CO-EXISTENCE OF LARGE SCALE AND ARTISANAL AND SMALL-SCALE MINERS IN GOLD INDUSTRY.

A CASE STUDY OF AUC MINING (U) LIMITED AND ASM IN BUKUYA SUBCOUNTY, KASANDA DISTRICT CENTRAL UGANDA.

BY

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AUGUST 2018.
DECLARATION
I declared that all the work presented in this research thesis is an independent study and is not related to the works of others and acknowledgement has been accorded to it. It is an original paper in which I was involved in field work in Bukuya sub county Kasanda district central Uganda between June and July 2018. It has never been presented or published by anyone to any institutions for any academic award before.

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APPROVAL
This is to certify that Pareng Philip carried out a research topic titled “To assess the co-existence of large scale and small-scale miners in Gold industry in Bukuya Subcounty Mubende district central Uganda”. This is a true record of the work he was involved in under my supervision and it is ready for submission to the board of examiners of School of Sciences and the senate of Nkumba University.

Lugaizi Isa

Sign...................

Date..................
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DEDICATION

I dedicate this thesis to my mother Martha Nyanwut Mayen who out of motherly love, guides me in all aspects of life in this disorderly planet. And my late brother Jacob Thon aka Rokon who acted exemplary and backed me up by his comic personality during his life time.
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I recognize my academic colleagues whom we cooperated together during the course of our studies.
DEFINITION OF KEY WORDS

Artisanal and small-scale mining (ASM)- refers to mining practiced by individuals, groups or communities often informally (illegally) for subsistence.

Concessions- Areas leased out to minerals exploration or mining company or to an individual.

Large scale mining- Commercial exploration and processing of minerals involving companies with employees and mechanized operations.

Gold- metallic mineral used for jewelry and in electronic devices.

Illegal miners- Miners that are not legally registered and don’t possess any mineral right.

Location license- According to the mining Act, 2003 section 54(2), LL is a license for prospecting and mining operations by methods which do not involve substantial expenditure and the use of specialized technology.

Mining license- This license grants the holder the rights to begin mining.

Mining rights- Permits granted to execute any activity in minerals as provided for in the Mining Act.
ACRONYMS
ASM- Artisanal and small-scale Mining
AUC- Anglo Uganda Company
CSR- Corporate Social Responsibility
DGSM- Directorate of Geological Surveys and Mines
GDP- Gross Domestic product
EL- Exploration License
ICGLR-International Conference on Great Lakes Region.
ILO- International Labor Organization
LL- Location License
LSM- Large Scale Mining
MEMD- Ministry of Energy and Minerals Development
ML- Mining License
NEMA- National Environmental Authority
UCPM- Uganda Chamber of Mines and Petroleum
UBOS- Uganda Bureau of Statistics
UIA- Uganda Investment Authority
USAID- United States Agency for International Development
ABSTRACT
The relationship between LSM and ASM operators can be complex, fragile, and sometimes descend into hostility and conflict. The research identified the challenges of LSM-ASM co-existence in Mubende district, the gaps in mining policy and Mining Act, 2003 and Mining Regulations, 2004 in mining industry and possibilities of the two parties mining together.

This research took both a descriptive and quantitative survey design. Questionnaires, interviews and observation helped in identifying AUC mining (U) limited and ASM co-existence challenges, the gaps in mining policy and Mining Act (2003) and Mining Regulation (2004) in mining industry and possibilities of AUC mining (U) limited and ASM going back to work together.

The survey shows that trespass, ASM reliance on AUC technology, lack of government on ground and redundancy of AUC ML are the main challenges to the relationship between AUC mining limited and ASM in Bukuya. If ASM is formalized by (value addition, financing ASM activities, organizing ASM into associations, granting ASM licenses, opening up jewelry shops), government presence on ground, and prioritizing infrastructure in the mining areas, will increase the possibilities of LSM and ASM mutual co-existence.

For the government of Uganda to provide conducive environments for minerals investors, it is good that it has considerations (relocating ASM to new mining areas) for ASM during their eviction. It should additionally improve the social life of ASM operators by providing basic necessities of life such as, health, food and accommodation. The government should improve its monitoring and inspection programs on ASM gold mining since the ASM evade taxes leaving the state with no benefits. Formalization of ASM will increase the revenue collected from mining industry.
CHAPTER ONE: INTRODUCTION

1.0 Introduction
The study is about the co-existence of large-scale miners (LSM) and artisanal and small-scale miners (ASM) in gold industry; a case study of AUC mining limited and ASM in Mubende district in central Uganda. This chapter presents the background, statement of the problem, general objectives of the study, significance of the study, the research questions, scope of the study, definition of terms and conceptual framework of the study.

1.1 Background to the Study
Globally, there has been an increasing trend, nationwide, for owners, government agencies and consumers to accept increased the coexistence of large-scale miners (LSM) and artisanal and small-scale miners (ASM) in a strive to propel economic growth, which typified the decade of the 1990s. The interactions between artisanal and large-scale mining have become more contentious in the last several years. Conflicts between these two sectors have primarily stemmed from ASM activities occurring illegally on large-scale mining concessions. In fact, the presence of ASM may provide an important geological indicator for large-scale mining (Aubynn, 2009), so the two activities are naturally prone to intersecting.

Artisanal and small-scale miners can cause damage to a large-scale mining company’s asset, either directly through vandalism and other acts of resistance to the large-scale mining company’s presence, or because their activities encroach on large-scale activities. Confrontations between artisanal and small-scale miners can also pose safety risks for both parties. Security forces employed by both companies and governments to look after assets have been accused of being involved in human rights abuses against artisanal and small-scale miners in a number of locations around the world. The International Council on Mining and Metals (ICMM, 2009) publication Working together, how large-scale miners can engage with artisanal and small-scale miners provides useful approaches and tools for companies to engage with ASM.

In Africa, for example in Ghana, the Geological Survey Department of Ghana has failed repeatedly to provide the government with detailed geological data, a necessary first step towards identifying suitable areas for prospective small-scale miners. This exercise was supposed to get developed into ‘a program to make better geological information available to small-scale miners through the
establishment of teams of geologists trained and equipped to delineate recoverable ore bodies on mining concessions’” (Hilson, 2007).

Uganda is endowed with over 50 different types of minerals, ranks among African countries with the biggest number of minerals although the potential for viable exploitation has not yet been established for most of the minerals (MEMD, 2016). The Ugandan mining industry peaked in the 1950’s and 1960’s when the sector accounted for up to 30% of Uganda’s export earnings according to the Ugandan Investment Authority (UIA) in 2017. In 2017 mining and quarrying accounted for 0.6% of the GDP according to the Uganda Bureau of Statistics (UBS) 2017.

There is no universal definition of ASM (Andrew, 2003; Hinton, 2006), and some commentators argue that the only characteristic that can be universally applied to ASM is the “impossibility of defining it according to any universal parameters” (Chaparro, 2003). ASM actually represents a spectrum of mining activities ranging from individuals panning for gold or precious stones along riverbanks, to relatively large and organized operations.

Artisanal and small-scale gold mining (ASM) is one of the emerging economic activities providing alternative livelihoods globally with more than 13 million artisanal miners and about 150 million people indirectly reliant on ASM (ILO, 2003). A large proportion of artisan miners mainly in Africa are women and children who are also important in supporting sustainable livelihood security (Hentschel, 2003).

According to Aryee et al. (2003), large-scale mining companies can also adopt a “tributer system” whereby they allocate portions of their concessions considered uneconomical for large-scale mining methods to artisanal and small-scale miners, who can then sell their winnings to the company. These activities allow large-scale mining companies to monitor the activities of small-scale miners on their concessions, but may be problematic if the small-scale miners abuse the system and do not restrict their activities to the areas allocated to them. As such, it is necessary for the large-scale company to enforce strict rules and guidelines (Hilson and Garforth 2013).

