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AN EXAMINATION OF THE SOCIO-ECONOMIC IMPACT OF QUARRY MINING ON SURROUNDING COMMUNITIES: A CASE OF NATURAL STONE EXPORTING COMPANY IN NYAMUZUWE, MUTOKO

BY

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The undersigned certify that they have read and thus recommend Midlands State University to acceptance, a research project entitled: ***"An examination of the socio-economic impact of quarry mining on surrounding communities: A case of Natural Stone Exporting company in Nyamuzuwe, Mutoko*,"** submitted by Sisimayi Tapiwa Patson in partial fulfillment of the requirements of the Bachelor of Arts Post Graduate Diploma in Development Studies.

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DECLARATION

I, Sisimayi Tapiwa Patson, declare that I have originally produced this work, that is, it has not been plagiarized nor submitted for similar diploma in any other University.

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DEDICATION

To the Almighty God, my special wife who was both my spiritual and moral support as I fought to attain this high level of brilliance. Daddy you passed on but you started this journey for me, here I am carrying forward from where you left. Heroes never die but they depart for greater duties. This research project is also dedicated to my late Son, fare well Junior.

ABSTRACT

The main focus of the research was on the socio-economic impact of quarry mining on surrounding communities. The research focused on Mutoko district's ward 7 which is where Natural Stone Exporting Company is situated. The research was aimed at establishing strategies and means to enable the community to benefit from its natural finite resource. The research aimed at identifying and assessing the impacts of the operations of Natural Stone Exporting Company and to establish the effectiveness of the strategies being employed by Natural Stone Exporting Company (NSEC) to promote rural socio-economic development and to examine the limitations of the strategies adopted by NSEC's in promoting socio-economic development. The research was also aimed at establishing intervention strategies in promoting socio-economic development. The word corporate social responsibility was contextualised and hypothesized in this research – that is the ability to give back some of the business profits to the community with the aim to develop the surrounding community in which Natural stone exporting company operates in. Corporate social responsibility aims to positively impact on the socio- economic situation of communities. It is through this practice that mining companies are compelled to sustainably utilise finite resources as well as to rehabilitate the environment to its former state. The research subscribed to a descriptive approach of doing a research. Purposive and convenience sampling techniques were employed to come up with a total of sixty five respondents. Stratified sampling was used to come up with five strata of respondents, the villagers, NSEC management, councilors, District top management, and teachers. A participatory appraisal modus operandi – Focus Group Discussion – was used to elicit data from villagers, workers and top management; questionnaires with both closed and open ended questions were used for district top management. Interview guide was also used in the process of gathering data from the above stated five strata. A total of forty-eight respondents from the fifty interview respondents provided data for this research, which has been analyzed and presented in chapter four. The results of the research reflected that there are various negative impacts from the operations of NSEC affecting the whole of Mutoko district. Quarry mines are destroying the natural land scape, in the process exploiting the natural resource (Black Granite) without giving back to the community. NSEC as a mining company does not exercise meaningful Corporate Social Responsibility for the surrounding community and for Mutoko at large. Natural Stone Exporting Company also does not have effective reclamation strategies hence they are leaving galleys that are killing both humans and livestock. Development strategies that were identified included the development levies and the community share ownership trust scheme. Another strategy being employed by this company is to employ locals. Recommendations that have been suggested include that these mining companies should come up with industries that promote value addition in the form of cutting and polishing in Mutoko. These value addition companies have the potential of increasing employment as well as the value of development levies and royalties. Natural Stone Exporting Company is also supposed to come up with effective reclamation strategies. The other recommendation was that, in line with the Indigenisation and Economic Empowerment drive, locals should also become shareholders and not just a source of cheap labour. Of paramount importance is for the local business people to come up with their own quarry mining companies which are indigenously owned. These local business people can passionately develop the area since they can identify with it more closely as compared to foreigners.

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ABBREVIATIONS AND ACRONYMS

CSC	Corporate Social Responsibility
CSOT	Community Share Ownership Trust
NSEC	Natural Stone Exporting Company
IEEA	Indigenisation, Economic and Empowerment Act
CAMPFIRE	Communal Areas Management for Indigenous Resources
HDI	Human Development Index
SDMP	Social Development and Management Program
PWY	What You Pay
MRDC	Mutoko Rural District Council
EIA	Environmental Impact Assessments

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CHAPTER ONE

1.0 INTRODUCTION

The excessive manipulation of natural resources has two possible outcomes in regards to surrounding communities in Zimbabwe and other countries. Communities are likely to benefit or to be disadvantaged when their local natural resources are exploited. In a bid to ensure that these communities benefit from their natural resources, the government is encouraging Corporate Social Responsibility (CSR) and sustainable utilization of resources. The term sustainability denotes the use of today's resources with future generations in mind. The government, for example, created the Communal Areas Management for Indigenous Resources (CAMPFIRE) and Community Share Ownership Trust (CSOT) as a way to make local communities benefit from their natural resources. In the same effort, the Government of Zimbabwe has also put in place laws and statutes governing the operations of these mining companies, as they sought to protect and ensure that surrounding communities are not disadvantaged by mining operations within their community.

In particular, it is mandatory for all mining companies to come up with an agreement on what they will seed back within the community in which they will be operating before they embark on their mining activities. It is against this understanding that the researcher having noted the massive extraction of black granite from the Nyamuzuwe community, therefore aims to examine whether the operations of Natural Stone Exporting Company (NSEC) are bringing out socio-economic development in Mutoko.

1.1.1 BACKGROUND

The Nyamuzuwe community, which is the focus in the study, is purely a rural peasant community which is geographically located in Mutoko, Mashonaland East province of Zimbabwe. Mutoko was established as an administrative station in 1911. It lies 143 kilometres from Harare and is surrounded by villagers who survive mainly on subsistence farming. In Nyamuzuwe area, the major source of livelihoods is agriculture (horticulture) supported by very little hunting and fishing. Mutoko has a total population of 123 862 (ZIMSTATS, 2012) people and is divided into 29 wards. The area under study is in ward 7 known as Nyamuzuwe. Traditionally, it is under the chieftainship of chief Mutoko of the Shumba clan.

Granite stone is a finite resource, which should be extracted carefully at the same time benefiting the community from which it is being extracted. Zimbabwe is a signatory to the Millennium Development Goals (MDG) that encourages sustainable development hence it guards it resources jealously. To ensure that the surrounding community benefit from its resources the government of Zimbabwe came up with the Community Share Ownership Trust (CSOT). In this trust or scheme, the community will benefit 10% of the equity of the mining company. The CSOT document originated in Mutoko, but ironically Mutoko has not benefitted where areas like Marange-Zimunya has since benefited.

Despite the existence of such a scheme there seem to be a general outcry over the reluctance by the mining companies to remit the 10% to the board of trustees. Mining companies are not rehabilitating or remitting funds to the areas in which they are operating. This was exemplified by the case published in the Standard (15 September 2013), whereby a grade 7 girl died after falling into one of the numerous open pits left by miners in Mupirimi ward 5 which is in chief Mapunzure areas of Zvishavane. Such pits have affected not only people, but also their livestock. When the local people lose draught power, it

means their livelihoods are compromised since they use these cattle in their fields. Zimbabwe is agro based and technologically backward, hence they depend heavily on the cattle in their farming activities. The research will critically examine whether Mutoko is spared from such dangers which reflect a lack of Corporate Social Responsibility.

The researcher also followed up on the Standard of (September 15, 2013) report that reflects some benefits of granite mining which has been yielding enormous amounts of money annually. For example, in 1990 the country derived 42% of its foreign exchange from the mining sector, which also contributed 6% of its GDP, and absorbed 5% of its labour force (Government of Zimbabwe, 1991). With such evident benefits emanating from mining, the researcher aims to examine the impact of the operations of Natural Stone Exporting Company on the surrounding community. The researcher also seeks to establish whether these operations are bringing less benefits and more suffering from granite extraction in Mutoko.

If the CSOT and the Indigenisation and Economic Empowerment (IEE) are policies to go by, with the existence of Natural Stone Exporting Company (NSEC) in a period spanning from 1990, after the reclassification of Granite stone into a mineral resource (Svotwa and Mutetwa, 1970), one would expect NSEC to have brought development to the community of Mutoko. A developed economy conventionally refers to a country with a high level of economic growth and security. Some of the most common measures for evaluating a country's level of development include per capita income or gross domestic product (GDP), degree of industrialization, an improved standard of living and infrastructure development. The Human Development Index (HDI) can also be used as measure of development. The HDI reflects relative degrees of education, literacy and health within a country. The development could be in the form of improved roads, schools, rural health centres and generally an improved standard of living.

The process of mineral extraction has resulted in the violation of political, civil, environmental, economic, social and cultural rights of rural communities without permission of adequate compensation and consultation. SAR and ZELA (2013) have generally associated mining with massive environmental degradation, water pollution and displacement of communities. This in turn amount into the violation of communities' rights to housing, education, water, culture and livelihoods, in one way or the other. A question is posed on whether government officials are signing mining contracts with foreign and local investors in secret or closer to public eye or in disregard to the needs of the surrounding community. This is why a research focusing on this area was carried out because the nature of the problems made the need expedient and necessary. With this in mind the researcher will investigate and ascertain the link between both positive and negative socio-economic growth and the operation of NSEC together with environmental degradation with the aim to examine the extent to which Mutoko is affected.

1.2 STATEMENT OF THE PROBLEM

Over the last decade, quarry mining industry has received a lot of attention in the construction industry and high prices are being paid for the Black Granite (World Bank 2011), it is expected that the trend will continue for years to come due to accelerating growth of some developing economies (CSD 2011, World Bank 2011). With such demand, one expects to see the mineral endowed countries benefit by way of infrastructure development, employment and improved standards of living. Countries like Australia or Canada have taken advantage of the mining industry to strengthen their economies and they successfully transformed the natural resources wealth into human wellbeing (Slack 2010). However, on the contrary, it could institute a resource curse. This curse is often referred to, as the *Paradox of Plenty.* This curse denotes the paradox on countries and regions with an abundance of natural resources that is, finite resources. These countries

tend to have minimal economic growth and are less developed as compared to the countries which are less blessed with natural resources. As the Australian and Canadian case show, quarry mining could be an opportunity to overcome problems of poverty and inequalities. In the case of Mutoko area, it is not clear if mining is a driver of rural development or an example of a resource curse. In the country's 57 districts, Mutoko is ranked among the 10 least developed despite the high rate of granite stone extracts from the district Chazireni (2003). This is puzzling given that the presence of the black granite in Mutoko should act as a catalyst for socio-economic development. This anomaly warrants a deeper investigation to really establish if the current black granite quarrying operations in the area are bringing any visible socio-economic development for the rural community of Nyamuzuwe. This may then enable an inquiry into what is going wrong and how to enhance positive impacts and reduce negative ones.

1.3 SIGNIFICANCE OF THE STUDY

Quarry mining is indispensible in the economic development of Zimbabwe due to the economic benefit associated with the granite stone both internally and externally. Internally, mining creates employment and generates revenue. Externally, a substantial foreign exchange is made available to Zimbabwe. As a result of these benefits, authorities are caught in between and this result in them being unable to critically analyse the continuous violation of the Corporate Social Responsibility agreed between the mining company and the community. This results in continuous perpetuation of poverty and destruction of infrastructure (roads). It is important to identify why granite extraction in Mutoko has failed to stimulate growth with the aim to impart mining companies with the sense of Corporate Social Responsibility in the areas they are operating in. This research hopes to enlighten the development practitioners, the academic board, and up-coming mining companies on the benefits of giving back to the community.

According to the Mines and Mineral's Act, Zimbabwe is endowed with many geological mineral and stone deposits. Although the Mineral Act acknowledges the need for sustainable mineral extraction, of concern in this case the Black granite, the question becomes, how can sustainability be guaranteed amidst high market demand of rock material by the growing building and construction industry in Zimbabwe and the world at large? Based on this, the study will therefore be of significance to the government in relation to meeting people's needs using a resource that cannot be renewed. It is a debatable issue given the growing concerns of poverty reduction and sustainable use of finite geological resources.

1.3.1 Local Community Leaders as Beneficiaries

It is important that leaders accurately understand the disadvantages and benefits associated with mining of Black granite. This will enable them to make informed decisions on whether to settle their people close to mines or to have them employed in quarry mines. On top of this, local leadership will be able to come up with binding terms and conditions that should be met by prospective mining companies in regards to corporate social responsibility before they commence their operations. CSR is the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large" (WBCSD, 1999). Knowledge has the following benefits to local community leaders; first the need for reforestation which serves the areas from semi-desertification, increasing pasture land, protects agricultural land and natural habitat. As land is rehabilitated or reclaimed, land for settling people is increased as well as an assured food security. Ackley (1997) share the same view hence he states that, when such benefits are met it therefore means that social life of the communities remain undisturbed but is rather enhanced.

1.3.2 Mutoko Rural District Council as a Beneficiary

The local authority is going to benefit from the results of the research as they will be able to formulate policies from an informed point of view. Policies that are formulated under an environment of information scarcity will not/never be successful. Findings will also help Mutoko Rural District Council to ensure that every company is obligated to meet corporate social responsibility requirements. There is a growing concern on the corporate social responsibility, and different actors try to understand the policies and practices followed by corporations within their countries. Such an understanding of how others are doing it has the capacity to clarify where the government went as far as CSR is concerned. Mining need to take into consideration the economic and social concerns of the local population, as summarised by Gordon Brown, Chancellor of the Exchequer

> *"Today, corporate social responsibility goes far beyond the old philanthropy of the past – donating money to good causes at the end of each financial year – and instead is an all year round responsibility that …for their engagement in their local communities and their recognition that brand names depend not only on quality, price and uniqueness…. Now we need to move towards a challenging measure of corporate responsibility, where we judge results not just by the inputs but its outcomes: the difference we make to the world in which we live, and the contribution we make to poverty reduction". (Stephen Timms May 2004:2)*

As a result of effective corporate social responsibility, roads maybe maintained and damage caused by heavy vehicles that are used to carry the granite stone may be reduced.

