

**INFLUENCE OF MINING COMPANIES' ACTIVITIES ON SOCIO -
ECONOMIC WELFARE OF MINING COMMUNITY A CASE OF
POZZOLANA IN KAWOWO, KAPCHORWA, UGANDA**

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**MASTERS OF ARTS
(Development Studies)**

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A Thesis Submitted to the School of Graduate Studies, Bugema University, in Partial
Fulfillment of the Requirements for the Award of Master of Arts in
Development Studies

AUGUST, 2019

ACCEPTANCE SHEET

This thesis entitled, **INFLUENCE OF MINING COMPANIES’ ACTIVITIES ON SOCIO-ECONOMIC WELFARE OF MINING COMMUNITY A CASE OF POZZOLANA IN KAWOWO SUB COUNTY KAPCHORWA DISTRICT, UGANDA** prepared and submitted by **MWONDHA MUTUMBA GEORGE** in partial fulfillment of the requirements for the degree of **MASTERS OF ARTS (Development Studies)** is hereby accepted.

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DECLARATION

I **Mwondha Mutumba George**, declare that I am the sole author of this thesis. It has not been submitted wholly or in parts for other awards or qualifications to any other University or Institute for higher learning. Where other peoples' work was cited, they have dully been acknowledged

Signature.....

MWONDHA MUTUMBA GEORGE

Date.....

DEDICATION

This thesis is about the influence of mining companies' activities on the socio-economic welfare of the mining community in Kawowo Sub County Kapchorwa District of Uganda.

It is dedicated to my late father John Mutumba Musenze (RIP), mother Christine Mutumba Balirwawo, my children Shirlynn, Phillip, Peace, Jordan and Lytonn and my dear wife Edith Mwondha Nakigudde who bestow my courage and strength.

BIOGRAPHICAL SKETCH

The author was born to John Mutumba Musenze (RIP) and Christine Mutumba Balirwawo in 1977 at Bulyambooli village, Iwemba parish, Iwemba Sub County, Bukooli North County, Bugiri District of Uganda.

He attended North Road Primary School in Mbale 1983-1990 (PLE), Masaba Secondary School in Sironko 1991-1994 (UCE), Mbale Progressive Academy 1995-1997 (UACE)

He attained a Bachelors of Arts degree in Education (Hons.) majoring in Economics and History at Islamic University in Uganda (IUIU) Mbale campus in 2001.

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I thank the Almighty God for bringing me this far. It has not been easy to this level, working, supporting family and paying my tuition. There came a time when I had just completed my first semester, I was transferred from Kampala to Kapchorwa 305km, I had to travel every weekend to attend lectures. Fortunately, I remained focused with a positive mental attitude. Luke 11; 9 has it that you should ask and you will be given, seek you will find and knock the door will be opened for you by the almighty God, this is what God has done for me.

I appreciate the role played by Supervisors Dr. Stephen Kizza the Chairperson Advisory Committee, Dr. Rosette Kabuye Member Advisory Committee and Dean Graduate School and Mr Hillary Maguda (MBA) for the technical guidance. Your kindness is rare and I pray that God will always bless the works of your hands and families.

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The utmost gratitude goes to all the respondents in Kawowo Sub County in particular and Kapchorwa District Local Government in general that took part in this research and made it possible. Thanks for your time, contributions and sharing your stories and life experience with me.

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LIST OF ACRONYMS/ABBREVIATIONS

AGA:	Angola Ashanti
CDAP:	Community Development Assistance Programme
CSR:	Corporate Social Responsibility
GDP:	Gross Domestic Product
GGM:	Geita Gold Mine
HIV:	Human Infectious Virus
ICT:	Information communication technology
IRS:	Indoor Residual Spraying
NADeF:	Newmont Ahafo Development Foundation
NDP:	National Development plan
NGGL:	Newmont Ghana gold limited
NGO:	Non-Governmental Organisations
OMCP:	Obusi Malaria Control Program
PPC:	Portland Pozzolana Cement
SPSS:	Statistical Package for Social Science
UBOS:	Uganda Bureau of Statistics
UN:	United Nations
UNHPC:	Uganda national housing and population census

ABSTRACT

Mwondha Mutumba George School of Graduate Studies, Bugema University, Kampala Uganda, July 2019, **INFLUENCE OF MINING COMPANIES' ACTIVITIES ON SOCIO-ECONOMIC WELFARE OF MINING COMMUNITY A CASE OF POZZOLANA IN KAWOWO SUB COUNTY IN KAPCHORWA DISTRICT,UGANDA**

Advisor: **Stephen S. Kizza, Ph.D.**

The study was conducted in the parishes of Kapchela, Sanzala, and Kimawa in Kawowo Sub County Kapchorwa District of Uganda. The main objective of the study was to investigate the influence of mining companies' activities on socio-economic welfare of mining community a case of Pozzolana of Kawowo Sub County in Kapchorwa District,Uganda while the specific objectives were; to find out the status of Pozzolana Mining Companies' Activities, establish the Socio-Economic welfare status of the mining community and the influence of mining companies' activities on socio-economic welfare of mining community

The study adopted cross section research design, the sample size of the study was 227, quantitative data was collected using the questionnaire while qualitative using interview guide. The quantitative data was analysed using statistical package for social science (SPSS) and presented in tables and multiple regression to obtain the level of influence while data qualitative using themes .

The study found a very low status of Pozzolana mining companies' activities at (Grand mean = 1.43, SD = 0.48). It also found a very low Socio-Economic welfare status of mining community at (Grand Mean = 1.68, SD = 0.57). The study revealed that provision of employment opportunities was the only activity that positively influenced the socio-economic welfare ($\beta = 20.8, P = 0.002$).

The study concluded that efforts were needed to improve the very low socio-economic welfare status of the mining community and the provision of employment opportunities was the most important activity. The study thus recommended that mining companies should maximise their influence on socio-economic welfare of mining communities through mechanisms that continuously ensure provision of employment opportunities and the government to design policies that agitate for provision of employment to communities from mining companies.

CHAPTER ONE

INTRODUCTION

Background of the Study

The concept of socio-economic welfare is widely used in contemporary literature on livelihood, economic growth and development. The World Bank (2015), looks at socio-economic welfare as activities that enable people live a better life, the activities include; education, healthcare, clean water, transport/communication and household income. The world bank (2015), further stress that enjoying socio-economic welfare means having better infrastructure like schools, health centres, clean water sources, roads and employment opportunities among others that enables people to meet their basic needs of life with dignity.

Socio-economic welfare is a global phenomenon, people in developed countries are said to have better socio-economic welfare status compared to those living in developing countries while people living in countries with civil wars and natural disaster like floods and wars have poor socio-economic welfare status than those without (OCDA 2017 and Pain & Kartor, 2010). Nations endowed with Natural resources consider themselves fortunate because the resources are assets and part of the national capital that help improve socio-economic welfare than those without (Davis &Tilton, 2012).

The natural resource enables governments to establish mechanisms through extraction and processing to create spin off to benefit the country, the spin off include provision of schools, health centres, clean water sources, road infrastructure and employment opportunities which improves the socio-economic welfare inform of access

to; education, health care, clean water and household income of the community (Malinganya, 2013).

Mining Companies always invests heavily in their areas of operation to uplift the socio-economic welfare conditions of the surrounding communities and their employees, these investments take the form of capacity building for workers and infrastructural setup in form of public schools, health facilities, water sources and transport infrastructure which contribute to local growth and development (Nguyen et al., 2018). These facilities in turn allow local communities access better health care, clean water, education services, transport, household income hence improving their socio-economic welfare (Macini & Sala, 2018).

The mining industry is major source of revenue for mineral producing countries and greatly contribute to their gross domestic product (GDP) (Rawashdeh et al 2016). This revenue enables development of other key sectors of the economy including employment and infrastructural development in form of schools, health facilities, clean water sources, roads, and telecommunication lines among others (Robertson et al, 2015 and Kitula, 2004).

The mining sector is essential for population socio-economic welfare, economic growth and development. The mineral resources are the basis for modern societies. The Sustainable Development Goals (SDG) set by united nations for 2030 and the Uganda vision 2040 cannot be reached without the contributions of the sector which are fuelling the manufacturing sector, creating jobs, improving infrastructure (schools, roads, health facilities, clean water sources, electricity and telecommunication lines) and value addition along the supply chain of material goals (Rawashdeh et el 2016 and NDP 11).

According to Naigaga (2014), Uganda is blessed with many mineral including Pozzolana a key additive in the manufacture of Portland Pozzolana Cement (PPC) mined in Kawowo Sub County Kapchorwa District. Uganda is a signatory to many International declarations, treaties, protocols and conventions that help in regulating mining and mineral processing including Stockholm Conference on the Human Environment (1972), the World Charter for Nature (1982), African Union Mining Vision (2009), and African Mineral Geo-science Centre among others. These instruments are aimed at harmonizing National and Regional policies and strategies related to improving the socio – economic welfare status; health, education, clean water and employment opportunities of the mining community (Alec et al., 2015).

In abide to attain the Uganda vision 2040, aimed at promoting Social - economic welfare of mining communities the government enacted the Mineral and Mining Policy 2018 to help operationalize the Mining Act 2003, and the Mining Regulation 2004. These laws however do not have adequate guidelines and regulations on improving socio- economic welfare of the mining community. None the less there are other laws that are relevant to mining activities and improving the socio-economic welfare, these include; The National Environment Act (2003), The Land Act 1998, The Land Regulations Act (2004), Contracts Act (2000), The Arbitration and Conciliation Act (2000) and the 1995 constitution as amended that must be used hand in hand with mining companies to improve the socio-economic welfare of mining community.

