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**THE EFFECT OF STONE QUARRY ON BASIC
EDUCATION: THE CASE OF PAANOR ELECTORAL
AREA IN GA SOUTH MUNICIPALITY OF GHANA**

Alexander Osei Debrah

International Environmental Studies

Department of international Environment and Development

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ABSTRACT

The issue of children involvement in the quarry business in Ghana has attracted attention both internationally and locally. The study critically examined the effects of stone quarry on the basic education children in the Paanor community in Ghana. A descriptive survey was used for this study. The population selected involves parents, teachers, and students in the community. The respondents were chosen using a simple random method. The study included one hundred (100) students, thirty (30) teachers, and twenty (20) parents. The primary method for data collection was questionnaires. Three sets of questions were used, one for students and the other two for teachers and parents. The questionnaires items were sorted into two categories: one was about the respondents' backgrounds, and the other was regarding the research topic. The study's findings revealed that students' participation in quarry operations has a potential detrimental impact on school attendance and academic performance. Students who attend school consistently do very well, while absent students perform poorly. The study also found out that poverty, insufficient educational needs and recreational facilities, broken homes, and parental pressure were the primary reasons for students' engagement in quarrying. The study advised that the new educational reform and free compulsory universal basic education be enforced effectively in the community. It is also important that parents and teachers educate their students and children respectively on the significance of education and advocate for more recreational facilities in the school. It is recommended that the local authorities should enact bye-laws that encourage parents to make sure their children attend school regularly.

DEDICATION

I dedicate this research work to my sister and Mother, Mrs. Windory Debrah and Mrs. Comfort Agyekum for the love, support, and encouragements.

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Abbreviations

EPA	Environmental Protection Agency
NGO	Non-Governmental Organisation
LI	Legislation Instrument
SDG	Sustainable Development Goals
EIA	Environmental Impact Assessment
PNDCL	Provisional National Defense Council Law
BECE	Basic Education Certificate Examination
RSPD	The Royal Society for the Preservation of Birds

CHAPTER ONE

INTRODUCTION

1.1 Background

Quarrying is a type of mining by which quarry materials, usually rocks, are collected on or below the soil's surface. Sandstone, limestone, perlite, marble, ironstone, slate, granite, rock salt and phosphate rock are some of the stones obtained from the quarry (Banez et al.,2010).

In improving rural livelihoods, agriculture and mineral extraction play a critical role and also help to alleviate rural poverty. Although agriculture continues to be the key strategy for reducing rural poverty, access to agricultural land remains a significant challenge for most rural poor (Bewiadziet al.,2018).

Poor rural dwellers have limited access to the socio-economic benefits that urban dwellers can easily access, generally pursuing livelihood opportunities in the economy's primary and informal sector, particularly in small-scale mining, subsistence agriculture and quarrying (Birabwa,2006). In developing countries, over 500 million people are engaged in these jobs (small-scale surface mining and quarrying) (Wang et al, 2010).

Humanity has used stones for construction for thousands of years, either for the construction of temples, religious buildings or dwellings. Early on, when the earth was sparsely inhabited, the use of stone by humanity and their simple quarrying activities would have had no lasting environmental, health and social effects (Young People Trust for the Environment, 2020). Gradually, more stone was used in building. It was fine enough for the building of castles, walls and churches and essential buildings because they were solid and immune to weather conditions. As the demand for stone increased, so did the effects also increase (Young People Trust for the Environment, 2020).

Stone quarrying can be categorized into two major categories: large-scale quarrying and small-scale, indigenous quarrying. Large-scale quarrying uses more complex and sophisticated equipment, well-developed infrastructure and modern facilities that are typically lacking in the small-scale indigenous quarrying sector (Fritz et al., 2017).

In Ghana, small-scale, indigenous quarrying is a major source of livelihood for the poorest, the less skilled, and the unemployed in both rural and urban areas. Yet the effects cannot be overlooked. Many local people in Ghana and other sub-regions currently pursue various potentially hazardous methods of excavating rocks. They quarry the rocks mainly for building purposes (Boateng, 2012).

Boateng (2012), has noted that people cut deep into the hills by using simple hand tools such as pickaxes, spades, club hammers and mattocks. Some melt worn-out lorry tires on tougher rocks to make them workable; others go as far as the use of explosives to disintegrate the rocks. Such activities weaken the rock mass's stability and could easily cause mass movement or landslide that poses a danger to the miners, road and road users, and buildings.

Small-scale quarrying operators dominate the quarry business in the Paanor community, and the majority of the population are primarily farmers growing both cash and food crops. Quarry jobs make a major contribution to the socio-economic growth of the people in the area (Adu-Gyamfi,2014).

Ghana is currently facing junior and senior high school drop-out, irrespective of the free compulsory education policy, which benefits children from the basic up to senior high level. Within the different districts of Ghana, various governments have paid great attention to growing school registration, attendance, and academic results (Adu-Gyamfi,2014). Education helps countries to develop sustainably. Countries like Japan, Norway, America and Germany are highly developed as compared to developing countries like Ghana and Nigeria because they have less illiteracy rate in their country. Education has helped them to develop technologies and skills to meet the pressing needs of their citizens. In Ghana, everyone has access to free education but only 80% of children of school-going age are in school with the rest of 20% busily engaged in other jobs such as quarry and illegal mining (Hilson, G. (2010).

Ghana Education Services have made a great deal of progress in infrastructure provision for schools such as libraries, Computer laboratories and recreational facilities (football pitches) and distribution of free School uniforms to help reverse the situation but the problem persists. According to Nachinaab, et al. (2018), the view of cultures has aggravated the condition of children doing menial work. Children at Paanor Community have after all seen that the richest individuals in the city had very little schooling. All the people in the area who are financially capable are private businessmen, some of whom do not have any formal education. Adu-Gyemfi (2014) stated

that children of school-going age are attracted by the quarry activities either as a means of offering a helping hand, enriching themselves or as a kind of training to be able to take over from their parents when they retire. Out of 30,000-50,000 illegal mines in Ghana, which includes quarry work. it is estimated that 10,000 are children engaged in this sector, which is unsafe and put their health at risk (KoCDA,2010).

In the proposed case study, we have selected an area with a population living close to the stone quarry site, which happens to be (Paanor). Most of the local people in the community are engaged in quarry work. People from various walks of life work in this industry, such as students from the basic, senior and tertiary level and other self-employed people in the area. All in the name of making money to raise their standard of living. There is a lot of information on the effects of quarrying activities but most people of the Paanor community have little knowledge about the outcomes of quarry activities due to the high illiteracy rate in the area.

Despite the important role that local quarry operations play in the district of (Paanor) and the country, it is assumed that school attendance and academic performance would have a regressive effect. Therefore, looking into the effects of local quarry on school performance in basic school has become a vital concern. Hence, this study aims to assess the effects of stone quarrying on basic education in the Paanor Community of Ga South District. The study uses primary data collected through the administration of questionnaires in the community. A total of 150 sample was used.

1.2 Problem statement

Accessibility to natural resources plays a crucial role in people's livelihoods in Africa, East Asia, Southeast Asia, and Latin America. This is because, in terms of job growth, the structured industries of developing countries have little potential to meet the livelihood needs of the people. (Ibrahim, 2007).

However, Population growth and its high demand for natural resources, have placed severe stress on the resources. Overexploitation has left most fertile land and natural resources beyond repair (IEG, 2008).

Paanor community is closer to a quarry site, especially those living in the upper Paanor. Quarry companies uses basic hand implements like pickaxe, crowbar, club hammers and shovels and also use excavators and explosives to disintegrate the hard rocks to make it workable (Boateng, 2012).

The people of Paanor are currently exposed to various effects from private quarrying activities in the area. These activities contribute to dust pollution, landslides and other kinds of pollutions that pose danger to the miners and the people. Most people who live closer to the site suffer from the collapse of buildings, cough, water pollution, noise pollution, which made most of them potentially develop hearing problems.

The outbreaks of malaria, water-borne diseases, loss of biodiversity, and land degradation, high level of school drop-out and decline in farming activities have also constituted critical challenges that affect the people in the area (Boateng, 2012).

Quarry keeps growing in the Paanor community, and it is the main source of income in the community. Most parents engage their children in quarry work to enable them to get more income. School children are found on quarry sites during school hours working for their parents, which affects children's dedication to school.

This issue is very severe because it has led to a decline in students' performance in the Basic Education Certificate Examination (B.E.C.E). In recent years, the children who sat for the Basic Education Certificate Examination in quarry areas failed in almost all the subjects (Nachinaab, et al. (2018). In Ghana research work on quarry activities and education is very scanty.

Most of the research conducted is on the effect of quarry on the environmental dimension. Hence fewer solutions to the effects of quarry on education. Stone quarry indeed has a great impact on basic education in Paanor community and perhaps it has been one of the main reasons disrupting school attendance in Paanor community.

1.3 Objectives

The general objective is to assesses the effects of quarrying on education in the Paanor Community of Ga South District.

1.3.1 Specific objectives.

- 1). To access the general views of parents towards education in Paanor community.
- 2). To find out the factors pushing the interest of the children from schooling to quarry activities.
- 3.) To examine why parents encourages their children at the primary level into stone quarry activities?
- 4). To find out if school surroundings motivate school academic performance and attendance

1.4 Research questions

- 1). What are the views of parents towards education in Paanor community?
- 2). What are the factors pushing the interest of the children from education to quarry activities?
- 3). Why do parents encourage their children at primary level into stone quarry?
- 4). How does school surroundings motivate school attendance and academic performance in Paanor?

1.5 Significance of the study

The natural environment of the Paanor municipality which was once serene is now different due to quarry activities. Paanor, which happens to be the study area is a community in the Ga South Municipal, in the Greater Accra Region of Ghana. The main occupations in the area are crop farming and quarry work. The community is less endowed with social amenities such as recreational facilities, hospitals, and markets (Ghana statistical service,2010).

The negative impact of quarry activities, especially on the environment, people and land-use systems can be of great consequences and even negate the economic potentials. The current study will be a significant effort in contributing to the existing literature on the social impacts of quarry activities. The study's findings will help formulate appropriate policies to regulate and promote responsible quarry activities with minimal impact on people and the land-use systems in the affected areas. Furthermore, the study will highlight the negative effect quarry brings on basic education and suggest urgent attention for the appropriate stakeholders to protect basic school pupils from engaging in quarry.

CHAPTER TWO

LITERATURE REVIEW

2.1 Background

The first quarried stones were mined in the Aswan region of Egypt, the methods for extracting stones and other materials from quarries have changed. Hammers, picks, and chisels made of stone or metals such as bronze and iron were used to extract stones (Heldal,2009). According to Heldal (2009), It was a lot of effort to use quarry materials for construction. Stones had to be manually carried or pulled out of quarries with pulley systems including ropes and moveable wooden tracks or sledges, stones could also be hauled.

There were also thousands of slaves and other workers involved in this operation. Today, technology has helped individuals to use mechanical instruments, including drilling equipment, blasting equipment, and hauling equipment, to mine quarries. Which has helped to save time and increase productivity in the quarry industries (Darling,2011).

2.2 Procedures and stakeholders involved in the issuance of quarry permits in Ghana.

According to article 257 (6) of the 1992 Constitution of Ghana and Section 1 of the Mineral and Mining Law, 1986 (PNDCL 153) now Act 703, 2006, every mineral in its natural state on any land in Ghana, streams, lakes, and watercourses throughout the country, any area covered by national waters and the restricted economic zone or the continental shelf, is the Republic of Ghana's property, which is vested in the government for and on behalf of the citizens (Andrews,2016). Furthermore, no person can conduct reconnaissance, prospect for, or mine any mineral in Ghana unless he/she has been granted a mineral right in the form of a licence by the Minister of Lands, Forestry, and Mines on the counsel of the Minerals Commission (Section 14 of PNDCL 153).

The 1992 Ghanaian Constitution, the Minerals and Mining Law 2006 (Act 703), the Minerals and Mining Amendment Act 1994 (Act 475), the Environmental Protection Agency Act 1999 (Act 490), the Internal Revenue Act 2000 (Act 592), and the Water Resources Commission Act 1996 (Act 522), are the laws that govern the quarry industry in Ghana (Hodgson,2011).

In addition to the aforementioned regulations, the following secondary legislations also apply:

- Mining Regulations 1970 (LI 665)
- Explosives Regulations 1970 (LI 666)
- Minerals (Royalties) Regulation 1987 (LI 1349)
- Ghana's Mining and Environmental Guidelines, 1994
- Environmental Assessment Regulation 1999 (LI 1652)
- Environmental Assessment (Amendment) Regulation 2002

Anyone interested in operating a quarry must first obtain a license, which can be obtained by following the steps below:

- *“A prospective applicant for a quarry licence notifies the District/Regional offices of the Minerals Commission of his or her intentions.*
- *A prospective applicant is requested to acquire a piece of land (land ownership may be stool or family).*
- *A prospective applicant is requested to secure a site plan of the land acquired and submit to the office of the Minerals Commissioner for a search to be conducted on the cadastral map.*
- *If found suitable, the prospective applicant is made to duplicate twenty copies of the site plan and attach twenty copies of an application form duly completed and submit to the head office of the Minerals Commission.*
- *The head office of the Minerals Commission would send copies of the site plan and the completed application form to the Inspectorate Division for inspection of technical suitability and to the Metropolitan/Municipal/District Assembly for publication for twenty-one days for conformity with the zoning status.*
- *The applicant is then advised to obtain an environment permit from the EPA.*
- *The applicant would pick an application form from any EPA Regional or District office.*
- *The completed application form is submitted to the EPA office in triplicate and the following must be attached to the application:*
- *Authenticated site plan of the concession*

- *A No Objection letter from the Metropolitan/ Municipal/District Chief Executives*
 - *A Reclamation measure and Abandonment proposal*
 - *The EPA authorities would visit the site to aid in screening and reviewing the application.*
 - *The applicant would pay the license charges if application is accepted.*
 - *The applicant would then collect the permit at the EPA office within 30 days if the application form is adequately completed with the requisite information”*
- Quarrying is prohibited in the following places, according to the Minerals Commission (2002):

- *“Source of drinking water.*
- *Areas within township except where acceptable annoyance level could be adhered to.*
- *Areas near railway lines and high tensions.*
- *Wildlife sanctuaries and forest reserves.*
- *Cemeteries, Mausoleums, sacred groves etc.*
- *Areas earmarked for developmental projects by Metropolitan/Municipal/District Assemblies.*
- *Other areas pre-blocked out before licenses granted for quarrying activities”* (Hodgson,2011). The applicant then submits the environmental permit to the Minerals Commission, which recommends to the Minister of Lands, Forestry, and Mines that the license should be granted. The operating license is permitted for one year, the environmental permit is valid for two years, and the quarry license is valid for five years.