In Bukuya Sub County Mubende District central Uganda, gold mining activities, Although environmental damage from ASM activities can be incorrectly attributed to a large-scale mining activities in the sub-county, some ASM activities, such as poor health and safety practices, the use of child labor, environmental damage, illegal activities and human rights abuses have posed
liabilities and reputation risks for large-scale mining companies when they occur on the company’s concession (ICMM, 2009) leading to financial liabilities for mining companies as well as reducing community support for mining projects.

1.2. Problem statement
The relationship between LSM and ASM has become increasingly fragile in Uganda, often culminating in eviction and destruction of ASM operators by LSM. The analysis draws on a case study in which AUC Limited (AUC), one of the country’s large-scale operators is yet to resume gold mining on its concession that have in the past been invaded by artisanal miners

1.3 Objectives of the study
The general objective of this study is to assess the co-existence of large and artisanal small-scale miners in gold industry in Bukuya Sub county Kasanda district.

The specific objectives of the study are as follow:

- To assess co-existence challenges of large-scale miners and artisanal and small-scale miners in Kasanda district;
- To provide solutions to the co-existence challenges of AUC mining limited and artisanal and small-scale miners;
- To determine gaps in mining policy, mining act, 2003 and mining regulations, 2004 in relation to coexistence of mining companies and artisanal and small-scale miners.

1.4 Research Questions/Hypothesis
- What are the co-existence challenges of large-scale miners and artisanal and small-scale miners?
- What are the gaps in mining policy, mining act 2003 and mining regulations 2004 in relation to the mining industry?
- What are the solutions to the co-existence challenges of AUC and ASM in Kasanda district?
1.5 Justification

There is a growing national concern regarding the massive involvement of local communities in the artisanal mining operations. However, the government still regards it as an illegal practice, providing no specific regulatory framework to guide the sector. Although there is a general understanding of the LSM-ASM co-existence, invasion of LSM concessions, environmental and tax evasion challenges that come with the artisan mining practice, and possibilities of a co-existence are largely unknown.

1.6 The Study Scope
The survey was carried out at AUC mining (U) limited ML and ASM Kitumbi-Kyonza gold mines in Bukuya Subcounty Mubende district from June to August 2018. Data was also collected at DGSM office in Entebbe. The respondents included; community members, ASM groups, DGSM staffs, AUC staffs and workers. The respondents were both males and females.

1.7 Significance of the study
The study findings are of significance to various stakeholders

To the Ministry of Energy and Mineral development
The research study involved the investigations of the coexistence of miners and may brought out the challenges that may be solved by designing a framework where both large-scale and artisanal and small-scale miners can co-exist.

To other researchers
The study findings may be used as reference material by other researchers carrying out similar studies

To the researcher
The study fulfilled one of the conditions leading to the award of a Bachelor of Science degree in Petroleum and Minerals Geoscience of Nkumba University.
1.8 Conceptual Framework

Independent variables
- Lack of mining rights
- Trespass
- Poverty

Dependent variables
- Illegal mining
- Conflict
- Mining

Intervening variables
- DGSM
- UCMP
- UIA
- MEMD
CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction
The aim of this literature study is to provide a basic platform for better understanding of the problems associated with the coexistence of both large and artisanal and small-scale miners. Throughout this chapter, relevant literature in the broad field of gold mining is surveyed.

2.1 Challenges of LSM-ASM Co-existence Challenges

Poor understanding of the LSM and ASM relationship
The relationship between large scale mining (LSM) companies and the ASM sector is poorly understood. Depending on the nature of both the ASM and LSM companies, this relationship can range from one of relatively harmonious coexistence to one of mutual mistrust. Antagonism and conflict. In the worst cases mining companies view the ASM sector simply as ‘trespassers’ on their legally endorsed concessions, while the artisanal miners consider the granting of concessions to large and usually foreign companies as depriving them of their ancestral land and rightful traditional livelihoods.

Lack of reliable data about the scale and scope of ASM production and target ASM populations:
This is a key challenge for government authorities and other key stakeholders looking to develop effective policies and programs (Banchirigah, 2008; Cook & Healy, 2012). According to Hilson & Maponga (2004), there is an “acute shortage of baseline census and geological information” on ASM where few governments possess comprehensive data of the whereabouts of resident artisanal operators as well as how many individuals are, in fact, operating as miners. This raises questions such as: Who is mining and for what purpose? and What do different groups of miners require in order to improve their operating techniques and living conditions?”

Design and implementation of many inappropriate technologies: This lack of knowledge has led to the design and implementation of many inappropriate technologies and support services for the ASM sector (Banchirigah, 2008). For this reason, a number of authors have written about failed interventions in ASM (For example, Hilson et al. 2007; Childs, 2008) but fewer have documented what has worked.
Policies that do not consider ASM’s specific socio-economic and environmental problems: Many of the initiatives used to address ASM have treated it as a subset of large-scale, formal mining, which has resulted in policies that do not consider ASM’s specific socio-economic and environmental problems (Childs, 2008 and ILO, 1999). Given the very localized and context specific characteristics of ASM, more baseline information about the sector and the people involved, as well as insight into organizational structures and labour hierarchies at the national and local level is necessary (Hilson, 2009). This would assist the development of locally relevant initiatives, as (Hilson, 2007) emphasizes that without information about communities, baseline geological data, and knowledge of indigenous practices, how can appropriate technologies, policies and assistance schemes be devised and implemented?”

Better knowledge of ASM on the ground would also allow citizens and civil society to hold policymakers accountable.

Other obstacles: However, there are a number of obstacles to data collection in mining communities (Heemskerk, 2005). Production variability complicates the estimation of income averages; Income variation between individual miners and ASM operations; few ASM operators keep (adequate) records of their earnings and investments; Miners often work informally or illegally and fear government interference and distrust outsiders. As such, they may distort information or not reveal that they employ clandestine labourers, sell their production outside legal channels, and violate national labour, environmental, and other regulations; and income from ASM is difficult to quantify, as it cannot be isolated from the household’s other income generating activities.

Different types of ASM population: The heterogeneity of the ASM sector makes it difficult to draw generalized conclusions or recommendations about a particular ASM population. The mobile and transient nature of especially migrant ASM populations complicates study replication.

Violent crime, drugs, the use of firearms, and related illegal activities make it dangerous for researchers to visit and collect data on certain mining sites, especially where gold and diamonds are mined.

Cultural beliefs: Socio-economic relations in ASM operations are shaped by cultural beliefs and practices that may or may not be adequately understood by a short-term foreign consultant.
Buxton (2013) suggests that a tool for collecting baseline data on ASM communities should be designed which uses research methodologies based on practice-informed and community- or citizen-based knowledge, there is a need to better understand the structural challenges facing local miners and their communities in each area to ensure successful and appropriate policy design and implementation. Identifying a tool for collecting baseline information from an ASM community – what needs to be known for policy to reflect understanding of the diversity and structural challenges of the community – and the metrics to determine ‘success’ in ASM and sustainable development is a knowledge gap that needs filling by drawing on what is already known and testing it to gather citizen knowledge from ASM communities.

2.2 Gaps in mining policy and Mining Act and Mining Regulations in mining industry

Hentschel et al. (2002, as cited by Maconachie and Hilson, 2011) argue that “the first step in tackling the sector’s problems is to create adequate legal regimes that address the specific characteristics of the industry.” In the 1990s, many countries in sub-Saharan Africa attempted to formalize their ASM sectors by introducing legislation and regulatory frameworks that required artisanal and small-scale miners to obtain licenses and permits to operate (Hilson et al. 2014). Regularization of ASM in sub-Saharan Africa began in Ghana with the implementation of its Small-scale Gold Mining Law 1989 that enabled the purchase of a license for small-scale mining activities, which was the first of its kind in Sub-Saharan Africa. By the mid-1990s, 36 African countries had legalized ASM (Hilson et al. 2014). However, according to McQuilken (2013), the majority of sub-Saharan states still lack specific ASM legislation or have “outdated and porous” legislation that is too broad in scope and does not specifically address the nuances of ASM.