According to the NPHC (2014), the mining community in Kawowo Sub County is living in generally low Socio-economic welfare situation. They have low levels of education 40%, health care 35%, access to clean water 52%, house hold income 38%,

and infrastructural development 35%, which is far below the national level. Despite of the Memorandum Of Understanding (MOU) signed between Kapchorwa District and the mining companies where the mining companies promised to build community schools to educate children, health centres to provide health care, clean water sources to provide potable water and provide employment opportunities to improve household income of the mining community as part of CSR initiatives which they have fairly adhered to leading to seemingly poor socio-economic welfare of the mining community.

Statement of the Problem

According to the UBOS (2016/17), Household Survey Report the rate of unemployment in Kawowo Sub County was 15.5%, people living in mud and pole houses 61%, enrolment in Secondary Schools 51.7% and Primary 81.1%, students travelling over 3km to access Secondary Education 71.2% and Primary education was 54%, people travelling over 3km to access health facilities was 86.1% and those using hand washing facilities was 1.4%. The Ministry of Water and Environment Resettlement Action Report 2016, indicated that the population of Kawowo Sub County using protected spring water source was 38.2%, borehole water source 35.2%, open well water source 8.4%, rivers 17.4% and piped water source 0.7%.

Compared to the National level where the rate of unemployment was 9.2%, people living in mud and pole houses 58.6%, enrolment in Secondary Schools 45.9% and Primary School 77.5%, students travelling over 3km to access Secondary Education 65% and Primary 40%, people travelling over 3km to access health facilities was 80% and those using hand washing facilities was 1.2%, 78% had access to clean water and 99% walk less than 3km to access clean water UBOS (2016/17).

Despite the mining companies' activities of Pozzolana mining companies the socio-economic welfare of the mining community of Kawowo sub county Kapchorwa District was still seemingly strained as illustrated above.

The study therefore seeks to investigate influence Pozzolana mining companies' on socio-economic welfare of the mining community in Kawowo sub county Kapchorwa District. The findings of the study will go a long way to bridge the knowledge gap of seemingly poor socio-economic welfare status amidst abundance of Pozzolana mineral of Kawowo sub county Kapchorwa district

Research Questions

The study used the following questions.

1. What is the status of Pozzolana Mining Companies activities?
2. What is the Socio-Economic Welfare status of the mining community of Kawowo Sub County Kapchorwa District?
3. What is the influence of Pozzolana mining companies' activities on Socio-Economic Welfare of the mining community of Kawowo Sub County?

General Objective of the Study

The main objective of the study is to investigate the influence Pozzolana Mining Companies activities on Socio-Economic Welfare of the Mining Community of Kawowo Sub County, Kapchorwa District so as to suggest interventions.

Objectives of the Study

1. To find out the status of Pozzolana Mining Companies' activities on socio – economic Mining Community of Kawowo Sub County.

2. To establish the Socio-Economic Welfare status of Pozzolana Mining Community of Kawowo Sub County.
3. To establish the influence of Pozzolana Mining Companies' activities on Socio-Economic Welfare of the Mining Community in Kawowo sub county, Kapchorwa District.

Hypothesis of the Study

The null hypothesis of the study is Pozzolana Mining Companies' activities do not significantly influence the Socio-Economic Welfare of Mining Community of Kawowo Sub County, Kapchorwa District.

Significance of the Study

The findings of the study may be of practical value in improving the Socio - economic welfare of Mining Community in Kawowo Sub County to the following;

Government of Uganda.

The government may understand the challenges mining community face that hinder Socio-economic welfare and facilitate the improvement of or boost the services.

Non-government organisations.

NGOs may gain by getting new ideas and skills especially on the steps applied in the improvement of the Socio-economic welfare of the mining community.

Pozzolana mining companies

The Mining Companies will know the attitude the mining community have towards the mining activities and improve on their CSR approaches for better relationship with the community.

Scope of the Study

The study was conducted in the Pozzolana mining community of Kapchela, Sanzala and Kimawa parishes of Kawowo Sub County, Kapchorwa District. The community was selected for the study because of the presence Pozzolana mineral and three other mining quarries which are; Tororo Cement Limited, Simba Cement Limited and Kampala Cement Industries, where extraction of the mineral is ongoing. The study therefore confined itself on investigating the influence of Pozzolana mining companies' activities on the socio-economic welfare the mining community in Kapchela, Sanzala, and Kimawa parishes in Kawowo Sub County, Kapchorwa District. This content was selected for the study because the community is blessed with abundance of minerals which are being extracted every day but the socio-economic welfare of the mining community seems to be strained. The emphasis of the study was therefore on the influence Pozzolana of mining companies' activities on socio- economic welfare of the mining community. The study was carried out between April and June 2019

Limitations of the Study

The study employed a cross sectional research design which considers results at a particular point in time, as opposed to longitudinal research design which compares data over a lengthy period of time. The researcher mitigated the established challenge by triangulation of two methods and adopting write analysis approaches.

Theoretical Framework

The study was guided by Dutch disease theory of mineral extraction and its variants which provide a subsequent sophisticated framework to examine macro-

economic effects of mineral abundance on economic growth and development (Gilberthorpe & Papyrakis, 2015).

The theory is divided two; resource management effect that describes the shift of factors of production (labour and capital) from manufacturing and other productive activities to the primary sector as a result of marginal productivity. The other is the spending effect which is the inflationary pressure induced as a result of positive income shock (triggered by the increase in mineral wealth) that decreases the competitiveness of commodities outside the primary sector. The overall effect of the Dutch disease theory on economic growth and development depends on the relative spillover effect across sectors.

The theory relates to the study because it crates spillovers in form of infrastructural development and employment opportunities which help improve community socio economic welfare of the community. This stems from the belief that providing schools, clean water sources, health centers infrastructures and employment opportunities to the Mining Community positively improves to access good quality education, health care, clean water and household income hence improve socio-economic welfare situation of households.

Conceptual Framework

The independent variable in the study was Pozzolana mining companies' activities, these included; provision of schools, health centers, clean water sources infrastructures and employment opportunities which predict the dependent variables of socio – economic welfare that included; access to health care, education, clean water and improved household income.

This conceptualization of the study was influenced by earlier studies by Malinganya (2013), World Bank (2015) and (Macini & Sala, 2018), who asserts that mining as a development activity leads to investments in the mining communities by mining companies which leads to improvement in socio-economic welfare. The relationship between the study variables is diagrammatically shown in Figure1

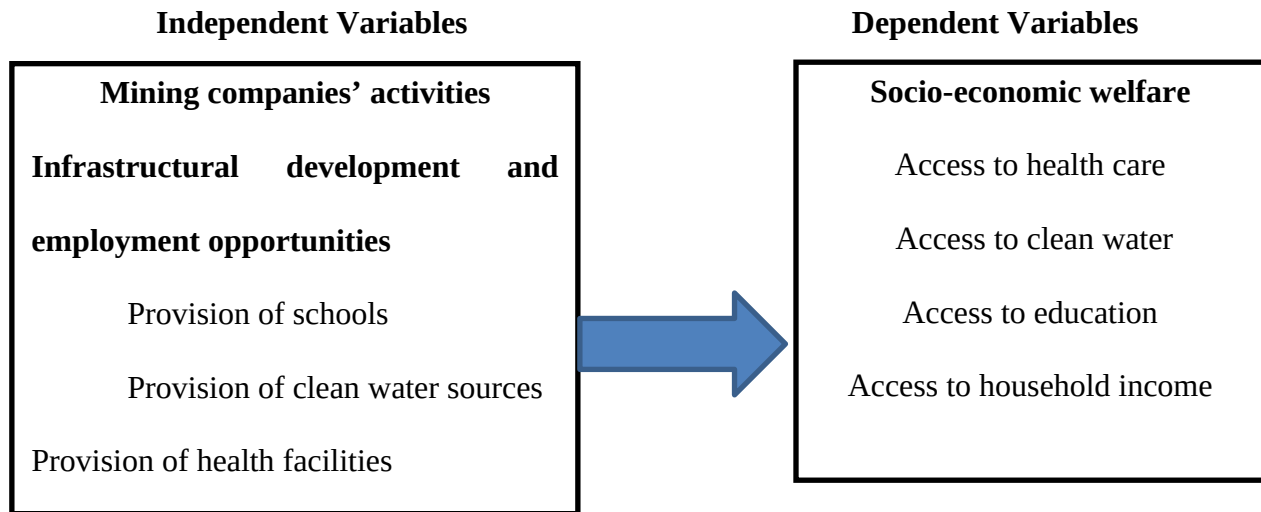


Figure 1: Conceptual Framework

Operational Definition of Terms

Mining companies' activities (Infrastructure Development) and Socio-Economic Welfare

Mining companies' activities refers infrastructure that mining companies consider important in improving the socio-economic welfare of the mining community by taking responsibility of impact their activities on the community. In the context of the study activities includes; provision of school, health Centre, clean water source infrastructure and employment opportunities.

Socio-economic welfare refers to the quality of life, livelihood and wellbeing of households in the mining community. In the context of this study it includes; access to education, health care, clean water and household income.

Provision of school infrastructures

Refers to school structures which includes; classrooms, laboratories for science practical's, the halls and open fields for games, game equipment's, dormitories sanitation facilities like toilets/pit latrines, clean water sources, teachers' quarters among other that help facilitate successful learning provided by Pozzolana mining companies. The status of provision of school infrastructure was determined using the 4 likert scale and interpreted using the mean range scale where 1 = 3.25-4.00 was interpreted as very high, 2 = 2.50-3.24 was interpreted as high, 3 = 1.75-2.29 interpreted as low and 4= 1.00-1.74 interpreted as very low.