2.3 The quarry processes

Before the quarry minerals are obtained from the working site, some processes need to be carried out on the site. To reduce the size of stones to a manageable size, some of the quarry materials may need to be crushed. Pecker and hydraulic breaker are used to crush bigger rocks before loading onto the dump truck (Nene-Nanor,2011).

These processes include:

- i. Drilling/channeling
- ii. Blasting
- iii. Crushing (screening)

- iv. Conveyance or transfer gravels
- v. Loading and transportation

2.3.1 Drilling (broaching, channeling and wedging)

Drilling, broaching and channeling are the first steps to take in quarry work. Several chisel-edged cutting bars that cut with a slicing motion are used in the activity; a channeling machine creates a hole in the rock. A drilling tool first drills multiple holes in an aligned pattern before drilling and broaching. After that, the broaching tool chisels between the drill holes and slices the web within the newly produced holes, releasing the stone. Both channel cutting and drilling and broaching are slow, and regular sharpening is needed for the cutting instrument (Gale & Groat, 2001).

Channeling and wedging are a quarrying method in which channeling machines are used to cut long, narrow rock channels that are wide enough for wedges to be inserted. And the rock is divided by the fracture. The quarrying method of channeling and wedging is commonly used in the quarrying of marble, sandstone, limestone and other softer rocks (Gage and Gage, 2005). Hodgson (2011), stated that the combination of a power saw, an abrasive, and water as a lubricant and a coolant is another way of cutting.

A narrow channel is cut by the saw; the main or original cut is then either extended or blasted by a wedge. In slate, granite, and limestone quarries, this process is used. Slot drilling and sawing in quarry works, are modern techniques that have been employed recently. Drilling a number of intersecting holes with a drill mounted on a quarry bar or frame that aligns the holes and maintains the drill in place is known as slot drilling (Gale & Groat, 2001).

2.3.2 Blasting

Minerals can be collected once is exposed. By directly using an excavating shovel on the mineral, some minerals such as sand, gravel, clay and coal can be removed. Before they can be quarried, other materials such as sandstone and limestone have to be broken up by blasting or ripping. Blasting can also occur where the overload is too high to be directly quarried by the shovel (Nene-Nanor, 2011).

Blasting normally cuts the rock into parts that are sufficient for crushing. In a shot hole, an explosive charge is detonated, and a fast discharge of energy takes place within a short time, creating a tremendous pressure and temperature increase (Gale & Groat, 2001). In the breakage of rock, the majority of energy released will be used, but a large amount is lost. In the form of noise

dust, heat and noxious gases, this wasted energy is dissipated away along with the creation of a variety of more important environmental impacts. Bulldozers or caterpillars are then used to transport quarried blocks from the slopes to the ground floor (Slater, 2003).

Blasting happens to be the most commonly used technique in quarry works for hard rock disintegration, blasting is a dangerous feature in the quarry industry.

In surrounding areas, these practices create many unpleasant environmental effects, like ground vibration, air-overpressure (AOP) and fly rock. These environmental impacts can cause human injury and damage to the surrounding area's ecology, groundwater, and infrastructure (Armaghani, Jahed, et al.,2015).

2.3.3 Crushing (screening)

A jaw crusher, which contains of a thick metal plate that travels back and forth against a fixed plate, is commonly used for crushing (these are the "jaws"). A broad flywheel holds the moving plate in motion and provides the crushing energy. The peak of the crusher is larger than the base. Crushed rock comes out of the bottom of the crusher, and rock from the quarry face is fed into the top of the crusher (Gunn & Bailey,1993). The distance set at the bottom of the jaws determines the size of the crushed stone that passes through it, but larger rocks will pass through if the rock being crushed is slabby or elongate in form. Gyratory crushers on a wide scale may also be used. The larger stones are fed through a series of cone crushers and screens before being sent to the final crushing point. (Gale & Groat,2001).

The crushed stone is transferred to a screen house, where it is sorted into the required aggregate sizes using broad multiple deck screens. Stone is fed in at the top of the cone, and crushed stock is discharged at the bottom. The distance, and thus the size of the crushed product, can be varied to a limited extent by raising or lowering the mantle inside the concave (Gunn & Bailey,1993).

2.3.4 Screening

Screened stone is also known as aggregate or screenings. Usually, final screens are installed atop enormous trunks or containers in a screen house in which different sizes and grades are fed. The hoppers are elevated on legs so that trucks can drive beneath and load the materials. Material is continuously pulled from the storage bins for immediate use (e.g., in a coating facility) or transfer

to the quarry's storage stockpiles, either by dump truck or by hand. (Gunn & Bailey,1993). The limiting sizes are based on square aperture laboratory test sieves (larger sizes of perforated plate and small aperture sizes are of woven wire mesh,). According to Gunn & Bailey (1993), Screen mesh apertures, on the other hand, are typically 2 mm larger than the specified sieve sizes. This takes the efficiency of the testing plant into account (which is less likened to highly measured laboratory sieving's).

The amount of the screen mesh is determined by the nature of the crushed aggregate. (e.g., cubical and elongate shape). In order to generate useable final product, crushed rock must be screened into several size categories, screened and crushed rock is termed as aggregate.

2.3.5 Conveyance of gravels

Conveyor belts carry the broken rocks around the manufacturing plant as they move through the crushers. It moves rock from one position to another at the quarry site (Nene-Nanor,2011).

In contrast to dump truck haulage, conveyors belt saves a lot of money and time. Conveyor belts are much less costly to operate because they have less components and don't need as many replacement parts (Zimmermann & Kruse,2006).

2.3.6 Loading and transportation

Bulldozers and Caterpillars are machinery and equipment recognizer for transporting and loading materials. According to Choi & Nieto (2011), the bucket of Caterpillars and bulldozers are used to load quarry materials onto haulage trucks and move them to different locations.

The load weight that needs to be hauled or transferred defines the weight and size of Caterpillar truck that is necessary for a project. The payload capacity and hauling capability of these machines are used to identify them. Gravels are loaded moved, transported, and dumped using these machineries.

During the loading and transportation process, dust from unpaved roads, and dust from quarry sites all contribute to road dust, that contributes greatly to the production and release of particulate matter into the atmosphere (Holmes, 2001). Mechanical methods sweeping cars and water sprayer can be used to reverse road dust.

2.3.7 Classification of quarries

Quarries for minor minerals can now be divided into two categories.

- Quarries for sand
- Quarries for building stone
- Quarries for tiles clay and brick
- Quarries for decorative stone

2.4 Reasons why people engage in quarry

Quarrying has a negative impact on the ecosystem and causes ecological imbalances. Quarry minerals are the backbone of any development project, such as road infrastructure and buildings, because of its attractiveness and ability to survive climatic condition (Goudie & Viles,2013). Quarrying also provides work for many rural residents and migrants, as well as a source of income for the operators. Stone quarrying cannot be stopped, environmental preservation should not come at the expense of the quarrying business by fully abandoning quarrying or mining activities (Langer,2001). Below are some of the reasons why people engage in quarry in Ghana.

First to consider is poverty. According to Oppenheim & Harker (1993), Poverty is defined as a lack of material, social, and emotional resources. It implies having less money to spend on food, clothing, among others than someone with an average income. Poverty, above all, takes away the tools you need to establish the foundation for your “life choice” in the future.

It takes away the chance to live a healthy life with a good education, a secure home, and a long retirement. Just like Ghana, some stone workers in Kasenge, Uganda, recognized poverty as a primary cause factor in why individuals engage in quarrying operations. Poverty is multifaceted, and people view it differently based on their region, social class, gender, and age.

Most Ghanaian stone workers have stated that they are unable to purchase food, clothes, shelter, or pay for their children's education due to a lack of finances. As a result, to cover these fundamental needs, they must engage in quarrying operations (Birabwa, 2006).

Moreover, educational level is one of the reasons why people engage in quarry in Ghana.

In Ghana, the bulk of the stone workers had never had any formal education; some had dropped out of basic school, and only a few had attended secondary school (Aboagye,1986).

However, since formal education is a determining element in getting work possibilities in the formal sector, most of the people who have had no formal education work in the informal sector for livelihood such as engaging in quarrying activities. Some young stone quarriers blame their

parents for not providing adequate financial support to allow them to pursue their education and, as a result, participate in other income-generating activities (Wardell,2000).

The nature of their profession and the instruments they employ at the site does not require formal education, which justify the stone workers' low educational standing.

Again, lack or loss of employment has contributed to the increment of workers at the quarry field. One of life's most unpleasant experiences is losing your job. Aside from the obvious financial hardships, losing a job can have a significant impact on your attitude, relationships, and overall mental and emotional well-being (Cooper & Marshall,2013).

Quarry has cushioned most people who have lost their jobs in the country. School dropouts and those who have lost their careers might support their families through informal activities, due to the ease of admission and modest criteria required in the quarry sector. People with these issues can also be seen in stone quarry (Wardell,2000).

The quarry work gives them social outlet and a meaningful life in the community.

Another point noted has to do with low level of income from agricultural productions. Weather variations and, most importantly, price fluctuations on the local and worldwide markets have an impact on agriculture, both subsistence and large-scale production. Which affects rural inhabitants who rely only on agricultural operations as a source of income. (Birabwa,2006).

Ghana government has introduced the planting for foods and job schemes, in which small-scale farmers grow a specific crop to augment the factory's output, in order to boost their production. Seeds, special land preparation, and technical assistance are provided by government to farmers (Minot & Sawyer,2016).

They are, however, obligated to sell exclusively to the public companies that provided them with the services at a factory price set by the government. Small-scale farmers benefit from the out-growers' scheme since it provides new techniques for increasing productivity as well as a ready market for their output (Glover & Kusterer,2016).

In the case of unforeseeable disasters such as droughts, floods, or pest infestations, however, subsistence farmers are constantly at a loss (Aluoka,1999). Some farmers therefore engage in quarry work as way of augmenting their financial flow from the agricultural productions.

The President of Ghana Akufo-Addo at the 34th Annual National Farmers' Day Celebration (2018) stated that: *“Government is doing everything possible to put agriculture on the path of*

transformation. Since assuming office, we have left no one in doubt about the importance of agriculture as one of the cogs for accelerating economic growth. It is also important to put on record that Ghana's agriculture was in a state of decline when I became President of the Republic".

In reaction to why some farmers have left farm work to quarry, some farmers who had previously participated in the out-growers' co-operations before engaging in quarrying, stated on TV3 news file that, the erstwhile administration fails to provide them with incentives, which made them resorted to quarry work for survival, and perhaps quarry business is lucrative as compared to farming (Bugli,2018).

2.5 Socio-Economic importance of stone quarrying.

People benefit both direct and indirect jobs in the quarrying industry in Ghana. Those working directly in the quarry companies as drivers, mechanics, administrative workers, and those engaged in rock blasting operations make up the direct workforce. Self-employed individuals who perform small-scale quarrying are also included, they purchase various aggregate rocks for resale near the quarry sites (Asante et al.,2014). Asante et al.,(2014) note that, there are those who sell water and food to the workers and also buyers also seek the services of taxi drivers to transport small quantities of rocks.

These group of people are therefore indirectly employed by the quarrying industry. Poverty or inadequate wages, a lack of agricultural production, low agricultural productivity, a lack of alternative economic activities, a low level of education, and unemployment are some of the instrumental factors that have driven the locals to work in stone quarrying and crushing industry for their daily income and jobs (Subhasis et al.,2018).

According to Subhasis et al., (2018), the quarrying and crusher industries have easily compensated for the rural people's acute and prolonged joblessness in Ghana. A rural poor worker can earn up to \$120 per day, significantly increasing the family's income. Wages in this field are higher than those in building and agriculture, making it more financially attractive.

Furthermore, stone quarry employs many retrenched employees from large-scale mines, resulting in higher wages, higher living standards, and reduced rural-urban drift in the country (Al-Hassan, 1997).

Small-scale stone mining sites lack the capacity to attract human settlement or promote the growth of large towns in the same way that coal, iron ore, and other lucrative resource extraction areas do. Stone quarries have failed to create new habitat in this region, but the agglomeration of crushers in Ghana has aided the creation of some shops, hotels, petrol pump and a truck repair center (Subhasis et al., 2018). lawful quarry activity provides both infrastructure development and vital cash to the government in the form of royalties in Ghana.

Despite the fact that quarrying provides raw materials (chipping and other stone aggregates) for building and road construction projects, most of the road's condition is deteriorating due to the frequent movement of heavily loaded trucks. Ghana had 72,381 km of road networks as of 2017, with 14,873 km of trunk roads, 15,463 km of urban roads, and the remaining 42,045 km of feeder roads constructed with quarried granite stones (Akinradewo et al.,2019). Akinradewo et al, (2019) revealed that, 31% of these roads are being properly maintained or rehabilitated, with 66.6 percent having a rural accessibility index (i.e., the percentage of human population within 2 km of the roads).