There are many challenges to formalization/regulation, not in the least the fact that different stakeholders have different priorities (Maconachie & Hilson, 2011). Difficulties in agreeing on how ASM should be classified can also impede the development of legislation (Hinton, 2006). For example, classifications that do not take into account the complexities on the ground can also work as a disincentive for miners to formalize their activities. A case in point, in Ecuador, miners can be classified into two groups: 1) ‘Artisanal miners’: miners that extract ore from mines, and use processing centres owned by others to recover around 20-40% of gold, leaving tailings as payment or part payment for the use of equipment; and 2) ‘small-scale miners’: owners of the processing plants, who use more advanced techniques (e.g. cyanidation) to recover the remainder
of the gold in tailings (Adler Miserendino et al. 2013). The current mining law differentiates between the two based on tonnage of ore processed and income generated, which does not account for the extent to which the two groups of miners are mixed and mutually dependent on one another. In addition, artisanal miners, unlike small-scale miners, are not required to undertake an Environmental Impact Assessment (EIA) and are not taxed. This is said to fuel resentment and non-compliance on behalf of small-scale miners and serves as a disincentive for miners to become more organized and to grow their operations into more productive, sustainable enterprises, effectively encouraging the unplanned nature of ASM.

Fold et al. (2013) argue that research and policies should identify new entry points for formalization beyond isolated entry points in the ASM chain from production to consumption. For this to happen, better understanding is needed about how the formal and informal ASM sectors are intertwined, and “how ‘labour markets’ are interlocked with product markets, i.e. how miners are paid by the employers (pit holders and/or license owners), by which means they are paid (ore, cash, or others) and how they make a living between the ‘pay-rounds’ (for instance through provision of subsistence or credit from the employer)” (Fold et al. 2013, )..

Because formalization relies on enforcement on the ground, it is important to involve local authorities and communities in policy-making processes, to ensure that locally-specific issues are considered (Lowe 2005 as cited by Maconachie & Hilson 2011 and Spiegel 2012). Hentschel et al. (2002) identify the decentralization of control of the ASM sector as a way to ensure that legislation and regulation reflects the realities on the ground.

**Enforcement**

Formalization refers not only to the presence of legislation, but also to “the activation and enforcement of it by authorities and the extent of their success” (Hilson et al. 2007). The literature and interviews identified the lack of enforcement of legislation as a key issue. Ambiguous legislation or legal frameworks that are inappropriate to ASM operators, lack of political will, lack of financial and/or human resources (e.g. inspectors), corruption and conflicting priorities of stakeholders mean that legislation might not be enforced (AngloGold Ashanti 2006; Maconachie & Hilson 2011).
While a number of UN and World Bank projects are dedicated to assisting countries to formalize their ASM sector, many of these projects prioritise national-level governance structures while bypassing local governance structures (Spiegel & Veiga, 2010; Spiegel 2012). For example, many conferences on ASM focus on the role of national governments in relation to ASM and do not include local government actors (Spiegel, 2012). In countries where legislation and policies for ASM are already in place, increased monitoring and auditing of policy implementation that includes local stakeholders is necessary.

2.3 The Solutions to LSM and ASM Co-existence Challenges.

Cooperatives and associations

Encouraging artisanal and small-scale miners to form cooperatives, enterprises or associations is one way that governments have attempted to organize the ASM sector in order to be able to regulate it. It is difficult for governments to govern individual miners, but when there is a cooperative, the head of the cooperative can be held responsible for health, safety and environmental issues, encouraging producers to take up more environmentally and socially responsible activities, such as excluding child labor and rehabilitating mines. Incentives to form cooperatives are often provided in the way of training and knowledge transfer or financial services for legal mining operations. The formation of cooperatives also supports communication, cooperation and coordination between miners, assisting them to share knowledge and resources, and may also contribute towards increasing local beneficiation (Hentschel et al. 2002; Levin & Turay, 2008).

Technology transfer

A number of technologies and practices used by large-scale mining operations can be downsized to smaller scale operations (Hinton et al. 2003). Large-scale mining companies can provide technical assistance to artisanal and small-scale miners, which can be mutually beneficial in cases where a large-scale mining company’s reputation is influenced by the presence of artisanal and small-scale miners (ICMM 2009). Technical assistance programs of this type generally focus on improvements in occupational health, safety and environmental practices; improved mining and processing techniques; facilitation of access to processing plants or markets; or business
development assistance (ICMM 2009). Unfortunately, artisanal and small-scale miners will not always be willing or have the capacity to adopt new technologies and practices. According to Hinton et al. (2003), new technologies are more likely to be adopted by artisanal and small-scale miners if they are of increased or comparable simplicity, allow for quick recovery of minerals, and can demonstrate financial gain (Hinton et al. 2003). They should also be accompanied by culturally appropriate sensitization and training programs.

**Land rights/Securing Tenure for miners**

Lack of secure land tenure offers little incentive to miners to build their business and infrastructure or undertake environmentally responsible practices. Policies aimed at attracting large-scale mining investment in a number of countries in sub-Saharan Africa have limited the security of tenure that artisanal and small-scale miners can have – licenses may be issued for a period of only 2-3 years and have few or no renewal rights (Andrew 2003). There have been cases of large-scale mining companies being offered the lease of a small-scale mining company after its expiry, with little compensation offered to small-scale miners (Hilson 2003).

The United States Agency for International Development (USAID) Property Rights and Artisanal Diamond Development (PRADD) project in Liberia was premised on the knowledge that strengthened property rights reduce conflict and create positive incentives to good stewardship of the land. (USAID 2013). In addition, ASM often involves elaborate informal and/or customary property systems which should also be accounted for in ASM policy making (Spiegel & Veiga 2010).

**Reclamation of lands mined by small-scale miners**

There is rarely systematic exploration on lands where ASM takes place, meaning that miners tend to operate on a “trial and error” basis, increasing ASM’s negative impacts on the environment (Aryee et al. 2003). The informality or illegality of ASM and lack of planning generally means that little or no effort is made to rehabilitate mined areas (Aryee et al. 2003). Miners will sometimes operate at night in an attempt to evade authorities. ASM can leave landscapes devastated. Excavated pits or tunnels may be left unfilled and abandoned, presenting safety risks as they may leave land unstable and at risk of collapsing, or health risks as they fill with water which might be contaminated or become a breeding ground for mosquitoes which pose particular health risks in
Saharan Africa. Aryee et al. (2003) describe abandoned ASM sites as “moon-like landscapes consisting of unstable piles of waste, abandoned excavations and vast stretches of barren land.” Not only does the removal of vegetation and land degradation lead to loss of biodiversity, but agricultural lands are also destroyed through the removal of topsoil and disruption of soil structure which leads to erosion (Aryee et al. 2003).

Some countries are implementing schemes aimed at reclaiming lands affected by ASM. For example, a pilot scheme in Ghana was initiated by the Minerals Commission, which rehabilitated and recultivated 205 hectares of land in three different regions that had been affected by gold, diamond, and sand mining. The project, funded by World Bank Credit, aimed to demonstrate that land could be properly reclaimed and used for other economic activities (Aryee et al. 2003). There is also potential for rehabilitation practices of large-scale mining to be passed on to ASM.

Creation of Gender-focused strategies

It is difficult to determine accurately the proportion of women working in and contributing to the ASM sector because it is largely informal and unregulated, and women’s roles are often hidden. (Hinton et al. 2003a) estimate that globally, 30% of ASM is undertaken by women, yet depending on the region, it can be much greater (10% to 50% in Asia, 10% to 30% in Latin America, and 40 to 100% in Africa (Eftimie et al. 2012)). In some areas, women comprise a majority of the ASM labour force (up to 74% in Guinea and 50% in Madagascar, Mali, and Zimbabwe (Yakovleva 2007).