1.3.3 Surrounding communities and Employees as Beneficiaries

Sustainable development can minimize environmental degradation by imposing an obligation on polluters to pay for environmental damage caused by their activities. The

money paid can be used to improve living conditions of the workers and the surrounding communities. The Rio Earth Summit 11ED 2002 defines such obligation to include mitigating the negative social and environmental impacts from mining such as deforestation or landscape destruction. The Challenges facing the Natural Stones could be the inability to consider and plan for the needs of surrounding communities, by sustainably utilizing the non-renewable natural resources.

As stated by the United Nations '….natural resources of earth….must be safeguarded for the benefit of present and future generations through careful planning and management on the non-renewable resources. Such resources must be used in such a way as to guard against damage or exhaustion…. (United Nations, 2007)

1.4 OBJECTIVES

1.4.1 Main Objective: To establish the extent to which the operations of NSEC has brought about socio-economic gains for the rural community of Mutoko.

1.4.2 Specific Objective:

- To establish the effectiveness of the strategies being employed by NSEC to promote rural socio-economic development.
- To examine the limitations of the strategies adopted by NSEC's in promoting socio-economic development.
- To establish alternative strategies in promoting socio-economic development.

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1.5 RESEARCH QUESTIONS:

1.5.1 Main research question: To what extent has the mining sector promoted socio-economic development?

1.5.2 Specific research questions

- How effective are the strategies employed by NSEC in promoting rural development?
- What are the limitations of the strategies adopted by the NSEC in promoting rural socio-economic development
- What are the current socio-economic development alternative measures employed by NSEC?

LIMITATIONS OF THE STUDY

The researcher had a limited access and had to go through a lot of red tape to access some areas of NSEC. Time and money were some of the limitations of the research project.

1.7 DELIMITATION OF THE STUDY

The main objective and hypothesis of the research are to ascertain whether there are any social-economic gains or costs attributable to NSEC's mining activities. This study is centred on Natural Stone Exporting Company which is encompassed in ward 7 known as Nyamuzuwe in Mutoko. The research chose Nyamuzuwe area and Natural stones Exporting Company (NSEC) respectively because it's the area with most complainants and that it's the biggest Company in quarry mining activities in Mutoko. The local people and leadership have been complaining about the lack of social responsibility that characterises

all of the quarry mines in Mutoko. NSEC claims are located approximately 27 kilometres to the north east of Mutoko town.

1.8 RESEARCH ETHICS

This is a process of developing guidelines with the aim to safe guard and protect the rights of the research respondents (Rogers, 2008). Ethical considerations came to be as a result of the Nuremburg Code and the 1964 declaration of Helsinki (World Medical Association, 2008). The researcher ought to be aware that quarry mines are politically associated and that Mutoko is characterized with political violence. As such every respondent has to be privately approached and as such the researcher has an ethical responsibility to adhere to ethical principles. These principles include informed consent, privacy, confidentiality and anonymity of research respondents.

According to Cassell and Young (2002), informed consent is the cornerstone of an ethical research, and the important aspect in this regard is the quality of information to be provided to potential respondents. The researcher is expected to provide the respondents with true information about the purposes and aim of the research. Cormack (2000) supports this principle and states that, the principle of veracity or truth telling is inherently important. Hence the researcher is obligated to tell respondents the aim of the research and proposed outcomes. It is also expected that the researcher should come up with a consent form to be signed by the prospective respondents. This aims to enhance the respondent's right to self-determination and autonomy. To ensure confidentiality, these consent forms should be locked in a place where the researcher will have sole access as reprimanded by the Day other person's name in this questionnaire.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

Various researches on mining in general have been conceded, most of these researches, specifically concentrating on the economic benefits and development of countries blessed with minerals. It should be noted that some researchers investigated the negative impacts of mining activities on the health of the mining workers. This chapter will review related literature on mining and particularly quarrying mining, procedures involved in mining and the approaches employed in the extraction of mineral and quarry stone specifically. The chapter will not conclude before it touches on the relationship between mining and economic development, including the impact of mining on the surrounding communities and the environment.

2.1 DEFINITION, PROCESSES AND METHODS OF MINING

Mining is the process of recovering minerals from the earth with the aim to service mankind (Down and Stock, 1997). Mining can also be described as the extraction of valuable minerals or other geological materials from the ground. Every material that cannot be agriculturally produced is acquired through mining. Basically, there are four methods of mining. Firstly there is surface mining, open pits and quarries. Most of the mining activities in the world fall under this classification. The secondly category is the underground mining; this type of mining is accessed through shaft tunnels. The third type is the borehole mining technique. Borehole mining method recovers minerals and fuels through boreholes. Lastly is the underwater mining or what is commonly known as scouring (Encarta, 2007).

According to the Indian Minerals Yearbook (2011), granite stone academically refers to a light-coloured granulose plutonic rock composed of plagioclase, quartz and minor amounts of mafic minerals, such as biotite, hornblende, pyroxene and iron oxide. In business circles, the term Granite has become synonymous with all crystalline rocks characterised by attractive colours, with the strength to with stand the processes of quarrying and the process of cutting and polishing. This type of stone is usually used to decorate buildings. The stone is resistant to wear and tear as well as weathering. This stone has become a more sought-after stone in the construction industry. Various countries have enormous deposits of this stone as exemplified by nations like India. India is one of the largest miners of granite stones in the world at large. This industry employs over a million people in India. Areas like Nadu, Andhra and Karnataka have benefited immensely from Granite quarry mining.

2.2 MINING STATUTES AND THE INTERESTS OF THE HOST COMMUNITIES.

The Philippine Mining Act of 1995 which is at times referred to as the Republic Act No 7942 mandates the contractor in the development of its mining areas, with the aim to improve welfare of local inhabitants as well as coming up with sustainable mining advancements. With the aim to achieve the dictates of the Mining Act, the government further mandate a five-year Social Development and Management Program (SDMP). SDMP is supposed to be prepared in partnership between the host and neighbouring communities. The SDMP should have the capacity to provide alternative livelihood opportunities for employees and their dependents, as well as for the immediate neighbouring communities during the lifetime of the mining company.

The mining company is further mandated to spend at least 1% of the annual direct mining costs for social benefits. Section 62 of the Mining Act also recommends the contractor to

give employment preferences to the Filipino citizens in all types of mining employment within the country. Any citizen who is qualified for a particular job should be given first priority but is supposed to have the capacity to perform the job with efficiency and without hazard to the safety of the processes. Precedence is also given to the local residents in hiring workers for the mining project.

Whilst Philippine has a Mineral Act which state that a 1 % proceed should be seeded back, the Mines and Minerals Act of Zimbabwe does not have such stipulations that mandate the mining companies to seed back to the communities in which they are operating in. In an attempt to encourage CSR or foster a sense of responsibility the government has pushed for a CSOT which mandates the mining companies to seed back 10% to the communities. As a good initiative as it appears, it has agonised a big drawback particularly in Mutoko due to the Indigenization and Economic Empowerment Act (IEEA) which enabled most politicians to become Shareholders in various mining companies. These politicians are blocking the seed money since they now have interests in these companies. IEEA has created conflicting interests at the expense of the surrounding communities.

All these interventions are good if properly monitored but there is need to capacitate the community to be shareholders in the case of the republic of Zimbabwe. They ought not only benefit by way of employment or infrastructural development but should also become owners of means of production. Local people know best their plights and areas of need hence when they become board members they will push for change and improvements in those needy areas rather than a minister who barely know the area.

At policy level, various countries have strongly recommended the responsible Ministries to implement What You Pay (PWY) initiatives. PWY has gone beyond recommendations and has been adopted by other countries in a bid to improve transparency and accountability in the extractive sectors. PWY aims to improve the socio- economic situations of resourced

areas. In order to do this PWY act as a legal frame work that mandates every mining company to disclose their profits, that is, what they pay as taxes and what they reserve for the surrounding communities. Beneath the same framework, the government is also expected to disclose what it earns from these mining companies. If transparency and accountability in the mining sector particularly in Zimbabwe's mineral resources is achieved cooperation will be achieved and this will be the key to the current problems. The three that is, government, the mining companies and the communities will all benefit from these finite resources and this will also encourage a sustainable extraction of finite minerals. In addition transparency removes suspicion in regards to what each party is supposed to do and this will culminate in a win-win situation (NANGO 2012).

2.3 MINING AND THE ENVIRONMENT

Impact of mining activities on the environment has been well documented by scholars such as (Heath et al, 1993; Veiga and Beinhoff, 1997; Warhurst 1999; Warhusrt, 1994). Additional effort has been concentrated on the study of the impacts of large and small-scale gold mining undertakings on environment at the expense of socio-economic impacts. As postulated by Yelpaala, (2004), quarry mining is causing pronounced land degradation hence there is need to address this and turn the negatives into positive socio-economic benefits. Quarry mining activities through chemical contamination and Quarry blasting process inflicts a twofold burden on the environment which becomes a health hazard to the nearby communities and people residing in close proximity to such activities. This in turn affects their social and economic activities. Insofar as gold mining is concerned, greatest number of studies focus on the effects of mercury. For example, in Africa and Latin America, most studies are on mercury exposure and intoxication incurred in the extraction and processing stage of mining (Camara, Filhote et al. 1997; Malm, 1998; Harada et al. 1999 Straaten 2000; Rojas, Drake et al. 2001).

A good example will be the area of Tarkwa, Akabzaa and Darimani (2001) reviewed that, "extensive areas of land and vegetation in Tarkwa have been cleared to make way for surface mining activities. In Tarkwa, 70% of the total land area has been taken by open pit mining concessions. With this rate of occupation, it is estimated that by the time these mines close they would have utilised 40-60% of their total concession space for activities such as siting of mines, heap leach facilities, tailings dumps and open pits, roads, and resettlement for displaced communities (Akabzaa and Darimani, 2001). This has momentous adverse impact on the land and vegetation, the main sources of livelihood of the people is thus at risk if the rate of occupation continue accelerating. There is already a scramble for farmlands in Atuabo and Dumasi". When mining activities fail to benefit the communities by extension they become a threat to resources rich areas by way of compromising the livelihoods of the communities.

In Tarkwa, the environment is undergoing rapid dreadful conditions and its immense economic value is dwindling from year to year, owing to the heavy concentration of mining activities in the area. Agronomic lands are not only being degraded, but there is massive loss of land for agricultural purposes and this has also contributed to the shortening of the fallow period from 10-15 years to 2-3 years (Yeboah, 2008). Large-scale mining required by quarry mining activities generally continue to diminish the vegetation of the area to levels that are vicious to biological diversity (Akabzaa and Darimani, 2001). Deforestation that is emanating from quarry mining is proving to have long-term. These effects are evident when the soil is replaced and trees are planted after mine commissioning. The new species that might be introduced have the potential to influence the composition of the topsoil in turn diminish soil fertility. In addition to erosion when surface vegetation is exhausted, two common scenarios occur, that is reduced viability of the land for agricultural activities and loss of habitat for birds and other various animals.

Ultimately, this degenerates into the destruction of the cultural sites and water bodies (Akabzaa and Darimani, 2001).

Developing countries are characterised with burgeoning population which is extensively contributing to the world population which currently stands at 7 billion, poverty and absolute mining technology (Pandey and Sinha, 2000). In most undeveloped countries sustaining these blooming populations becomes of paramount importance but this is happening at the expense of sustainable use of the environment. The unsustainable manipulation of finite resources tends to accelerates environmental destruction. The obliteration is usually realized through wasteland formation, pollution and in turn resulting in acid rains which harm the surrounding community and the nation at large, as stated by Sinha, Pandey and Sinha, (2000). Cumulative globalisation of the mining industry has led to changing public attitudes regarding the costs and benefits of mineral extraction and an increase in public pressure to minimize the environmental and social costs associated with mineral development. Thus the current study seeks appropriate rehabilitation alternatives of quarries with the aim to benefit the surrounding communities socially and economically.

2.4 THE SOCIAL IMPACT OF QUARRY MINING

Quarry mining activities are mostly affecting cultural systems and population patterns. Other than these, according to Andrews and Bauder (1968), quarry mining has the consequence of creating Boom towns. This is evident throughout human history. If natural resources are sustainably extracted there is no doubt that there is likely to be a positive socioeconomic impact on the boom towns and the surrounding communities by way of developing infrastructure such as roads, schools, hospitals, and housing. These may trigger the rise of a wide range of small businesses and the local community can benefit from an enhanced quality of life. At the study site, NSEC initiated several community projects.

With many people directly dependent upon the quarrying industry for their livelihoods, employment provision is among the most tangible and important of the potential positive local economic effects of quarry mining in Mutoko

Despite these benefits, quarry mining has a number of adverse Socio-economic impacts on the surrounding community. Hilson (2002) detected that, losses of freedom of movement and agricultural land as well as forced resettlement and a fundamental disrespect to traditions of the local community among others is common among the negative impacts of quarry mining. A recent Kenyan example is the Tiomin Kwale mining project which is a Canadian investment. The proposed site of Tiomin mine is a fragile ecosystem in Kenya's coastal forest listed as one of the world's 25 hotspots by Conservation International (Boocock, 2002). This project is highly contentious, from an environmental and socio-economic perspective (Mugo, 2002). Such programs should only be allowed to proceed after agreeing on what is to be seeded back to the community and after a strong working rehabilitation plan that is to be honoured and respected.