Provision of health centre infrastructure

It refers to medical and non-medical buildings, medical and non-medical equipment, furniture and hospital communication (ICT equipment's) and ambulance services among others that are a pre-requisites or assets in the delivery of health services provided by Pozzolana mining companies. The status of provision of health centre infrastructure determined using the 4 likert scale and interpreted using the mean range scale where 1 = 3.25-4.00 was interpreted as very high, 2 = 2.50-3.24 was interpreted as high, 3 = 1.75-2.29 interpreted as low and 4= 1.00-1.74 interpreted as very low.

Provision of clean water source infrastructures

Refers to clean water infrastructure that includes; pipes that bring clean water to homes and institutions, ground water wells/boreholes, surface water intakes, dam

reservoirs, storage tanks and safe water drinking facilities like grasses and pots among others important components that provide safe drinking potable water for human and animal consumption free from water borne disease provided by Pozzolana mining companies. The status of provision of clean water infrastructure was determined using the 4 likert scale and interpreted using the mean range scale where 1 = 3.25-4.00 was interpreted as very high, 2 = 2.50-3.24 was interpreted as high, 3 = 1.75-2.29 interpreted as low and 4= 1.00-1.74 interpreted as very low.

Provision of Employment opportunities

Refers to employment opportunities created by Pozzolana mining companies that are generating incomes to the mining community, they are either direct by employing the local people or indirect by providing a service like restaurants and Medicare to the mining company attained as a result of mining activities. The status of provision of employment opportunities was determined using the 4 likert scale and interpreted using the mean range scale where 1 = 3.25-4.00 was interpreted as very high, 2 = 2.50-3.24 was interpreted as high, 3 = 1.75-2.29 interpreted as low and 4= 1.00-1.74 interpreted as very low.

Access to education

Refers to how households in the mining community perceive the improved education as a result of Pozzolana mining companies. The status of access to education was determined using the 4 likert scale and interpreted using the mean range scale where 1 = 3.25-4.00 was interpreted as very high, 2 = 2.50-3.24 was interpreted as high, 3 = 1.75-2.29 interpreted as low and 4= 1.00-1.74 interpreted as very low.

Health care.

Refers how household in the mining community perceive the improved health care as a result of CSR initiatives of Pozzolana mining companies. The status of access to health care was determined using the 4 likert scale and interpreted using the mean range scale 1 = 3.25-4.00 was interpreted as very high, 2 = 2.50-3.24 was interpreted as high, 3 = 1.75-2.29 interpreted as low and 4= 1.00-1.74 interpreted as very low.

Access to clean water.

Refers to how households in the mining community perceive the improved clean water for domestic water and animal use as a result of Pozzolana mining companies. The status of access to clean water was determined using the 4 likert scale and interpreted using the mean range scale where 1 = 3.25-4.00 was interpreted as very high, 2 = 2.50-3.24 was interpreted as high, 3 = 1.75-2.29 interpreted as low and 4= 1.00-1.74 interpreted as very low.

Access household income.

Refers how households in the mining community perceived incomes received from all the mining related activities. The status of access to household income was determined using the 4 likert scale and interpreted using the mean range scale where 1 = 3.25-4.00 was interpreted as very high, 2 = 2.50-3.24 was interpreted as high, 3 = 1.75-2.29 interpreted as low and 4= 1.00-1.74 interpreted as very low.

CHAPTER TWO

LITERATURE REVIEW

This chapter reviews literature from related documents of corporate social responsibility of mining companies and Socio- economic welfare of mining communities at Global, Regional, National level.

Infrastructure Development and Socio – Economic Welfare

Malinganya (2013) asserts that mining as a development activity invests heavily in local communities where the mining activity take place. The investment takes the form of capacity building for workers and infrastructure setup in form of public schools, health facilities, water sources and transport infrastructure (The World Bank, 2005). These investments help to improve the socio – economic welfare of the mining community in the long run inform of access to education, health care, clean water and household income (Macini & Sala, 2018).

Provision of School Infrastructure

Mining companies using CSR promotes education among local communities by construction of school infrastructures in localities that do not have one (Pooja, 2017). The infrastructures are in form of classrooms, teacher offices, classroom furniture/desks, play grounds, classroom blocks, libraries, Information and Communication Technology (ICT) center, teachers and nurses' quarters' development, these may be primary, secondary or tertiary schools (Robertson et al, 2015 & Maliganya, 2013).

When the above infrastructures are provided in walkable distances from village homes, increase enrollment of learners in schools and improve the parents' and learners' attitude towards education as access of education is within community proximity

(Macini & Sala, 2018). The construction process creates employment opportunities for contractors and suppliers of construction materials within the community, the schools also recruit teachers who provided a service to the school hence improving their household income and welfare.

Skills development, mining corporations help address the skills gaps for person's joining the work force most of whom lack the required skills and mindset for productive employment or for generating income through self-employment (Pooja, 2017). Tata motors through little flower institute in Kevala India, provides driving skills to mainly female in program called learn, earn and progress (LEAP) (Tata motors, 2018). These skills trains students in vocational school to help them become employable citizens and contribute towards community development as they improve their socio – economic welfare.

The Vidya/teacher program Malaysia by hetero mining company provided students with evening snacks to motivate them, uniforms, stationary, promotes sporting abilities and sports kits, it also offered health awareness camps like eye care awareness and anemia awareness camps which helped to elucidate the importance of health care to the children in schools (Thirumuru & Thirukkovela, 2015). The programme increased access to education and to positively changed the attitude of parents and students/pupils towards education in short run and socio-economic welfare in the long run.

Mining companies provide Awareness programs among communities about the importance of education and critical issued such as child labor, and girl child education that hinder access to education (Pooja, 2017). The programs may target quality education as well as holistic development of the under privileged (need based

scholarships especially for girls and provision of basic amenities like water, sanitation and classroom furniture) in rural parts of the country to empower students to explore, question and communicate effectively (Nguyen et al, 2018).

Promotion of gender equity by targeting girls from economically disadvantaged families to attain quality education and designing programs to support children with disability by provision of nourishments to regain and perform well in schools (Pooja 2017). The Geita Gold Mine (GGM) in Geita District in Tanzania built and furnished Geita Girls Secondary School the only girls' school to address girl education (Jody et al, 2012). Mining Corporations also provided psychological support to under privileged students through motivational talks on leadership, night classes for the uneducated adults for empowerment of the illiterate public in surrounding villages (UMA, 2016), which helps empower the community with skills to decide or make decisions that affect their socio-economic welfare.

In Malaysia the Hetero mining company using Nelson Mandela's belief "Education is the most powerful weapon which can change the world" and upon realizing the educational challenges in rural schools, sponsored 30 Vidya/teacher volunteers to support the academic needs in 24 rural schools, every Vidya/ teacher attended to academic interests of 100 learners, leading to 3000 students successful fulfilling their education needs as corporate social responsibility, (hirumuru & Thirukkovela (2015). The Vidya/teachers were locally handpicked from the communities, this helped them improve their socio-economic welfare as the earned income. The program increased admission ratio of pupils in school due familiarity and

reduced student teacher ratio and teachers employed earn income all these improved the socio – economic welfare of the surrounding communities.

In Jordan the mining activities negatively affected the education system because of the philosophy “easy money from mining”. The government underestimated the need for strong education policies in the mining region that could help achieve long term development benefit and social equity across the country. This was noted in the following; the net secondary school enrollment in the mining region compared to non-mining region 83% of all children go to school compared with 88% and 91% in mining region respectively, the adult literacy and percentage of students holding bachelors, masters and PhD degrees in the mining region were less than those in central and northern region in 2013 (Rawashdeh et al., 2016).

Krugman (1989), observed that (mineral deposits) mining is a curse (Dutch disease), this because of the disadvantages it causes to other sectors of the economy in the mineral producing area. The influx of migrants with their families in search for jobs increase demand social services including education leading to competition which the local community cannot copy with hence negative socio-economic welfare (Fernando et al, 2013). Rawashdeh et al., (2016) observed that enrollment in schools in mineral rich regions was lower than in non-mineral rich regions was attributed to recruitment of under age children (8-12) in mining activities.

Mining companies’ activities are always infrastructural developments in mining communities with very little focus on the Socio – Economic Welfare of the mining communities. Although the Mining Communities have the projects. The socio-economic welfare remain strained, this calls for research on issues that can help improve the Socio

- Economic Welfare of the Mining Communities (World Bank, 2015, Robertson et al., 2015 & Rawashdeh et al., 2016).

Provision of Health Facilities

Mines are usually located in rural areas which are in state of neglect of development and always dominated with poor people and poor services especially health. Mining area are always associated with problems of disease, hunger, ignorance illiteracy. Contagious diseases, high mortality rates and illiteracy among others (Gilberthorpe & Papyrakis). Mining companies' are therefore regarded as vehicles through which socio-economic society health are challenges addressed (Selvam, 2016).

Construction of health centres by mining companies where they do not exist help to increase access to health care and encourages the people to receive Medicare (Mascassa et al, 2017). Constructions includes; shelter for the health service, housing for resident health workers, equipping health facility with medical equipment's and transport inform of ambulances and bicycles among others (Robertson et al., 2015). In Mali and Tanzania gold mines opened access to healthcare and health outcomes were that pregnant mothers received prenatal health visits which led to decrease in maternal and infant mortality rates, decrease in stunting growth and saving of money spent on treatments (World Bank, 2015).

The Angola Ashanti (AGA) a gold mining corporation through Obusi Malaria control programme (OMCP) a Corporate Social Responsibility initiative started in 2006 to address a social problem of the high incidence of malaria in the area aimed at reducing malaria prevalence to 50%. The programme used vector control indoor residual

spraying (IRS) that involves spraying of walls in every house in the municipality with the aim of killing mosquitoes that transmit the malaria parasite (Robertson et al., 2015).