Women work as miners and are also involved in other aspects of ASM, including ore processing, panning, and transporting goods. In addition, they play a critical role in supporting the industry through their activities as shopkeepers and cooks, and they also commonly work as nightclub entertainers and prostitutes in mining areas. Despite their prevailing roles in the ASM sector, women are particularly marginalized in ASM communities and have limited decision-making power; women are also rarely recognized as miners in their own right (McQuilken 2013).

Women can be found at every level of ASM; some women may be mine owners, and some have formed women’s mining associations as in Zambia. However, women’s role in ASM remains constrained by socio economic and cultural barriers. As Tallichet et al. (2003) note, even women mine owners experience gender bias and are forced to use male agents due to men’s reluctance to
follow their orders. Women have difficulty obtaining finance from banks and may require their husbands’ consent before obtaining a permit. Women’s capacity to benefit from ASM may also be constrained by de jure and de facto inequity in access to land and property rights.

Women are often excluded from direct contact with more valuable deposits. This may be because taboos forbid them from working underground or coming onto the mine site when they are menstruating. They typically work in what are considered to be gender appropriate manual jobs without access to machinery. For example, they are often found working in human chains on the surface or panning, washing, and sieving. This may be carried out on the edges of the fields or in homes or compounds. It is not uncommon to see women working with their children alongside them. Exposure to mercury is commonplace in artisanal gold mining and women are often aggregating and disaggregating gold in confined spaces such as kitchens. The type and value of the commodity being mined may also determine women’s roles. In the case of mining for building materials, women can be found undertaking all activities on every part of the lease; on gold leases women will be found digging on the less valuable sections of the lease while men pursue more lucrative seams underground. While women are less typically found underground for a variety of reasons (ranging from taboo and concerns about women’s safety), generalization should be avoided. Hinton (2007) gives examples of women working underground to extract casterite.

Women also provide goods and services to artisanal miners and others involved in the commodity chain. Where women are involved in the sale of minerals, they tend to be involved with less lucrative deals. For example, Malagasy women traders buy and sell the smaller gemstones, and the larger more precious loads are reserved for males acting in concert with other powerful males such as the mayor and the local police chief. This limits women’s access to real financial power (Canavesio 2010). Where ASM has been formalised, women working in cooperatives are often paid less than men.

While ASM can be a potential livelihood strategy for women, it is all too often a poverty trap because of associated physical hazards and women’s social and economic marginalization. Canavesio (2010) describes the tragic situation of women who have gone to the sapphire fields in Madagascar. These women left their homes with high hopes of finding income for their families but they were unsuccessful and did not have the funds to return home.
ASM is associated with devastating health impacts for both men and women, but as work on the ASM fields is often quite segregated, the health impacts are quite specific. Women who spend many hours a day waist deep in water (such as in gold panning and salt mining) are particularly susceptible to impacts on reproductive health. Women are heavily involved in ore processing (up to 90% of processing in Burkina Faso), and because of these activities, their children suffer from exposure to mercury, which can result in neurological damage, and dust, which can lead to asthma or lung disease (Hinton et al. 2006). Women are often involved in reworking tailings, and thus they have more exposure to cyanide.

For ASM to provide a way out of poverty which is worthy of the many hours women are spending on the ASM fields and which does not harm their health, action must be taken. The following categories of initiatives have been suggested (Hinton et al. 2003; Tallichet et al. 2003): Financial support; Support for the acquisition of mineral titles; Consideration of women in the development of regulations and policies; An awareness of health and safety issues, with consideration of children that may accompany their mothers or take part in ASM; Gender-sensitive technology assistance initiatives; Enhancing the legal capacity of women; and Enhancing other skills, including managerial and accounting skills.

**Research into women miners**

There is a dearth of detailed analysis of women’s roles in ASM, and more systematic research is needed on their motivations, their skills, the way they learn their trade, the contribution they make to poverty reduction, and the impacts mining activities have on them and their family’s health and well-being. While women have gained some social and financial independence from ASM (Harris et al. 2003; Werthmann 2009; Canavesio 2010), and ASM has the potential to lift women out of poverty (Eftimie et al. 2012), the informal nature of ASM means that many women remain in vulnerable positions with limited control over earnings (Buxton 2013) and experience negative impacts from their involvement in and association with ASM activities (Hinton et al. 2006). Additional research would allow policy makers and donors to effectively implement strategies to assist women.
Gender sensitive access to microcredit

Illiteracy and organizational, financial and technical constraints are often provided as the reasons that women are not benefiting as much as they should be from ASM. A valuable example for programs which build capacity in these areas and which provides a blueprint for other initiatives is WORTH (Women’s Empowerment Program), an international initiative by the large NGO Pact, which provides literacy skills, financial management training, and start-up support for small businesses. Through WORTH, groups of women come together to create savings funds based on a small weekly contribution, which can serve as loan capital and can assist in accessing microcredit. Hayes and Perks (2011) outline how the program was used in the Democratic Republic of the Congo (DRC) where ASM supports 16 to 20% of the population and women constitute 50% of the workforce and are often the sole household providers, which is not uncommon in post-conflict situations. Although in this context the program ultimately aimed to encourage women to find employment outside of ASM, it provides a good blueprint for women seeking to work more effectively in ASM. A key feature in the success of the WORTH project is the emphasis on building social capital through teaching literacy and numeracy skills. In the example from the DRC, the WORTH program also gave women confidence and skills to address sexual violence issues rife on ASM fields in DRC (Hayes & Perks 2011).

Alternative livelihoods approaches/Livelihood diversification

A number of factors, including a reduced market value for agricultural commodities, increased emphasis on cash crops, and reductions in subsidies on inputs such as fertilizers, have led to smallholder agricultural production becoming unviable in much of Sub-Saharan Africa (Banchirigah & Hilson, 2010). This has led to a number of farmers entering ASM to supplement their incomes. At the same time, however, many policy interventions to discourage illegal ASM have focused on alternative livelihood projects, which according to Hilson and Banchirigah (2009), have mainly been agrarian-based, rooted in the legacy of Africa's Poverty Reduction Strategy Papers, which had a small-farm focus. Large-scale mining projects also commonly invest in alternative livelihood programmes in an attempt to curb illegal mining on or near their concessions (Aryee et al. 2003). However, Banchirigah and Hilson (2010) state,
“[t]he belief that individuals will pursue these activities, many of which were abandoned in favour of ASM in the first place, suggests that policymakers place little value on the prevailing pattern of de-agrarianization unfolding in sub-Saharan Africa” (Banchirigah & Hilson 2010).

Similarly, Marcello Veiga, a technical advisor with the Global Mercury Project suggests that, “Mining is the alternative livelihood.” (Siegel & Veiga 2010 as cited in Sippl & Selin 2012).

As an example, Hilson and Banchirigah (2009) criticise the approach being taken in Ghana to implement alternative livelihood projects in mining communities. They suggest that the economic activities promoted by these projects have been unpopular with target groups reflecting, “how little in tune the organisations championing [alternative livelihood] activities are with the mindsets and ambitions of rural populations” (Hilson & Banchirigah 2009). Banchirigah (2008) describes a case study in Noyem, Ghana, which revealed that many of the women, children and elderly who engaged in ASM would take up alternative jobs if they were available. However, the author points out that it is unrealistic to assume that every individual will abandon ASM if there are alternative opportunities in the agricultural sector.

Hilson and Banchirigah (2009) question the extent to which alternative livelihood projects are actually slowing the growth of informal mining.