As of September 2017, routine maintenance had been completed on 10,250 kilometers of trunk roads, 10,679 kilometers of feeder roads, and 7,200 kilometers of urban roads in the country. The transportation system is regarded as the country's economic controller and serves as a critical connection between production and consumption in Ghana all with the aid of quarried stones. Around 500,000 extraction sites produce up to 50 billion tons of aggregates worldwide. When quarries are shut down, they don't go to waste; in fact, some are put to unforeseen purposes. (Hasari,2011). The Royal Society for the Preservation of Birds (RSPB) in the United Kingdom transformed 50 abandoned quarries into nature reserves featuring grassland, woods, and wetlands that would be home to more at risks animals (Bowman,2010).

Another remarkable transformation is an abandoned granite quarry in Portugal that has been transformed into a soccer stadium. All these activities create employment for people and helps the country to generate revenue to boost its economy (Sheehan & Yong,2010). In Ghana, most abandoned quarry pits have stored drains and rainwater, which farmers use to irrigation their farms to enable them to accrue a more yields.

2.6 Social issues of stone quarry

Quarry operations provide significant societal benefits in the form of social facilities and infrastructure. Communities rely significantly on stone products from quarry sites to build a variety of infrastructure such as schools, clinics, boreholes, and market stands (Baah-Ennumh et al.,2019). The towns' proximity to the quarry sites gives an opportunity to experience the construction of these critical structures and infrastructure. As a kind of compensation for the detrimental consequences of quarry actions on society, most quarrying industries are aggressively pursuing their corporate social responsibility in many areas. The provision of these services and amenities by quarry industries helps to alleviate strains on society (Nadasen,2010).

Baah-Ennumh et al., (2019) stated that, quarrying firms provide varying levels of financial assistance in the organization of programs such as my first day of school, farmers day, and national immunization day programs in Ghana to improve the welfare and wellbeing of the society. Quarry activity frequently has long-term social consequences on communities, including dangers to health and safety, farming obstacles, obstructing the free movement of animals, displacing communities, lowering agricultural yields, and causing cultural site damage. majority of quarry firms reap the greatest rewards from quarrying, while local people bear the brunt of the project's negative consequences (Endalew,2019).

However, stone quarrying has a significant impact on agricultural outputs, particularly in locations where stone quarrying is more concentrated. Endalew (2019) stated that, several factors have a significant impact on agricultural productivity. Reductions in soil fertility and reductions in arable lands, are known to cause vegetation harm and crop yield reductions, posing a hazard to crop survival, which is constantly reducing the annual crop yield in the quarrying areas.

2.7 Environmental issues of stone quarry

The nature of quarry processes has an adverse influence on the environment both during and after quarry operations. As a result of this impact, most countries have enacted rules to reduce the detrimental consequences of mining operations (Aryee et al.,2003).

Engineering activities during extraction processing are directly responsible for some of the environmental issues generated by quarrying. The most visible engineering impact of quarrying is a change in geomorphology and land use conversion, both of which are linked to visual scene

changes (Gale and Groat, 2001). Loss of habitat, noise, vibrations, erosion, dust suspension and accidents are some of the huge impacts from quarry.

Some of these effects are temporary, and the majority are simple to predict and see. Most engineering impacts of quarry, on the other hand, may be controlled and limited by using modern technologies and, competent people to run quarry industries in a safe, productive, and environmentally friendly manner (Urich,2002).

2.8 Quarry waste

According to Mitchell, (2007), quarry waste is an unavoidable by-product of the mining and processing of rock aggregates. They are classified as wastes because there is currently no market for them, but they are generally inert and non-hazardous, unlike many other wastes.

Quarry wastes include non-marketable, mostly fine-grained material from screening, crushing, and other processing activities, as well as overburden (which is frequently used in restoration) and limited-value material, it occurs above or between economic material aggregate layers and waste handling which are non-marketable, mostly fine-grained material from screening, crushing, and other processing activities (Nene-Nanor,2011).

Sheard, (2000) stated that, quarry fines are made up of a combination of coarse, medium, and fine sand, as well as silt or clay.

The higher the proportion of fine sand, silt, and clay, the higher the environmental and social impacts, as well as the costs of production, storage, and disposal, because the material is difficult to handle and more prone to mobilization under gravity, water and wind.

Technical properties and potential end uses are heavily influenced by the filler content. During operational activities, disposal areas can be a significant source of dust. If no steps are taken to address long-term dust creation, the impact may extend beyond the closure of operations, and the fact that disposal areas are elevated above the original ground level can exacerbate the problem (Sengupta,2018).

The use of secondary materials as aggregate has been encouraged by taxes on waste disposal and the development of primary aggregate materials, although the market for quarry fines has been depressed. Many quarries in the United Kingdom have enormous stocks of material that they are unable to sell (Mitchell,2007).

Mitchell, (2007) confirmed that, there has been an increase in fines production due to increased demand for high-specification fine aggregate and aggregate with specified form features. Regardless of the source, penalties must be handled at most sites to prevent or minimize consequences, and specific mitigation solutions may be required.

The social effects of quarrying that were identified from the field survey are elaborated in the next paragraphs. Support in the provision of social amenities and infrastructure One significant social benefit resulting from quarry operations is the support in efficient construction and delivery of important social amenities and infrastructure. Thus, communities in the municipality heavily rely on the stone products from the sites to undertake the construction of several facilities like schools, clinics, boreholes and market stalls.

The proximity of the communities to the quarry sites presents a potential that facilitates the rapid construction of these essential facilities and infrastructure. In effect, the provision of all these facilities and amenities ultimately results in an improvement in the welfare and wellbeing of the society to a larger extent.

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2.9 School attendance rate of students

According to Arthur-Gyan (2009), school attendance refers to the act of being present at school on a regular basis. The gross school attendance rate is calculated by dividing the total number of children of official schooling age in each country who are enrolled in a specific school level, such as primary or secondary, by the total number of children of official schooling age in that nation. As a result, 'gross' attendance rates can reach 100% indicating that, those children are not in school at the statutory age or are repeating years of schooling.

Lewin (2009) stated that, the number of children of the official age of a schooling level who attend that level divided by the total number of children of the official age for that level of education in the country is the 'net' school attendance rate. "gross" attendance can exceed 100% unlike "net" attendance.

School attendance rates are seen as indicators of positive behavior and as a monitoring tool. While truancy is widely discussed among students, there is a scarcity of statistics on its occurrence. From the incline witnessed in the year after the elevation of the school leaving age, it is reasonable to deduce over all trends that showed a progressive increase in attendance rates (Mortimore,1992).

According to Mortimore (1992), surveys, however, are unable to distinguish between absence due to illness and absence due to trancies and can only provide a broad indication of an improved 'average' attitude, such as the proportion of students who choose to stay in school past the statutory leaving age or attend a further education college. Children aged 6 to 18 are required to attend school under the new educational system in Ghana.

It is the duty of guardians to send their children to school. Aliu & Fawzia (2014) stated that, Ghana's government, in partnership with the Dutch government, launched the Ghana School Feeding Program in 2005. Its main goals are to enhance school enrollment, attendance, and retention among kindergarten and primary school students. It also tries to minimize hunger and malnutrition amongst students in the country.

2.10 Society attitude towards education

The attitude and encouragement of parents has a significant impact on their children's education and the level of achievement, they achieve in school. Traditional ideas have a big influence on how parents and communities think about schooling. Ghanaian children continue to experience difficulties to obtaining and finishing education, which leads to drop-out and failure to finish the basic education cycle (Adu-Gyamfi,2014).

Arthur-Gyan (2009) stated that, families play an important role in a child's decision to go to school or job. Father's education has a major impact on child labor, with the impacts being more pronounced for females than for boys. Estimations also reveal that fathers with a high degree of education are more likely to have a negative impact on working-class livelihood, whereas mothers' education appears to influence solely schooling participation than work.

According to Asenso-Okyere et al, (2013), the presence of parents at home is likely to affect the child's chances of going to school rather than work.

Dughan (2019) stated that, the ages and gender of siblings have a significant impact on the schooling and career patterns of family members. There is a good marginal effect on school participation in the school activities. Most girls shoulder much of the responsibility of sustaining the family in terms of labor, childcare, and income creation, and are highly vulnerable in the face of persistent poverty because of unfavorable socio-cultural expectations within the household and society (Lloyd & Brandon, 1994).

The foundation for everything we do in life, how we react to difficulties, our ability to grow and learn, as well as our ability to solve issues, and build bonds with others are all determined by our attitude.

2.11 The effects of stone quarry on school attendance

Children in developing country have a long history of working to make ends meet. Working at a young age rather than going to school to obtain an education leaves them with no marketable skills other than manual labor. As a result, an entire generation of teenagers is trapped in a cycle of poverty and exploitation (Sen,2020).

According to Omosanya & Ajibade (2011), Children carry loads that are far too heavy for their body sizes; they risk accidents due to the use of explosives; and they are continuously exposed to fine dust, which can lead to respiratory diseases.

They may be hurt by flying shards of rock, which can cause severe eye injury, develop skin problems because of working in the sun and heat for lengthy periods of time, and become dehydrated.

Some villages have had their water sources contaminated and their land devastated, and many of them continue to get minimal compensation. Concerns have also been raised concerning the mining boom's impact on inadequate housing, young unemployment, family disorganization, school dropouts, prostitution, and drug misuse. Most of the time, these effects are distinct for persons of different ages and genders (Adu-Gyamfi, 2014).

Olsen and Watson (2011) stated that the number of children of school going age involved in quarry activities is difficult to estimate due to the remoteness, informal nature, and movement of the sub-sectors. However, the International Labour Organization estimates that almost 1 million children aged 5 to 17 years old work in mines and quarries. Moore (2005) indicated that higher rates of class attendance are linked to higher academic success, and that the stresses on class attendance's academic rewards are equally effective. Roby (2013) stated in his research on attendance and achievement in Ohio schools that, the favorable impact of good school attendance on academic achievement may be greater than previously thought.

Gump (2005) shows that there is a strong negative association between absences and final grades. He also believes that students who want to achieve academically should attend class, and that teachers should encourage students to do so.

Marburger (2006) stated that, exam performance and attendance had a positive link. According to Dughan (2019), there is a positive association between achievement and attendance. He indicated that “*When many people are absent or constantly late, achievement heights suffer*” (p 5).

To boost school attendance, an active participation for school staff, who would require prior in-service guidance to realize what is developmentally and culturally suitable for students, as well as

engagement with other stakeholders outside of school to build supportive networks around students to enable them attend school frequently (Koonce and Harper, 2005).

2.12 Government policy on school attendance in Ghana

Various education legislation and programs have influenced the development of education in Ghana since independence, the most important of which is the Education Act of 1961. The main ruling on the right to education is the Education Act of 1961, which reads in section 2(1): *“Every child who has reached the Minister's indicated school-going age must complete a course of training as prescribed by the Minister in a school designated by the Minister for that purpose”*. The 1992 Constitution reinforces the importance of education as a fundamental right for all Ghanaians. Section 2 of Article 38 states: *“Within two years of the first meeting of parliament following the entry into effect of this constitution, the government shall prepare a plan for the enactment of a free, compulsory universal basic education within the next ten years.”* (Ali,2009). According to Little, (2010), The Free Compulsory Universal Basic Education Program was established in 1996. This is a ten-year initiative (1996–2005) that aims to build the policy framework, methods, and activities necessary to ensure free and compulsory basic education for all school-aged children.

Pre-School Education was not part of the formal system until 2002, when it was implemented in response to a suggestion from the President's Committee on Review of Education Reforms (October, 2002). Article 39 (1) stated that: *“the state shall provide educational facilities at all levels and in all regions of Ghana and shall to the greatest extent feasible make these facilities available to all citizens”*. Article 38 (3c) further expresses the government's desire to provide lifelong learning opportunities for Ghanaians. The vision 2020 document's overarching education policy is to *“At a minimum, ensure that all citizens, regardless of gender or social status, are functionally literate and productive; and provide relevant education to all Ghanaians in order for them to become functionally literate, productive, and to acquire the necessary skills to cope successfully in the modern world”* (Topidi,2020).

This, according to the government, will improve labor force and literate population earnings, boost female literacy, employable skills population capable of coping with modern science and technology trends, and boost stakeholder participation in education. The 1998 Convention on the Rights of the Child further indicates that the ‘whole school development concept’ is the ministry

of education's recommended methodology for attaining this, notably for pre-tertiary education (Adu-Gyamfi,2014).

This notion entails activities and policies that are developed in collaboration with schools and communities in response to their acknowledged needs. Arthur-Gyan (2009) stated that, Ghana is a signatory to the International Covenant on the Rights of the Child, which declares that every child of school age has the right to an education.

Government policies like Education Capitation Grant, the School Feeding Program, and the free compulsory education are among the new programs that are helping Ghana attain the Millennium Development Goals. These initiatives' chances of addressing gaps in access to education throughout the country are discussed, as well as recommendations for better delivery (Asante,2011)

CHAPTER THREE

METHODOLOGY

This chapter describes the research methods used in acquiring data in line with the research objectives. Therefore, this section covers the research design and description, including population sample, sample size, research instruments and the approach to analyze the data.

3.1 Study area

Paanor is a suburb of Ga West Municipality; it is 4km from the Municipal capital, Amasaman. Paanor is about 10 km north-west of the city centre Accra, it has a population of 7867 people, with the land size of 10.53sq km. It is a mixed-income area, and it has a market complex that is managed by public and private companies (Ghana statistical service,2014) Paanor is located in the dry equatorial climatic region, which receives twice the annual maximum rainfall. The average annual rainfall varies from 790mm along the coast to 1270mm in the far north. In August, the average annual temperature is 25.1°C, while in February and March, it is 32.1°C. At 6:00 and 15:00 hours, the average humidity levels are about 94 percent and 69 percent, respectively. The municipality is entirely within the ecological region of coastal scrub and grassland (Dickson and Benneh, 2001). Quarry and agriculture are the main occupations in the community.