The socio-economic impact of land degradation is quite enormous as natural resources are being depleted very rapidly in the process of quarry mining. The end result is water insufficiency, resulting from the depression of water table. There is also massive water contamination which also affects health and the productive capacity of people to a large extent. The above stated problems usually or rather in most cases culminates into the loss of soil fertility and low crop productivity which leads to non-availability of food in the surrounding community. Road construction is another problem which tends to fragment habitats such that species that dependent on these habitats become more vulnerable and they start diminishing in numbers since they are continuously disturbed during their meting process.

Quarry has the potential to destroy habitats and the species they provision (Mabogunje: 2008). Even if the habitats are not directly removed by excavation, they can be indirectly affected and damaged by environmental impact, such as change of ground water or surface water that causes some habitats to dry out or other to become flooded. Noise pollution also has a significant impact on some species and affects successful reproduction. Quarry mines have the strength to provide better opportunities for the creation of new habitats and restoring existing ones through rehabilitation.

According to Harris and Makiko (2002), when land is degraded, people, plants and wildlife suffer and this climaxes in an impoverished society and in turn this exacerbates poverty and hunger within surrounding communities. As a result, HIV/AIDS infections increase as people are forced to exchange sex for food, females are mostly affected since in most rural areas they lack means of production like land and they constitute the bigger number as compared to males. In situations of poverty and hunger the majority end up suffering from malnutrition and other nutritional deficiencies. Many small scale farmers in areas of degraded land helplessly watch in dismay as their soil grows less and insufficient to feed humans, livestock and wildlife each year that goes by. This extensively affects the agricultural activities immensely as draught power is claimed by starvation.

According to Mabogunje (2008) pollutants such as dust, gaseous emissions and air borne particulates are produced in the mining process and get deposited on plants. He further hypothesizes that, contamination affect the physical activities of the plants especially those around the quarry site such as in photosynthesis and respiration. The implication of the retarded plant growth may eliminate sustainability concept to the environment. The environment that produces food to the surrounding communities becomes incapacitated to perform its major function of feeding the surrounding people. Thus Mabogunje (1980) views majority of species as threatened and vulnerable at a fast rates thereby indicating that

they are at critical points of survival caused by quarrying activities. Ecosystems and aquifers are irreplaceable hence their destruction leads to the possibility of onsite and offsite wetlands.

2.4.1 Noise and Air Pollution

The grievances of the affected communities on air quality have been about the airborne particulate matter, emissions of gasses, noise and vibration. Airborne particulates of major concern within the Nyamuzuwe area include respirable dust, sulphur dioxide, nitrogen dioxide, and carbon monoxide. The activities that produce this particulate matter include site clearance and road construction, open-pit drilling and blasting, loading and haulage trucks. Inhaling fine dust at high levels has the potential to cause respiratory diseases and disorders and can exacerbate the condition of asthma affected people. Dust from quarry mining operations contains high levels of silica content which cause silicosis and silico-tuberculosis to individual living around the mining area (Akabzaa and Darimani, 2001).

Most of the mining companies have not laid down adequate measures to prevent harmful emissions of dust into the ambient air. Procedures to reduce dust emission are restricted to occasional spraying of roads within the premises of the mining company. This seems to be an inappropriate effort because road dust does not appear to be the main source of dust pollution. Furthermore, EMA acknowledged that dust suppression on the haulage roads is ineffective and the frequency of spraying is inadequate.

2.5 THEORETICAL FRAMEWORK / CONCEPTUAL FRAME WORK

2.5.1 Instrumental/ Shareholder Theories

This group view CSR as a means to achieve wealth creation. Friedman is among the proponents of this line of thought, he views that, "the only one responsibility of business towards society is the maximization of profits to the shareholders within the legal framework and the ethical custom of the country'' instrument theory has come a long way and has been regarded as a traditionally accepted way in business up to date Windsor (2001) stated that , ''a leitmotiv of wealth creation progressively dominates the managerial conception of responsibility'' over concentration of wealth to the shareholder tends to disadvantage the local people as they will be little left for them. So this theory does not go well with what the researcher aims to achieve. In other words such thinking explains why today most resourced areas remain poor and backward in terms of development. The shareholders does not view themselves as part of the community hence they are not compelled to improve the area at all

2.5.2 Political Theory

Other than the instrumental theory there is also another group with a different thinking, this is the Political theory. This group approach CSR uniquely, in their view CRS denotes a close interactions and connections between business and society. These two sections ought to share the power as well as the position and inherited responsibility equally. In their processes they ought to include political considerations and political analysis. This line of thought is what has killed the hope for Mutoko people as politicians will eventually take full control at the expense of the local people. Today mining companies in Zimbabwe have been hijacked by politicians who in turn are refusing to plough back to the community as

they have become shareholders hence the emerging of conflicting interest between cultivating back to the community and maximizing profits.

2.5.3 Common Good

This approach originated two thousand years ago. It has its roots in the writings of Aristotle, and Cicero. Contemporary writers like John Rawls, view the common good as "certain general conditions that are...equally to everyone's advantage". In general understanding, common good is thus the sum total of conditions of social life which permits social groups and to achieve and access their own achievements. This approach thus rests primarily on concentrating on social systems, institutions, and environments on which animals and mankind depend and benefits from and uncompromised livelihoods. A good example of a common good approach includes accessible and affordable public health care system, access to shelter, employment and an unpolluted natural environment.

The researcher adopted the common good concept because it is less consolidated as compared to the stakeholder approach. The common good concept dovetails well with the expectations of the researcher as it advocates for the common good of a society as the referential value for CSR. The research, like the common good aims to influence mining companies to seed back to the community with the aim to improve livelihoods. Mahon and McGowan, (1991) has a shared vision with the researcher in regards to this approach. This conception has its ancestries in the Aristotelian tradition (Smith, 1999). This approach advocates that business, just like any other social group or individual within the community, they have to contribute for the common good, simply because they belong to the very society

In this sense, business is viewed as a mediating institution (Fort, 1996, 1999). Business is not supposed to be harmful or to be a parasite (land degradation, exacerbates poverty,

destroy roads). For example, in Mutoko mining companies have been exploiting the granite stone without even giving back to the community but instead living behind a legacy of bad roads and health problems for the local community. Contrary, business should be purely a positive contributor to the wellbeing of the society (improved livelihoods, infrastructure development). This conceptualisation view business as a factor that should contributes to the common good in different befitting ways to the community in which they operate in. they should create wealth for themselves and the community. They also have to carry their business but at the same time respecting the dignity and the cultural beliefs of a community. They are not supposed to destroy sacred shrines with the aim to make profit which is the case with many mining companies. This concept does not deviate much from the stakeholder approach and the sustainable development; the two differ on their philosophical base.

2.6 WHAT IS CORPORATE SOCIAL RESPONSIBILITY?

Steiner & Steiner (2006) trace the origins of CSR back to the philanthropic work of two wealthy business men that is, John D. Rockfeller and Andrew Carnegie, who gave away millions of dollars on social grounds. Blowfield and Frynas (2005) on the contrary argue that "the modern precursors of CSR can be traced back to the nineteenth-century boycotts of foodstuffs produced with slave labour…" With this in light it becomes clear that CSR is not a new concept and that both sets of authors agree that contemporary understanding of CSR was formed in the twentieth century. Steiner and Steiner argue that the concept of CSR was first introduced in 1954 when Howard R. Bowen published his book titled 'Social Responsibilities of the Businessman'.

Bowen is of the view that, mining companies through their management have an ethical obligation that is to consider the broader social impacts of their decisions. Further to this

companies that fail to meet these obligations should be deemed illegitimate. When a society is improved its evident that, potential negative public opinions are averted hence uncalled regulations will be avoided (Steiner & Steiner, 2006). This latter argument is substantiated by the American case where they did not become hostile to big companies as postulated by Micklethwait & Wooldridge, (2005).

There is no agreed definition on CSR but Marrewijk (2003) generally take this concept to mean business's greater responsibility to society and the environment. To substantiate this, the business community define CSR as "the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large" (WBCSD, 1999). The United Kingdom government describes CSR as "how business takes account of its Economic, social and environmental impacts in the way it operates – maximizing the benefits and minimizing the downsides" (UK Department of Trade and Industry, 2004). A distinguished author on this area, that is, Archie B. Carroll (1999), defines CSR as "the conduct of a business so that it is economically profitable, law abiding, ethical and socially supportive"

2.6.1 The Corporate Social Responsibility Debate

From a conceptual perspective CRS has attracted a lot of criticism from various individuals with varying perspectives. This concept was propounded mostly by development agencies like World Bank, the United Nations and the DFID coupled with NGOs such as World Business Council for Sustainable Development. We also have academics such as Zadek, Hamann and Sayer Kuper who are part of the proponents of this idea. Critics of this concept are widespread and doted in the same circles as the proponents. Blowfield and Frynas (2005) point out that, critics of CSR are in two categories. The first being those

who say ‘CSR is bad capitalism’, the second camp are those who claim that a ‘weak CSR is bad development’.

2.7 THE ROLE OF CORPORATE SOCIAL RESPONSIBILITY IN DEVELOPMENT

There is an increased expectation from the surrounding communities regarding what is being paid back by various mining companies. As a result of this increased demand, various companies are finding ways to dovetail CSR in their programs in a profitable way for them and particularly for the community they are operating in. Some have fought to dismiss this concept as they argue that its financially expensive, however this contrasts with companies that have continued on the profitable side despite practising CSR. Due to such tangible evidence of profitability those who believe in CSR now see CSR as effective way to counter negatives of Foreign Direct Investments hence they are looking for ways to make CSR a sustainable way of enhancing development.

To the World Bank, the United Nations, and selected government-run development agencies CSR has come as a liberator of growth (Frynas, 2005). UK Department advocates that, “By following socially responsible practices, the growth generated by the private sector will be more inclusive, equitable and poverty reducing” (Jenkins, 2005). Further to this, the UK Secretary of State for International Development argues that:

> Foreign investors can contribute to economic growth through capital, technology transfer, access to specialised skills, and through their ability to integrate production across several countries. Those businesses that are committed to socially responsible practices can have an even superior impact. They can strengthen the poverty reduction strategies of the country in which they are

operating, contribute to environmental sustainability and promote core labour standards and human rights. (In DFID, 2003:1)

The premise that CSR initiatives can make a positive contribution to development is not unsubstantiated. There are various companies that are supporting community development projects, closely connected are the HIV/AIDS prevention programs being run by various organisations to better communities they operate in. Be that as it may, the slender focus of the conservative CSR aim, and its disaster to address the structural factors of underdevelopment, which has made many scholars to question whether CSR alone can encourage development. This catapults us to the section that deals with critics of CRS in mining as they question its potential to bring about or rather encourage development.

2.7.1 Role of mining in Development Disputed

The role and capacity of mining to stimulate growth or development is questionable considering the lack of development of most resourced countries in Africa. Drawing examples from mineral-rich industrialized countries such as Canada, Australia, and the United States. Power, (2002) and Davis & Tilton, (2005) has since encouraged mining to be used as a means by which developing countries can achieve sustainable economic growth. Despite agreeing, Power (2002) further interrogates the concept and states that it will be being over simplistic and one should not generalise the above example for promoting development in the developing countries.

He argues that Canada, Australia, and the United States were successful yes but there were other factors at paly that were favourable for these countries and may not apply to all. These factors are exemplified by high levels of established wealth, large global markets and limited labour. It is also the opinion of Power that the world economy is not the same

now as it was during the period these countries industrialised. Minerals like the granite stone are being shipped at very low cost for processing or rather for value addition in the process depriving the developing countries an opportunity for knowledge transfer. This reflects why there are very little investments in these mineral endowed countries; they have become a source of raw material and a market for finished products. In addition, Power, (2002) opinion that, poor resource countries are benefiting more in terms of economic growth and poverty reduction as compared to the resource endowed countries. Stevens, (2003) share the same view with Power. Bulte, Damania, & Deacon, (2005) also share the same view and have echoed the same sentiments as Power.

Within nations, the grass root level tend to suffer the extreme social-economic, cultural, and costs of mining activities at the expense of the federal government which tends to reap the economic rewards (Miranda et al, 2003). This is exemplified by Bolivia, its mining regions like Potosi and Oruro there is evidence that these areas have remained with a retarded development and have remained the poorest (Aruquipa, 2005). The same situation is also noticeable in Peru. Aramburu, (2006) states that Cajamarca, home to Yanacocha, the world's most profitable gold mine, is Peru's third poorest region, with 74.2% of its population living in poverty. The Latin-American Press (2005) published an article airing the following view, "…in most cases the boom in mining investment in the 1990s was accompanied by a gradual increase in level of extreme poverty in regions where mining projects were developed". Davis & Tilton, (2005) criticizes this view and have stated that, in the presence of a developed social, political, and economy, states can use mining rents to promote economic development. It is apparent that, most developing countries lack the above stated qualities and also the evidence on the ground shows that mining has and is failing to improve the social and economic situation of most mineral resourced economies.

2.7.2 A Reaction to the Resource Curse

Various studies are pointing in the opposite direction in regards to the potential of quarry mining or rather mining in general on its potential to transform livelihoods and economic development. This has made countries to come up with means and ways coupled with policies to force mining companies to pay back to the communities in which they are operating in. In Zimbabwe for example, the government initiated the CSOT. The aim is to ensure that wealth derived from mineral extraction enhances economic development and in the same vein reduces poverty. Interestingly despite the CSOT the resourced areas have remained poor.

Various experimental evidence that support the potential of the 'natural resource curse' has also compelled mining companies to initiate activities and measures to encourage positive impact on the communities in which they are operating in and manipulating finite resources. Various literature has made it solely the responsibility of state governments to make sure proceedings from mining companies find its way down to the grass roots and trigger development but it is clear and evident that there is an increasingly popular view that companies themselves should be responsible for maximizing the positive impacts on the expense of negative impacts of mining on development as postulated by Hamann, (2003).