Aryee et al. (2003) discuss a number of alternative livelihood projects being undertaken by mining companies in Ghana, including AGC (Bibiani), Resolute Amansie, Abosso Goldfields, Bogoso Gold, and Satellite Goldfields, that focus on providing skills and/or entrepreneurship training programs. For example, some of these programs offer training in small-business management, modern farming techniques for food and cash crops, and livestock farming. Banchirigah (2008) discusses AngloGold Ashanti’s programs in Ghana, which have attempted to develop income-earning activities such as vegetable farming, snail cultivation and grass-cutter rearing. While these projects have been praised by the Ghana Chamber of Mines and several donor agencies and multilateral organisations, Hilson and Banchirigah (2009) criticise how particular alternative livelihoods projects are chosen and by whom, suggesting that this might too often follow the agenda of mining companies or policymakers and company officials with their “own ideas” (Hilson & Banchirigah 2009). They discuss how a World Bank-funded study undertaken by the Minerals Commission found that many youths in selected areas were more interested in skills such
as masonry and carpentry than in agrarian-based activities (Hilson & Banchirigah 2009). Despite these findings, the government elected to implement an oil palm agricultural project in the ASM locality of Prestea. They suggest that many of the assumptions made by major mining companies and the Ghanaian government surrounding alternative livelihoods projects are not correct, including the fact that the alternatives are necessarily more attractive than ASM, that individuals are willing to take up the activities on offer, and that the programs being implemented will be wide reaching enough to alleviate poverty.
CHAPTER THREE: METHODOLOGY

3.0 Introduction
Methodology outlines the information collection techniques. It included the methods the research data was collected and presented. Both quantitative and qualitative methods were used.

3.1 Research design
This research took both a descriptive and quantitative survey design, and sought to describe phenomena not using only quantitative data but also qualitative data. Questionnaires, interviews, observation and group discussion were used to collect the data.

3.2 Location
Bukuya is about 73 kilometers (45 mi) north-east of Mubende, the location of the district headquarters. This is approximately 31 kilometers (19 mi) south-east of Kiboga District, the nearest large town. Bukuya is approximately 125 kilometers (78 mi) north-west of Kampala, Uganda's capital city. The coordinates of the town are 0°40'28.0"N, 31°50'05.0"E (Latitude:0.674454; Longitude:31.834716)

3.3 Study Population and Area
The study population included; AUC mining limited staffs in Mubende, staffs of directorate of geological surveys and mines (DGSM) in Entebbe, illegal miners, Kitumbi- Kayonza ASM staffs, community development officer, local community members, mining rights holders and other stakeholders.

The respondents included; 03 AUC mining limited staffs, 05 staffs of directorate of geological surveys and mines (DGSM) in Entebbe, 28 illegal miners, 05 Kitumbi- Kayonza ASM staffs, 01 community development officer, 04 local community members.

3.4 Determination of Sample Size
According to daily monitor 2018 report, 50,000 miners are involved in the gold mining in Kasanda district. The sample size for the survey when working at 95 % confident interval is given as

\[ n = \frac{N}{1 + NE^2} \]

Where

N- population
E is the error

Therefore, 

\[
\frac{50000}{1+50000(0.05)2} = 397 \text{ respondents.}
\]

However, during the studies the researcher reached out to only 61 respondents due to both time and financial constraints.

3.5 Data Collection Methods

Literature review, interviews, group discussions, questionnaires, and observation were used to obtain necessary information for the survey as follows:

i. **To assess the challenges of LSM – ASM co-existence.** Data was collected through interview, group discussions and conferences relating to the conformity of Mubende miners’ associations and the allotment of 30% of the area under EL1093 held by AUC mining (U) limited.

ii. **To assess gaps in mining policy and mining act 2003 and mining regulations 2004 in mining industry.** Group discussions and questionnaires were used to gather information on the objective.

iii. **To assess the possibilities of LSM- ASM co-existence.** DGSM staffs, ASMs groups, and AUC staffs provided information on ways for which both the AUC mining limited and ASMs can go back to work together through interviews and group discussions. Questionnaires were also distributed to the respondents and collected afterwards.

iv.

3.6 Data Processing and Analysis

The data was edited and put into table format. Data processing and analysis was executed using Microsoft excel and word packages. The findings or discrete variables of the questionnaires and checklist filled were then presented by using tables to show AUC mining (U) limited-ASM co-existence in the gold industry.
Each table was assigned a specific attribute (sex, language, age, nationality and education level). Other attributes especially the objectives of the research studies were presented in form of questions.

The collected data was presented as percentages in the tables. Higher percentages indicated majority respondents whereas low percentage represents minimal response.
CHAPTER FOUR: PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS.

4.0 Introduction
This chapter focuses on the presentation, analysis and interpretation of findings on the co-existence of AUC mining limited and illegal gold miners in Bukuya sub county Mubende district. The researcher contacted 61 respondents because of the constraint of distance, time and disguise in the gold business. 46 respondents availed data (response rate of 75%) and they included; 03 AUC mining limited staffs, 05 staffs of directorate of geological surveys and mines (DGSM) in Entebbe, 28 illegal miners, 05 Kitumbi- Kayonza ASM staffs, 01 community development officer, 04 local community members. Data collection focused on correspondents’ variables, on the coexistence of large companies and illegal miners in Bukuya sub county Mubende district and the possibilities of mining together.

4.1 Respondents variables
In research personnel characteristics of response have very significant role to play in expressing and giving the responses about the problem, keeping this in mind, in this study, a set of personal characteristics namely; the gender, marital status, age category, and level of education, language and nationality.

Table 4.1.1. Respondents’ sex/gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Distributions of respondents.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
</tr>
<tr>
<td>Male</td>
<td>35</td>
</tr>
<tr>
<td>Female</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
</tr>
</tbody>
</table>

Source: field data, 2018

The study findings in the table 4.1 above regarding the gender of respondents revealed 76.07 % of the respondents were males since most miners and staffs were males, while 23.9% were females because few women own mines.
Table 4.1.2: Respondents’ level of education

<table>
<thead>
<tr>
<th>LEVEL OF EDUCATION</th>
<th>TOTAL</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>06</td>
<td>13.04</td>
</tr>
<tr>
<td>High school</td>
<td>03</td>
<td>6.52</td>
</tr>
<tr>
<td>College</td>
<td>04</td>
<td>8.69</td>
</tr>
<tr>
<td>Dropouts</td>
<td>23</td>
<td>50</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: field data, 2018

Table 4.1.2 shows that 06 (13.04%) attended primary schools, 03(6.52%) attended high school, 04(8.69%) attended college and 23(50%) of the respondents dropped out of the school.

Table 4.1.3: Respondents’ age category

<table>
<thead>
<tr>
<th>AGE</th>
<th>TOTAL</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-17</td>
<td>09</td>
<td>19.57</td>
</tr>
<tr>
<td>18-20</td>
<td>15</td>
<td>32.60</td>
</tr>
<tr>
<td>21-23</td>
<td>10</td>
<td>21.73</td>
</tr>
<tr>
<td>24-26</td>
<td>07</td>
<td>15.21</td>
</tr>
<tr>
<td>27-29</td>
<td>05</td>
<td>10.86</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: field data, 2018

This table shows the age categories of subjects who took part in the completion of the questionnaires. The percentage in this table shows the allocation of the questionnaires to various groups in no way influenced by bias. It is true reflection of the researcher’s impartiality in the
distributions of the questionnaire. From the survey, it can be seen that majority 32% of the miners are youths that’s age category 18-20 years.