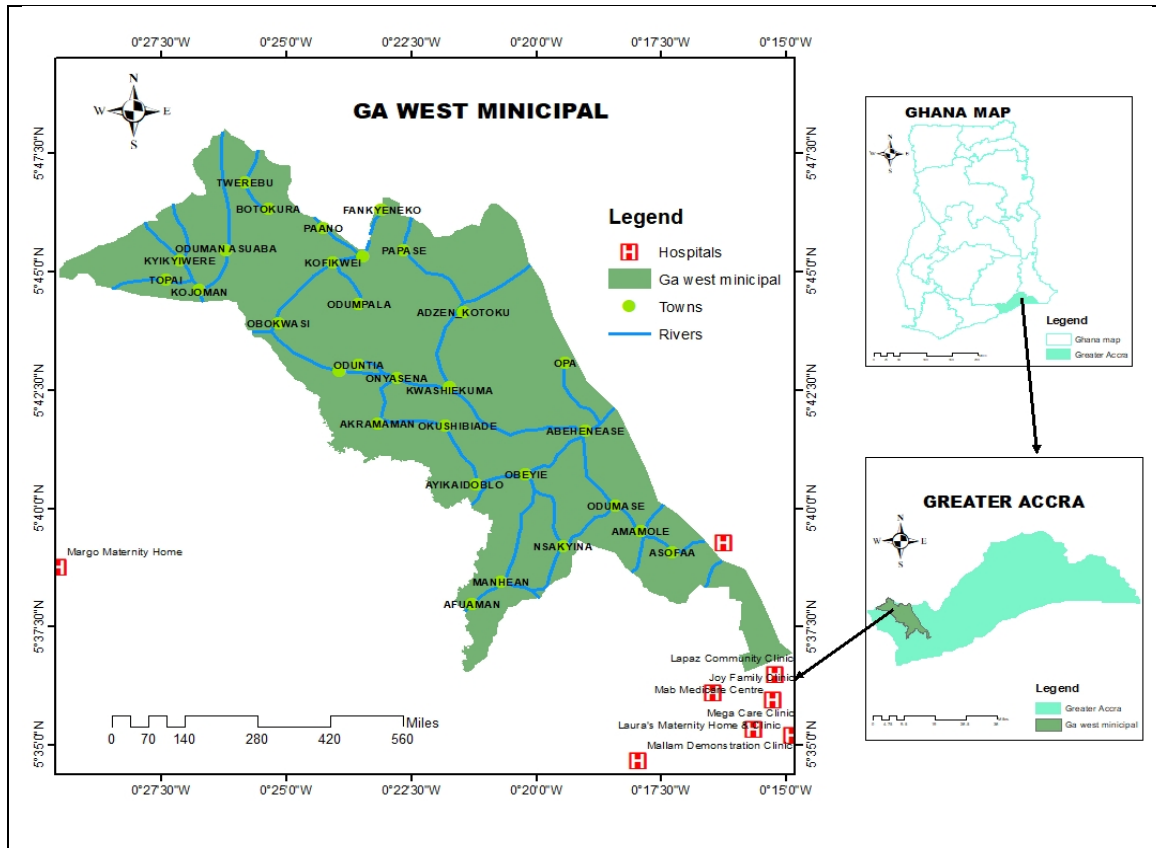
Agricultural operations are carried out by less than 7% (6.9%) of households in the Municipality. Crop farming is performed by most of the households (77.6%), while livestock rearing is practiced by less than a quarter of households (23.5%). Poultry (57.9%) is the most commonly reared animal in the municipality (Ghana statistical service,2010). According to the Ghana statistical service (2014), Ga West Municipality has a housing stock of 30,447 units, accounting for 6.4 percent of the total number of houses in the Greater Accra Region.

The total number of people per house is 7.2, which is less than the regional average of 8.4 people per house. The Ga ethnic group is the most numerous in Paanor, but other ethnic groups such as the Akan's, Ewes, and Dangbes also exist. Ga West's people are thought to have migrated from Nigeria's Ile Ife and settled in Paanor and Ayawaso. Ayawaso and Paanor are widely regarded as the birthplace of modern-day Gas.

Traditional rulers and their elders or sub chiefs have power at the group level. Traditional chiefs continue to possess some force, so their commitment to and influence in the decision-making

process should not be overlooked. Homowo, which literally means "hooting at hunger," is the biggest festival celebrated by the Ga people in the Municipality. Every year in August, commemorates the end of the maize harvest season in the community (Ghana statistical service,2010).

Figure 1:Map of the Study Area and Municipal Areas of Ga West. (Source adapted from Google maps).



3.2 The study population

The Ga west Municipality is densely populated with a total population of 219788 people. Paanor which happens to be the study area has a population of 7558 people (Ghana statistical service,2010). Parents, male and female students, and teachers in the Paanor community make up the target population. Two Junior High Schools with a population of 162 and 148 respectively

(total population 310) students were chosen out of the three schools in the community, and it was noticed that all the school had familiar challenges.

3.3 Sample technique and sample size

The study sample comprises of 100 students from two (2) selected government-owned junior high schools, out of a total of 310 students from the two selected schools in the community. The researcher included 20 parents, and 30 teachers from the two schools chosen, resulting in a total sample size of 150 people. Questionnaires were administered to the sample. The choice of the schools was based on the availability of the school and the proximity of the school.

A simple random sampling technique was used to select the respondents (students, parents, and teachers) in the community. According to Bryman, (2016), a simple random sampling method enables a researcher to select a subset of a population at random.

A Simple random helps each respondent of the population to have an equal chance of being chosen for the research (Bryman,2016).

3.4 Research design

According to Huberman and Miles (2002), research design involves how the research materials are to be collected. This research used a descriptive method approach. This entailed using a questionnaire to gather data to address the research questions developed for the study. The primary data were drawn from the field with the aid of a Google Document. There were 47 open and close-ended questionnaires for investigating effects of stone quarry on basic education in the community. The questionnaires were categorized into four sections. Section (A) was a general question for all the 150 respondents, section (B) was questionnaires for teachers only, section (C) was for students and section (D) was for parents only. A descriptive sample of statistics was employed in this study because, it allows for a more in-depth interpretation of experiences, phenomena, and meaning, as well as the ability to ask questions that are difficult to quantify and to better understand human experience (Tamachi Giles et al.,2018). Descriptive methods according to Bryman, (2016), helps researchers to seek answers to research questions that have been put forward in a study, and to give a broader understanding of the research topic (effects of quarry of basic education). Bryman, (2016), notes that descriptive methods of data collection are very useful and hence accounts for

the reason why this approach has widely been applied in social science studies and other scientific studies. As part of the data analysis, SPSS (Statistical Package for Social Sciences, 2020 version) was used in analyzing and interpreting the primary data obtained from the field.

3.5 Activities and methods

Four weeks were allocated to do data collection for this study. Data collection started on 10th June, 2021 to 10th July, 2021. This process was crucial since it had a significant influence on results, and hence enough time was allocated to it. However, primary sources of data were engaged in this work. The data for this work was obtained in the Paanor community in the Greater Accra region of Ghana. The information was based on school enrollment, attendance, factors driving students to quarry work, and outcome of basic school results.

3.6 Data collection and analysis procedure

Primary data was used for this study. The primary data was acquired with the use of questionnaires and field observation. The questionnaires administered were sorted out on completeness. An analysis of the data acquired from the questionnaires were assessed and coded to achieve a specific result. The questionnaires were inputted into Statistical Package for Social Science (SPSS) software and the results were in the form of graphs, charts, and tables.

3.7 Ethical aspect and epistemological positioning

Due to the large volume of data collected, I chose to rely on a codebook for my data collection. The codebook stores data and makes inferring easier; that is, when the researcher is confused about certain concepts or construct, the codebook presents an opportunity for the researcher to infer. According to (Danermark et al., 2005), applying an abductive research strategy in this study will help me to recontextualize processes, behavior, meanings and put the data collected in the larger context. It is obviously challenging to attain an error-free scientific study or research in a complex socio-economic setting. As a result of this, reliability and validity are key concepts which explains how social scientists can evaluate empirical measurements and address errors.

Blaikie (2010) indicates that, reliability, in simple terms, refers to the ability to demonstrate the operations of the study, that is, the research's ability to demonstrate consistent results on repeated trials. To give room for reliability in this study, data collected was formulated into empirical findings and handed over to researchers for further studies in the field. According to Blaikie (2010), validity on the other hand, is the ability to generalize findings. Engaging abductive research strategy makes it extremely difficult to obtain the same results when the research has been carried out by other scientists and hence generalizing becomes difficult here. It is very important to point out that, this study aims not to achieve results that can be generalized easily but to have a deeper understanding of the aim of the answers to the research questions and the overall theme by subjecting it to a theoretical framework.

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter reports on the main findings of the research, including the presentation of relevant statistical data. Information from the interviews and closed ended questionnaires were analyzed and the results presented.

4.1 Socio-Economic characteristics of respondents

The socio-economic characteristics of respondents considered here were sex, age, educational background, and the type of employment.

4.2 Characteristics of surveyed students

Table 1: Gender of students

Respondents	Frequency	Percentage (%)
Male	43	43
Female	57	57
Total	100	100

Table 1 shows the distribution of males and female respondents in the study area. Out of the hundred (100) questionnaires administered, 43% of the respondents were males and 57% being females. This result is close to the 2012 National census data of 51% females and 49% males (GSS Census Report, 2012). The higher number of females respondents could also be explained by the period within which the questionnaires were administered. It is important to note that females are by tradition, known to be regular at school. Therefore, a school study of this nature may record higher female participation.

Table 2: Level of education

Respondents	Frequency	Percentage (%)
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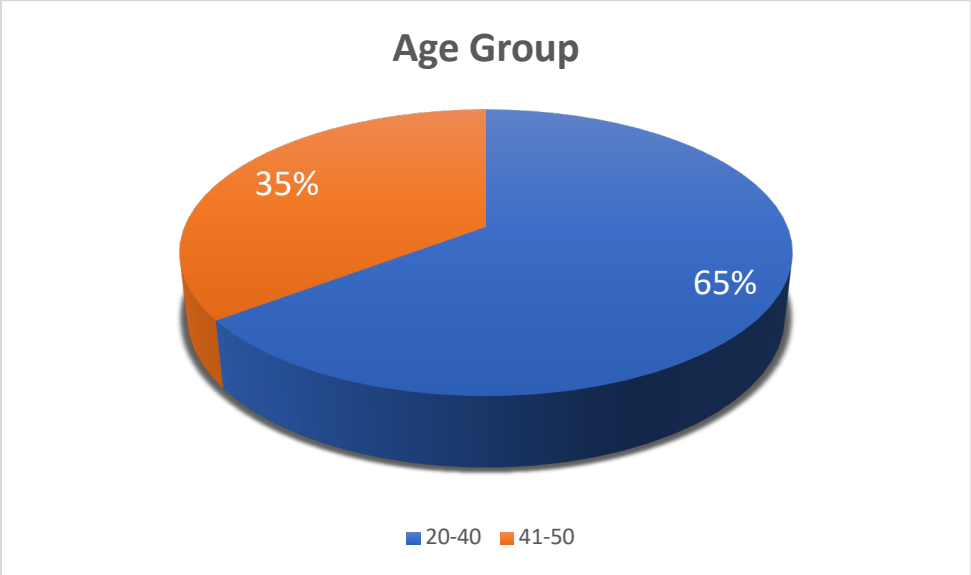
Basic School	100	100
Secondary School	-	-
Total	100	100

In table 2 above, out of 100 respondents selected for the study, all the respondents, indicating 100% attend basic education in the community and are within the age range of 10-20years and this confirm to the Ghana government policy that, every child of school going age should have access to free and quality education from the basic school to the senior high school level in the country. No case of teenage pregnancy was recorded at the study area.

This because, in the Paanor community, no girl child is allowed to marry or get pregnant, unless the person has gone through the puberty rite. Known as (Depo). They are made to believe that, one who does not go through the rite before marriage or pregnancy, bareness and huge punishment from the gods awaits such person. This has made chastity the order of the day in the community.

4.3 Characteristics of surveyed parents’ response

Figure 2:Age distribution of respondents.



The figure 2 above describes the age distribution of respondents in the study area, it comprises of males and females. With a total of 20 respondents,35% of the respondents fell within the age of 41-50 years. 65% of the respondents fell within the age group of 20-40 years. These are the highest group in the figure above who are in their young age and are more vibrant and very energetic and

therefore can do all kinds of works. It thus indicates that, more youth participated in quarry and farming works than the aged.

Table 3:Level of education of respondents

Respondents	Frequency	Percentages (%)
Basic school	7	35
High school	3	15
Tertiary	1	5
Illiterate	9	45
Total	20	100

The educational backgrounds of the respondents are shown in the Table 3 above. The results show that,7 respondents, representing 35% attained basic school certificate, while 3 respondents, representing 15% were high school graduate. In addition, only 1 respondent, representing 5% made it up to the tertiary level. Another set of 9 respondents, representing 45% did not have any formal education. This is to be expected since this sub-metro is located far from educational institutions. Formal education is understandable, one of the tools that guarantees one's active participation in developmental issues. In today's world, information is transmitted in written or verbal forms and therefore the ability to read and write is very essential. It was also observed in Paanor that, the higher proportions of parents are actively involved in economic activities, 45% said they are Quarry workers,30% were farmers, again 15% were traders and 10% of them are engaged in other form of businesses such as construction work and hairdressing. It was observed that, the level of educational attainment has some influence on employment status. Respondents whose highest educational level is primary or Senior High School are mostly engaged in quarry, farming and petty trading. According to the Ghana Living Standard Survey report (2014), 69% of the adults in the urban area are self- employed while only 22% are employees either by Government or the private sector. This shows that, the level of education usually defines the person's job.

