

THE SOCIAL AND ENVIRONMENTAL IMPACTS OF MINING ACTIVITIES ON INDIGENIOUS COMMUNITIES

THE CASE OF NEWMONT GOLD (Gh) LIMITED
(KENYASI) IN GHANA

JONES OPOKU-WARE

This Master Thesis is carried out as a part of the education at the University of Agder and is therefore approved as a part of this education. However, this does not imply that the University answers for the methods that are used or the conclusions that are drawn.

Master Thesis in Development Management

University of Agder, 2010
Faculty of Economics and Social Sciences
Centre for Development Studies

Master Thesis

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By

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May 2010

Masters Thesis.

Master Thesis in Development Management
Centre for Development Studies
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Abstract

The study explores and assesses mining and its impacts on communities within which mining activities takes place. The focus has been on a mining community in Ghana called Kenyasi where mining is vigorously carried out by an American mining giant, Newmont Mining Corporation. The study investigates the real and latent impacts of mining activities on the community in the light of the numerous promises and prospects that mining is said to provide for communities.

Mining for many decades served as an important component of countries' revenue source especially for developing countries that have been endowed with the mineral wealth. If properly managed, countries can grow their economies with proceeds from mining activities in the form of royalties and foreign exchange earnings for the export of mineral related products. Such benefits from the mining sector have in most cases been used as justification and a social license for exploration and exploitation of minerals in most communities.

Nonetheless, in as much as the mining sector have contributed and continually contributes to the economies of mineral endowed countries, one cannot lose sight of the fact that the very nature of mining itself in terms of the lifecycle of mining from discovery to closure seriously impacts on the lives of the communities in which it is undertaken. From the prospecting stages through the construction of mining infrastructure and the actual mining itself carries diverse impacts on communities that can very devastating on the one hand and developmental on the other hand. Usually the impacts are environmental and social in nature and it is these impacts, real or imagined that this study sought to unravel.

The environmental and social impacts can to a larger extent change the dynamics of community living and can make the lives of its residents better or worse. The way these impacts are managed by the communities and the mining company involved can either further worsen or make lives rather better for the community and its residents. This calls for drastic attention being paid to issues of Corporate Social Responsibility where mining companies make great efforts in honouring its social obligations to the communities of operation. One way has been the development of Alternative Livelihood Strategies or Coping Mechanisms by mining companies with the view to cushioning people from the adverse impacts of their mining activities as it is done in Kenyasi by Newmont Mining Company and even the community residents themselves. Although most mining companies have carried out these strategies with good intent, it has been realized that mostly, the strategies fail because they lack what has come to be known as Community Participation. The study has paid particular attention to this issue of Community Participation and how its application to the various impact management strategies devised by Newmont in particular as a corporate entity has helped in managing the social and environmental impacts of mining in Kenyasi.

Acknowledgements

I would like to express my deepest gratitude and thanks to the Almighty God for his grace and mercies granted me throughout my studies. The following people also deserve my gratitude and appreciations.

First, thanks to my supervisor, Christian Webersik (Associate Professor), for his guidance, encouragement, helpful suggestions, comments and advice throughout my work on this thesis. Appreciation to all my professors, lecturers and tutors especially to Professor Arne Olav Øyhus, Professor Maung Kyaw Sein who left in the course of the studies for further academic work, Åke Sven Bjørke, Professor Oddvar Hollup, Brian Lucas, Jeannett Wilberg Schibbye, Øystein Sæbø, Jan Erik Grindheim, Greg Breetzke, Kristine Evensen Reinfjord, Bredan Barrett, Camilla Michelsen and Dyveke Rogan for their invaluable academic tutoring and modeling that has brought me thus far.

Appreciation also goes to my classmates from Norway, Ghana, Tanzania, Sri Lanka, Ethiopia, Uganda and Bolivia especially to Dianah Nampijja (Uganda), Kelvin Mutatina Njunwa (Tanzania), Sanjeewani Mummullage Nanayakkarra (Sri Lanka), Borghild Berge (Norway), Ragnar Kotner (Norway) and Edward Jada (Norway) and all the rest for your constructive sharing and exchange of ideas and knowledge during the face to face sessions and also in the virtual rooms. To you all, I say, I am grateful!