**Table 4.1.4: Respondents’ language**

<table>
<thead>
<tr>
<th>Language</th>
<th>TOTAL</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>13</td>
<td>28.26</td>
</tr>
<tr>
<td>Kiswahili</td>
<td>05</td>
<td>10.87</td>
</tr>
<tr>
<td>French</td>
<td>11</td>
<td>23.91</td>
</tr>
<tr>
<td>Luganda</td>
<td>17</td>
<td>37.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>46</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*Source: field data, 2018*

From the survey, table 4.1.4 shows that 28.26% speak English, 10.87% speak Kiswahili, 37% speak Luganda and 23.91% speak French respectively. It can therefore, be seen that Luganda is most widely spoken language.
Table 4.1.5: Respondents’ nationality

<table>
<thead>
<tr>
<th>Nationality</th>
<th>TOTAL</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tanzania</td>
<td>05</td>
<td>10.86</td>
</tr>
<tr>
<td>Rwanda</td>
<td>15</td>
<td>32.61</td>
</tr>
<tr>
<td>Kenya</td>
<td>05</td>
<td>10.86</td>
</tr>
<tr>
<td>Uganda</td>
<td>13</td>
<td>28.26</td>
</tr>
<tr>
<td>DR Congolese</td>
<td>08</td>
<td>17.39</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: field data, 2018

From the survey, table 4.1.5 shows that 10.86% are Tanzania, 32.61% Rwandese, 10.8% Kenyan, 28.26% Uganda, 17.39% DR Congo of the total population. This shows many of the subjects come from neighboring countries of Uganda.
Table 4.1.6: Are there LSM- ASM coexistence challenges? Yes or No

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>39</td>
<td>84.78</td>
</tr>
<tr>
<td>No</td>
<td>07</td>
<td>15.21</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: field data, 2018

From the survey, it can be seen in table 4.1.6 that 39(84.78%) of the subjects agreed that there are coexistence challenges and 07(15.21%) admitted no coexistence challenges.

Table 4.1.7: Are there possibilities of LSM and ASM mining together? Yes or No

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>40</td>
<td>86.95</td>
</tr>
<tr>
<td>No</td>
<td>06</td>
<td>13.04</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: field data, 2018

From the survey, it can be seen that 86.95% of the subjects agrees a possibility of LSM and ASM mining together while 13.04% of the subjects disagree.
Table 4.1: Are there gaps in the mining policy, mining act and mining regulation? Yes or No

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>15</td>
<td>32.60</td>
</tr>
<tr>
<td>No</td>
<td>31</td>
<td>67.34</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: field data, 2018

Table 4.1.7 shows that of the total sample size, only 15 knew the gaps in the mining act. This number amounts to only 32.60% of the subjects. The rest indicated no gaps in the mining policy, mining act and mining regulations.
Table 4.1.9: How effective is the Mining policy, mining act and Mining regulation

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>04</td>
<td>8.69</td>
</tr>
<tr>
<td>Very good</td>
<td>09</td>
<td>19.57</td>
</tr>
<tr>
<td>Good</td>
<td>08</td>
<td>17.39</td>
</tr>
<tr>
<td>Fair</td>
<td>13</td>
<td>28.23</td>
</tr>
<tr>
<td>Bad</td>
<td>05</td>
<td>10.87</td>
</tr>
<tr>
<td>Not sure</td>
<td>07</td>
<td>15.22</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>46</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Field data 2018

As can be seen from table 4.1.7, of the 46 subjects 04(8.69%) indicated that the mining policy, mining act and mining regulation is excellent, 09(19.57%) indicated that the policy is generally very good, 08 (17.39%) of the respondents had a good comment, 13(28.23%) of the total population had a fair comment, 05(10.87%) discarded the policy while 07(15.22%) are ignorant about the mining policy, mining act and mining regulation.
### 4.1.10: Choose whether you agree or disagree with the following statements

<table>
<thead>
<tr>
<th>Variables</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Demarcation of LSM and ASM boundaries to avoid trespass</td>
<td>Yes: 30, %: 65.22</td>
<td>No: 16, %: 34.78</td>
</tr>
<tr>
<td>ii) Inspections of mining areas both on ground and underground</td>
<td>Yes: 40, %: 86.96</td>
<td>No: 06, %: 13.04</td>
</tr>
<tr>
<td>iii) ASM should be organised into legal associations to avoid illegal mining</td>
<td>Yes: 28, %: 60.87</td>
<td>No: 18, %: 39.13</td>
</tr>
<tr>
<td>iv) LSM should provide loan to ASM to upgrade their activities</td>
<td>Yes: 38, %: 82.61</td>
<td>No: 08, %: 17.39</td>
</tr>
<tr>
<td>v) Government should do regular registration of ASM to establish nationality</td>
<td>Yes: 24, %: 52.17</td>
<td>No: 22, %: 47.82</td>
</tr>
<tr>
<td>vi) Parts of LSM must be relinquished to ASM in order for them to benefit from the resource</td>
<td>Yes: 40, %: 86.95</td>
<td>No: 06, %: 13.04</td>
</tr>
<tr>
<td>vii) Redundant licences should be revoked</td>
<td>Yes: 32, %: 69.57</td>
<td>No: 14, %: 30.43</td>
</tr>
</tbody>
</table>

**Source: field data, 2018**

On the basis of the quantitative findings expounded in the preceding table, it can be observed that:
Item (i): The majority (65%) of the subjects agree in the demarcation of boundaries to avoid trespass by ASM into mining lease (ML) area and LSM into location license (LL) area while 34% opposes this statement. It can be inferred that trespass is a major challenge.

Item (ii): 86% of the subjects agrees that inspections of mining operations both on ground and underground to avoid heavy machinery exploiting resource of a traditional miner. An excavator works 500 times faster than a rudimentary ball breaker used to exploits quartz veins rich in gold underground. This is a major complaint by illegal miners and vice to a better coexistence.

Item (iii): The majority (60%) of the respondents agrees that organizing illegal miners into legal mining associations like Kitumbi-Kayonza ASM limited is important in setting up a conducive mining environment for both the mining companies and illegal miners. This will create a platform for dialogue as association leaders will negotiate with company staffs during fragile times.

Item (iv): 82% of the subjects agrees that LSM companies should provide loan to ASM in order for the ASM to improve on their mining operations after certain periods be upgraded to ASM.

Item (v): Majority (52%) of the respondents agrees that the government should do regular registration to establish immigration documents and citizenry of the miners in the area. This is because in the nationality table majority are foreigners who possess no legal documents to indulge in the mining activities.

Item (vi): 86% of the subjects agrees that parts of the AUC mining limited exploration license area EL1093 should be relinquished and given to illegal miners in order for them to benefit from the gold resource in the vicinity.

Item (vii): Majority (69%) of the respondents agreed the cancelling of redundant ML. This is true because the AUC ML is redundant with no serious activity at the site. With thin hopes of AUC resuming work in the ML, it has forced the local population into illegal mining.

4.2 Analysis of interview and focus group discussion
To supplement the results and fill in the gaps left in the questionnaire, the qualitative approach was used. This kind of technique looks more likely to give more substance and to reveal detailed
information. Qualitative research is concerned with trying to achieve a clear understanding of the problem under review in a more complex way than in a generalized way that is outcome of the questionnaire. This methodology is used to get information about how people think, feel and act and what they know. This section of the research was conducted in two ways, through individual interviews and focus group discussions consisting of 03 people at each mining site. This information collected was presented in a narrative form that includes the description and analysis of data.

This section reflects on the results of the interviews and focus group discussions conducted with interviewees. It presents the analysis of their verbal responses during the interviews and focus group discussions.

Long and informal interviews carried out with subjects regarding their knowledge about the AUC mining limited and illegal miners’ co-existence. Topics discussed during the interviews and focus group discussions included the following questions.

a) **AUC mining limited and ASM co-existence challenges**

Fighting for benefits from gold mining is the major cause of conflict between AUC mining limited and ASM.

AUC mining limited has failed to provide platforms for dialogue with the illegal miners. This has widened the gap between AUC mining limited and illegal miners.
Trespass is a major challenge affecting the companies and illegal miners’ better coexistence. Illegal miners have persistently encroached into AUC mining limited ML. They illegally mine on AUC trenches.