4.4 Analysis of teachers and their response

Table 4:Class size of teachers

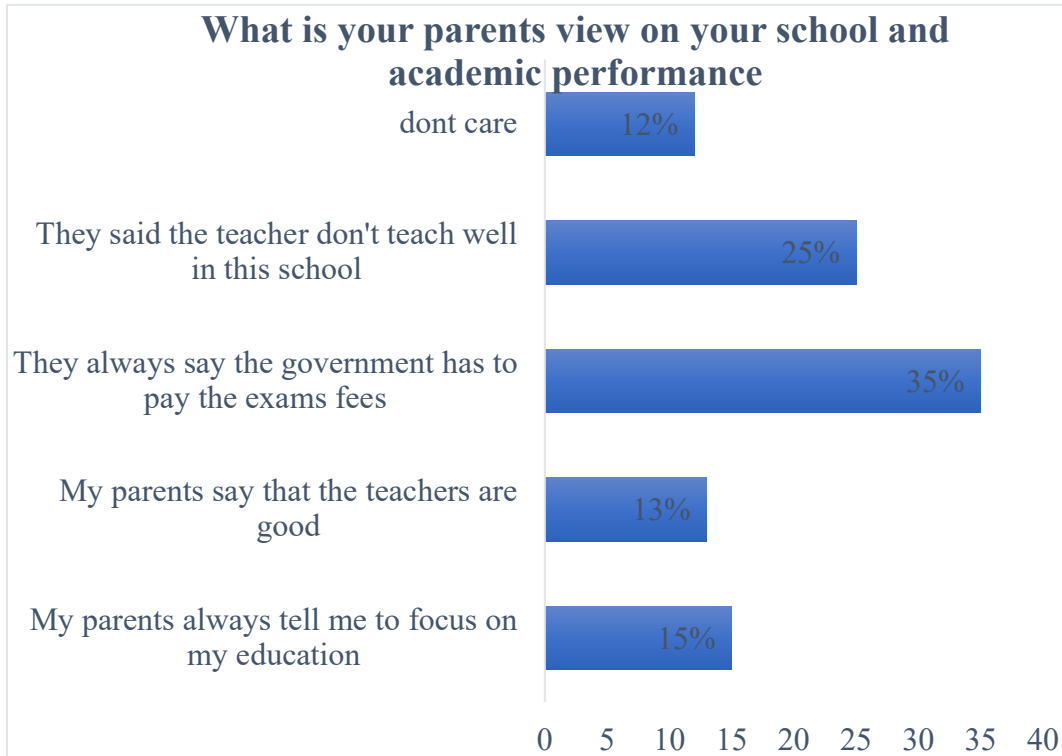
Class sizes	Frequency	Percentages
One class	3	10
Two classes	9	30
Three classes	12	40
Four classes	6	20
Total	30	100

In the table 4 above, 10% handle one class (3 respondent), 30% handle 2 classes (9 respondents), 40% handle 3 classes (12 respondents) and lastly, 6 respondents, representing 20% handles four classes a day. There were more male teachers in Paanor community (40% females and 60% males). This shows that, most of the teachers handle more than two classes a day, which makes it difficult for them to handle the students. The teachers within the ages of 25 – 40 was 60%, and those between the ages of 41 – 55 was 27% and teachers within the ages of 56 -70 was 13%. This indicated that, majority of the teachers are youth, very active and energetic. It was also discovered that, all the respondents have had tertiary education, each teacher handles two classes and at most four classes. Most of the teachers are married and have been inculcating in their students how to shoulder parental responsibilities in the future.

4.5 Research objective one

- To access the general views of parents towards education in Paanor community.

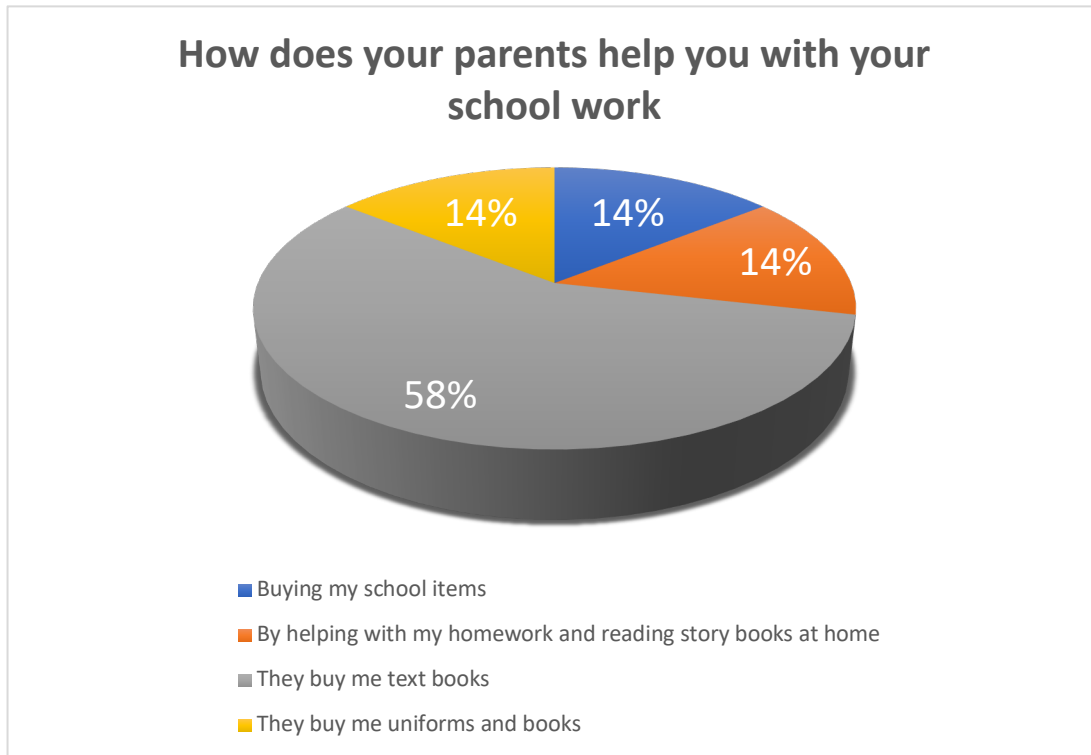
Figure 3: Parents view on academy performance of their children



From the figure 3 above, the respondents stated how parents view on their academy affairs. 15% of the respondents responded that, indeed their parents care about their academy welfare and encourages them to focus on their education to have a bright future. 13% of the respondents stated that, their parents said the teachers are good so they should put in all their effort for the teachers to help them pass their final examination. 35% responded that, their parents' says school is free and therefore government should add free examination to it, rather than bothering them with examination fees each semester. 25% responded that, their parents always complain about teachers not being good, that's why their results is not encouraging. Lastly, 12% respondents stated that, their parents don't care about their academy welfare and are willing to give them any support they need if they stop school and try other forms of trade like hairdressing, farming, quarry and selling.

This shows that, most parents are still with the view that, school is not important but rather trade is the order of the day because, most graduates in the community are still unemployed and still depends on their parents to feast.

Figure 4:How parents support their children schoolwork



From figure 4 above, 14% responded that, their parents buy their school items, 14% responded they help with their homework and reading story books at home, 58% responded that, they buy them textbooks and 14% responded they buy them uniforms and textbooks. This show that parents are doing their best to help their children get all their school needs and also some parents still help their children with their school works and in return asked their children for help in the farm and at the quarry site.

Figure 5: Parents perception on education

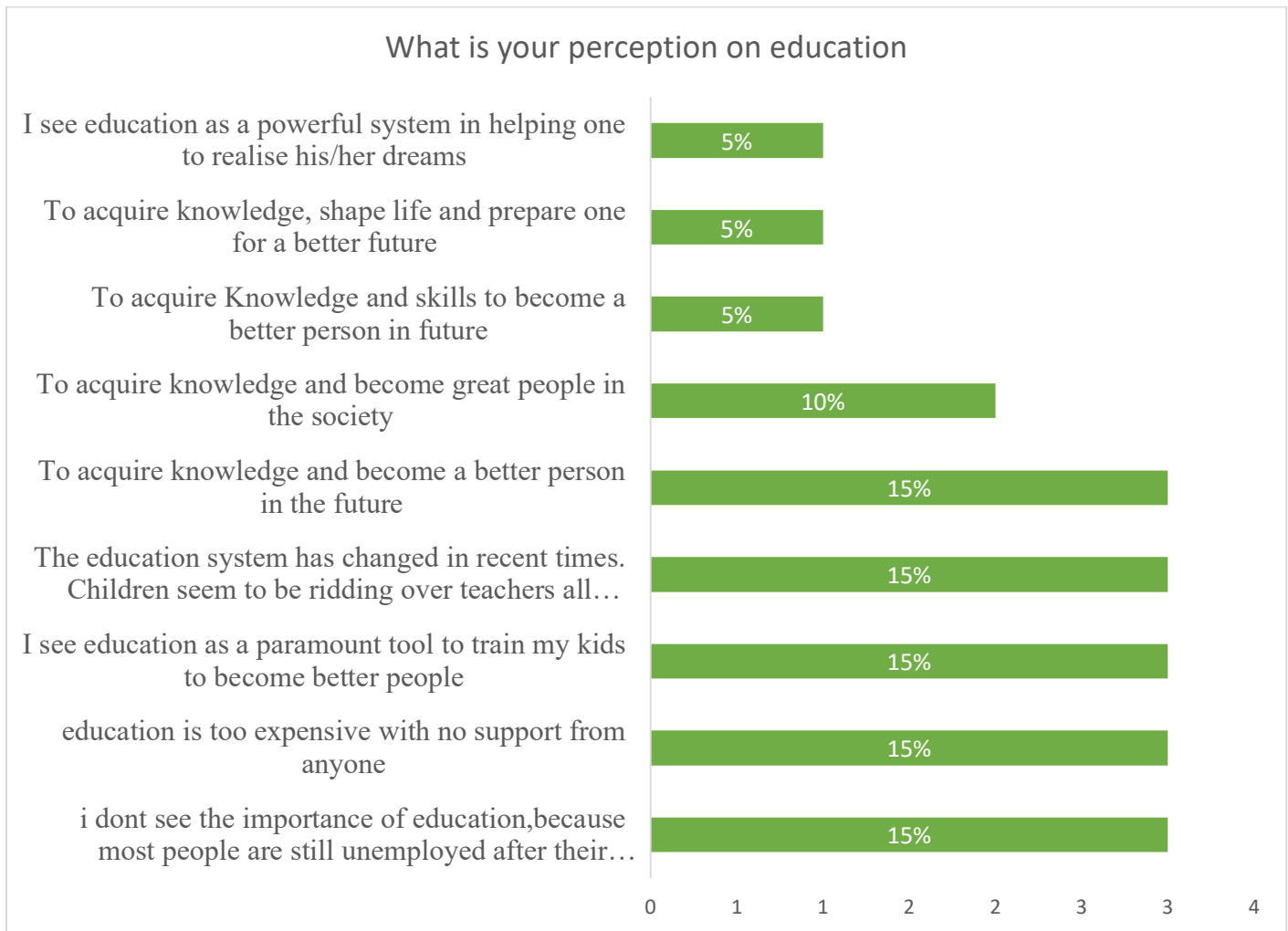
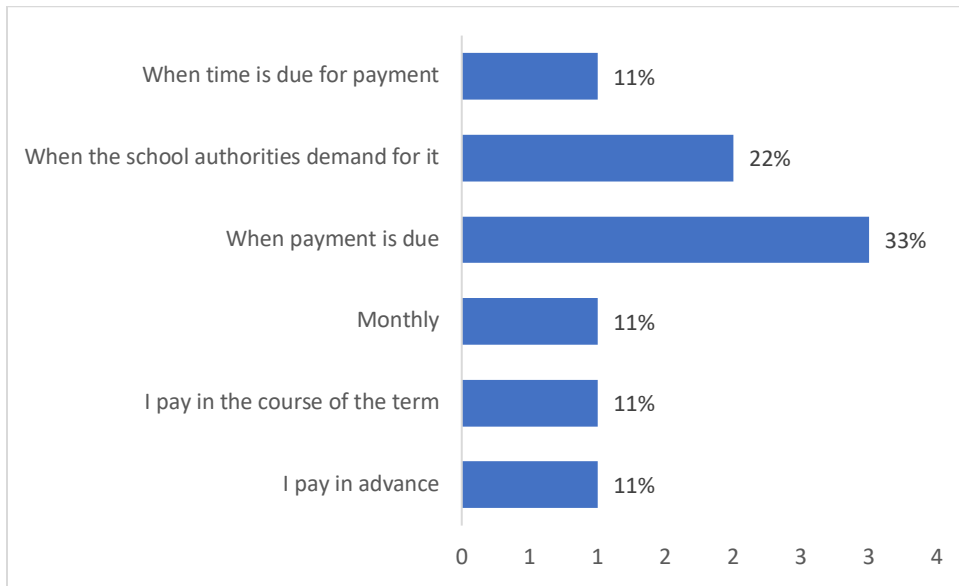


Figure 5 above shows how the respondents views on the importance of education, 5% responded that, they see education as a powerful system, helping one to realize his/her dreams, 5% responded that, education helps to acquire knowledge, shape life and prepare one for a better future, 5% responded that, education helps to acquire knowledge, shape life and prepare one for a better future ,10% and 15% of the respondents responded that, it helps to acquire Knowledge and skills to become a better person in future and in the society,15% responded, the education system has changed in recent times. Children seem to be ridding over teachers all because of liberty given to parents, 15% responded I see education as a paramount tool to train my kids to become better people, 15% responded that, education is too expensive, since they don't have any support from anyone and 15% responded that, they don't see the importance of education, because most graduate are still unemployed are still engage in quarry work and peasant farming. This show that, despite

most of the respondents knowing the importance of education, some are worried about the unemployment of graduate and therefore does not see the importance of education and they are willing to engage their children in their line of business.