The fact that most mining companies are now adhering to CSR reflects that mining companies are realising that they have a responsibility within the communities in which they operate in. The question that remains pondering the mind is whether CSR on its own can make a significant contribution to local socio, sustainable development? These mystifying questions will be answered in chapter 5

2.8 CORPORATE SOCIAL RESPONSIBILITY IN MINING

In the mining sector CSR denotes a company's charitable actions to either reduce the negative impacts of mining on the economic side, social, and environmental. On the other hand it can be the endeavour to improve the living conditions of the local communities where they operate. By definition, voluntary actions are those that go beyond legal obligations and binding contracts. In such situations one does not need a binding Mineral Act like in the case of the Philippines. Thus, what is agreed between companies and the communities cannot be qualified as a company's CSR program because such agreements are similar to binding contracts. Similarly, labour rights cannot be considered as part of a company's CSR. This is so because these rights are usually conditioned by law or by collective agreements. Economic, social and environmental measures can only be regarded as part of CSR policy when such measure goes beyond stipulated regulations.

CSR policies have become a very common practice for mining companies in most developing countries. To the developing countries, CSR programs usually mean infrastructure based investments such as schools, better roads, improved hospitals, health equipment, electricity, drainage repairs, and clean water. But in actual sense CSR goes beyond infrastructural development and thus also includes investments in building social capital such as, information on HIV prevention, family planning, and improving hygiene habits. CSR can also mean investing and building human capital, for example, providing education, training, and skills.

2.9 CORPORATE SOCIAL RESPONSIBILITY FROM THE COMMUNITY'S PERSPECTIVE

Mining companies may view CSR as good for business while from the communities' perspective CSR is an instrument that necessitates compensation for the social and

environmental costs related to mining. These community costs often relay to environmental impacts, expensive food and housing costs, and gravity on health and public services as more people get sick due to poor working conditions coupled with little remunerations that forces particularly women to indulge in prostitution to get more money to feed the family (World Bank and IFC, 2002).

Data at the global and national levels regarding the benefits of CSR on communities is disaggregated. In spite of such a shortcoming positive impacts are still visible in some communities. In 2001 Barrick financed Tanzania with US$2 to fund a long-term education program in the remote Kahama District; this was the worst performing areas in Tanzania. In 2007enrolment had increased by 75% (7,000 primary school children) and by 2011 enrolment in high school doubled (from about 800 students in 2001 to 1,885 in 2011). Rural communities in Bolivia who live close to Glencore International's Puquio Norte mine obtained electricity as a result of the company's construction of a pipeline with extra capacity (World Bank and IFC, 2002). In Venezuela, a community health centre was run with the support of Placer Dome Inc (Hamann, 2003). In Chile, Barrick constructed a $70 million project which has over 18 wind generators capacitated to generate 36 megawatts of electricity, enough power to service 20,000 homes (Beyond Borders, 2011). CSR benefits vary ominously from one project to another liable to the design, local suitability, and community support. Successful projects are those that meet specific needs and have comparative advantages for local communities. For example in Mutoko, people are likely to benefit from a cutting and polishing industry on Black granite since the raw material is in abundance. To validate this, a value addition in the form of tomatoes canning is likely to benefit the local people considering that Mutoko is well known for horticultural produce particularly tomatoes. So if mining companies necessitates such programs for the communities they would have enabled these communities to realise their dreams. When

companies carry out such activities it therefore reflects that companies and communities share the same meaning of CSR.

2.10 CSR FROM A LEGAL PERSPECTIVE

CSR programs have the potential to benefit both mining companies and local communities, be this as it may it is key to clarify that mining companies are not obligated to compensate communities. Companies cannot be made wholly responsible for all of the impacts associated with mining because some of the damages does not emanate from mining operations. For example, a rise in the price of housing (or food) occurs when an important business of any kind starts to operate in a city or village. This can be best epitomized by institutions like Universities. Rentals in areas where Universities are built usually go up to exorbitant prices. Senga-Nehosho in Gweru can be the best example, when Midlands State University (MSU) was situated there, prices generally went up. Shurugwi because it's a mining area generally has a high cost of living. The fact that mining companies are not obliged to compensate local communities for the impacts associated with their mining operations confirms that CSR programs are entirely voluntary measures. This is far from suggesting that companies do not take these efforts seriously. Actually CSR programs are increasingly being recognised for delivering sustainable benefits and improving the well-being of the communities in their operational areas.

CONCLUSION

Drawing closely from modern CSR practice and lessons learned from organisations with experience of doing business right, that is to appropriate the rules of CSR to their local societies. In this respect it becomes clear that CSR is in effect the essence of the business. The various groups that have interests in its activities, the tenets and dictates of business

and of best practice testify that CSR has in fact always made good business sense. It thus puzzles the mind why CSR has fail to occupy the center of business.

The use of CSR as an enhancer of society value and source of mining growth is actually a sustainable way of doing business. Viewing CSR as a philanthropic charitable way is actually putting a limitation on its capacity to benefit both the business community and the surrounding communities, if mining companies are strategic in their business endeavor it therefore means that they can generate value which they can transform into community projects hence become socially responsible. Doing good business is a culture that is contingent from the society; CSR resides and is inculcated in the DNA of companies by their operating environments.

When mining companies develop a sense of community responsibility it therefore means that they are going to manipulate resource and the environment with the local people in mind. When land is not degraded it means the livelihoods of the surrounding community will remain intact during the life time of the mining company. Reclamation of land becomes an inculcated culture aimed at benefiting the community by ensuring that agricultural land is there, ensuring that for the Local Authority land to settle its people is available.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 INTRODUCTION

The Chapter describes and justifies the descriptive survey research design used. It explains the use of the questionnaire and interview and research instruments. The Chapter also describes the population and sample for the study, the data collection, and presentation and analysis procedures.

The research was to find out the socio-economic impact of quarry mining on the surrounding communities of Nyamuzuwe area in Mutoko district. This chapter will give a thorough account of how the study was executed, taking into account all the activities and procedures under taken during the course of the research. The main thrust will be placed on the research design, sampling procedures, data collection techniques, employed data collection tools and the population that the researcher employed in the research.

3.1 RESEARCH METHODOLOGY

Research methodology refers to an analytically technique of resolving a study problem and it can be understood as a discipline of learning how a research is exactly done (Kothari, 2004). In this light Rajasekar et al (2013) contend that, "fundamentally, the procedures by which researchers go about their work of describing, elucidating and envisaging phenomena…" Rajasekar et al (2013) further argues that it is the study of techniques through which understanding is obtained and its main objective is to give a work plan for the study. A research procedure is therefore a study and/or a systematic examination of the methods that a researcher uses to gather data and information which aids a researcher to create a new body of knowledge in his/her field of study. Hence, the research methodology

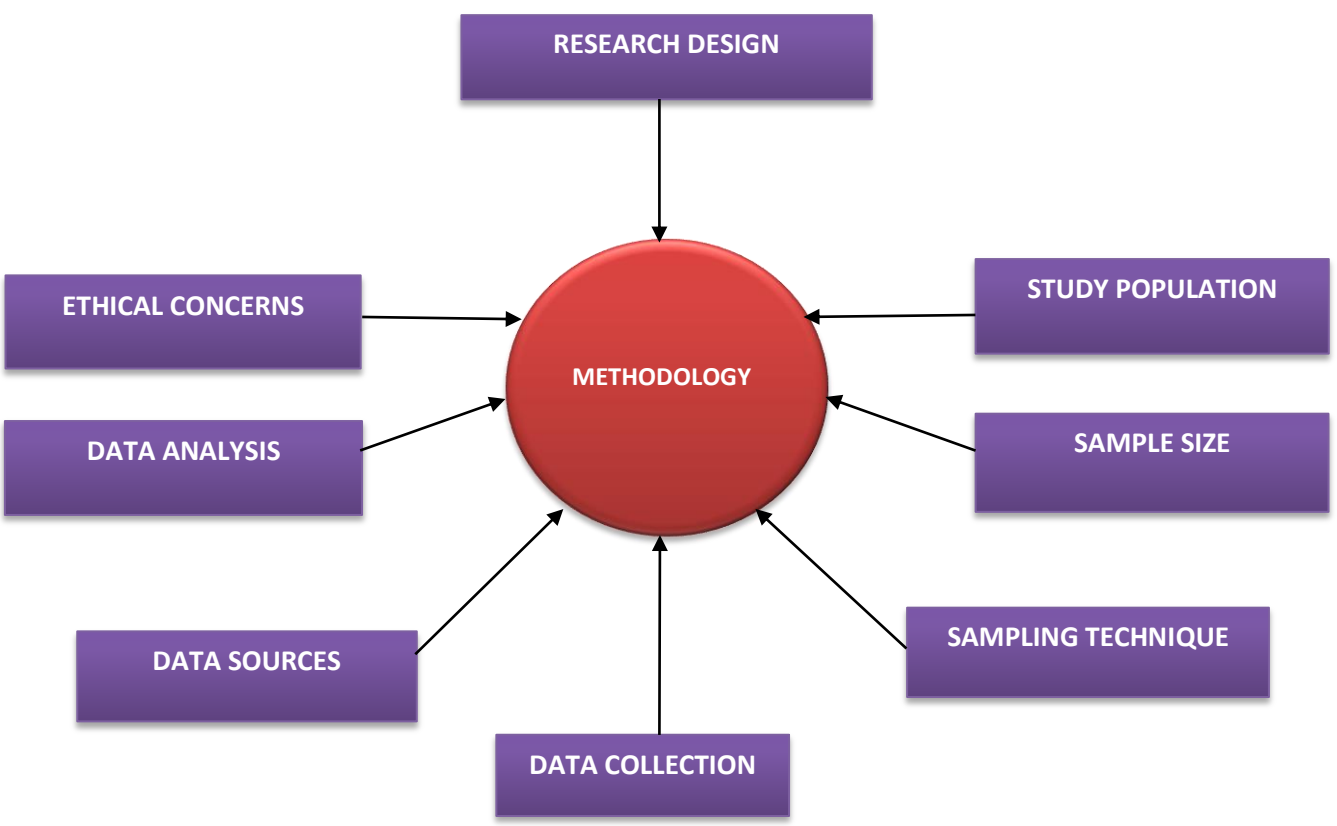
of this research was built around the most appropriate, pertinent, accurate and efficient methods which were enough to identify the socio-economic impacts of quarry mining, impacts of quarry mining on the environment, assess the effectiveness of the strategies adopted by NSEC to encourage community development and to recommend measure to transform negative impacts into positive ones.

3.1.2` Conception of Self and Others

The assumptions made by the researcher were that, the participants are able to report on their own experiences. The researcher was also proficient in reporting on his own annotations of the social world including the experiences of the people of Nyamuzuwe area who were chosen as the sample for this research.

3.2 METHODOLOGY

Figure2.2 Graphical Representation of Methodology



3.2 RESEARCH DESIGN

Research design describes the plan, usually how the research was conducted (Oliver 2004). Greener (2008) also signposts that a research design is a grand plan of approach to a research topic. So designing a research will be vital and choosing a strategy means that one has considered views on truth and knowledge, social entities, what research can and cannot achieve and how to answer a research question. According Linger (1983) research design is "the plan, structure and strategy of investigation conceived so as to obtain answers to research questions and to control variance."

From the above specified definitions, it is apparent that, research design is the overall operational frame work of the project that stipulates what information is to be gathered from which sources and by what procedures. The researcher employed the descriptive design in which several instruments were used to gather data; these instruments include interviews, questionnaires and observation.

3.2.1 Descriptive Research

Descriptive research provides a clear and accurate picture of the problem. This then enables the researcher to come up with synopsis from the large volumes of data collected from various respondents. Robson (2007), postulate that, the aim of a descriptive design is to portray an accurate summary of persons, events or situations

Some researchers regard descriptive research as a mare description, but they seem ignorant to the fact that a good description is fundamental to the research enterprise and tends to add immeasurably knowledge to the existing body of knowledge in regards to the shape and nature of our societies. Descriptive research comprises of government sponsored research including the populace count, the gathering of a wide range of social pointers and

economic information such as house hold expenditure patterns of quarry workers, time use studies, employment and crime statistics and the like.

Pope and Mays (2000) reflects that a descriptive research is much more concrete and has the capacity to describe the ethic mix of a community, the gender mix of the community and the changing age profile of the surrounding communities (Schensul and le Compte 1999). Descriptive research asks more abstract questions such as "Is social inequality at the Quarry mining areas increasing or decreasing? How secular is the society involved in and around the quarries? How much poverty is there in this community (Pelto and Pelto 1997)? Accurate descriptions of the level of unemployment or poverty have historically played a key role in social policy improvements (Marsh, 1996). The existence of social problems can challenge accepted assumptions about the way things are and can provoke action (Nkiwi, Nyamongo, 2001)

According to Nkiwi and Nyamongo (2001), a worthy description has the power to provoke the "why" questions of an explanatory research. If we perceive greater social divergence over the last 20 years, (for instance most families surrounding the mining area remain very poor) we are forced to ask "why is this happening". Before asking why, Marshal (2003) suggests that, we must be sure about the fact and magnitudes of the phenomenon of increasing polarization. Mills (1959) contends that, description tends to degenerate into mindless facts gathering or what is called abstracted empiricism. Mostly there are plenty of illustrations of unfocused surveys and case studies that report trivial information and fail to provoke any "why" questions or provide any basis for generalization. However, this is a function of insignificant descriptions rather than an arraignment of descriptive research itself (Nyamongo and Ryan 2001)

3.2.2 Advantages of Descriptive Survey Design

A descriptive approach in data collection in qualitative research has the capacity to collect accurate data and provide a clear picture of the phenomenon under study (Mouton & Marais 1992). In this study, descriptive survey approach was appropriate because an accurate and authentic description of the impacts of the operations of NSEC on the socio-economic situation of Nyamuzuwe community was required.

