identified income inequality, inflated cost of living, few economic benefits, conflict between artisanal miners and companies due to competition for the same resource,

negative association of mining companies with national or regional level of government, corruption, lack of accountability and transparency, and local communities distrust of public authorities as the social impact of mining under aspects of economy, income and security. In addition the study identified low class type and temporary jobs offered by companies, employees lack of freedom to organize in unions, and poor school readiness and educational outcomes of children's due to environmental contamination as the social impacts of mining under aspects of employment and education.

- Furthermore, the study identified unemployment, landlessness and homelessness, loss of common resources and impoverishment of living standards as a result of expropriation, population displacement and resettlement as the social impact of mining under aspects of land use and territorial; and decline of community safety, and dispute overland and sharing of benefits are social impacts under aspect of demography.
- Moreover, the study identified scarcity of water, respiratory and sexual transmitted diseases, deforestation, human injuries, and contamination of soil and mental health issues as social impact under aspects of environment, health and safety. On top of that the study identified human right abuse, lack of free, prior and informed consent, marginalization and discrimination of indigenous people, and lack of respect of the rights of indigenous people as social impact under aspect of human rights.
- 53.21% of the respondents responded that companies in the community do not have adequate mitigation measure to minimize the impact of mining.

CHAPTER FIVE

CONCLUSION, RECOMMENDATION AND LIMITATION

5.1. Conclusion

Mining companies engaged in mining operation with inadequate experience of implementing mitigation measure to mitigate the untended social change from mining affect local communities living near the mining sites negatively in Guji Zone of Oromia Regional State. Therefore, mining operation conducted by Midroc Gold plc. and Ethiopian Mines, Petroleum and Biofuel Development Corporation have social impact on aspects of environment, health and safety; demography; economy, income and security; employment and education; land use and territorial; and human rights respectively.

5.2. Recommendation

In line with the above conclusion, the following recommendations are forwarded:

- Mining companies has to do Social Impact Assessment (SIA) before having mining operation license in order to ensure the engagement of all relevant stakeholders, to identify the social impact of the mining on local communities prior to implementation of the project, to develop and implement mitigation measure to minimize social impacts from mining.
- The government has to integrate the mineral development policy with local development policy (such as on infrastructural development) in mining areas to distribute the benefits from mining (revenue collected from mining companies) to local communities.
- Mining sector governance structure has to be strengthened to monitor the mineral development and improve enforcement capacity.
- To distribute the benefit from mining and for sustainable development of local communities' government has to encourage the establishment of developmental foundation financed by mining companies in the form of trust to support community development using trust fund.
- Local content policy has to be adopted for mining sector to generate further economic benefit beyond direct contribution through its links with other sector.
- Mining companies must offer quality and high class type of jobs to local communities to have a social license to operate.
- Government or NGOs has to work on human right issues such as the right local communities to determine whether or not the project will actually proceed, to create awareness about the right to be consulted and participate and, benefit of the project.

- Mining companies must identify, acknowledged, and address the social impact they caused on local communities.
- Government has to ensure transparency and accountability for sustainable development of mining sector.
- There must be free, prior and informed consent between companies, national and local government, and communities for the smooth development of the sector.

5.3. Limitations

This study was a single case study with selected companies in Gujii Zone of Oromia Regional State. Hence, the conclusions are not applicable to the mining industry or the country in general. In addition, the study focused only on the social aspects of mining and the identified list of negative impacts is not compressive.