Figure 6: Time when respondent pay for their children school needs



The figure 6, shows the time the respondents pay for their Children school needs, 11% responded when time is due for payment, 22% responded when the school authorities demand for it (2 respondents), 33% responded when payment is due, 11% responded, 11% pay in the course of the term and 11% pay in advance. It indicates that, all the respondents pay for their children school needs but most of them pay later, which make most of their children unable to set for their terminal exams.

4.6 Parents view towards education in Paanor community

Paanor is a small community characterized by mostly lack of formal education. There are no corporate firms and adequate educational infrastructural development in the community, and the main occupation is farming and stone quarry. However, despite these challenging conditions, some parents or guardians do their best regardless of the high economic hardship in the community to put their wards in school and provide for their educational needs. Generally, out of the twenty parents who were interviewed, most of them gave substantial and distinguished responses on their views regarding education in Paanor. According to the data collected, a vast majority of the parents

see education as a necessary social institution. Society provides its members with essential knowledge, becomes better citizens, gets better-paid jobs, and becomes comfortable and successful in life. By this, they become financially stable and are able to give back to the society.

Also, some section of parents perceives that, when their children are educated, they can significantly support and contribute to their families and the society in various aspects and fields, thus creating a stable and stimulating community. In addition, some parents also see education as a paramount part of individual growth and progress. According to them, education has always secured respect from the Paanor community. They believe those who are educated in the community have a better reputation and are able to climb the career ladder more easily and faster.

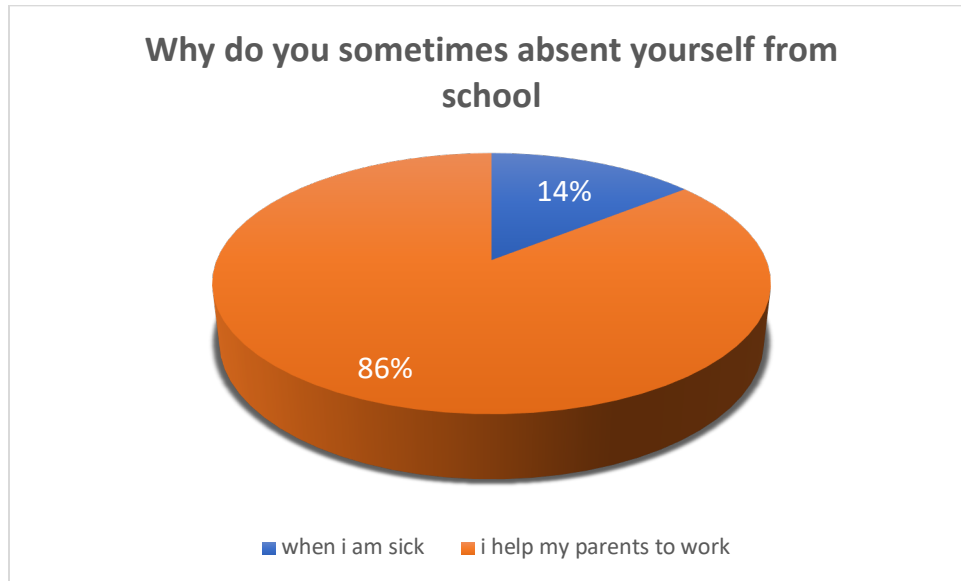
The data also revealed that a segment of parents is of the view that, the Paanor community is extremely disadvantageous in educational infrastructural development with little or no support from the community leaders. This makes them believe that it is always difficult and never easy for one to fulfil his/her education dreams or aspirations in the community. Some groups of parents are also of the view that education is a waste of time and monetary resources. Their perception is steered from the vast unemployment rate in the country presently. They think their wards will go to school, complete, and have no better jobs to secure. They will rather prioritize their wards venturing into stone quarry business over education since they are not ready to accept the education responsibility of their children.

Lastly, some parents also think the cost of education is too expensive particularly with those who are in low-income jobs. This has become a constant burden on them and consequently hinder their ability to fully afford their children's educational demands. Because of this, it has become prudent for them to partly engage their children in the quarry business so they can also earn some income to augment what the parents are offering.

4.7 Research objective two

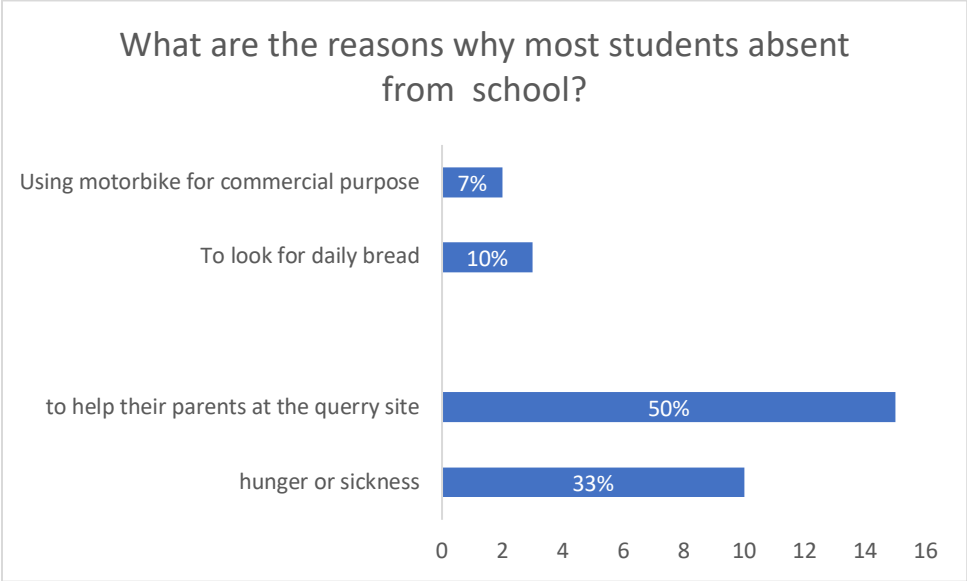
- To find out the factors pushing the interest of the children from schooling to quarry activities.

Figure 7: Why do students absent themselves from school



In figure 7 above, 86% of the respondents only absent themselves from school to help their parents to work at the quarry sites, market square, or at the farmyard, and 14% of the students responded that they absent themselves when they are sick. This indicates that some of the students help their parents to raise more money to cater for their educational needs and shelter in the community.

Figure 8: Respondents views on how most students are irregular at school



In figure 8 above, respondents gave some reasons why most students are irregular at school, 7% responded that, students use motorbike for commercial purpose to cater for their needs (2 respondents), 10% responded that, they absent themselves to look for daily bread (3 respondent), 50% responded that, they help their parents at the quarry sites to make more money (15 respondents), and 33% responded that, hunger or sickness makes them irregular at school. This shows that, inadequate finance makes students irregular at school in Paanor community.

Figure 9: Effects of quarry on respondents (students)

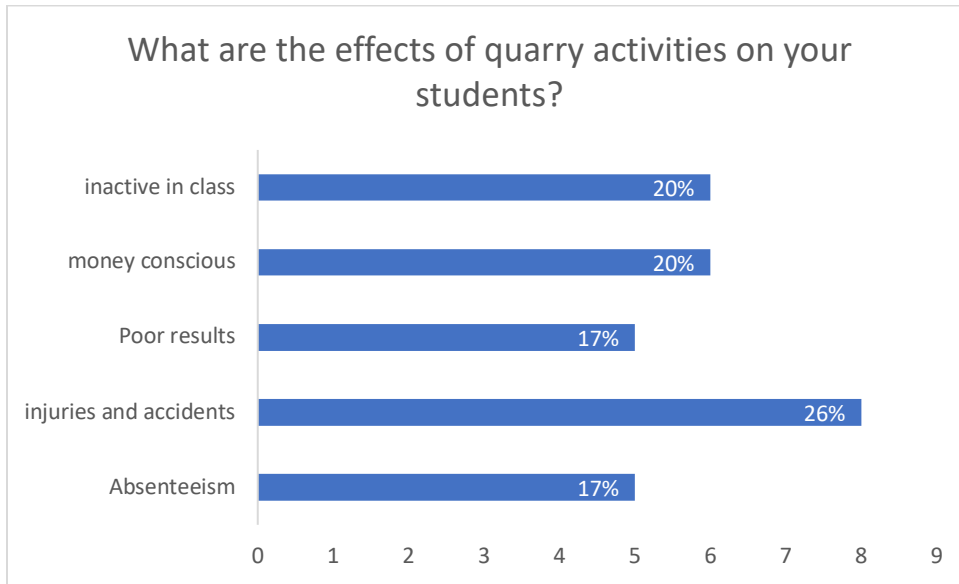


Figure 9 above shows the effects of quarry on respondents' student, with a total of 30 respondents, 20% of the respondents, responded that, quarry makes students inactive in class and do not partake in class duties (6 respondents), 20% responded that quarry makes their students money conscious, which makes them always want to be at the quarry site (6 respondents), 17% responded that, students involvement in quarry makes them poor results, since they spent most of their time at the quarry site rather than their books (5 respondents)

Nachinaab, et al. 2018, stated that death and accidents are on the increase due to the quarry activities, yet the number of people involved keeps increasing in the area. This confirms the 26% respondents' statement that, quarry makes students' suffer injuries and accidents at the quarry sites (8 respondent) and 17% responded that, quarry breeds absenteeism (5 respondents). This indicates that, indeed quarry works have negative effects on students in Paanor community, therefore, Opinion leaders, teachers and Parents should counsel students to abstain from quarry work and focus on their books in order to have a bright future.

4.8 Factors pushing the interest of children from schooling to quarry activities.

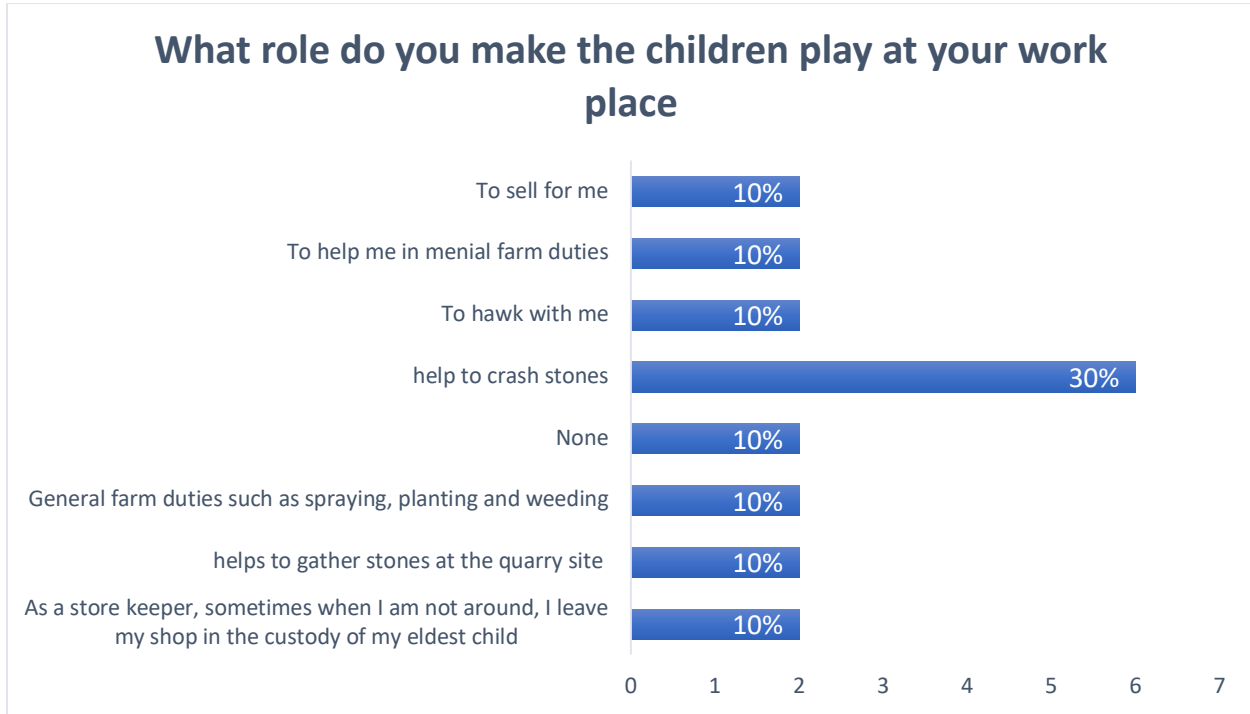
The study revealed that parents' negligence to support teaching and to learn both at home and school is one of the factors pushing the interest of children from schooling to quarry activities. The unwillingness of parents to accept the educational responsibilities of their wards is largely

because of financial hardships and a lack of knowledge on the importance of education or illiteracy. The prevalence of these situation makes children less enthusiastic about learning. Some even end up having a poor learning mentality. This leaves children with no other ideal alternative than engaging in quarry activities as they are eminently convinced it's a considerable and productive occupation. Every parent wants to see their children secure a good job after school. However, that is not the case in Paanor and Ghana as a whole, where the reality with securing a good job after school has become highly burdensome due to the high unemployment rate. The problem of unemployment in the study area, do not give parents the edge to invest in their children's education. Most of the parents have this perception that, when all efforts are made to push the educational aspirations of their children, it will yield no productive returns, because at the end of the day their children will end up joining the ever-increasing unemployment cases in the country. In the long run, these children become hopeless and many of them may have their education dreams unfulfilled. Moreover, the study also showed that school children feel excited, motivated, and well-engaged when they see their parents actively supporting and participating in teacher-parent unions such as the Parents and Teachers Association, commonly called PTA in Ghana. However, the story of school children in the Paanor community is different. Parents predominantly boycott PTA engagements with superfluous excuses. These acts demoralize, de-motivate, and eventually push the children from schooling to quarry activities since they don't get the desired support from their parents.