Streubert and Carpenter (1999)) state that, a descriptive method of data collection in a qualitative research is essential since it employs unstructured qualitative research interview investigations. This means that the researcher facilitated the experience of the Nyamuzuwe community on the existence of NSEC with the aim to come up with unhindered research findings.

The researcher bracketed his knowledge about the negative impacts of quarry mining and returned a neutral stance in the interview process at the same time avoiding personal knowledge and beliefs from interfering with the informants' explanations. This means that, the researcher held what was already known in suspension, while listening attentively to the respondents. The researcher has to bracket his knowledge throughout the process (Streubert & Carpenter 1999:33).

Descriptive survey enabled the researcher to observe the subjects in their area of inhabitation; this means that, they are not removed from the environment in which the problem warranting this research was observed. The researcher was able to study human experiences of the research subjects without influencing how they should behave. This benefited the researcher in that; he was able to come up with data without adversely influencing the normal behaviour of the subject.

Descriptive survey research further enabled the researcher to collect voluminous data and this resulted in thorough investigation. Before coming up with recommendations, a lot of data was collected and examined. This further permitted the researcher to come up with true finding and at the same time pointing to new gaps.

3.3 QUALITATIVE APPROACH

Qualitative research is a method of inquest employed by many different academic disciplines conventionally in the social sciences, and in market research and other circumstances. Qualitative research aims to gather data for a detailed understanding of human behaviour and the rules that influences such behaviour. It investigates the "why" and "how" of decision making, not just what, where, when (Pelto, 1997). Henceforth, smaller but focused samples are more used than larger samples. The researcher adopted this type of Qualitative research approaches.

3.3.1 Advantages

This approach enabled the researcher to look at the plight of the Nyamuzuwe people more closely. The researcher asked why these people have failed to have changed livelihoods despite the fact that they live in a mineral rich area. The researcher was also able to ask why the area has failed to develop yet the Black Granite has been mined since time immemorial. At the end the researcher was able to come up with recommendations after asking himself how best the negative impacts can be transformed into positive ones.

Qualitative research focuses on smaller samples; this made the research more cheaper and cheap. If it would have been a quantitative research the researcher would have not been able to complete the study in time owing to the size of the sample required by a quantitative research.

Through qualitative research the researcher, was able to pick a sample with the same characteristics enabling him to generalise finding. Through qualitative research, the researcher was also able to collect evidence and produce findings that are not predetermined. The researcher therefore did not twist the research to come up with predetermined or favourable findings

3.4 RESEARCH POPULATION

Population according to Dr John Bugler (2005) is the number of people residing in a defined area at a given time. The research population is the total set of individuals/ objects with common characteristics as defined by the sampling principles established for the purposes of the study (Burns & Grove 1998). In this study, the populace of informers from whom a sample was selected to participate included Nyamuzuwe residents, NSEC employees and management, school teachers, and the administrative leaders of the district. Kotler (1996) defines population as a collection of small observation of a random variable under study and about which one is trying to draw conclusion in practice.

3.5 SAMPLE

John Buglear (2005) writes that, a sample is a subset of a population, that is, a reduced number of items picked from the population. A sample is a part of a population which is provided by some process or usually by deliberate selection from the parent population (Beri 2000).The sample size "this involves the number of sampling units that are included in the investigation," (Vaunder Walt, 1996). The researcher had a sample size of 65 people. These respondents were grouped and each group had a number of people representing them. The sample size was grouped as follows, 10 Quarry workers, 5 NSEC management

staff, 10 heard departments, 5 top management of the District and 20 villagers, 10 teachers and lastly 5 councillors, The total number of the sample 65 as stated above.

3.5.1 Sampling

Sampling involves taking a proportion of a larger universe for purpose of carrying out a study. According to Lapin (1987), Sampling is the action, process or technique of selecting a suitable sample or a representative part of population for the purpose of determining parameters of characteristics of the whole population. Sample elements may be selected in a variety of ways, falling into two general types. The most significant decision in sampling is whether to employ probability or non - probability sampling procedures. A probability sampling procedure is one in which each study object in a sampling frame possesses a known chance or probability of being selected for sample inclusion. Probability sampling technique gives the respondents an equal chance of being selected (Saunders et al, 2009) Sudman and Blair, (1978) also defines probability sampling technique as a random process to select population elements for the samples and give every population element a known non zero chance of being selected.

The researcher employed a non-probability sampling method and used purposive sampling. As the name infers, the sample selection requires only people who can contribute to the study. The technique can be structured in nature using the sections or strata in the population. Through purposive sampling, the researcher first defined the population and decides on the proportion of each section of the population needs to be selected as a sample. After deciding on the number of elements desirable, the researcher then used purposive sampling to choose the required sample for the purposes of the research study. The total sample size which the researcher decided on was 65 respondents.

A sample of 10 Quarry workers, 5 NSEC management stuff, 10 heard departments, 5 top management of the District and 20 villagers, 10 teacher and lastly 5 councillors. This brought the total sample to 65, these were selected to represent the entire sector under study. The most common Question about sampling is how large should the sample be? Unfortunately there is no right answer to this except that a sample size should always be a true representative of the larger population. The researcher was able to guarantee balance on all the multiple groups.

The research used stratified sampling for him to effectively take into consideration the available stratus for villagers, workers and management staff so that each stratum has true representation in the sample. This enabled the researcher to produce more accurate estimates of the population parameters from the sample data. Each stratum had equal chances of being selected and being represented with the aim to show behaviour and beliefs of every sector represented in the population.

3.5.2 Limitations of Sampling

Due to limited time and resources the researcher made use of sampling as it is cost effective. Some of the people who received the Questionnaires' did not return them. Also the other management staffs who were supposed to be interviewed could not make it since there were busy with other official day to day duties. With purposive sampling true representation of the larger population is not guaranteed as samples are chosen for their ability to give the researcher answers that can help the research to come up with findings. In this current research, the researcher wanted people with knowledge about the operations of quarry mining. On the community, it was key for the researcher to choose a sample of people who had knowledge that stretched as far back as the origin of NSEC. This would enable him to compare the current situation with the 1972 situation.

3.5.3 Purposive Sampling

Purposive sampling was used to target and select NSEC workers, Nyamuzuwe residents, nearby school teachers, councillors and the district top management because the researcher assumes that these groups hold much of the data on the socio-economic impact of the operations of NSEC required. Purposive sampling follows the non-probability method. O'Leary (2010) views this as handpicking sampling – selection of a sample with a particular purpose in mind. This technique is also referred to as judgemental sampling by Marshall (1996) and to him it is a process by which sample population is acquired through the discretion given to a particular group or individuals of the population by the researcher because they hold information of the target population that is required by the researcher. The researcher opted to use this technique because accurate data would be timely obtained. The researcher however used this technique cautiously to avoid a high risk of sampling error which is highly probable with this technique because if wrong groups were targeted and selected wrong information would be obtained

3.6 RESEARCH INSTRUMENTS

Wilkinson and Birmingham (2003) defines research instruments as devises for obtaining information relevant to your research project. According to Wilkinson and Birmingham (2003) there are many research instrument and no single one is par excellence. As such, since Annum (2014) argues that the validity and reliability of any study always and extremely relies on the accuracy of the research devises, this research extensively used four of them – questionnaires, interviews, focus groups and observations – so that they could complement each other to make sure adequate and accurate data was attained from the sample population. These are often called primary data sources. Secondary data instruments (readings) were regularly consulted as well. These instruments have largely

assisted the researcher to get data on the socio-economic impact on the community of Nyamuzuwe in relation to the operations of NSEC.

3.6.1 Data Collection Sources

These are the procedures used by the researcher to collect data. For the purpose of this research, primary and secondary data sources were employed.

3.6.2 Primary Data

The data that forms the basis of an investigation might be collected at first hand in response to a specific problem. This type of data is collected through direct observation or measurement. This information was generated by the researcher for the purpose of the project. Primary data source was used because of its greater control over data accuracy and relevance to the problem. The data collected was therefore relevant and valid as it was up to date and also addressed the problem at hand at the same time giving a balanced view on the subject under study. The researcher employed Questionnaires and interviews to obtain first-hand information. The questions were directed towards the problem under study thereby making it easy to address the research questions at the same time saving time. The researcher was able to gather much of the required data.

3.6.3 Secondary Data

According to Greener (2008) this is data which the researcher did not collect for themselves directly from respondents or subjects. This means that secondary data was not collected with the researcher's purpose and objectives in mind. Such sources included literature reviews from textbooks, government publications, mining annual reports, Environment Management Act and the internet. Secondary data helped the researcher to

identify gaps in the existing knowledge. The researcher was also able to find readily available data relevant to the study and this became the setting within his work was produced. This was preferred because it enabled the researcher to use less time and effort in the process of analysing and interpreting data.

3.7 EMPLOYED RESEARCH INSTRUMENTS

The research instruments are tools one would use for collecting information and data needed to find solutions to the problem under investigation. As already indicated, the researcher basically employed multiple instruments, which are interviews, questionnaires, document analysis, personal experiences and observations as well as quantitative analysis of the responses. The researchers used multiple techniques to improve the validity of the results.

3.7.1 Questionnaires

A questionnaire is a standard document that consists of a series of questions and spaces for the respondents to provide their responses Leeds (1985) defines a questionnaire as a formulated list of questions used so as to solicit information from respondents. The questionnaire was designed with the aim to collect a huge proportion of primary data. The questionnaire was drafted using a variety of techniques which included close ended and open ended questions. This helped in soliciting opinion, behaviour and attributes from the respondents. Methods such as closed questions made it easier and faster for respondents to reply whilst open ended questions ensure in depth responses. Where the researcher suspected that responses were influenced by either possible prior discussion of the questionnaire, the researcher had no choice except to resort to professional interrogation during interviews. Questionnaires enabled the researcher to generate required data at a

relatively modest cost and in a manner that makes data contributed by difference respondents easy to compare.

3.7.2 Significance of using a Questionnaire

Questionnaires proved to be easy to manage. The researcher had the opportunity to post some of the questionnaires to various respondents. This was also cheaper in that; posting has very little costs as compared to traveling to various respondents. Physically administered questionnaires also enabled the researcher to distribute the questions in large quantities there by increasing the percentages of those that were returned back against those that were lost.

In terms of administering, Questionnaires are cheaper. As stated above, the researcher was able to send out by post in one batch but with interviews; it took the researcher a long time to conduct personal interviews with a sample of the same size. This was so because some of the key people that had to be interviewed had tight schedules. These are the people and groups that received questionnaires. To increase the chances of return on the questionnaires, the researcher communicated with people from various groups urging them to respond and take the exercise seriously as it had the potential to come up with recommendations that could be highly beneficial to them socially and economically.

The other challenge that is easily solved by questionnaire is of geographical location. Nyamuzuwe area is gigantic and pigeonholed by bad roads, so the researcher had the chance to give Bus drivers to hand post the questionnaire to schools and return those that were completed, while also administering some himself. Thus Questionnaires becomes time and cost effective.

On the questionnaires, the researcher distributed some of them personally to the selected respondents. During the distribution process the researcher also had the chance to explain

to the respondents the importance of the research. He assured them that the information collected was only for academic research purposes and made sure that the respondents accepted voluntarily to participate in the study.

The returned responses reflected that, people responded freely and fully. The questionnaires had varying responses as compared to the interview responses. Questionnaires thus reduced chances of biases. With interviews, the interviewer can influence the outcomes since interviews present an opportunity for the researcher to ask leading questions so as to arrive at intended responses.

Since the questionnaires came back on different times and dates it was easy for the researcher to systematically go through all of them. To the respondents, questionnaires are also more convenient because they complete questionnaires on their own free time, enabling the respondents to complete a questionnaire when one could and with one's pace.

3.7.3 Interview Guide:

(IPMZ Research Methods Module, 2010) defines an interview as an oral, in person administration, of a standard set of questions that is prepared in advance Frey and Dishi (1995) define interviews as "a purposeful conversation in which one person asks prepared questions (interviewer) and another answers then (respondent/interviewee)".This is done to gain information on a particular area to be explored. Interviews are a useful tool which can lead to further research using other methodologies such as observation and experiments (Jensen and Jankowski 1991; 101).

For the purpose of this study, the researcher used structured interviews. Structured interviews are defined by Nichols (1991) as a social survey where the range of possible answers to each questions is known in advance. The agenda on protocol has standard set questions that are asked to all the interviewees. The questions include open ended and

close questions; here the interviewer does not probe except to get clarification. Frequently, possible answers are listed on the form so that the interviewer simply marks the appropriate reply in each case. There is little freedom for flexibility, due to the fixed question order. Each respondent is given the same question to foster uniformity. This has its advantages in that the information is easily quantifiable and allows the responses to be compared.

3.7.4 Significance of Using Interviews

Interviews enabled the research to have a clear emotional understanding of the subjects. The researcher would have not understood why some subjects were frustrated. As a result of a face to face interaction this puzzle was solved as some respondents went out of their way to explain their dilemmas and how their dreams were shattered as a result of these quarry mines. It is not possible to directly observe feelings. It was also through the interviews that the researcher was able to have a clear understanding as to why some of the respondents behaved in the manner they did. It was through interviews that the researcher was able to measure the level of hate harboured by some of the respondents. As the respondents were being interviewed they laid their worries so openly and through such an interaction, the researcher begins to make sense of the observed findings. So through interviews, the researcher was able to come up with emotionally attached results.

The interviews further enabled the researcher to probe dipper and was able to fill the missing gaps that characterised the questionnaires. Questionnaires appeared to be a bit limited as people concentrated on answering only what was asked, but through interviews the researcher was able to probe deeper beyond what was asked by the structured questions. As people responded they also touched on areas that the researcher had overlooked thereby making the findings rich. On top of enrichment, interviews increased accuracy in regards to the response as the researcher had the chance to review his question

and restructure them in the best comprehendible way. Through interviews the researcher was also able to translate the questions in Shona, since some of the rural people could not comprehend the questions.