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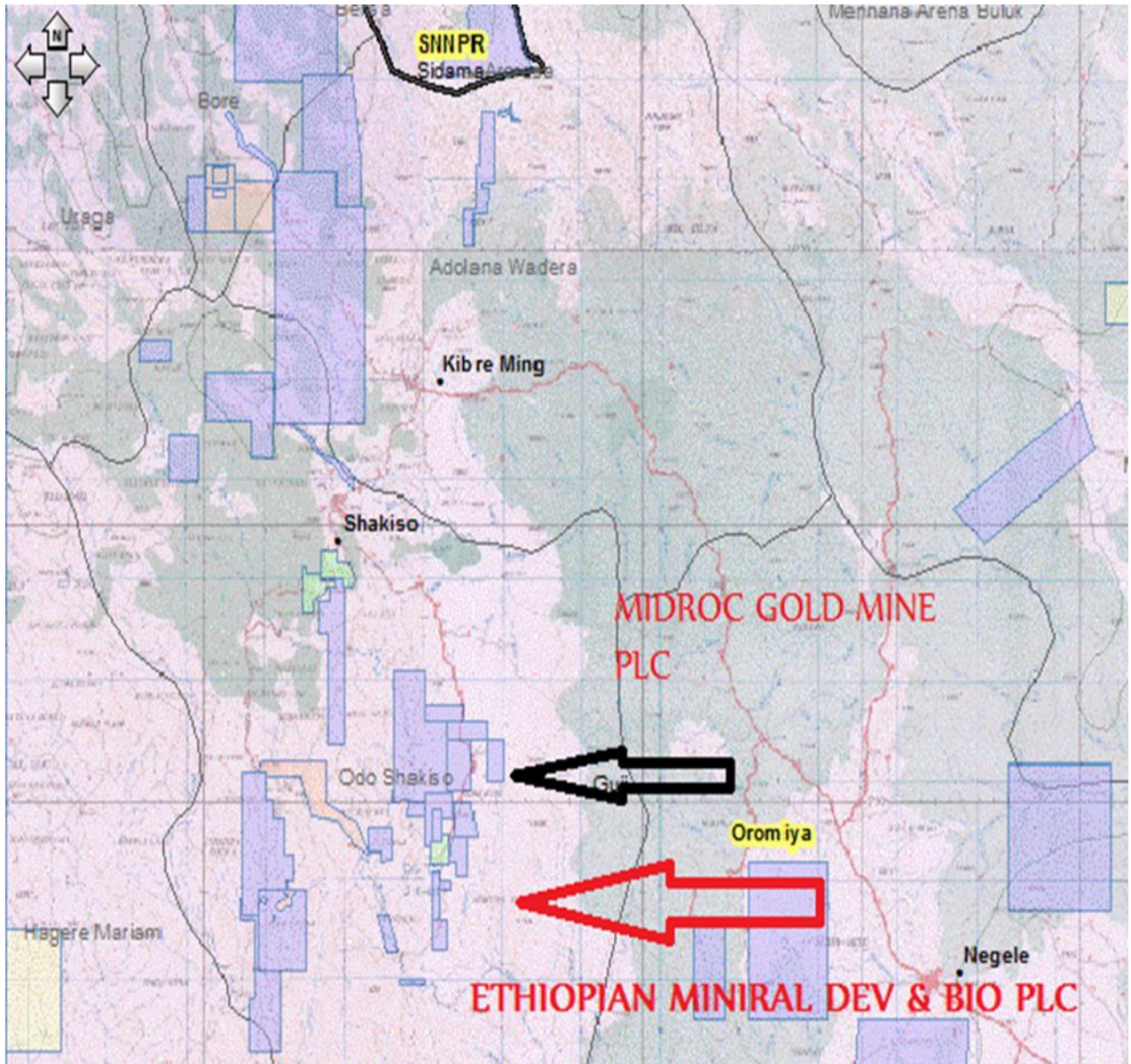
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Appendix –A: LOCATION MAP OF MIDROC GOLD MINE PLC AND ETHIOPIAN MINERAL DEVELOPMENT AND BIOFUEL COOPERATION IN OROMIA REGIONAL STATE OF GUJI ZONE



Addis Ababa University
College of Business and Economics

MBA Program

Dear respondents,

This questionnaire is designed to get the relevant information for the current study. The objective of the study is to determine the social effects of Midroc Gold plc. and Ethiopian Mines, Petroleum and Biofuel Development Corporation mining activities on the local communities' in Guji zone of Oromia Regional State. This study is only for academic purpose. Hence, your responses will be kept confidential. The soundness and the validity of the findings highly depend on your genuine responses. Therefore, I kindly request you to fill the questionnaire carefully and back to me.