4.9 Research objective three

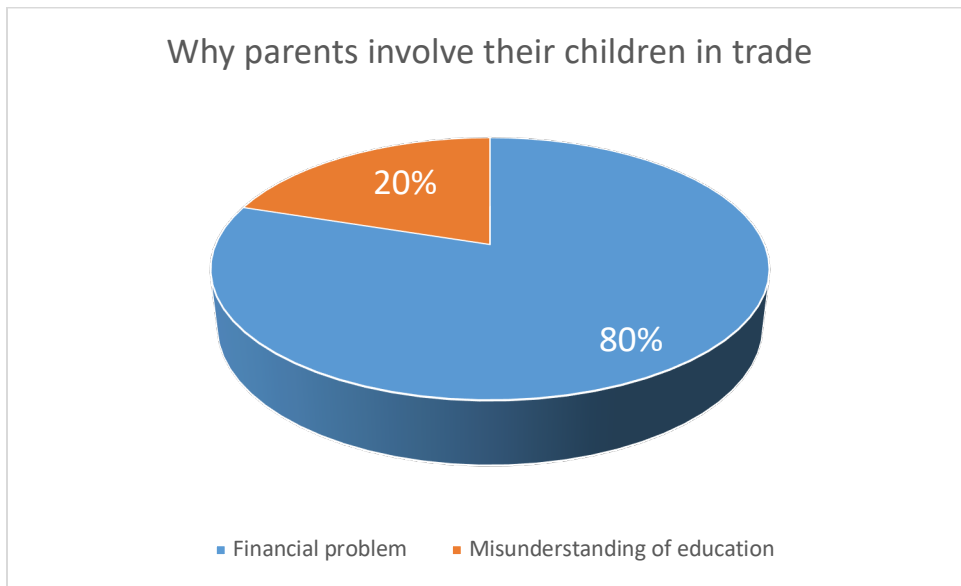
- To examine why parents encourages their children at the primary level into stone quarry activities.

Figure 10:Role’s children play at respondents (parents) workplace



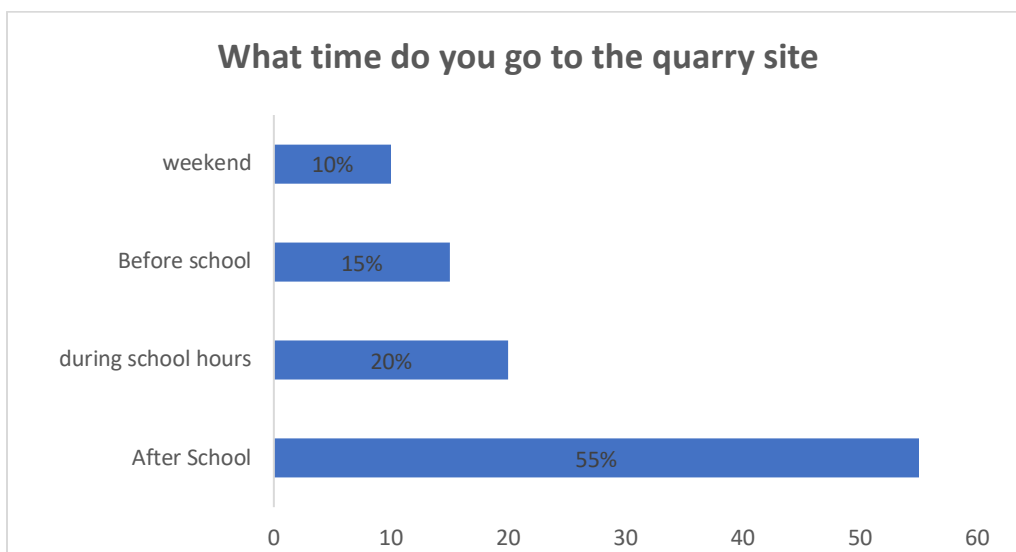
The figure 10 above shows the role parents make their children play at their various workplaces. It was observed that,10% of the respondents make their Children visit their work place to sell for them, 10 % said their children to help them in menial farm duties, 10% responded that, their children hawk with me, 30% responded they help to crash stones at the quarry site, 10% responded none meaning, they don't allow their Children to do any kind of job at their work place , 10% responded that, they help in general farm duties such as spraying, planting and weeding, 10% responded their children help in gathering stones at the quarry site and 10% responded as a store keeper, sometimes when I am not around, I leave my shop in the custody of my children .This indicates that, the respondents allow their children to play one or two roles in their place of work to enable them get more revenue.

Figure 11:What makes respondents engage their children in trade at school hours.



The figure 11 above, shows the main reasons why parents engage their children in their work even at school hours. With a total of 30 respondents, 80% responded that, they engage their children, because of a financial problem (24 respondents) and 20% responded that, they engage their children, because they were misunderstanding education (6 respondents). This shows that, poverty and illiteracy is causing the respondents to engage their children in quarry even at school hours.

Figure 12:Time opportunity for student to visits the quarry site



From the figure 12 above, it is seen that, 15% of the respondents visit the quarry site early in the morning before they attend school, 10% of the respondents responded that, they visit the site during weekends. 20% of the respondents responded that, they go to the quarry area in the daytime during class hours, they believe during that hour you can have enough of the stones to crush, because a lot of people will not be around and the last respondents which happens to be the 55% said they go to the quarry area after they are done with their school duties. This indicates that most of the students absent themselves from the school and are willing to stop schooling for quarry work. Therefore, school authorities need to provide counseling to students and educate them on importance of education.

4.10 Why do parents encourage their children at primary level into stone quarry?

According to Village & Charumbira (2016), stone quarry camps have rapidly become the locations of many primary level students). A significant number of primary level students ranging from 10-14 years are engaged in stone quarry. Parents allow these children to engage in stone quarry to supplement or as a main source of family income. According to the survey, one of the biggest reasons why parents encourage their children at the primary level in stone quarry is the inability of parents to fully support the educational needs and other relating parental obligations of their children due to hardship. This indicates parent's inadequacy to pay school fees and other educational items, and this naturally leaves these young students with no exceeding alternative than engaging in stone quarry to earn a living for themselves and supplement the family's income. The study further revealed that parents encourage these young lads into stone quarry because of the lucrativeness or higher profitability of the business. This reason makes it exceptionally motivating for parents to lure these children into the quarry business as they become eminently convinced and motivated by the high cash returns of the business.

The survey showed that some segment of children combines their academic work with stone quarry while often, most children drop out of school to enable them to have bountiful time to work in the quarry. School children who continue to combine their academic work with stone quarry suffer poor academic performance and irregular school attendance. The long-term result of such irregular and improper education will lead to poorly educated people, the creation of unskilled people, societal deviants who engage in all kinds of vices, perpetuation of poverty, and poor living

standards. Some children were of the view that, given the necessary assistance, they would prefer to return to school and focus on their education instead of working in the quarry.

Additionally, some parents also think it is best to initiate their young children into the quarry for them to learn and equip themselves with the 'modus operandi' of the occupation. They believe this will enable the children to inherit the business from them or succeed them once they are no more active in the business or dead.

The other reasons why parents encourage children in primary school into quarry is lack of better understanding on the importance of education, high unemployment rate in the country.

4.11 Research objective four

- To find out if school surroundings motivate school academic performance and attendance

Figure 13: Effects of quarry on students

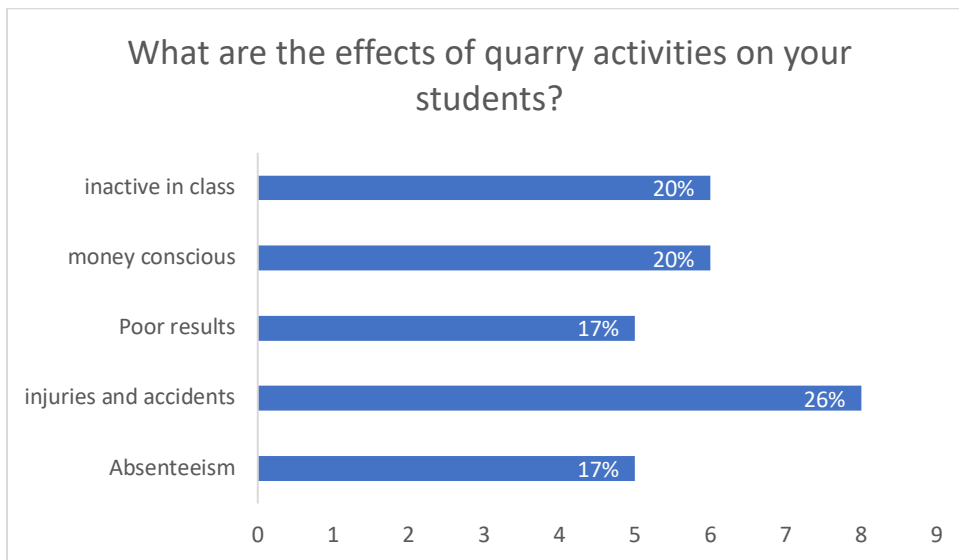
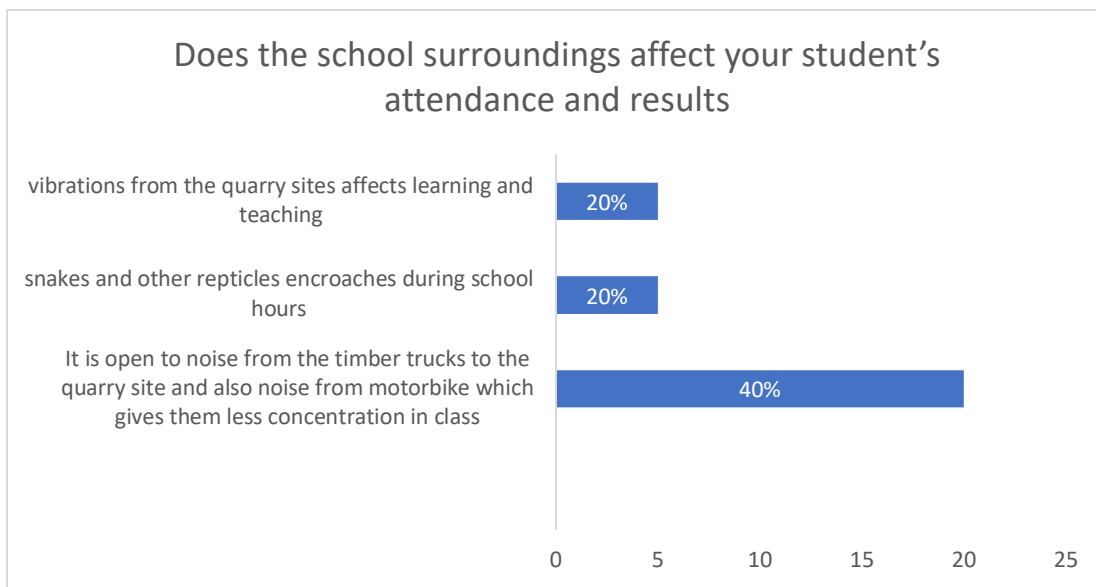


Figure 13 above, shows the effects of quarry on respondents' student, with a total of 30 respondents, 20% of the respondents, responded that, quarry makes students inactive in class and do not partake in class duties (6 respondents), 20% responded that quarry makes their students money conscious, which makes them always want to be at the quarry site (6 respondents), 17% responded that, students involvement in quarry makes them poor results, since they spent most of their time at the quarry site rather than their books (5 respondents).

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Figure 14: Respondents view on how school surrounding affect attendance and results



The figure 14 above, 20% responded that, vibrations from quarry sites affects learning and attendance (5 respondent), 20% responded that, snakes and other reptiles encroaches the school compound during school hours, which put fear in the students and make schooling difficult for the students, since they are afraid of been attack by the reptiles.(5respondents), 40% responded that, the school premise is open to noise from the timber trucks to the quarry site and also noise from motorbike which gives them less concentration in class (20 respondents).This shows that, indeed the school surroundings have a severe impact on academic success and therefore efforts should be made to reverse the situation at hand in the community.

Table 5:Activities that distract class attendants

Activities	Frequency	Percentages (%)
Dust from the quarry site and heavy trucks	10	10
Vibration from quarry Sites	35	35
Noise from tipper trucks from the quarry sites	10	10
Noise from Market square around the school premises	13	13
Noise from funeral grounds	15	15
Parents calling students during school hours	17	17
Total	100	100

In table 5 above, 17% of the respondents responded that, when they are learning, their parents' comes to call them from the class, 10% of the respondents responded that, tipper trucks from and to the quarry sites produces lots of noise which affects them, 13% responded that, noise from the market square affects them very well since the school is closer to the market. 15% responded that, during funeral hours, lots of noise emanates from the area which is makes it difficult for them to pay arrention in class.10% responded that, dust from the quarry sites and from heavy vehicles plying the untarred road affects them very well and lastly,35% responded that, the level of vibrations from the quarry site during school hours is unbearable and do not make learning favorable in the school. This indicates that school surrounds play a key role in learning and school attendance.

4.12 How school surroundings motivate attendance and academic performance in Paanor community.

Learning environment play an instrumental role in student performance and success. Students who study in a positive learning environment have proven to be more engaged and have a higher overall learning ability (Bogunovic & Toskovic,2006).

However, the study revealed that, school surroundings in the Paanor community are unfriendly, discouraging and unfavorable for teaching and learning. These include overcrowding of pupil, lack of desk, classrooms in open spaces, inadequate classroom blocks, poor classroom layout, lack of canteen, latrines etc. All these adverse learning environments makes students less motivated, hence breeding academic truancy. To add more, wanton blasting of dynamite chemicals from quarry sites which causes unnecessary noise and land trembling. When this happens, teaching and learning must be suspended and later be meant to continue, consequently creating the uncomfortable and discouraging environment for teaching and learning. Others include noise from commercial motor and heavy-duty trucks from quarry sites moving to-and-from behind the school. These negatively contribute to the academic growth and eventually affect the overall learning ability and outcome of students.