The IRS program was done after every six month and it was labour based thus created temporary employment opportunities for the local community. The IRS initiative reduced the malaria cases in Obusi municipality by close to 90% since its inception in 2006. The initiative in turn led to a reduction in infant and maternal mortality rates as well as malaria related absenteeism at school and work places thereby increasing productivity, the persons recruited to work in the IRRA initiative earned a living hence also improved their social economic welfare (World Bank, 2015).

Phuoc Duc District in Vietnam mining companies provided drugs, ICT equipment, transport meeting tables and chairs for patients at the local clinic (Nguyen et al., 2018). This activity improved the socio – economic welfare of the surrounding communities in three folds; access to the facility/service, created employment of the health workers who were recruited to render the service and provision of specialized treatment to people.

Provision of health and nutrition in schools, In Indonesia PT Inco a nickel producing company provided health and nutrition in schools in Rapu –Rapu Municipality. It implemented a school feeding programme for grade one to six students of elementary schools between October 2006 and January 2007. The programme was based on the baseline data that showed 50% of students in the municipality were under nourished. The programme decreased the number of malnourished children by 25%, the children academic performance dramatically improved, absenteeism in school was drastically reduced and the social economic welfare of those recruited to implement the

programme drastically improved because of the income received following implementation of the programme (APEC Secretariat, 2011).

Large mines affect health in different ways, it changes the household income which enables the household to buy nutritious foods, changes the environment in which the household lives by either constructing or rent a better one with good sanitation and clean water, it also enables better health care (World Bank 2015). However large-scale mines decrease local agriculture leading to food insecurity among households, increase in crime rates and poverty levels and its associated effects in mineral rich areas (Rawashdeh et al, 2016).

Rawashdeh et al., (2016) argues that in Jordan as a result of mining activities, the Jordanian people benefited and have a relatively modern health system that is accessible by everyone. The total health expenditures of Jordan on health stands at 9% of gross domestic product (GDP). This is far higher than other low-middle income countries and comparable with levels typically found in many developing countries.

Mining activities attract migration of people seeking for employment which increases the population of the mining area; however, this migration is associated with lots of antisocial behaviour's that include drug addiction and spread of HIV/AIDS with their associated effects (Kitula, 2004). Mineral rich communities are associated with higher percentage of people suffering from Asthma, chronic diseases and heart diseases. The existence of these diseases indicates less health care availability in the area since most highly qualified doctors do not want to work in these areas because of the low quality of life (Rawashdeh et al., 2016).

Mining companies' activities in the community are always infrastructural developments in mining communities with very little focus on the Socio – Economic Welfare of the mining communities. Although the Mining Communities have the projects. The socio-economic welfare remain strained, this calls for research on issues that can help improve the Socio - Economic Welfare of the Mining Communities (World Bank, 2015, Kitula, 2004, 2015 & Rawashdeh et al, 2016).

Provision of Clean Water Sources

Water is fundamental to life, life started in water and the access to water continues to be the most critical to sustain life and socio - economic welfare. Based on the above importance of water it is natural that companies manage responsibly through their corporate social responsibility practices to the benefit of the local community (Pooja, 2017).

Mining companies supported Phuoc Duc local government, Peru in 2013, by upgrading of the local water system for irrigation, repaired and upgraded equipment's for the water system, they provided potable clean water to more than 300 households adjacent to the mine which helped reduce the number of patients in health-centres in the mining community (Fernando & Aragon, 2015). They also provided a water treatment plant in collaboration with an NGO World Vision in 2007, to improve access to household support, education and health care, agriculture investment and support to animal husbandry whose major objective was to improve welfare of mining community (Nguyen et al., 2018).

In 2007, the Geita Gold Mine (GGM) in Tanzania provided a piped water line from Lake Victoria to Geita district though was intended to serve the mine the

surrounding communities also benefited. By 2005 it had 11 off takes which were beneficial to the communities it passed mainly schools and health centers in Sukuma territory. In Nyakale Primary school for example the mining company constructed a modern water toilet for the school which was a gesture of developing mining community. The companies also provided watering points for domestic animals. In the course of constructing this water line the community was employed and the team that maintain the water system comprised of mainly the local community who earn an income hence improve their social economic welfare (Jody et al., 2012)

Mining companies in central Appalachia constructed a waste water infrastructure to help improve the surface water quality for plant and animal. The project included piping untreated sewage to the approximate municipality treatment facility, installation of local package plant and construction of wetland for grey water filtering. The project had the following advantages; Engagement of stakeholders, Improvement of socio-economic welfare of residents as potential harmful danger of dirty water was contained, removal of health care costs associated with water borne diseases, improved the traditional activities like fishing and hiking by enhancing water quality employment, as people recruited worked earned a living hence what to spend on their needs and importance of team work. (Cook et al., 2015).

The literature above indicate mining companies' activity were mainly on infrastructural development of water sources hence did not meet the mining community expectation of socio-economic welfare. There is need therefore for research to identify an alternative approach that address the socio- economic welfare component of the mining community (Cook et al., 2015, Jody et al., 2012 and Nguyen et al., 2018).

Provision of Employment Opportunities

Thomas et al (2017) and Rawashdeh et al (2016), used the theory of multiplier to explain how mining improves household income through creation of employment opportunities and the resultant effect is the improved socio-economic welfare of the mining community. They argue that the mining industry gives rise to spillovers in the form of linkages (fiscal, forward and backward) to the rest of the economy, these linkages in turn create employment opportunities for the mining community. The size of the multiplier depends on total mine employment, miners, wages, spending habits and how the mining companies source their inputs (food, electricity, and housing for workers). Mining companies can boost the multiplier by ensuring that it sources inputs from local suppliers (World Bank, 2015 and Fernando & Aragon, 2015)).

Holden (2007), asserts that mining companies are expected to provide employment opportunities to the mining communities directly during the construction and operation phases of their processes and indirectly through the demand of goods and services from the mining/surrounding community. This process creates a cycle of revenue generation and circulates currency which is expected to enhance the quality of life of those living within the mining localities and improve their socio – economic welfare (World Bank, 2015).

Thomas et al., (2017), argues that mining provides employments and market for locally produced goods which leads improvement of household incomes of employee at the mine and their households who spend on goods and services in the mining community in form of purchases of services needed for their existence. The demand for labor will initially increase the wages which will in turn attract workers from other areas

pushing down wages and increasing demand for housing, food and other services (Aragon & Rud 2013). The demand linkages can lead to an increase in wages and influence socio- economic welfare of the surrounding community because it will create growth in population creating demand for local goods and services.

Mining activities lead to enlargement of the public revenues when taxes from the mining industry accrue to the local government, which is called the Fiscal linkages (Fernando et al., 2015). These revenue eases the budget constraints of local governments and supports higher public spending and improves the socio- economic welfare of the mining community if used to improve the quality of public good like services such as roads, hospitals, schools, water sources, and housing, there would be potential improvement of human welfare outcome such as health care and education (Nguyen et al., 2018).

The public goods create positive spillover as for the case of school infrastructure will provide skilled man power and increase local income and growth, health infrastructure reduce absenteeism in schools by pupils/students and workers and clean water will also reduce patients in health facilities (World Bank 2015). The increase in local wages/income led to expansion of public employment due to the demand shock from additional public works resulting into improvement of the welfare of the surrounding community as the community has income to spend on their livelihood (Argon & Rud, 2013).

According to Kitula (2004), gold mining in Geita District of Tanzania, contributed tremendous to household income of the mining community compared to agriculture. The total household income from agriculture was 16% compared to mining

which was 75% in the 2002 (field survey report), in the mining and non-mining region, the local people employed in the mines obtain direct salaries and wages while the non-miners increase their incomes through different Social-economic activities including sales from food crops and menial business activities. These incomes he argues helps in the improvement of the socio-economic welfare of the mining community through the access to basic necessities like health, food, clean water and education. The wages earned by employees at mining operations are spent on goods and services produced by people surrounding the mine which in turn increases the income of the mining community (Fernando & Aragon, 2013).

Communities adjacent to mines often open new businesses taking the advantage of increase in population taking Ma'an Town in Jordan for example in 1990 before opening the mines had only 66 shops but in 2013, it had 1300 functional shops. In Ma'an still the unemployment rate declined from 28% in 1989 before opening the mines to 17% in 2013, the poverty rates also declined from 24.5% in 1989 to 2.7% in 2013 (Rawashdeh et al., 2016). In Geita District of Tanzania the mining activities created market for local agricultural crops due increase of people in the mining sites which in turn created local employment through demand (Kitula, 2004). This implies that mining opens new ventures that help improve peoples' income hence socio-economic welfare.

Large scale mineral extraction using the capital-intensive technology always take away the mineral in their raw form without further local processing or added value, in addition the mines are always privately owned and their owners are not local residents. These features preclude the creation of linkages and increase income due to distribution of profits leading to low socio- economic welfare of the mining community (Nguyen et

al, 2018 and Aragon & Rud, 2015). This also leads to higher poverty and crime levels in mineral rich area because the mining community have little to benefit (Rawashdeh et al., 2016).

The literature above on effect mining companies' activities mining studied were mainly in developed countries like USA, Canada, Jordan, and India and they used quantitative method. There is need therefore for research in other resource/mineral rich countries particularly in under developed countries like in Sub Saharan African and to use mixed method to increase knowledge and better inform the policy makers and practitioners (Nguyen et al., 2018, Aragon & Rud, 2013, Rawashdeh et al, 2016, Fernando & Aragon, 2015).