Instructions: -

The researcher uses this questionnaire for the genuine information is highly decisive to the success of this study. Therefore,

- Not need of writing your name.
- Put the (√) mark in the box for your answer.
- With great excuse, possibly return back to timely.

For any problem and suggestion contact the researcher through the following addresses:

Email: jikssa06@gmail.com

Phone: +251 (911) 489216

Thank you in advance for your cooperation!

Part I: Demographic Data

1. Gender

Male []

Female []

2. Age

18-28 []

29-39 []

40 -50 []

Above 50 []

3. Educational level

Literate []

Primary []

Secondary []

First degree [] others []

4. Occupation category

Mining []

Agriculture []

Services []

others []

5. Which communities are from?

Reji []

Kenticha []

6. How long have you lived in the community?

0-5 years []

6-10 years []

11-15 years []

above 15 years []

II: Negative social effects from mining company operation

This part of the questionnaire consists list of negative social effects arising from mining projects. The list is based on review of publically available literature and may not reflect all the negative social effects of mining operations on local communities. The main purpose of the instrument is to examine the degree of social impacts of companies mining operations on communities near the sites. Therefore, to what extent the following description of negative social impacts arising from mining operations affects communities near the mining site, ranging from Very low to Very high? And put “√” mark for each rating. 1: Very low, 2: Low, 3: Moderate, 4: High and 5: Very high.

No	Indicators	1	2	3	4	5
	Economy, income and security					
1	Income in equality in a community due to employees in mining company enjoys large salaries than those employed in other areas.					
2	Inflated costs of living as a result of mining activity.					
3	Increased housing and rental prices during mining boom.					
4	Lack of community cohesion due to high population turn over as result of housing unavailability and unaffordability.					
5	Few economic benefits due to increased non-resident workforces and under-represented in the sector.					
6	Conflict between companies and artisanal miners due to computations for the same resource.					
7	Distrust of public authorities and negative association of companies with national or local level of government body due to corruption, lack of transparency and accountability.					
	Other (please specify)					

Employment and educational						
1	Poor school readiness and educational outcomes of children's due to environmental contamination of mining companies.					
2	High student turns over (particular at primary level)					
3	Lack of freedom to organize unions					
4	Low class type of job offered by companies					
5	Mostly temporary jobs offered by company's					
	Other (please specify)					
Land use and territorial						
1	Unemployment, landlessness, homelessness, loss of common resources and impoverishment of living standards as a result of expropriation, population displacement and resettlement.					
	Other (please specify)					
Demographical						
1	Disputes over land and the sharing of benefits due to the influx of new comers.					
2	A sense of decline in community safety due to an increased male non-resident workforce.					
3	Pressures on existing community's infrastructure and social services due to Population growth.					
	Other (please specify)					

Environmental, health and safety						
1	Reduced water supplies or water contamination, competition with other uses (e.g. agriculture) and increased water scarcity					
2	The disappearance of vegetation and contamination of soil.					
3	Respiratory and sexually transmitted diseases					
4	Mental health issues such as depression and anxiety during both boom and bust periods.					
5	Drug and alcohol misuse among mining employees, but in the whole community.					
6	Death / loss of human and social capital /					
7	Damages caused by explosive, mine related injuries during booming mine activities.					
	Other (please specify)					
Human rights						
1	Human rights abuse by police or security forces acting in the interests of the company.					
2	Cultural and spiritual threat on indigenous community due to land disruption and transformation.					
3	Lack of free, prior and informed consent between companies, national and local government, and communities.					
4	Marginalization and discrimination of indigenous people.					
5	Lack of respect of the rights of indigenous people					
	Other (please specify)					

III. Do you think mining company in your locality have adequate mitigation measure to minimize the social impact of the project?

1. Yes []

2. No []

IV. In your opinion, what must be done to mitigate the negative social effects arising from mining company's operations? Please explain below