Chikoko and Mhloyi (1995) define an interview as a face to face administration of the questionnaire. The main advantages of face to face interviews are that they can be administered to an illiterate population and give room for classification of statements that might seem ambiguous to the respondent. Interviews also have an advantage in that one could pick something from the non-verbal cues as the respondents gave their responses. By virtue of obtaining immediate answers, interviews provided a higher response rate than questionnaires. Interviews were used for all the selected groups

3.8 SUMMARY

The chapter adopted the qualitative research design in which the research subjects as well as the sampling procedures have clearly been provided. The researcher used two data collection techniques namely the self-administered questionnaires and personal interviews. This ensured collection of both qualitative and quantitative data. The researcher was also able to collect data through observing the subjects in Nyamuzuwe area as well as workers at NSEC. The research instruments were basically administered following an appointment with councillor and directors of the quarry mine and these have been analytically described to bring out their strengths and weaknesses as a way of justifying their selection and suitability to research. The population under study involves workers at the quarry and villagers (surrounding communities). The next chapter focuses on data presentation, discussion and interpretation of the research findings.

CHAPTER FOUR

DATA PRESENTATION, INTERPRETATION, ANALYSIS AND DISCUSSION

4.0 INTRODUCTION

The research was undertaken to establish the socio-economic impact of quarry mining on surrounding communities of Mutoko District. The chapter presents, interprets, analyses and discusses the data collected through questionnaires, interviews and observation to answer the four research questions. The researcher also used secondary data in this current research. The secondary data was in the form of council reports, full council meetings and NSEC reports. Chapter four is based on the four research questions as follows, effectiveness of the strategies employed by NSEC in promoting rural development, limitations of the strategies adopted by the NSEC in promoting rural socio-economic development, current socio-economic development intervention measures employed by NSEC and to establish remedies to improve the strategies adopted by NSEC in promoting socio-economic development.

The presentation and analysis of the data is done concurrently using pictures and some percentages. However, the researcher gives a description of the findings on each of the research questions. Pictures were used as evidence for the findings based on the research carried out at NSEC plant. The visits enabled him to observe and come up with first-hand information on the operations of NSEC.

4.1 PRESENTATION AND DATA ANALYSIS

Table 4.1 response rates for questionnaires, interviews and focus groups

	Population	Sample size	Response	Response rate
Questionnaires	Villagers	20	17	85%
	Councilors	5	5	100%
	Government Heads of departments	10	8	80%
	District Administrative management stuff	5	5	100%
	Teachers	10	8	80%
	Workers	10	10	100%
	NSEC Management	5	5	100%
	Total	**65**	**58**	**89%**
Interviews	Villagers	20	20	100%
	District Administrative management stuff	5	3	60%
	Teachers	10	10	100%
	Councilors	5	5	100%
	Workers	10	10	100%
	Total	**50**	**48**	**96%**
Focus Group Discussion	Workers	10	10	100%
	Villagers	10	10	100%
	Total	**20**	**20**	**100%**

Source: Research data (2015)

Out of 60 questionnaires handed out to various groups, a total of 53 have been responded to, 7 of the questionnaires have not been returned. This translates to 88% of the questionnaires returned. Of the scheduled interviews 50, 48 were carried out with villagers, councillors, teachers, workers, top management and department heads – that is 96% response rate for interviews. Lastly, of the total 10 villagers and 10 workers, who were supposed to participate in focus groups, 100% of them have participated (that is 25

out of 25). Therefore the focus groups were adequate since Wilkinson and Birmingham (2003) argued that an ideal focus group should not have fewer than four and more than twelve participants.

Data was collected from 10 Quarry workers, 5 NSEC Management staff, 10 Government heard departments, 5 District Administrative Management stuff and 20 villagers, 10 teachers and lastly 5 councillors, The total number of respondents (villagers) who were directly affected by quarrying operations was 16. Out of the 20 questionnaires distributed 17 were returned. Gay (1987) recommended such a return as having surpassed the 70% level of applicability. However, the validity of the research findings was strong enough to generalize the research to the population under study. The interview data complimented the questionnaire data.

Table 4.2: Total Response rate

Sample Size	Participated Respondents	Response Rate
65	**58**	**89%**

Source: Research data (2015)

Out of a sample size of 65 respondents only 89% - that is 58 respondents - have participated in this research. The response rate is quite large enough to thwart response bias – hence the research results are valid and reliable.

4.2 RESEARCH RESULTS

Table 4.3 Sex of Respondents

Sex	Number of Respondents	Percentage
Male	45	69%
Female	20	30%
Total	**65**	**100%**

Source: Research data (2015)

Out of a total of 65 respondents 45 (69%) of them were male and 20 (30%) were female. All of the 10 quarry workers interviewed were male, interviewed 10 villagers were female, 2 councillors were females, of the 10 heads of departments 3 were female, 5 of the teachers were females and the 5 top management were males. The sex of respondents has had influence on some of the responses, for example, on questions like which group of people is most affected by the operations on NSEC. Most women householders pointed out that women are affected more than men as the impacts are double fold. Firstly the women are affected by deaths of their husband and secondly they are being left to fend in the fields alone.

Table 4.4 Ages of Respondents

Age Group	Frequency	Percentage
Below 18 years	0	0%
From 18 – 30 years	20	30%
From 31 – 40 years	25	38%
From 41 – 50 years	15	23%
From 51 – 60 years	3	4.6%
Above 60 years	2	3%
Total	65	100%

Source: Research data (2015)

From table 4.4 it is clear that the majority of the respondents are between the age of 18 and 50 (constituting 91% of the total respondents). According to Waugh (2009), this age group is the most economically active. The age group of 18 – 30 years had 39% of the respondents, 31 – 40 years consisted 38%, 41 – 50 years consisted 23%, 51 – 60 years had 4,6% and above 60 years consisted 3%. The age of below 18 years had 0% respondents. This means that data was elicited from mature people who had adequate knowledge of what was required by the researcher. For example, when respondents were comparing the socio-economic situation before the advent of NSEC and the current situation, one of them argued, “Elders are likely to provide vivid knowledge than us, since some of us were still

young in the 1970s". The older generation was very helpful and surely they provided the required information when they expressed their 1970s experiences. This alone reflects that, adequate data was provided for this research.

4.3 EMPLOYED STRATEGIES BY NSEC IN PROMOTING RURAL DEVELOPMENT

4.3.1 Employment Creation and its Effectiveness

One of the major economic benefits brought about by black granite quarrying in Mutoko District is that of employment creation. Amongst the work force, approximately 80 percent are people employed from within the district, whilst only 20 percent are people employed from other parts of the country and abroad. Amongst the inhabitant employees, seven percent of these workers come from a distance of 20-30 kilometres radius from NSEC mining premises. This reflects that, most of the employment opportunities have been occupied by the local people from within the district, particularly by those living in close proximity.

The major processes involved in granite mining includes stone measurement and quality assessment, sampling, excavation, drilling, blasting, washing, transportation, and processing, this last stage is carried out in Harare in the case of NSEC. Most of this process does not require people with expert knowledge implying that, even unskilled people can occupy theses posts. This is advantageous because employment for the locals becomes easy and not requiring any red tapes for one to be employed. The uneducated in turn also have the chance for employment in these very mines. Such mining activities have been a Messiah in the making. People are now able to involve themselves in off farm activities. Most rural economies in Zimbabwe are agro based and the economy is fed by peasant labour. So when mining companies require more of unskilled labour it means most local

will obtain jobs. This is positive in the sense that, it creates a diversified economy for Mutoko. The economy seizes to be just an agro based economy.

To establish the effectiveness of the strategy of employment creation, an assessment to ascertain the income earned from NSEC was carried out. The assessment reviewed that, 85 percent of the employees were able to replace the pole and dagga houses with improved modern houses constructed by bricks and iron sheets. From the assessment, the evidence proved that hygiene standards have since improved as people were also able to construct pit latrines on their residents. A visit to the area reflects better standards as compared to others rural areas. By extension this has also improved living standards of these local communities. This has significantly improved the hygiene standards of the local people, standards which are not often synonymous with rural societies, thereby improving the living conditions of the people.

Agricultural work was made easier as some were able to increase draught power. An improved draught power is a symbol of wealth in rural communities. As a result of the increase in draught power, food security was also improved in these households and in the community at large. This is due to various reasons, first the ability to plough large areas with the help of the purchased draught power. Secondly due to the fact that, the employed people can now manage to go to areas like Harare to purchase food for their families. An improved financial standing enhance food availability as also postulated by Sen (1999) who advocates for improved entitlements

Despite the positives brought by NSEC in regards to employment, one would not go without noticing that, most of the employed people are unskilled hence their wages are very low leaving the bigger chuck of the money to the small highly skilled employees. The worst part is that the highly skilled employees are externals and whatever they get they use

it to develop other areas and not Mutoko. Seventy-five percent of the interviewed workers were unskilled workers, the remaining 25 percent consisted of the skilled employees. Of the 25 percent those from within the district constituted only 5 percent. What this means is that much of the bigger chunk is shared among a few, whilst a small percentage of nearly 30 percent was reserved for the unskilled local workers. Despite the fact that, the rate of employment was at about 85 percent, 90 percent of the interviewed proved to be disgruntled with the remunerations. It is not about how many are employed but about what one gets and what one is able to do with the money earned. In this case, the strategy of employing the locals seems to be marred by the little remunerations they are giving them. NSEC becomes a company characterised by capitalistic tendencies

Most of the interviewed workers earned between US $250-300, this falls so much short from what is required by the poverty datum line of US $500 per family of four. The average family size for interviewed married workers was as high as eight.

Employment should not only be based on what the mines can offer. NSEC could have constructed sister companies or helped locals to come up with cutting and polishing companies to value add the Granites stone before it leaves Mutoko. The lack of such industries means that more jobs are being lost in the process. Stones are carried to the capital city and yet only 30-40 percent of the black granite is being processed in Harare into finished products. Value addition is what Zimbabwe needs if its economy is to grow rather that exporting cheap raw materials and buying very expensive finished products. All the interviewed people reflected that they desire an industry that deals with value addition in Mutoko.

4.3.2 Development Levies

Other than creating employment for the local communities, NSEC has been remitting development levies to Mutoko Rural District. For every ton of black granite mined and transported out of the district by NSEC, Mutoko Rural District Council gets US$5. The same ton for which the MRDC gets US$5 gives NSEC US$1.800. In this regards, the US$5 levy is too low and insignificant. The Rural District Council is not benefiting in any way since the Mine and Minerals Act has authority over all mining activities leaving little room for the Local Authority to control resources in its area of jurisdiction. Ever since the reclassification of the Granite stone into a mineral, the Local authority has not been getting the development levies. This is so because, after the reclassification, the Mines and Minerals Act assumed control and repealed the Rural District Councils Act and all authorities, such as land uses. Due to this, the Rural District council is only paid for infrastructure losses and not for the losses resulting from land degradation.

4.3.3 Economic Costs of Quarry Mining

Mining operations have destroyed some water sources as well as contaminating them. Since Mutoko is dependent on horticultural activities, a great number of residents have suffered immensely as their livelihoods are being destroyed through loosing agricultural land to the quarry mine. 20 interviewed residents showed that they depended on horticulture for their survival and income generating activities. A big part of Nyamuzuwe area has been economically challenged as gardens and wells are drying up. This has become the common trend in Nyamuzuwe and other nearby areas like, Kawazva, and Kowo. So the current economic challenges affecting Nyamuzuwe community emanates from the operations of NSEC which in turn has negative social impacts.

Residents have also lost agricultural land to road construction and rabble dumping sites. When the rural population loose land, it simply means an end to their means of survival

since they are agro based and highly depend on land for their livelihoods. It is the same agricultural land that determines the economic activities of Mutoko people in general. Children are educated through the money generated from agricultural activities. 5 interviewed people from the local community lost some of their land to the mining activities. Because of the communal system of land tenure, where the government remains the legal owner of the land, farmers lack the tenurial rights. In such situations claiming compensation becomes impossible. Famers end up being compensated only for houses and other infrastructure. It was not only the Local Authority that lost authority but the villagers too. The Mines and Minerals Act also overrides the rights of villagers to claim compensation. What pains most is that, most of the land lost to NSEC constitutes the most fertile lands, in the process compromising house hold food security. This usually has a ripple effect; food insecurity normally starts at house hold level and escalates into a district crisis.

The advent of NSEC has also removed some of the man power from the fields to their quarrying sites. This has created bottlenecked peasant agriculture. This, in the process, has left women and children to tend the fields and thus, further reducing the already low yields. Seventeen of interviewed villagers confirmed that, the operations of NSEC have taken away all the meaningful labour from the fields. This leaves the vulnerable groups (women, children, and the elderly) to shoulder the responsibility of producing food. This with no doubt leads to food insecurity among the affected families.

4.4 DEVELOPMENT INTERVENTION MEASURES EMPLOYED BY NSEC

4.4.1 Development Royalties to the Local Council.

An interview with Mutoko Rural District Council Chief Executive Officer , Mr Peter Sigauke showed that the local authority is not getting anything from quarrying companies

except very little development royalties of a dollar per cubic which he describes as the value of a loaf of bread. He said the local authority and its people were supposed to benefit from the Government initiated program called the Community Share Ownership Trust but nothing has materialized. Before Black Granite was declared as a mineral, companies were paying royalties to the Council. This led to the construction of Mutoko High School and several clinics within the district. When Government declared Black Granite as a mineral, quarry operators stopped remitting these royalties to Rural District Council. A ninety -nine percent majority of respondents whom the researcher interviewed strongly criticized some senior politicians who have infiltrated the quarry mining fraternity. They strategically positioned themselves and they are thwarting every effort initiated to benefit the community. Therefore, evidence from interviews and questionnaires showed that, the foreign investors or owners of NSEC are not the problem but fraudulent local politicians are responsible for the bleeding within the Nyamuzuwe community. This is confirmed in Tujan and Guzman (1998) when they argued that "…like many of the other sectors of the economy mining is either small- scale and isolated, but concentrated in the hands of the local rich and their foreign cohorts." Politicians have become a reverse force of all the gains previously made. Closely related is the issue of corruption. Most of the heads of departments criticised corruption. At one point, NSEC pledged money to have the district sports ground Chikondoma to be refurbished but the money disappeared and was never accounted for.