Summary of Literature Reviewed and Identified Gaps

The literature on mining companies' activities and socio-economic welfare of mining community available indicates trends towards examining the impact of mining companies on socio-economic welfare of the mining community rather than the influence of mining companies' activities on the socio-economic welfare of the mining communities (Naigaga, 2004, Macini & Sala 2018, Nguyen et al., 2018). The studies were conducted in mainly developed counties in America and Middle East using CSR activities centring mainly on infrastructural development which had little impact despite the availability of schools, health centres, and clean water the welfare remained strained (Nguyen et al, 2018, Aragon & Rud, 2015 and Rawashdeh et al., 2016,)

The literature also indicated that scholars used Corporate Social Performance, Stake Holder and Cooperate Citizen Theories of CSR to determine the impact socio-economic welfare of the mining community. The studies were also mainly quantitative.

(Macini & Sala, 2018, Rawashdeh et al., 2016 and Aragon & Rud, 2015). There is need therefore, to use the Dutch disease theory of mineral extraction and mixed research method to conduct research in other mineral rich countries particularly under developed countries like in Sub Saharan African to increase knowledge and better inform the policy makers and practitioners.

CHAPTER THREE

METHODOLOGY

This chapter describes the research methods that were employed in the research process. These include; research design, target population, sampling procedure, research methods instruments, validity and reliability, data collection procedure and data analysis. Thus, the chapter gave guidance in achieving the research objectives.

Research Design

The study employed across sectional descriptive research survey design. The cross design helps to determine and describe a situation or phenomenon as it is at the time of the study (Amin 2005). The design was suitable for the study because it allowed the researcher to look at numerous things at once (age, sex, income and education). It also provided a snapshot of the outcome and characteristics associated with it at a specific point in time in terms of mean, standard deviation and percentage tables in regard to Pozzolana mining companies influencing the access to education, health care, clean water, and household income of mining community in Kawowo Sub County

Locale of the Study

The study was conducted in Kawowo Sub County, Tingey County, Kapchorwa District in Eastern Uganda. Kawowo Sub County has six parishes of Kapchela, Sanzala, Kimawa, Chekwatit, Rebewa and Kobil. Kapchela, Sanzala and Kimawa parishes were selected to participate in the research because they are the most directly affected by the mining activities. These three parishes are home to three mines, these are; Tororo Cement Ltd, Simba Cement Ltd and Kampala Cement Ltd but socio – economic welfare of the community is seemingly strained with poor access to education, health, clean water, and household incomes.

Study Population

The study population was 1,396 households (NHPC, 2014), in Kawowo Sub County out of which an estimated 509 households are directly affected by Pozzolana mining related activities. The affected parishes are; Kapchela Parish with 187 households, Sanzala Parish 169 household and Kimawa Parish 153 households (Sub County Development Plan 2018/2019). The unit of analysis in the study was therefore the household.

Target Population

The target population of the study comprised, 3 staff of Kawowo Sub county, 3 Cement Mining Companies, 1 NGO operating in the Mining Community, 3 Local Leaders and 509 households in Mining Community totalling to 519 respondents.

Sample Size

The sample size of the study was 217 households/respondents derived from Krejcie and Morgan (1970) table. Krejcie and Morgan (1970) recommends that in a population size of 509 the appropriate sample size is 217 as illustrated in appendix IV.

In order not to over sample a particular cluster/parish, the proportionate allocation sampling formula by Kothari (2005) was used to obtain the correct sample size of the mining community in collaboration with the sample cluster/parish in the sample size of the target population derived by Krejcie and Morgan, as seen below,

$$n_1 = \frac{n}{N} \times N_2$$

Where

n1 = Sample size

n = No of women and men in each ward.

N = Total target population of the two parishes.

N2 = Sample size of the selected respondent in the two parishes

Table 1: Showing Distribution of Sampled Household in Kawowo Sub County

Parish	No of households (N2)	Sample size (N1)
Kapchela	189	80
Sanzala	167	72
Kimawa	153	65
Total	509	217

Sampling Procedures

The researcher adopted simple random sampling technique to select households from the three mining parishes of Kapchela, Sanzala and Kimawa to participate in the study. The technique was used because it provides equal chances to every member in the population to participate in the study and was ease and convenient to use by the researcher.

The researcher constructed a frame by listing down all 509 households directly affected by the mining activities and allocated them identifies, the researcher then used the rotary method where he wrote the name of any identifier of each member of the target population on a piece of paper. Pieces of paper were folded and placed in a container shuffled and mixed thoroughly, the folded papers were randomly picked one at a time. Each one paper picked identified the household that participated in the research as part of the sample. In case the identified household chose not to co-operate the researcher replaced it with the next household.

The researcher also adopted purposive sampling technique in identifying key informants who participated in the study, these included; the local community leaders, local government staff, Senior NGO and company officials.

Validity and Reliability

Before data collection validity and reliability of the instruments were established

Validity of the Instruments

To ensure validity a content Validity index (CVI) was used. A CVI of 0.91 was obtained by the researcher and it was computed as follows

$$CVI = \frac{\text{Number of items related}}{\text{Total number of items in the questionnaire}}$$

$$CVI = \frac{18}{24} = 0.91, \text{ for an instrument/tool to be valid the CVI of over 0.6 is considered}$$

hence this study CVI was 0.91 which meant the tool was valid.

Reliability of the Instruments

The pretest of the questionnaire was carried out in order to establish the consistence of the research instrument and responses from respondents so as to make necessary adjustments. A total of 30 questionnaires were pretested in Chekwatit parish, Kawowo Sub County which has similar characteristics with the mining community in the three parishes of; Kapchela, Kimawa and Sanzala collected data was entered in SPSS and Cornbrash's alpha coefficient of 0.81 was determined. The recommended minimum Cronbach coefficient value is 0.70, this implies that the instrument is reliable to be used in the study, and hence this tool/instrument was reliable.

Table 2: Showing Measure of Instrument Reliability

Cronbach alpha	No of instruments
0.81	30

There after the pretest results were used to modify the tool with guidance from the supervisors to determine their reliability.

Data Collection Methods and Instruments

The methods in the study used were questionnaire and interview. The tools/instruments with those methods were structured questionnaires, and interview guide for key informants.

Questionnaire

The questionnaire was the main data collection tool targeting the primary respondents. The questionnaires were administered by research assistants who moved door to door to help those who only understood the local language 'kop sabiny' and ensure 100% response. The questionnaire composed of three sections, that is Section A, background information, Section B, Mining companies' activities and Section C, Socio-economic welfare of the mining community.

The questionnaires were developed on a four likert scale with four statement continuums of strongly agree, agree, disagree, and strongly disagree for respondents to select responses that best describe his/her reaction to the statement. The response categories were weighed from scale 1 to 4.

Table 3: Showing Mean Range Likert Scale

S/N	RESPONSE	SCALE	INTERPRETATION
01	Strongly agree	3.25 – 4.00	Very high
02	Agree	2.50 – 3.24	High
03	Disagree	1.75 – 2.49	Low
04	Strongly disagree	1.00 – 1.74	Very low

Source: adopted from Remis likert (1932)

Key Informant Interview

An informal interview guide was developed in line with themes and sub themes that targeted information from Kawowo sub county civil servants (Sub County Chief, Medical Officer, H/M Kawowo S.S), Local Leaders of Kawowo Sub County (Sub County Chairperson, Parish Chairperson SANZALA and an Opinion Leader), Three Senior Staff of mining companies (Tororo, Simba and Kampala Cement Companies) and senior NGO (KASOWA) operating in the mining community of Kawowo Sub County. The key informants were determined to participate in the study based on information they hold by virtue of the responsibility/office they hold in the mining community of Kawowo Sub County. A total of 10 key informants participated in the study and the questions on the guide were read in English because all were literate and understood English.

Data Collection Procedure

The researcher gained entry into the field through the Dean of Graduate School who gave him an introductory letter to the Authorities in the area of study. The authorities at the District gave the researcher a go ahead by signing on the introductory letter allowing him to conduct the research in Kawowo Sub County. The researcher then proceeded to the community through Sub County and parish leaders, where he explained the objective of the study to the authorities concerned and the respondents themselves to assure them of confidentiality. The researcher identified, recruited and trained research

assistants on how self-administered questionnaire and interview were to be conducted i.e. how to use the consent form for interview especially recording, making appointments with leaders on when to meet them dates and time of meetings to review progress of the research with research assistants.

Data Analysis

The quantitative data from field questionnaires was cleaned and sorted to remove the unwanted data, coded for identification purposes and entered into the computer for computation of descriptive statistics. The Statistical Package for Social sciences (SPSS version 23) was used to run descriptive analyses to produce mean, standard deviation and percentages tables were used to summarize data.

Objective 1 and 2 were analysed using descriptive statistics that is mean, standard deviation, percentages, later interpreted in relation to the literature. To address Objective 3 multiple regressions analysis was conducted to determine the influence of mining companies' activities on Socio – Economic Welfare of mining community in Kawowo Sub County.

The qualitative data generated from key informant's interview was categorized into themes in accordance with the research variables which were access to education, health care, clean water and household income, the research objectives and reported in narrative form along with quantitative presentation. The qualitative data was used to reinforce the quantitative data.

The null hypothesis of the study was tested using multiple regression and it was rejected on provision of employment opportunities when the calculated P-Value less than

0.05 level of significance was obtained. It was however affirmed on provision of schools, health centres and clean water source infrastructures when the calculated P-Value was more than 0.05 level of significance was obtained.

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter presents the study findings. It covers the descriptive presentations of the results of analysis and inferential presentations of hypothesis tests. The findings are discussed as per the objectives of the study. The sample size of the study was 217 households and 10 key informants. Complete responses were however received from 213 respondents which meant a response rate of 98.2%, this response was considered sufficient according to Kothari (2005). The 10 key informants were all interviewed. .

Social Demographic Characteristics

The study investigated four demographic characteristics that the researcher believed to have an implication on the study findings. These included; sex, age range, educational level, and household income levels. The findings are illustrated in Table 4.