Undeniably, these disadvantageous conditions in the Paanor community undermines teachers' willingness and desire to perform their teaching obligations better. Also, the school is usually under-staffed since most teachers are disinclined and unenthusiastic to accede to work in such unfriendly conditions. The unfriendly threats the quarry industries pose to the school environment can be minimize by the strict and effective implementation of Akoben ratings at the quarry industries. The Environmental Protection Agency (EPA) of Ghana has launched the Akoben software, which rates and discloses environmental and social performance of mining industries. The Akoben initiative (ratings) uses a five-color classification system to measure the environmental efficiency of mining and its manufacturing operations. Gold, blue, green, orange, and red are the five colors indicating a range of environmental results from good to bad. These ratings are released to the general public and the media once a year, with the aim of increasing public knowledge and involvement. Mining permits are revoked when companies score red and orange ratings. The AKOBEN ratings are estimated by observing over a hundred performance metrics, which includes quantitative, visual data and qualitative (Sekyi,2011). Sekyi (2011), stated that, the AKOBEN ratings assess a company's environmental performance based on its day-to-day activities after it has completed its Environmental Impact Assessments (EIA) and received its environmental permit to operate. These scores represent how well businesses have followed through on the promises they made in their EIAs during the planning stage. Table 6 below shows the various Akoben rating initiative.

Table 6: Akoben Ratings

Rating Level	Performance	General Description
<i>RED</i>	<i>Poor</i>	<i>“Failed to go along with environmental law (LI 1652), shows pattern of chronic exceedances, and creates risks from toxics and hazardous wastes mismanagement and discharges”</i>
<i>ORANGE</i>	<i>Unsatisfactory</i>	<i>“Exceedance of regulatory standards for non-toxics, weak environmental monitoring, and incomplete fulfillment of reclamation bond criteria”</i>
<i>BLUE</i>	<i>Good</i>	<i>“Adequate adherence to environmental regulations and reclamation bond requirements”.</i>
<i>GREEN</i>	<i>Very Good</i>	<i>“BLUE + adopts voluntary initiatives and is responsive to public complaints”</i>
<i>GOLD</i>	<i>Excellent</i>	<i>“Green + mine site follows its corporate social responsibility policies”</i>

(Source: Sakyi, 2011)

4.13 Limitations of the study

- Some personnel were reluctant to give out information because, they had an initial perception that the research would undermine their activities. With such a cross-section of respondents, it was not easy to convince them that the research was purely for academic goals and was not politically inclined or for media purposes.
- Language Barrier: The people of Paanor speak ewe so I had to hire the services of an interpreter which came at a higher cost.
- People demanded money, and other items like food, water etc., before answering the questionnaires.
- Time Limitation: due to the time at hand in completing the work as well as submitting it, enough data could not be collected. Generating enough data would have broaden the scope of the findings and increase reliability. However, for the purpose of this work, I still believe that the data generated is substantial to speak to the case.

CHAPTER FIVE

Conclusion and Recommendations

This is the study's final chapter. It explains and summarizes the preliminary conclusions based on the study's findings and recommendations that may assist in solving the quarry effects on primary education in the Paanor community.

5.1 Conclusion

The study finds that stone quarry by students does have an adverse effect on school attendance and academic performance in Paanor community. This thesis finds poverty, a broken home, unfriendly school environment and high parental pressure, are the contributing factors to students' engagement in quarrying activities. This thesis has also shown that, stone quarrying in Paanor is not without health risks. Scorpion and snake bites and injuries are just a few of the health issues that students who are engage in the quarry work face in the community. While stone quarrying is essential for livelihood survival, its negative impact on students outweighs the positive impacts community. However, based on the study, and the findings acquired, it can be stated that, stone quarry indeed has a great impact on basic education in Paanor community and perhaps it has been one of the main reasons disrupting the achievement of the SDG 4. ("Ensuring quality education") in Paanor community.

5.2 Recommendation

It is clear from the conclusion that, quarry activities have adverse effects on school attendance and academic achievement. The study has outlined some mitigation measures to address the effects of quarry on students and these have been highlighted below.

- The local District Assemblies can help by establishing educational grants to support disadvantaged students and encouraging parents to send their children to school rather than involving them in quarry activities. There should also be the establishment of byelaws that encourage parents to make sure their children attend school on a regular basis and punish parents who do not follow the law.
- Parents and teachers should work on giving motivations to students on the value of education and must advocate for more recreational facilities in the school, to motivate and

rekindle students' interest in schooling to lower absenteeism rate in the community. Teachers should cultivate various soft skills such as always being warm and welcoming in order to inspire students who are having difficulties approaching them. They should also find a mechanism to find out why students absent themselves from school, so they can provide the vital support and counseling to such students.

- Non-governmental organizations (NGOs) should be more active to help parents who are unable to cater for the educational needs of their children. This can be accomplished if school leaders consult non-governmental organizations on a daily basis on issues, the poor but talented students face in the community. This would encourage other students to focus on their studies rather than engaging in quarry to satisfy some of their school needs.
- Quarrying industries in Paanor should consider organizing health screening activities in the communities at least every three months as a matter of urgency. This is due to the fact that dust particles concentrations are high enough and cause serious health effects such as respiratory tract infection on people and students in the community. As a corporate social responsibility, a clinic could be constructed in schools at Paanor to provide better health care for students who are affected by the quarry activities.
- The local authorities in Paanor can also assist by consistently providing the needed school supplies and monitoring the illegal payment of unapproved fees on educational materials to keep school children in school. The authorities should improve and fully enforce the New Educational Reform and Free-Compulsory Universal Basic Education, so every child can have the right to an equitable education in the country.
- The quarry industries need to find ways for reducing the possible consequences of blasting using an alarm system to alert schools and residents of blasting. Prior to blasting, notice should be to schools and communities near the quarries. Buildings are being harmed by blast vibrations, which are also having a detrimental effect on human lives especially students. Objects from the roof and pieces from the wall surfaces of school buildings break free and fall off as the building vibrates. Any of these particles are likely to end up in the food that is consumed at mealtime during school hours.
- For the conservation and sustainability of sanity in Paanor school surroundings, local communities should implement environmental legislation and laws. The required logistics for successful compliance should be given to the monitoring agencies in the community to

help reduce non-academic activities that take place during school hours in the community, such as the transportation of quarried stones, funerals (burial services), durbar organization and other sporting activities. These will make students have an enabling environment to study.

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a. 1-10 [] b. 11-20 [] c. 21-30 [] . d 31-40 [] e.41-50 []

10. What is the attendance range in your class?

a. 1-10 [] b. 11-20[] c. 21 above[]

11. When is preventing parents from sending their childing to school?

a.....

b.....

12. What is your perception on education as a teacher?

a.....

b.....

c.....

d.....

13. What are some of your student's perception on education?

a.....

b.....

c.....

d.....

14. Does parents comment on student's attendance and results?

a. No [] b. Yes [] .How.

a.....

b.....

b.....

c.....

15. Does the school surroundings affect your student's attendance and results?

a. No [] b. Yes []

16. What are some of the activities in the school's surroundings that prevents class attendance?

a.....

b.....

c.....

d.....

17. How does the school surroundings affect your student's attendance and academy performance?

- a.....
- b.....
- c.....
- d.....

18. What is the relationship between you and your students?

- a. Excellence [] b. good []. c. average [] d. bad []

19. What do you think to be why parents encourage their children in primary level to go into stone quarry?

- a.....
- b.....
- c.....
- d.....

20. What would you say as why your students involve in quarry activities and other jobs?

- a.....
- b.....
- c.....
- d.....

21. What are the reasons why most students are irregular at school?

- a.....
- b.....
- c.....
- d.....

22. What are the effects of quarry activities on your students?

- a.
- b.
- c.....
- d.....

23. What is your view on academic performance?

- a. Excellence []. b. good [] c.average [] d.bad []

SECTION C
STUDENTS QUESTIONAIRES

24. Why do you absent yourself from school?

- a.
b.....
c.....

25. What is your parent occupation?

- a.....
b.....

26. What is your relationship with your teachers?

- a. Excellence [] b .good[] c .average[] d.bad[]

27.What time do your parents pay your school, examination and printing fees?

.....

28.Does the school surroundings affect your attendance?

- a. No [] b. Yes []

29.What activities in the school surrounding destructs your attention in class?.

- a.....
b.....
c.....
d.....

30.How does the activities in the environment affects your class attendance and results.?

- a.....
b.....
c.....
d.....

31.Have you been involve in quarry activities?

- a. No []. B.Yes [].

32. What do you do at the quarry site.

- a.....
- b.....
- c.....

33. Why are you involve in quarry activities?

- a.
- b.
- c.

34. What time do you go to the quarry site?

.....

35. What do your parents force you to involve in quarry?

- a.....
- b.....
- c.....
- d.....

36. How does quarry affect your health?

- a.....
- b.....
- c.....
- d.....

37. What is your academic performance?

- a. Excellence [] b .good[] c .average[] d.bad[]

38. Do your parents comment on your academic performance and school attendance?

- a. No []. B. Yes [].How.

- a.....
- b.....
- c.....
- d.....

SECTION D
PARENTS QUESTIONNAIRES

39. What is your family size?

.....

40. What is more important to you?

a. Your child's education [] b. Your job [] other.....

41. What is the distance of your work from your child's school?

a. Near []. b. Far []

42. What is your perception on education?

a.....

b.....

c.....

43. What time do you pay your children school, examination and printing fees?

.....

44. Why do you encourage your children to work with you?

a.....

b.....

c.....

d.....

45. What role do you make the children play at your workplace?

a.....

b.....

c.....

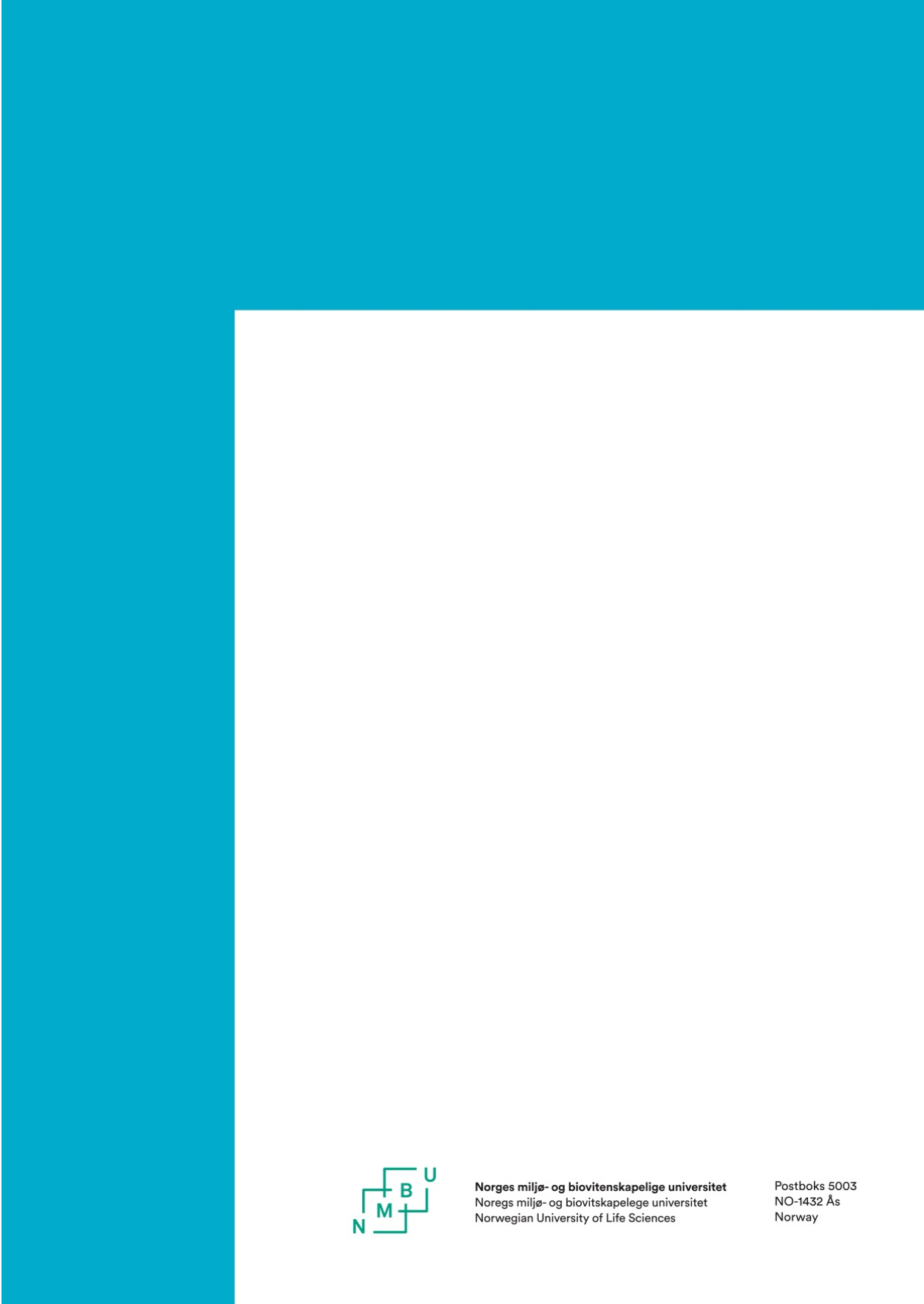
d.....

46. What is your view on your children academic performance?

a. Excellence [] b. good [] c. average d. bad []

47. Does your child's academic performance affects you?

a. No. [] b. Yes []



Norges miljø- og biovitenskapelige universitet
Noregs miljø- og biovitenskapelige universitet
Norwegian University of Life Sciences

Postboks 5003
NO-1432 Ås
Norway