Figure 1. A foreign illegal miner handcuffed in AUC mining lease (Source: Field data 2018)

Reliance of ASM on AUC mining technology. ASM barely begin mining in areas where no exploration work has been done by mining companies. There are several pits dug by illegal miners along AUC exploration trench.

Figure 2. AUC exploration trench along which there are several pits of illegal miners (Source: Field data 2018)
Low monetary capacity by ASM to develop their concessions results into LSM companies taking over ASM rights acts as a vice to LSM and ASM relationship.

Figure 3. Pits dug by illegal miners along AUC trench (Source: Field data 2018).

Figure 4. An artisanal miner preparing to enter a pit in Kitumbi-Kayonza location license (Source: Field data 2018).
ASM mining practices are haphazard with no proper waste management program of hazardous chemical like Cyanide a poisonous compound used to process gold. This is opposite for the AUC mining limited that needs safety on its working environment.

![Artisanal miner mixing Cyanide and Lime (white) with ground gold ore](source: field data 2018).

Figure 5. Artisanal miner mixing Cyanide and Lime (white) with ground gold ore (Source: field data 2018).

Low potential of gold in the 30% area relinquished by AUC mining limited to illegal miners is a major concern. This was an option adopted to develop a conceived mining environment. Illegal miners have reported low gold viability of the relinquished area.

Population influx due to gold rush from neighboring east African countries like Rwanda and DR Congo has posed a serious challenge on companies and illegal mining coexistence because the foreigners are ignorant about the provisions of Uganda’s mining policy, mining act and mining regulation.

Reliance of ASM on AUC mining limited service like water sources such as ASM use of AUC borehole waters to wash their Gold and tailings.

Government favors AUC mining limited over ASM as it considers illegal miners wasteful in terms of revenues and environmental conservation. For example, in issuing licenses and the period of validity granted to companies and ASM differs, the companies are favored.
Lack of operations by AUC mining limited has left the local community members jobless and vulnerable to maintain livelihood. This has forced them into illegal mining in the AUC mining limited ML.

Failure by artisanal to raise working capital to attain mining rights forces them into illegal mining. They lived in areas characterized by poverty and they are struggling to escape the fringes of poverty.

Milling price. Companies are able to purchase ball mills and cyanide illusion plant for processing gold. Companies tend to levied much on the ore milling and processing which ASM tries to evade by using local means like use of cyanide and mercury which the AUC prohibits because of their long-term effects on human health and environment.

Lack of government on ground has left mining activities uncontrolled. Trespass and failure to observe environment regulations characterized the mining areas.

Monopoly of market by companies that’s companies dictate prices and even cheaply, but because ASM to reaps much also, they smuggle their gold into the stock market and hence a doubt to transparency.

Corruption within police and lack of police to follow its mandate. Police often conspired with illegal miners this has fuel conflicts.

Abuse of labor for example paying manual miners less money by AUC mining limited have force illegal members seek independence to mind on their own.

Torture of illegal miners whenever they are arrested in AUC mining limited ML concessions. They have remained rigid and bitter over such handling.

Delay of licenses by DGSM. ASM is a cheap mining type that begins any time the law allows the miners. Illegal miners are always impatient to wait and have indulged in illegal mining.

Language barrier since the ASM consists of many foreigners like Rwandese and Tanzania acts as a barrier to communication during negotiations.
LSM use of advance machinery like excavators digs large areas and leaves ASM anxious of their quartz veins.

![An excavator being used to dig gold ore](source: field data 2018)

Lack of qualification for citizenship for one to apply for legal mining. Many ASM are foreigners and they fear to obtain citizenship because most of them enter into the country illegally. This has fueled illegal mining in AUC mining areas.

Lack of accessibility by companies for example road block placed on roads and threat of death threats in the working areas by illegal miners.

Illegal and improper use of LSM utility services like borehole was broken down and beacons plugged off by illegal miners.

Noise from ball mill used by ASM causes noise pollution which the AUC mining company treats as a hazard and not safe all.

Lack of collaboration between ASM and LSM has led to dispute. They have failed to compromise each other.
b) What are the solutions to the co-existence challenges of AUC mining(U) limited and ASM in Kasanda district?

Minutes of the meeting relating to AUC mining ltd and Mubende United Miner’s Associations (MUMA) held at DGSM on 31/05/18 chaired by the honorable minister of state for mineral development reveals possibilities of AUC and artisanal co-existence. The AUC (U) limited relinquished 30% under its Exploration license (EL1093) to ASMs although they are areas with limited gold/no gold potential. In the meeting, Mubende district chairman urged the government to burrow a leaf from other development countries to see how ASM mining is done there in order to harmonize the working politics between ASM and other big mining companies. The meeting also emphasized that ASMs should form organized groups and 18 associations were reportedly registered under two umbrella associations MUMA and federation of artisanal and small-scale miners (U) limited (FASM).

Therefore, relinquishing part of AUC under EL1093 to ASM has seen some calm in gold fields in Mubende.

Figure 7. Map showing 30% relinquished part under AUC mining limited EL1093 (Source: Field data 2018).
Organizing illegal miners into groups and register as ASM with local council and registry of companies. This is a working strategy since the few associations formed like Kitumbi-Kayonza miners association has employed many illegal miners who now are normally mining.

Provision of loan to ASM to finance and upgrade their activities to the level of LSM. AUC mining limited should consider supporting ASM financially so that interference of illegal mining in their concessions is avoided. This strategy has worked in other African countries like Ghana, Tanzania and Zimbabwe.

Provisions of contracts to LSM by ASM to avoid unemployment and eradicate poverty and improve the livelihood of ASM.

Breaking market monopoly and standardizing prices. The market is monopolized by few individuals who dictate prices for gold when buying from ASM who have no access to stock market. It’s therefore, advisable for the government of Uganda to intervene by opening up a free and transparent market for gold.

Milling and processing of ore charges should be proportional to the amount of gold recovered to avoid artisanal opting to use of Cyanide and Mercury and the residue should also be value since its later processed and refine to get more gold.

Sensitization of ASM on best mining practices and environmental conservation. They should be trained on sustainable mining through facilitation of vocational training like metal fabrication, entrepreneurship skills etc.

Mining companies should pay the 3% royalties prescribed in the mining act 2003 and mining regulation 2004 to the surface right holder to give him or her a sense of the surface rights he/she possesses.
Proper demarcation of boarders by used of beacons to avoid trespass during exploration program. The boundaries should also be gazette to act as a barrier and avoid trespassing.

Figure 8. Research student leaning against one of the beacons that separates exploration license and mining license (Source: Field data 2018).

Figure 9. Research student reading a sign post at AUC mining limited gate (source: field data 2018).

Government should be on ground to monitor the mining operations and ensure that the mining policy, mining act 2003 and mining regulation 2004 is followed in the areas of work. The mineral police have been introduced to monitor the activities.
c) What are the gaps in the mining policy, mining act 2003 and mining regulation 2004?

High taxes on imported mining machinery like excavators and breakers. The government should subsidize taxes levied on mining equipment so that the cost of production is reduced.

Acquiring licenses is bureaucratic and time consuming. This delays exploitation of the abundant resources that would promote socio-economic development.

The three years validity of location license is too short though renewable until the deposit is depleted. The renewal process causes delay and hence its validity needs to be increased so that minimal interruptions of mining operations are registered.

Failure to build infrastructure like roads, schools and health facilities in mining areas to provide alternatives means of survival. For example, the road from Bukuya trading center to Kitumbi-Kayonza is a bad feeder road.

Insecurity in the mining sites has not perfectly been addressed. Robbery of gold miners on their way to the market is a common case.

Interested investors who can add value to gold by investing in gold refineries should be encouraged.

Channels of communication between miners and DGSM are not effective. This has made awareness of the community about country’s mining policy, mining act and mining regulation difficult.