Table 4: Demographic Characteristics of Respondents

Valuable	character	Frequency (N=2013)	Percent
Sex	Male	118	55.4
	Female	95	44.6
Age in years	Below 25	29	13.6
	26 – 40	66	31.0
	41- 50	83	39.0
	51 and above	35	16.4
education level	No education	43	20.2
	Primary education	95	44.6
	Secondary education	73	34.3
	Tertiary education	2	0.9
H/H Income levels (U Shs.)	Below 130,000/=	172	80.8
	130,001/= - 250,000/=	35	16.0
	250,001/= - 400,000/=	5	2.3
	400,001/= - above	1	0.5

Source; Primary data (2019)

Sex

Results in Table 4 indicate that more than half respondents 118 (55.4%) were female while few 55 (44.6%) were male. The findings are in line with the NHPC, 2014 that revealed that Kawowo Sub County had more female than male.

Age

According to Table 4 majority of the respondents 178 (83.6%) were in age bracket/category 26-50 years and very few 35 (16.4%) above 51 years. This is in line with NHPC, 2014, that indicated low reduced infant and maternal mortality rate in the country because of improved health services since 1995.

Education level

The discoveries in Table 4 show that majority of respondents 168 (78.9%) were above primary education. The findings are line with the government program (education for all) of universal primary and secondary education (UPE & USE).

Household Income levels

The findings in Table 4 indicate that the majority of respondents 172 (80.8%) were earning below 130,000/=. This suggests that households in the mining community are leaving on less than two dollars a day. This further suggests that they are living below poverty line World Bank (2016) report, hence cannot meet their basic needs.

Status of Mining Companies' Activities

Objective 1 of the study was to find out the status of Pozzolana mining companies' activities in Kawowo Sub County Kapchorwa District. Data was analysed using descriptive statistics as represented in the Table 5.

Table 5: Showing status of Pozzolana Mining Companies' Activities

Item	Mean	SD	Interpretation
Provision of school infrastructure			
Mining companies constructed good schools in my area	1.27	0.54	Very low
Mining companies provided adequate furniture to schools in my area	1.04	0.19	Very low
Mining companies provided adequate text books to schools in my area	1.02	0.14	Very low
Aggregate mean and SD	1.11	0.28	Very low
Provision of health centers infrastructure			
Mining companies constructed new and functional health centers in my area	1.04	0.19	Very low
Mining companies provided adequate furniture to health centers in my area	1.05	0.22	Very low
Mining companies provide adequate drugs to health centers in my area	1.03	0.17	Very low
Aggregate mean and SD	1.04	0.47	Very low
Provision water source infrastructure			
Mining companies constructed new clean functional water sources in my area	1.09	0.29	Very low
Mining companies regularly repair broken water sources in my area	1.12	0.33	Very low
Mining companies mobilize and train water user committees in my area	1.14	0.37	Very low
Aggregate mean and SD	1.12	0.33	Very low
Provision of employment opportunities			
Mining companies provided adequate employment opportunities to people in my area	2.43	0.92	Low
Mining activities opened adequate chances of employment opportunities in other sectors	2.72	0.78	Low
The people employed by mining companies earn adequate income in my area	2.29	0.79	Low

Aggregate mean and SD	2.46	0.83	Low
Grand mean and SD	1.43	0.48	Very low

Legend; 3.25 – 4.00 (Very high), 2.50 – 3.24 (High), 1.75 – 2.49, (Low) 1.00 – 1.74 (Very low)

Source; Author’s primary data (2019)

Provision of School Infrastructure

The results in Table 5 indicate low aggregate (Mean = 1.11, SD = 0.28). The findings imply that respondents strongly disagreed that Mining Companies were providing adequate School Infrastructure to the Mining Community. The findings further suggest that Pozzolana mining companies did not construct adequate schools, provide adequate furniture and text books to the mining community of Kawowo Sub County.

The information from key informant indicated that

In exception of Tororo Cement Ltd Constructed a two classroom block in Kawowo Secondary School in 2011, which to increase space in the school and enrolment silently increased , there is no other infrastructural activity provided by the mining companies, (KI I)

Another male key informant said, “The activities of mining companies especially vibration from blasts have caused destruction of a three classroom blocks constructed Sanzala primary school in 2009, it developed cracks which calls for its demolition. The latrine of Kapchela Junior nursery and primary school was also sinking due to blasts from mining activities.(KI III)

The findings are in support of earlier findings by Pooja (2017 & Jody et al, (2012) studies which found out that mining companies’ activities like provision of school infrastructure; classrooms, staff houses, libraries and ICT centre increases student/pupil enrolment and improves attitude of parents and pupils towards education in areas where schools are scarce which are factors of socio-economic welfare of the community.

However, the earlier study by Krugman (1989) observed that mining is a curse (Dutch disease) because of the disadvantages it causes to other sectors of the economy in the mineral producing area which include congestion in schools as a result of influx of migrants in the mining areas in such for employment. The study by Rawashdeh et al, (2016) also observed that mining activities negatively affect the education system because of the philosophy “easy money from mining” where children between 8-12 years drop out of school to make money in the mines.

Provision of Health Centre Infrastructure

The results in Table 5 indicate a very low aggregate (Mean = 1.04, SD = 0.47). The findings imply that respondents strongly disagreed that Mining Companies’ activities were providing adequate health centre Infrastructure to the Mining Community. The findings further suggest that Pozzolana mining companies activities did not construct new health centres, provide adequate furniture and drugs to health centres in the mining community of Kawowo Sub County

The information from key informant revealed that

Although Mining companies have not yet constructed any health centre for the mining community, Tororo Cement supplements drug supplies to Kaserem health centre IV and the have also promised to construct Sanzala health centre II. (KI IV)

The findings are in support of earlier findings by Nguyen et al (2018) and (Robertson et al, 2015) studies that observed that provision of drugs and infrastructure by mining communities helps to improve their socio-economic welfare in three folds; access to the facility/service, creates employment of the health workers who are recruited to render the service and provision of specialized treatment to community.

Provision of Water Source Infrastructure

According to Table 5 there was a very low aggregate (Mean = 1.12, SD = 0.33). The findings imply that respondents strongly disagree that Mining Companies were providing adequate water source Infrastructure to the Mining Community. The findings further suggest that Pozzolana mining companies did not construct new clean water sources, repair broken bore holes, mobilise and train water user committees in the mining community of Kawowo Sub County.

The information from key informant indicated that

Mining Companies have provide any clean water source to the mining community of Kawowo Sub County, Simba cement corrects water for communities around it every day on its trucks as goes to collect for the workers (KI V)

Another male key informant, “instead of the mining companies increasing water sources, Tororo Cement and Kampala Cement Ltd destroyed Chekwanda the only clean water source which used to serve the people of Chekwatit parish” Opinion Leader lamented. (KI VI)

The findings concur with earlier findings by (Fernando & Aragon, 2015, Nguyen et al., 2018, Jody et al., 2012) studies that observed provision of clean water improves access to household income, education and health care, agriculture investment and support to animal husbandry whose major objective is to improve welfare of mining community.

Provision of Employment Opportunities

The results in Table 5 indicate low aggregate (Mean = 2.46, SD = 0.83). The findings imply that respondents disagreed that Mining Companies were providing adequate employment opportunities to the Mining Community. The findings further suggest that Pozzolana mining companies were providing employment opportunities, opened chances of employment in other sectors and people earn adequate income in the mining community.

The information from key informant indicated that

Mining Companies’ employed the mining community mainly as; miners, guards, drivers, cleaners and mechanics and earn income. They have also created other business ventures like restaurants and market for

agricultural produce in the mines where people earn income after sale after their produce. (KI II)

They have also increased the revenue of the sub county from incomes got from royalties, income tax, ground rent which has helped the sub county improve on public goods like roads, education, health and pay salaries and wages. (KI II)

However, mining also led to illegal business ventures like prostitution, illegal fuel dealing that is siphoning mining companies' trucks, gambling and thefts of agriculture products, employment of children (child labour) and prostitution these have led to increased HIV/AIDS prevalence and school dropouts in the sub county. (KI II)

The findings are in support of earlier findings by Thomas et al (2017) study that observed that mining creates (spill over) linkage leading to demand for locally produced or supplied inputs like labour and service industry like hotels. Nguyen et al, (2018) also asserts that mining creates a fiscal linkage which increases revenue of the local government that improves public goods like roads, hospital, schools, clean water sources and household income.

However earlier findings by Aragon & Rud, (2015) and Rawashdeh et al., (2016) studies observed that Large scale mineral extraction using the capital-intensive technology always take away the mineral in raw form without further local processing or added value, in addition the mines are always privately owned and their owners are not local residents. These features preclude the creation of linkages and distribution of profits leading to low socio- economic welfare of the mining community that is observed in illegal activities like prostitution, thefts, gambling and child labour.