4.4.2 Community Share Ownership Trust

As of 17 April, NSEC had contributed only US$2500, despite the fact that, they have been operating in Mutoko since 1972. NSEC is amongst the mining companies that have been refusing to contribute to the scheme. The management acted surprised when asked about CSOT, implying that they are not aware of the extent and dictates of the scheme. They take

CSOT as a political intervention and not as a means to give back to the community. All the respondents particularly workers have shown concern over the resistance to give back to the community. When the local leadership where asked as part of the sample they confirmed that NSEC has been doing nothing in terms of giving back to the local community. For the past years NSEC has not been even paying royalties. Royalties have been part of the strategy adopted by NSEC as a way to give back to the community. Evidence on the ground has shown that they have not been paying these royalties for the past ‘three years in counting.

NSEC had also agreed to be part of the CSOT when it was launched by the president of Zimbabwe, but it took them this long to contribute a paltry US$2500 to the Community Share Ownership Trust. This strategy has proved to be ineffective as a way to give back to the community, since it seems to be a non-entity to them. Most of the questionnaires also proved that this intervention suffered a blow as it was hijacked by politicians. In the case of Mutoko, the deposed former minister of state for Mashonaland East Province was one of the politicians who blocked the contribution to the CSOT money. 80% of the questionnaires proved that NSEC’s strategies where ineffective and has failed to give back to the community.

By observation, the researcher observed that schools, roads and hospitals remain in a poor state despite the fact that, miners are blasting mountains to extract the granite stone in the process living pits that have been killing humans and animals. In the same effort most of the respondents highlighted that they have been losing grazing and farming land. This does not end here as respondents blamed the mines for the cracks that are developing on their buildings.

4.4.3 Infrastructure Development

NSEC claims that it has helped schools with some roofing materials and has helped in some cases to build class room blocks. The community rejected such claims and stated that they only chipped in on projects already in process. The company have failed to drill boreholes for the community despite making promises since its inception in 1972. At one point, the respondents claim that they have been asked to buy casing for the boreholes, but when the time came for implementation the company went back on its promises.

To date, NSEC depends on Kowo clinic for emergencies; they failed to construct their own clinic to cater for emergencies. In mining activities emergencies are common thereby highlighting the necessity of a clinic. NSEC Company is a big company that has been operating for the past 32 years. Their failure to build a clinic indicates that they do not care about the community and the health of their workers. Despite failing to construct a clinic, NSEC has even failed to buy an ambulance for the community. 10 of the interviewed workers confirmed that at times they are taken to Kowo clinic in the loading boxes. This does not reflect a sense of CSR on the part of NSEC.

In regards to roads, gravel roads have also been constructed in several areas. Through this many have improved mobility and attracted transport operators, in the process, easing transport challenges in the Nyamuzuwe community. The residents are also depending on this very road to transport their horticultural produce from Nyamuzuwe to Harare. This enables families to sell their produces and use the money to transform their livelihoods. As good as this seems, the roads were constructed for the purposes of transporting the granite stones. Villagers therefore only benefit by chance, by virtue of being Nyamuzuwe residents. These very roads are not constructed with specified requirements and they are not surveyed at all. The researcher observed that most of these roads are now far below the ground level meaning that they have become galleys. Such roads promote soil erosion and

create runway paths for rain water. When water finds such paths it means it will gain a lot of speed when it flows and in the process destroying bridges since the gullied roads do not have culverts to divert and reduce the speed of flowing water. More than 50 heavy trucks visit the quarrying site on a weekly basis in the process destroying the poorly maintained roads.

The above social benefits that came as a result of the establishment of NSEC in Nyamuzuwe have been met with mixed feelings by the local communities. Firstly, these benefits are not proportionate with the huge profits that NSEC quarrying companies is reportedly getting. Secondly, these social benefits are not counter weighing the social costs that have also arisen due to the same black granite quarrying operations.

4.4.4 Philanthropic Work

Some positives may be noted in philanthropy. NSEC is paying school fees for the less privileged. This is a good initiative as it ensures a better life for the educated pupils. This reflects a sense of CSR on the part of NSEC Company. Yet, as good as this seems, the effectiveness of this approach is questionable, rural education is very cheap and in most cases substandard, characterised with poor resources and lack of adequate teaching materials. The relationship between those that pass and continue against those that fail and become quarry workers is not balanced. Also considering the fees in rural schools are very low, a student pays US$ 25 a term. So considering what they rack in as profit one would expect the company to take these students to better schools and increase their chances to make it through academically.

It is true that they sometimes help to repair class blocks that would have been washed away by heavy rains. NSEC usually assists with roofing material on surrounding schools. Annually most schools in Mutoko lose their roofs during the raining season due to

substandard building materials. Ironically, NSEC continues reroofing these dilapidated buildings. It would have made more sense if they could construct new blocks than continue roofing these dilapidated class room blocks. One would also expect to see the company building a state of the art school for its employees. In its 32 years of operation, NSEC failed to build a school as part of giving back to the community. Most of the respondents stated that, the school fees assistance is just as good as a bribe and has proved to be unsustainable. To them it does not make much sense to pay fees for a student without school uniform

At one point, the NSEC sponsored a food ball club and it managed to reach to division 2. This was a good initiative as it could have acted as a source of extra cash to supplement the low wages to the workers. The football team was also good because it also took on board other local people who were not employed by NSEC. In a way, this was a means of employment creation. This was also a means of recreational activity for the communities. But this effort died a dismal death as the management argued that the money being used to sponsor the team was depleting the profits. As of now, the team is still in existence but the players are not getting anything out of it.

4.5 IMPACT OF LAND DEGRADATION ON SOCIO-ECONOMIC

Figure 4.1 A Diagrammatical Representation Of Deforestation and the Lost Astatic Value at Natural Stone

picture taken by researcher on observation 24/02/2015

The respondents gave various ways in which the mining activities are affecting the population and the environment in general. Ninety percent of the questionnaire respondents indicated that they were displaced compulsorily and deprived of their fertile land. Ten percent complained that they were not displaced but their fields were forcibly reduced by half. The open land and fields taken by mining companies was used as dumping ground. They even indicated that their soil is now of very poor quality hence posing serious threats of hunger. The soil now demands more fertilizers which they cannot afford. The bottom line on soil production is that it takes (on average) about a hundred

years to generate a millimetre of soil (United Nations Convention TO Combat Desertification (UNCCD: 2005).

Besides fields dispossession, the respondents indicated that they are deeply affected by severe dust and noise pollution. The sources of noise and vibration in Nyamuzuwe area comprise mobile equipment, air blasts and vibration from blasting and other machinery. Impact of noises has the potential to damage the hearing system, cracks in buildings, trauma and uneasiness. The noise also affects animal population. The noise frightens animals and in the process affecting their mating processes.

This colludes with ZELA,(2014)'s assertion that as the land resource base becomes less productive food security is compromised and competition for dwindling resources increases, the seeds of famine and potential conflict are sown. The remaining eleven percent who according to their information lives at the far end of these quarry mines was not very much affected.

Figure 4.2 Dumping site, agricultural land taken by quarry miners without authority

Photo taken by researcher on 27/02/2015

On both the questionnaire and interview question 'In what ways has NSEC impacted on the lives of local people?', majority of respondents indicated that, the coming of NSEC has negatively affected them. For example they now rely on market gardening for their livelihoods. The water that they used for farming activities came from natural springs in the mountain. The respondents highlighted that due to quarrying activities the mountain aquifers dried up. Life has been made more difficult through the drying of wetlands. They cannot even dig a well since the water table is lowered.

Figure 4.3 A polluted drying local stream at Natural Stone Quarry

Researcher took this photo at the Quarry on 26/02/2015

4.5.1 Lack of Reclamation

The majority of the respondents confirmed the occurrence of serious accidents that took human and animal lives. The first such disaster involved a thirty-four year old man called Chidharara of Nyamuzuwe area. The victim fell in the pit at night and died. In a similar incident, a thirteen year old Mazhowe, a student from a nearby village fell in one of these pits whilst they were playing. In a more similar incident, a girl Thelma Karimazondo, a grade two girl, fell in a pit and died. The researcher personally observed this incident since he arrived just- in-time whilst the body of the girl was being dragged out. The pits have become death traps to the community. Nyamuzuwe community is characterized by such

pits. Data gathered from the sample population is that many cattle have died from falling into these pits. Some have died from drinking contaminated water.

In terms of reclamation NSEC confirmed they have someone responsible for such activities. The irony about this is that, the person is not even closely qualified for such a crucial responsibility. When reclamation is properly done lives could be saved. The community when interviewed confirmed that they have not seen any reclamation activity except a nursery which was created for the purposes of reforestation but this nursery is just as good as a no entity. There is no life at the nursery, as most of the trees are dying.

Figure 4.4 Examples of poor reclamation: People and livestock fall/die in pits.

This picture was taken by researcher

The respondents even mentioned malaria and diarrhoea caused by mosquitoes that breed in the stagnant water held in unrehabilitated pits and the unhygienic conditions respectively. About ninety-four percent of quarry employees' sample population and five people from the community population who claimed to be ex-employees complained of

stagnant water related diseases. Fourteen people complained of cancer, ten people complained of cough, thirteen people complained of cold, seven people asthma and six people suffer from conjunctivitis and only fourteen people had no health complaints. Mabogunje (1980) also reiterated that quarry miners blast mountains to extract the granite rocks and leave huge pits that have resulted in death of people and livestock. These pits also generate negative health conditions for the people. When people gets ill, this translate into reduce labour for agricultural purpose. When this happens the ripple effects goes on to affect household level food security.

SUMMARY

Overally, this chapter presented, interpreted, discussed and analysed the questionnaires and interview data that was used to answered the research questions and objectives. A summary of the findings, conclusions and recommendations of the research are explained in chapter five.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 SUMMARY OF FINDINGS

The study found out that there was a superficial way of identifying the impact of land degradation to the people and the environment of Nyamuzuwe and Kowo quarry mining areas. In spite of the fact that the Government had integrated the local community into schemes like CSOT to foster sustainability, the community portrayed great ignorance as to the expectations and dictates of this scheme. As a result, the community was not empowered to claim their 10 percent from NSEC. The study also established that NSEC belongs wholly to foreigners even though they have joined with very few blacks to discredit claims that it is a white-owned company. These blacks act as a barrier between the community and the NSEC. These people includes political heavyweights who are the Whiteman's tools to quietening the suffering masses and consume their strength .In addition to that, their resources are plundered for no return or compensation. The roads are in a poor state and some bridges that collapsed due to heavy haulage trucks operated by NSEC have not been repaired and local people are living in poverty. NSEC is causing a lot of land degradation without any sign of rehabilitation. Mine dumps and pits are left open and this endangers the lives of people and livestock. Quarry mining operations in these areas have had an adverse effect on the water supply. Mining in this area has caused a lot of environmental, socio-economic and cultural damage.

NSEC has not invested in any meaningful infrastructural development in the community. Haulage trucks that carry granite from Mutoko to Harare leave behind dust and make extra noise on top the noise from the blasting noise. The blasting process causes houses and

schools to crack. The miners are reportedly blasting sacred mountains where traditional rituals used to be practiced by the local population. There are various cases were some families are being relocated in the process they lose their pastures and agricultural land to mining companies. As to the reason why society of Nyamuzuwe is not benefiting from their natural resources, it is asymmetrical realities in the form of dubious contracts, corruption and tax evasion as well as asymmetrical balance of power promoted by a weak regulatory framework.

It becomes apparent that, the operations of NSEC brought both benefits and cost with the costs outweighing the benefits. The benefits were in the form revenue generation for the Mutoko Rural District Council (taxes/ royalties), employment creation as well as minimal infrastructural development. The costs brought by the operations of NSEC include the, creation of labour bottlenecks for peasant agriculture, lowering of water tables, destruction of agricultural land, destructions of roads, environmental degradation, cracks in the nearby buildings and habitat destruction.

5.2 CONCLUSIONS

Research findings revealed that black granite mining was a source of conflict between villagers and NSEC. The villagers believe their social, economic, cultural and environmental problems are caused by operation of NSEC. Communities are deprived of agricultural land, natural resources and the right to peace. Land clearance for mining purposes ,infrastructure development work, soil erosion, siltation ,heavy trucks and machinery as well as the type of technology used, dust and noise pollution ,land and water pollution are all caused by the operations of NSE.

5.3 RECOMMENDATIONS

The following are some proposed recommendations with the aim to enhance the benefits at the same time transforming negatives into positives. The recommendations aim to ensure that the operations of NSEC contribute towards sustainable development in Mutoko. For the benefit of the Nyamuzuwe community and Mutoko at large, there is need to attract and establish granite stone processing industries to value add on the granite stone. A cutting and processing centre has to be established in Mutoko and not in Harare as is the case with the diamond cutting and polishing centre. Establishing such a centre in Mutoko will ensure that, the locals will largely benefit from this initiative in the form of employment. This initiative will create more employment opportunities to augment the current existing low level employment opportunities. Value addition initiatives will also stimulate related industries and services. This will create an opportunity for people to create companies that offer services such as, plant and equipment hire, equipment maintenance services, manpower development, amid others, thereby creating cluster economies of scale. This will ultimately transmute Mutoko Growth Point to a viable mining town which will be capacitated to enhance livelihoods and develop the community.