No measures on inflation with time. A holder of a location license is not entitled to inject more than ten million Uganda shillings in a mining investment yet the amount’s purchasing power is not the same to as to when the law was established.

Failure to revoke redundant mining licenses by DGSM. There are many holders of mineral rights and have not fulfilled the obligations of their concessions yet there are interested investors that lack the rights to mine.
CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion
Mining in Uganda takes place against a backdrop of challenges and a history of land-related conflicts. Some of the practices associated with the mining sector, such as unregulated mining, bureaucratic licensing processes, and outdated laws not fit for purpose, can both directly and indirectly impact on levels of tension, marginalization and violence – between individuals, the state, ASM communities and LSM companies. The review of mining legislation offers a timely opportunity to address these issues at the regulatory level and to improve performance at the operational level.

The study identified different aspects that could lead to escalation of conflicts between and among different stakeholders in the mining sector. It therefore recommends that relevant legislation and various stakeholders should include provisions that address these issues.

5.2 Recommendation
The government – especially the DGSM, the Ministry of Energy and Mineral Development, and the Ministry of Lands, Housing and Urban Development – is urged to pay attention to the concerns outlined and formalize the sector through:

Value addition

The government must prioritize adding value to the local content. A refinery should be established to process the raw gold to pure gold. A factory that produces consumer gold products should be initiated and an open market for gold products (jewelry especially) set up. Employment opportunities shall be created and loss of revenues through export domestic raw material will cease.
Land and land use competition

To avoid and reduce conflict, the acquisition of land and the means by which poor people are removed from land by mineral right holders or state authorities on behalf of mineral rights holders, should be more consultative and premised on receipt of compensation.

Before the Ministry of Energy and Mineral Development offer licenses they should check whether minerals fall in a forest reserve or protected area. Should it be the case they should liaise with the relevant authority to avoid clash of roles and conflict.

Supervision of agreements – the role of different sector players

Define the roles of the local government, artisanal and small-scale miners, companies, central government and communities in the implementation of mining agreements. The law should give distinct roles at different stages allowing enough lead time in between stages to avoid conflicts among the different stakeholders.

Increase communities’ awareness of mining and land laws and activities happening in their location. Empower them to effectively monitor the activities of the mining companies and secure them from unnecessary exploitation.

The law should provide sufficient roles for the local government (where mining is taking place) to monitor the activities of mining companies including authority to report to the Ministry of Energy and Mineral Development.

The legal framework

Revise the Mining Act 2003 to harmonize it with the National Environment Management Act, The Land Act 1998, The National Forest and Tree Planting Act, and other relevant sector policies and legislation to make it investor friendly while addressing the needs of Ugandans in achieving sustainable development.

Licensing

Bureaucratic mining rights should be terminated. Priority should be given to applications made by artisanal miners before considering external applications to boost the general economic wellbeing
of locals involved and to accelerate the development of mineral host communities. Kitumbi-Kayonza ASM association in Mubende reported that the license gave them a sense of ownership of the gold resource.

To decrease chances of conflict there is a need to increase public awareness about human rights and the responsibilities of mineral rights holders and other stake holders. This should include encouraging mineral rights holders to make tangible corporate social responsibility commitments in agreement with communities.

**Environmental degradation and pollution**

Agencies such as the NEMA National Forestry Authority and Department of Geological Survey and Mines should improve on monitoring Environmental conservation compliance aiming to avoid conflict with the community.

**Payment of royalties and Royalties sharing:**

The government should ensure that royalties are paid and shared in accordance with the mining act 2003. Respondents proposed that at least 80 per cent of the royalties going to local governments should be spent on government-led initiatives, such as the enhancement of local infrastructure and improvement of social services for the mineral hosting communities.

**Platform for dealing with emerging issues**

Government should establish a platform at the district level for periodic meetings of participants in the mining industry. The platform will build capacity of the communities to negotiate agreements, as well as enhance their knowledge about the mining industry. It would also help build relationships between the various players, making it possible to deal with conflict drivers and establish trust and respect.

**Alternative mechanisms for dispute resolution**

Mechanisms should be put in place to address peoples’ grievances to prevent latent conflict hitting crisis levels. Conflicts should be identified through regular analysis of places where mining is being considered, long before the investors are allowed to access communities. Investors should be briefed beforehand about the context, identifying drivers and possible social, political and
environmental causes of conflict and guided on how to operate in the context without exacerbating tensions. Handbooks on conflict management in mining should be produced and circulated in mining areas so that communities know how to identify conflict and minimize its potential to lead to violence. The handbooks should provide guidelines to deal with the issues at grassroots level.

As part of the government’s human resource plan, conflict monitors should be placed in mining districts to identify and alert government structures about brewing conflict earlier on in the cycle. Companies should be helped to appreciate that conflict sensitivity helps their businesses, the communities involved and government. Failure to address the causes of conflict negatively affects business and destroys communities.

**Infrastructure around mining areas**

Effective development of the mining sector will require improvements in infrastructure, especially road networks and energy supplies to rural areas where mining operations usually occur. Improved infrastructure will also satisfy the mining communities who believe revenues collected from mining activities should benefit the affected communities.

**Addressing the social effects of mining**

Mining companies should support communities to form associations and community-based organizations. Communities should be able to enter into community development agreements, ensuring they don’t have to resort to protests, demonstrations and petitions to voice their concerns. Agreements should outline all community expectations and the roles of different actors and commitments of the mineral host community. Make and fulfil good promises made as part of corporate social responsibility to gain trust and acceptability.

**Incorporating conflict-sensitive approaches in mining activities**

If companies involved in the mining sector incorporate conflict-sensitive approaches into their activities it can help ensure that the profits and benefits of mining are realized, instead of being undermined by costly and time-consuming disputes and expensive security measures. Ensuring proper public accountability, allowing space for stakeholder participation and adopting participatory approaches decreases the potential for conflict and can contribute to safer, more productive mining activities.


Safety and occupational hazards.

Implementation of national and international law on safety is lacking. Companies should act according to code of conduct based on human rights such as the UN’s Guiding Principles on Business and Human Rights. Provide decent employment and business opportunities for local communities and respect the environment, labour rights, socio-economic rights and land rights as enshrined in the constitution. The code should make provisions for the consideration of complaints from communities or individuals adversely affected by mining activities.

To reduce conflict occurrences, companies and individuals should refrain from exploiting local communities, damaging the environment, unlawfully or unfairly disrupting the social fabric of communities and other forms of human rights violations.
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Appendices

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Questionnaire Guide

I’m a research student from Nkumba university Entebbe. Am carrying out a research on the topic “The coexistence of mining companies and artisanal miners in Mubende district.” It will lead to an award of bachelor degree in Petroleum and minerals geosciences. I therefore, request you to fill the below questionnaires.

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Table 4.5: Respondents’ nationality

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4.6: Answer the following questions with a “Yes or No”

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4.7: Choose whether you agree or disagree with the following statements

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Interview guide

I am a student from Nkumba University carrying out research “to assess the co-existence of large and artisanal small scale mines in gold industry in Bukuya Sub county Mubende district” leading to an award of a bachelor degree in Petroleum and Minerals Geosciences. I therefore, kindly request you to fill this interview guide.

Qn1. What are the LSM-ASM co-existence challenges?

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Qn6. How can the above challenges be addressed?

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Qn7. How can LSM contribute to a better co-existence?

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Qn3. How can ASM contribute to a better co-existence?

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Qn4. What are the gaps in the mining policy, mining act and mining regulation in the mining industry?

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Qn5. What are the strengths in Mining Policy and Mining Act and Mining Regulations in relation to coexistence of ASM and LSM?

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Qn5. What role does the government play in the LSM-ASM relationship?

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Qn7. What are the challenges faced by LSM?

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Qn8. What are the challenges faced by ASM?

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56
Qn9. What are advantages of ASM?

Qn10. What are the disadvantages of ASM?

Thanks