Socio – Economic Welfare Status of Mining Community

Objective 2 of the study was to establish the socio – economic welfare status of the mining community of Kawowo Sub County Kapchorwa District. The specific

variables investigated were access to education, clean water, health care and house hold income. The objective was analysed using mean, standard deviation and percentages as shown in Table 6

Table 6: Showing Socio- Economic Welfare of the Mining Community

Item	Mean	S/D	Interpretation
Access to education			
There is increased enrollment of school going children in schools	1.42	0.51	Very low
There is less congestion of pupils/students in the available schools	1.35	0.50	Very low
Best performing pupils/students are provided scholarships to pursue further education by mining companies	1.36	0.59	Very low
Aggregate mean and SD	1.38	0.53	Very low
Access to health care			
It takes less time to receive health services in the available facilities	1.48	0.55	Very low
The quality of health services has improved in the available health facilities	1.46	0.51	Very low
Critically sick patients with unique illness are assisted by mining companies to access better treatment	1.16	0.38	Very low
Aggregate mean and SD	1.37	0.48	Very low
Access to clean water			
We take less time to clean potable from water for domestic and animal use	1.41	0.49	Very low
Clean water is always available for use in our homes our area	1.42	0.51	Very low
The water user committees are knowledgeable on water management	1.54	0.60	Very low
Aggregate mean and SD	1.46	0.53	0.255
Household Income			
Our household income is able to purchase scholastic materials for our children.	2.54	0.74	Low
Our household income is adequate to meet our medical bills	2.11	0.72	Low
Our household income is adequate to purchase scholastic materials for our children	2.15	0.74	Low
Aggregate mean and SD	2.27	0.73	Low

	0.57
Grand mean and SD	1.68 Very low

Legend; 3.25 – 4.00 (Very high), 2.50 – 3.24 (High), 1.75 – 2.49, (Low) 1.00 – 1.74 (Very low)
Source; Author’s primary data (2019)

Access to Education

The results in Table 6 indicate very low aggregate (Mean = 1.38, SD = 0.54). The findings imply that respondents strongly disagreed that access to education improved as a result Mining Companies. The findings further suggest that there was very low enrolment of school going children, high congestion of pupil/students in schools and best performing students/pupils were hardly provided scholarships by mining companies’ to pursue further education.

Information from key informant indicated that

The classroom block constructed by tororo cement increased enrolment in the school as it created a positive attitude of parents and students towards education. (KI VII)

Another female key informant said “the activities of mining companies have increased the number of school dropout in the sub county because school going children are always in quarries to make money. (KI VIII)

The findings are in support of earlier study by Rawashdeh et al (2016) that ascertained that school enrolment in mineral rich regions was lower than non-mineral rich regions which was attributed to recruitment of under age children (8-12) in mining activities. He further argued that mining activities negatively affect the education system because of the philosophy “easy money from mining”, this he argued was due to weak government education policies.

Access to Health Care

Discoveries in Table 6 indicate very low aggregate (Mean = 1.37, SD = 0.48). The findings imply that respondents strongly disagreed that access to health care improved as a result of Mining Companies' activities. The findings further suggest that more time is taken to receive health care services, the quality of health service were poor, and critically sick patients with unique illness were hardly assisted to access better treatment elsewhere as result of mining companies activities.

Information from key informants indicated that

The supplement of drugs supplies to Kaserem H/CIV and Kawowo H/CII improved the quality of health services the centre offers. However the increase in population as a result of mining activities led to increase in spread of HIV/AIDS in the area and shortage of drugs at health centres, the drugs that used to take two months take 3-5 weeks. The mines have led to increase in reported cases of heart, breathing and pregnancy related diseases at the health facilities. (KI IV)

The study findings concurred with earlier study by Kitula (2004), that observed that Mining activities attract migrants seeking for employment, however migration is associated with lots of antisocial behaviour's that include drug addiction and spread of HIV/AIDS with their associated effects. Rawashdeh et al, (2016) further asserts that Mineral rich communities are associated with higher percentage of people suffering from Asthma, chronic diseases and heart diseases which indicate less health care availability in the area since most highly qualified doctors do not want to work in those areas because of the low quality of life.

Access to Clean Water

Table 6 indicated very low aggregate (Mean = 1.46, SD = 0.53). The findings imply that respondents strongly disagreed that access to clean water improved as a result

of CSR Mining Companies. The findings further suggest that more time is taken to collect clean water, clean water is hardly available and water user committee were either in place or knowledgeable as result of mining companies' activities.

Information from key informant was that

Before the beginning the of mining activities clean water was available everywhere as the area is blessed with many flowing streams, hence it could take a short time to collect water for domestic use and animals could water from anywhere but these days you have to walk to collect water for domestic and animals. There is even competition for water at Sanzala primary school bore hole between pupils and employees of Kampala cement ltd. (KI I)

The finding concurred with earlier findings Jody et al (2012), study that ascertained that Mining activities usually release dangerous fluids, air and dust to the environment which are later consumed by human, animal and crop consumption leading to outbreak of disease in mineral producing areas. Nguyen et al (2018), also observed that mining companies are owned by non-national whose main objective is profit making and not interested in profit sharing with stake holders informs of CSR initiatives. Krugman (1989), further observed that mining is a curse (Dutch disease), this because of the disadvantages it causes to other sectors of the economy in the mineral producing area.

Access to Household income

Results in Table 6 indicate low aggregate (Mean = 2.27, SD = 0.73). The findings imply that respondents disagreed that access to household improved as a result of Mining Companies. The findings further suggest that households are able to purchase scholastic materials, meet their medical bills, and pay tuition for their children as a result mining companies' activities.

Information from key informants indicated that

Mining activities created avenues of people to make money that is to say whoever has what to sale market is available, food has become expensive and hardly enough in the restaurants and market, rent is very high, the sub county receives revenue annually from companies inform of loyalties, ground rent and income tax from mining companies. Incomes/revenue received by Sub County are later channelled into improvement of social services like health, water, education and payment of salaries and wages to those who render the service in the sub county. (KI II)

The findings are in agreement with earlier findings by World Bank (2013 & 2015), studies that observed mining activities create a cycle of revenue generation and circulates currency enhances the quality of life of those living within the mining localities by creating demand/market for local goods and services. Nguyen et al (2018) and Fernando & Aragon (2015), further asserts that the revenues received in form of taxes to local government lead subsequent increase in public spending on public goods/services hence expansion of household real income which leads to improvement of socio-economic welfare.

The findings also concur with Kitula, (2004) and Aragon & Rud, (2013) whose studies observed that Local people employed in mines obtain direct income as wages, non-miners increase their income through different social economic activities like sales from food crops, and menial businesses. The wages earned by employees at mining operations are spent on goods and services produced by the mining community which in turn increases their household income.

Influence of Mining Companies' Activities on the Socio – Economic Welfare of the Mining Community in Kawowo Sub County

Objective 3 of the study was to establish the influence of Pozzolana mining companies' activities on the Socio–Economic Welfare of the Mining community in

Kawowo sub county Kapchorwa District. The objective was analysed using multiple regression to establish the influence of Pozzolana mining companies' activities on Socio-Economic Welfare of the Mining Community in Kawowo Sub County Kapchorwa District. Table 7 provides the summary of the findings.

Table 7: Showing Influence of Each Mining Companies' Activity to the Socio – Economic Welfare of the Mining Community

Model	Unstandardized coefficients		Standardized coefficient		P-value
	B	Std error	Beta	T	
Constants (CSR)					
Provision of school infrastructure	0.145	0.101	0.101	1.444	0.150
Provision of health Centre infrastructure	0.084	0.261	0.022	0.324	0.764
Provision of clean water source infrastructure	-0.122	0.180	-0.047	-0.676	0.500
Provision of employment opportunities	0.166	0.054	0.208	3.067	0.002**

Source; Author's Primary data (2019)

Results in Table 7, indicate that there was no significant influence of Pozzolana mining companies' activities in provision of school, health centre, and clean water source infrastructure on socio-economic welfare of the mining community because the P-Values obtained were greater than 0.05 level of significance.

The findings are in support of earlier by Nguyen et al (2018), study that observed that mining companies are owned by non-national whose main objective is profit making and not interested in profit sharing with stake holders/mining community.

However findings in Table 7, further revealed that there was a significant influence of Pozzolana Mining Companies' activity in provision of employment opportunities on Socio-Economic welfare of mining community which obtained a P-Value of $0.002 < 0.05$ with a 20.8% influence.

Employment Opportunities

The findings are in agreement with earlier study Holden (2007) that observed that mining activities provide employment opportunities to the mining communities directly

during the construction and operation phases and indirectly through the demand of goods and services from the mining/surrounding community. This process creates a cycle of revenue generation and circulates currency that enhance the quality of life of those living within the mining localities and improves their socio – economic welfare as the community earn income (World Bank, 2015).

Nguyen et al (2018) and Fernando & Aragon (2015), also asserts that mining creates a fiscal linkage which increases revenue of the local government where the mine is located that improves public spending on public goods like hospital, schools, water sources and housing. The people recruited to provide a service in the public good earn income (salary/wage) hence expansion of household real income which leads to improvement of socio-economic welfare of the surrounding community.

Thomas et al (2017), further argues that mining activities provides employments and market for locally produced goods which leads to improvement of household incomes of employee at the mine who spend on goods and services in the mining community in form of purchases of services needed for their existence. The demand for labour will initially increase the wages that in turn attract workers from other areas pushing down wages and increasing demand for housing, food and other services (Aragon & Rud 2013). The demand linkages can lead to an increase in wages and influence socio- economic welfare of the surrounding community because it will create growth in population creating demand for local goods and services.

Hypothesis Testing

The null hypothesis that Pozzolana Mining Companies' activities do not significantly influence Socio-economic welfare of mining community in Kawowo Sub

County was rejected on provision of employment opportunities because the P-Value of 0.002 obtained was less than 0.05 level of significance with 20.8% influence.

It was however, maintained on provision of: Schools, Health Centre and Clean Water Source infrastructure, because the P-Values obtained were greater than 0.05 level of significance.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The chapter covers the summary, conclusion and recommendations of the findings of the study which was to investigate the influence of Pozzolana mining companies' activities on the socio-economic welfare of the mining community of Kawowo sub county Kapchorwa District.

Summary

The study was guided by three objectives these were; to find out the status of Pozzolana mining companies' activities, establish the social economic status of the mining community and to establish the influence of Pozzolana mining companies' activities on Socio-Economic Welfare of the mining community in Kawowo Sub County Kapchorwa District of Uganda.

Key findings

Key findings show that most of the respondents 115 (55.4%) were female, 174 (86.4%) were above 25 years of age, 170 (79.8%) attained above primary education and 172 (80.2%) households were earning less than 130,000/=.