Secondly, Mutoko Rural District Council (MRDC), as the local authority should be given more control over its mineral resources. It is the RDC authorities who know what the district and residents desire. This should include the power to offer mining claims to quarrying companies and the power to claim royalties from them. As of now, that control was whisked away from them when the late vice president, Zvobgo, classified the granite stone as a mineral. The resultant effect of the classification was that, the Mines and Minerals Act assumed authority over the mineral living the local authority with little or no control at all. Of late, the Mutoko Rural District sued most of the quarry mines, NSEC included, but the governing board ordered them to withdraw their court papers and urged

them to engage the mining companies in a dialogue. All this has not yielded any positive result beneficial to the Local authority and its residents. Thus, returning power and authority to administer the Black granite stone to the local authority has the potential to increase and at the same time strengthen the revenues collection of the Local authority. This will then capacitate them to develop Mutoko into a small mining town. The development will be in the form of, improved roads, hospitals, schools and extensive rural electrification. What this implies is that, there is need to amendment the Mines and Minerals Act, which at the moment does not give the Local authority any jurisdiction over the natural resource harbour in their area of jurisdiction. In regards to this recommendation Mutoko Rural District Council at one point sent a request through the Zimbabwe Local Government Association to be given such authority. Nothing has been done so far hence the Mines and Minerals Act is still controlling every mineral in the country. If all Rural District Councils could envision such a model and lobby together I am sure the impact will enable parliament to push for such an amendment. This will ensure that Rural District Councils are remodelled and in the process given power and control over their natural resources. The resources can be in different forms that includes mineral, floral, or faunal.

There is need for all Black Granite quarry workers to form a strong union through which they can air out their concerns with one voice. This will give them the opportunity to be members in the national level Trade unions, like the Zimbabwe Congress of Trade Unions. Being affiliates will ensure them enhanced influence and bargaining power. The current issue of low wages will be challenged and interrogated. The union will lobby and advocate for better remunerations and improved working conditions. The union will also ensure that, those that get injured during work are highly compensated. There are various benefits that can emerge from a union, currently these workers are not ensured and are not on any medical aid coverage. These benefits can be realised through lobbying and advocacy. So

there is need for all the mining workers to form a consolidated workers union. The current existing workers union is toothless and highly fragmented.

The fourth recommendation is directed to the Local business people. The business community could merge and create their own quarry mining company. They need not only form a mining company but also establish a cutting and processing centre. The benefits from such an initiative will be immense. Such an endeavour ensures that, the local entrepreneurs will plough back in an economically effective way to their land of origin. If they are seen practising CSR from their limited coffers, what if they are financially capacitated through engaging in Black Granite mining? Forming their own mining company and developing the community will also attract investors. Investors would want to come were they will have constant supply of electricity for business ventures. So if the local business people merge they will push for a more developed home, unlike the current situation whereby, the foreign owners of quarry mines do not see Mutoko as their home but a raw material base. Establishing a local quarrying mine ensures more economic benefit to the locals streaming from their own resources.

There is need to come up with powerful acts to protect our sacred shrines and graves. The current quarrying operations are characterised with the disregard to our sacred places. In our culture a grave is sacred and means much to the bereaved of the departed. Presently, burial place are being destroyed during the quarrying processes. There is need to mandate the quarrying companies to exhume and fund a reburial for the remains they come across in their mining operations. This will compel them to respect our African culture at the same time enhancing a good rapport with the local villagers.

There should be no quarrying activities near areas that enable viability of gardens or containing swamplands. This will ensure the continuous existence of an important economic activity in the district (horticulture), while also protecting swamplands, which

are ecological hotspots. The existence of swamp lands ensures prolonged horticultural activities throughout the year. This is so because swamp lands or wet lands acts as sponge that conserves water. As the grounds gets dry the wet lands gradually releases water thereby ensuring a continued supply of water to the local community. Other than concentrating on Environmental Impact Assessments (EIA), EMA should foster policies that effectively protect these wet lands.

Reclamation of quarried areas is of paramount importance. To ensure that this is achieved and carried out effectively, there is need for an enhanced and effective Environmental Impact Assessment. There is also need for quarrying companies to establish Environmental Management Strategies. These environmental management strategies should be closely monitored by the Environmental Management Agency (EMA) with the aim to ensure that the set environmental targets include rehabilitation of quarried areas as well as to ensure that these activities are carried out. EMA's monitoring and enforcing strategies are very insignificant. This is so because sometimes they lack control over the politicians. Strategies should not be a respecter of persons, when strategies are this weak this creates room for corruption and bribes which is the case in Mutoko. Politicians are paid money and in turn they become the protectors of defaulting companies. The other challenge affecting EMA is man power; there is only one officer to service the whole district. One man is insufficient for such a big task. If anything meaningful is to be achieved man power needs to be beefed up.

To ensure that reclamation is carried out, there is need for strategy or a performance measure. Those who perform badly should be fined rather than living everything to chance at the expense of the environment. Such fines ensure environmental security. Those who continue failing to measure up to the expected performance should in due course have their licences cancelled and terminated. The termination of the contract should include a clause

that mandates them to reclaim the mined area before they move out. This will be a measure to ensure that, the environment is sustainably utilised.

The last recommendation is on CSR. There is need to come up with laws that govern CSR and stop treating it as philanthropist initiatives. Most mining companies in Mutoko are foreign owned implying that these people are never compelled to develop the community because after their operations they will go back to their more developed homes. They develop their homes with the money they get from our natural resources. The bonuses we get are ghost town full of dangerous pits. So there is need to establish a percentage that they should remit monthly to the Local Authority toward CSR. The researcher proposes that, for every profit they get they should seed back 5 % to the community. This money will be used to build schools, clinic and roads. If NSEC could not build a clinic in their 33 years of operations it simply means they do not care about the community they operate in. So it will be good for them to pay CSR fee to those who care to develop the community.

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APPENDICES

Appendix I: Questionnaire for NSEC Management

INTRODUCTION

Each and every questionnaire is attached to an introductory letter.

INSTRUCTIONS

- Do not write your name or any other person's name in this questionnaire
- Please tick [√] where applicable
- Write your responses in the spaces provided
- Answer all questions.

SECTION A

Homesteada…….

1. Gender: Male [ ] Female [ ]

2. Level of Education: Ordinary level [ ] Advanced level [ ] Certificate [ ]
Diploma [ ] Degree: Undergraduate [ ]
Masters [ ]

3. Age:

Below 18 years [ ] From 18 to 30 years [ ] From 31 to 40 years [ ]
From 41 to 50 years [ ] From 51 to 60 years [ ] Above 60 years [ ]

SECTION B

5. What do you understand by the term Corporate Social Responsibility? *(Please tick where appropriate)*

- It is when an organisation return some of its profits back to the community [ ]
- It is when mining companies employ locals. [ ]
- Not sure [ ]

6. Which strategies are being employed by NSEC to improve social and economic situation in Mutoko?

Development levies [ ] Community share ownership Trust [ ]
None of the above [ ]

(a) Explain why you chose a strategy you have chosen on question 6?

It is effective [ ] It's evidenced on the ground [ ] Not sure [ ]

7. What do you think is mostly affected by the Operations of NSEC operations?

People [ ] the environment [ ] Livestock [ ]

8. Have you ever witnessed the following as the effects of the operations of NSEC?

	Yes	No
Deaths of people	[ ]	[ ]
Loss of livestock	[ ]	[ ]
Food insecurity	[ ]	[ ]
Malnutrition diseases	[ ]	[ ]
Insufficient water for domestic use	[ ]	[ ]
Los of agricultural land	[ ]	[ ]
Cracked buildings	[ ]	[ ]

(a) If there is/are any other impact/s please specify:

……

……

9. Does NSEC have a workers committee to lobby for employees? Yes [ ] No [ ] Not Sure [ ]

(a) If, **Yes** would you please list the members of the committee:

……

……

……

(b) How often does the committee meet?

Once every week [ ] Once in a month [ ] Once a year [ ]

Once in every three months [ ] Once in six every months [ ]

10. (a) How do you identify stakeholders to be part of the CSOT?

Approach those with resources [ ] willing stakeholders approach us [ ]

Vote for members [ ] Not sure [ ]

(b) Which methods do you use to engage various stakeholders in the management process of the CSOT?

	Yes	No		Yes	No
Meetings	[ ]	[ ]	Internet Websites	[ ]	[ ]
Working groups	[ ]	[ ]	Workshops	[ ]	[ ]
Whatsapp groups	[ ]	[ ]	Circulars	[ ]	[ ]
Facebook pages	[ ]	[ ]	Newsletters	[ ]	[ ]
Publications	[ ]	[ ]	Surveys	[ ]	[ ]
Surveys	[ ]	[ ]	electronic mails	[ ]	[ ]\

(c)Which method of engagement do you mostly use?.....

(d) Why do you mostly use the method you specified in (b)?

It is not expensive to use [ ] It is effective [ ]

It is both cheap and effective [ ] Not sure [ ]

(e) Why do you engage stakeholders?

To inform them	Yes [ ]	No [ ]	Not Sure [ ]
To consult them	Yes [ ]	No [ ]	Not Sure [ ]
To involve them	Yes [ ]	No [ ]	Not Sure [ ]
To collaborate with them	Yes [ ]	No [ ]	Not Sure [ ]
To empower them	Yes [ ]	No [ ]	Not Sure [ ]

(f) What benefits do you get from engaging various stakeholders in managing your mining activities?

Resources [ ] Knowledge [ ] Improves decision making [ ] Nothing [ ]

To identify community grievances [ ]

11. Are there any structures at village or ward level that assists in the management of the CSOT? Yes [ ] No [ ] Not Sure [ ]

(a) If, **Yes** what are these structures?

……

……

……

(b) Are these structures effective? Yes [ ] No [ ] Not Sure [ ]

12. Do you have enough resources required to contribute to the CSOT ? Yes [ ] No [ ]

(a) If, **No** explain how you manage CSR interventions with inadequate resources:

Use the available few resources [ ] Source resources from well-wishers [ ]

Borrow from other institutions [ ] Urge communities to use their own resources [ ]

19. What challenges do you face in managing CSOT?

……

……

……

……

20. What do you think should be done to counteract these problems and to effectively manage CSR initiatives?

……

……

……

……..

Thank you very much.

Appendix II: Interview Guide

INTRODUCTION

Self, purpose of the interview and topic introductions by the researcher.

Date of Interview:_____ Start Time:_____ End Time:_____

Sex of interviewee:_____ Age of interviewee:_____

Name of Organisation:_____ Job position:_____

Ward Name:_____

Can you please give a brief description of your work?

1. What do you understand by the term CSR?

2. How many CRS interventions have you witnessed from NSEC since 1972?

3. What do you think are the weaknesses of the adopted strategies?

4. Which group of people do you think is most affected by the operations of NSEC?

5. Which development strategy (between development levies and CSOT) should be used to develop Mutoko?

6. What coping strategies do householders use to deal with socio-economic impacts caused by the operations of NSEC?

7. What coping strategies/response mechanisms have been put in place by different institutional stakeholders to ensure that communities benefit from their resources?

8. Do you have any methods of reclamation measures in place?

9. Are there any village or ward level structures to manage land degradation?

10. How do you engage various stakeholders in managing land degradation and sustainable utilisation of natural resources?

Thank you, your cooperation is highly treasured.

Appendix III: Focus Group Discussion Guideline

INTRODUCTION

Self, purpose of the gathering and topic introduction and specification of instructions by the researcher.

Location:_____Date:_____

Start Time:_____End Time:_____

Attendance: Male _____

Female_____

Total _____

1. What do you think CSR is?

2. How has NSEC helped in the development of Mutoko since 1972?

3. Do you think CSR is enough on its own to develop Mutoko?

4. Which group of people do you think is most affected by the operations of NSEC?

5. Is NSEC reactive or proactively in its endeavour to assist the community?

6. Do you have any proposed measure to make sure that NSEC contributes towards CSOT as well as make them pay their levies/ royalties?

7. How does the community engage various stakeholders in managing the CSOT?

Thank you, your
cooperation is highly treasured.

Appendix IV: Observation checklist

Items to observe	Observations
	Date/s of observation: Location/s:
▪ Impacts on the environment, people and livestock. ▪ Any materials related to land degradation.	
	Date/s of observation: Location/s:
▪ CSR Strategies in place. ▪ Development Methods being used.	
	Date/s of observation: Location/s:
▪ NSEC strategies and development strategies in place.	
	Date/s of observation: Location/s:
▪ Observe land degradation management structures.	
	Date/s of observation: Location/s:
▪ Observable land degradation management problems and solutions in place.	

Appendix V: Introductory Letter

MIDLANDS STATE UNIVERSITY
Private Bag 9055
Gweru, Zimbabwe
Website: msu.ac.zw

Department of Development Studies
Faculty of Faculty of Arts

08 May 2015

TO WHOM IT MAY CONCERN

RE: RESEARCH FOR MUNYARADZI KADIKI

This letter serves to inform that I, Sisimayi Tapiwa Patson, I am a registered Post Graduate Diploma student with the Midlands State University – Department of Development Studies. I am currently doing a field research (which is part of the final steps for the completion of my Post Graduate Diploma) tilted, **'*An examination of the socio-economic impact of quarry mining on surrounding communities: A case of natural Stone Exporting company in Nyamuzuwe, Mutoko*'**. This research is going to base on your responses for its validity and your responses will not be used for any reasons other than academic purposes. This means your confidentiality needs will be upheld and respected. I therefore kindly ask you to participate in this research to enrich this study.

If you have any queries you may contact the department of Development Studies, on the number provided below on this letter. You may also contact me on +263 716 800 145

Your assistance will be greatly appreciated.

Yours faithfully

Sisimayi Tapiwa. P

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