The study found a very low status of Pozzolana mining companies activities at (Grand mean = 1.43, SD = 0.48) and a very low Socio-Economic welfare status of mining community at (Grand Mean = 1.68, SD = 0.57). The study revealed that provision of employment opportunities was the only initiative that positively influenced the socio-economic welfare at (Beta = 0.208 and P = 0.002).

The null hypothesis that Pozzolana Mining Companies do not significantly influence Socio-economic welfare of mining community in Kawowo Sub County was

rejected only on provision of employment opportunities because the P-Value of 0.002 obtained was less than 0.05 level of significance with 20.8% influence.

It was however, maintained on provision of: Schools, Health Centre and Clean Water Source infrastructure because the P-Values obtained were greater than 0.05 level of significance.

Conclusion

The study was set out to investigate the influence of Pozzolana mining companies' activities on the socio-economic welfare of mining community in Kawowo Sub County Kapchorwa District. The study concluded that in exception of provision of employment opportunities by Pozzolana mining companies' activities that had a significant influence on socio-economic welfare of the mining community. The mining community had very low status of Pozzolana Mining Companies' activities on provision of school, health centres and water source infrastructure

Recommendations

The following recommendations were made in line with the findings;

1. The government of Uganda should design policies, guidelines and regulations that are specific to mining which compels mining companies to engage in socio-economic welfare programmes (education, health, clean water and house hold income). These will help improve the socio-economic welfare situation of the mining community.
2. Non-governmental Organisation, should empower mining community to engage dialogue with mining with mining companies on the effects of mining activities and to address them and improve their socio-economic welfare in the long run.

3. Mining companies should maximize their influence on socio- economic welfare of mining community through provision of employment opportunities as the most effective activities and improve on their CSR initiatives.
4. The academia shall use the identified gaps for further research on mining companies' activities.

Area for Further Studies

The study concentrated on influence of Pozzolana mining companies' activities on Socio-Economic welfare of mining the mining community. There is need for a specific study on how best the mining community can benefit from mining companies' activities to improve their socio-economic welfare.

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APPENDICES

Appendix 1: Consent Form

Hello my name is **Mwondha Mutumba George**, a student of Bugema graduate school conducting a study “influence of Pozzolana Mining Companies’ activities on socio- economic welfare of the mining community in Kawowo Sub County Kapchorwa District”. It is believed that Mining Companies’ activities are influencing socio-economic welfare of the mining community and you are aware of what is happening in the community; therefore, your assistance is requested in making this study a success. The study is expected to describe the socio-economic welfare of the mining community in Kawowo Sub County and to establish if mining companies’ activities have an influence on the social economic welfare of the mining community

The findings from this study will be shared with relevant stakeholders to provide benchmarks and interventions to be reflected in the development frameworks, policies and program in Uganda. As part of the study I would first like to ask you some questions on mining companies’ activities and all answers are confidential.

Your participation in the study is completely voluntary, in case you come across any question you do not want to answer feel free to let me know and I will go on to the next question or you can stop the interview at any time. However, I very much appreciate your participation in this study since your views are vital. The interview is expected to take 20-30 minutes

If you agree, please you are requested to sign this form.

.....

Sign and date

Thank you

Appendix 2: Self-Administered Questionnaire

Study on Influence of Mining Companies' Activities on the Socio-Economic Welfare of the Mining Community, a case of Pozzolana mining in Kawowo Sub County, Kapchorwa District, Uganda.

Dear respondent

I am **Mwondha Mutumba George**, a student of Bugema University in Uganda, pursuing a Masters' degree in Development Studies, Bugema University and the Principal researcher invite your participation in this study "**Influence of mining companies' activities on Socio-Economic Welfare of the Mining Community, a case of Pozzolana mining in Kawowo Sub County, Kapchorwa District, Uganda**" by giving answers to the questions. The purpose of this questionnaire is purely academic. The findings will confidentially be treated and only used for research purposes. Your participation is voluntary and indeed your name may be not required

Thank you

Section A

Kindly tick in the blanket, where appropriate.

1. What is your sex?
a) Male () b) Female ()
2. What is your age range in years?
a) Below 25 () b) 26-40 () c) 41-50 () d) 51 and above ()
3. What is your highest level of education? Please tick the highest.
a) No education. () b) Primary Education. () c) secondary education. () d) tertiary and above ()
4. What is your average household income in (Uganda shillings)?

- a) Below 130,000/= () b) 131,000/= to 250,000/= () c) 251,000/= to 400,000/= () d) 401,000/= and above ()

Kindly tick what is appropriate to you using this scale to answer the questionnaire

1= strongly disagree 2= Disagree 3= Agree 4= strongly agree

S/N		Scale			
		1	2	3	4
	MINING COMPANIES' ACTIVITIES				
	Provision of School Infrastructure				
1.	Mining companies constructed good schools in my area				
2.	Mining companies provided adequate furniture to schools in my area				
3.	Mining companies provided adequate text books to schools in my area				
	Provision of health centers infrastructure				
4.	Mining companies constructed new and functional health centers in my area				
5.	Mining companies provided adequate furniture to health centers in my area				
6.	Mining companies provide adequate drugs to health centers in my area				
	Provision water source infrastructure				
7.	Mining companies constructed new clean functional water sources in my area				
8.	Mining companies regularly repair broken water sources in my area				
9.	Mining companies mobilize and train water user committees in my area				
	Provision of employment opportunities				
10.	Mining companies provided adequate employment opportunities to people in my area				
11.	Mining activities opened adequate chances of employment opportunities in other sectors				
12.	The people employed by mining companies earn adequate income in my area				
	SECTION C SOCIO-ECONOMIC WELFARE				
	Access to education				

13.	There is increased enrollment of school going children in schools				
14.	There is less congestion of pupils/students in the available schools				
15.	Best performing pupils/students are provide scholarships to pursue further education by mining companies				
	Access to health care				
16.	It takes less time to receive health services in the available facilities				
17.	The quality of health services has improved in the available health facilities				
18.	Critically sick patients with unique illness are assisted by mining companies to access better treatment				
	Access to clean water				
19.	We take less time to clean potable from water for domestic and animal use				
20.	Clean water is always available for use in our homes our area				
21.	The water user committees are knowledgeable on water management				
	Household Income				
22.	Our household income is able to purchase scholastic materials for our children.				
23.	Our household income is adequate to meet our medical bills				
24.	Our household income is adequate to purchase scholastic materials for our children				

Appendix 3: Interview Guide

Guided questions for interview.

Civil servant officials, community leaders Senior NGO staff

What are the benefits of mining activities to the mining community in education, health care, water and household income?

What challenges are created by these mines/mining activities?

What measures have been put in place by stake holders to address the above challenges?

Do mining community engage in any other economic activities other than mining? If yes what activities.

In your own opinion what do you think would best help the mining community to improve on their socio-economic welfare?

Senior staff of mining companies

How does the mining community benefit from your company in education, health care, clean water and house hold income?

What challenges do the mining community face as a result of mining activities?

How are these challenges addressed by the mining company?

What have your company done to improve the socio-economic welfare of the mining community?

In your own opinion what do you think would best help the mining community to improve on their socio-economic welfare?

Appendix 4: Table for Determining Sample Size from a Given Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	3000	169	900	269	3500	346
25	24	130	97	3200	175	950	274	4000	351
30	28	140	103	3400	181	1000	278	4500	351
35	32	150	108	3600	186	1100	285	5000	357
40	36	160	113	3800	181	1200	291	6000	361
45	40	180	118	4000	196	1300	297	7000	364
50	44	190	123	4200	201	1400	302	8000	367
55	48	200	127	4400	205	1500	306	9000	368
60	52	210	132	4600	210	1600	310	10000	373
65	56	220	136	4800	214	1700	313	15000	375
70	59	230	140	5000	217	1800	317	20000	377
75	63	240	144	5500	225	1900	320	30000	379
80	66	250	148	6000	234	2000	322	40000	380
85	70	260	152	6500	242	2200	327	50000	381
90	73	270	155	7000	248	2400	331	75000	382
95	76	270	159	7500	256	2600	335	100000	384

N is population size —S is sample size.

Source: Krejcie, Robert V., Morgan, Daryle W., —Determining Sample Size for Research Activities, Educational and Psychological Measurement, 1970.

Appendix 5: Data Collection Letter

BUGEMA UNIVERSITY

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Website: www.bugemauniv.ac.ug



APPENDIX V

P.O. Box 6529 KAMPALA - (U)

SCHOOL OF GRADUATE STUDIES

March, 10th, 2019

To Whom It May Concern

RE: DATA COLLECTION

Chief Administrative Officer
KAPCHORWA DISTRICT

*All Stakeholders on this
Assist this student
to accomplish his
to accomplish his
Authorized.
20/3/19*

This is to certify that **Mwondha Mutumba George** registration No 17/MSD /BU/G/1001 is a student of Bugema University pursuing a Masters degree in Development Studies.

The purpose of this letter is to request you permit him carry out data collection for his research entitled "INFLUENCE OF CORPORATE SOCIAL RESPONSIBILITY ON SOCIO-ECONOMIC WELFARE OF THE MINING COMMUNITY, A CASE OF POZZOLANA MINING IN KAWOWO SUB COUNTY ,KAPCHORWA DISTRICT".

The research will be based on utmost ethical considerations and the findings will be for academic purposes and of benefit to the Community.

Any assistance extended to him is highly appreciated.

Sincerely,



Rosette Kabuye, PhD
Dean, School of Graduate Studies

Appendix 6: Key Informant

1. Chairperson
2. Sub County chief
3. LC III Chairperson Kawowo
4. I/C Kaserem H/C IV
5. NGO staff
6. Opinion leader
7. Kawowo S.S
8. Community development officer Kawowo
9. Tororo cement staff
10. Simba cement staff