Special appreciation goes to my parents, Mr. Opoku Emmanuel and especially my mum Miss Cecilia Berko for being there for me in time of need and also for her love and care throughout my education. My siblings are also not left out, Sister Joyce Antwiwaa, Osei-Poku Frederick, Foster Opoku-Gyan and then my niece Judith Akua Ahenewaa for their love and encouragement when things got difficult.

Gratitude to my former lecturers at the Kwame Nkrumah University of Science and Technology (KNUST) especially Dr. Frances Azumah and Miss Harriet Takyi for their academic guidance throughout my studies. Thanks to you Mr. Henry Mensah, now a lecturer at KNUST and Mr. Awudu Moro and Victoria Mensah all graduates of University of Agder for their academic advice and encouragement and coaching especially in writing my thesis.

Thanks also goes to all the people I interviewed in my study area of Kenyasi especially to Wofa Kojo who was also my personal assistant during my field work and data collection process, the community women, men and the small scale miners (Galamsay) I interviewed. I thank you all for your help and cooperation. Mention is also made of the Communication Department of Newmont for all the information and brochures given me that helped me in my data gathering process especially to the employee from Newmont (name withheld) who volunteered to be interviewed. Thank you and I say, Bravo!

Finally, I thank all my friends both past and now for their encouragement throughout my studies especially through phones, emails and Facebook and other social networks. I love you all. I would not disappoint you friends!

Masters Thesis.

Declaration by candidate

I hereby declare that the thesis:

The Social and Environmental Impacts of Mining Activities on Indigenous Communities- The case of Newmont Gold (Gh) Limited (Kenyasi) in Ghana

has not been submitted to any other universities than the University of Agder for any type of academic degree.

25th May, 2010

Jones Opoku-Ware

Date

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Abbreviations and acronyms

GDP	Gross Domestic Product
GH	Ghana
NGOs	Non-Governmental Organizations
GoG	Government of Ghana
IDRC	International Development Research Centre
IISD	International Institute for Sustainable Development
GRI	Global Reporting Initiative
URTI	Upper Respiratory Tract Infection
US	United State
OICI	Opportunities Industrialization Centres International
LEEP	Livelihood Empowerment and Enhancement Programme
AILAP	Agricultural Improvement and Land Access Programme
SMEs	Small –Medium –Enterprises
NSEIA	National Strategic Environmental Impact Assessment
UNDP	United Nation Development Programme

CHAPTER 1: Introduction

1.1. Background

Many countries such as Ghana and South Africa consider their mineral wealth an asset, which could be used and in fact is used to stimulate or enhance their economic growth potential and also to steer their economies into greater levels of development. In countries such as Mongolia, the mining sector is said to account for about 17 percent of Gross Domestic Product (GDP), 65 percent of industrial value added and 58 percent of export, hence making it the largest contributor to the Mongolian national economy (The World Bank, 2006:1). Furthermore, mining has played a significant role in the development process of a country like Ghana that is rated second after South Africa in terms of gold production on the African continent (Akabzaa & Darimani, 2001: 4). Mate notes that mineral wealth in the form of gold, bauxite, diamond and manganese abound in larger quantities and have been a major foreign exchange earner for the Ghanaian economy (Mate, 2002: 3) whereas as at 1999, the mining sector alone had attracted over US\$3 billion worth of foreign direct investment and accounting for a whopping 30 percent of gross foreign exchange earnings (Akabzaa & Darimani, 2001: 4). This shows the significant contributions the mining sector has played in the lives of most countries especially the developing ones that have been blessed with their precious metals and resources.

However, like all other industries and sectors, the mining sector is also bereft with its own problems and challenges. The “footprints” it usually leaves behind are tremendous especially when it is not managed well because ‘badly managed impacts of mining on the environment or the social fabrics of society can reflect negatively on economic parameters countrywide’ (World Bank & International Finance Corporation, 2002: 2) and can allow many communities to become poorer with little access to resources especially when mining ventures fail (Kapelus, 2001: 1). In fact, it is observed that “to date, mining has a poor record in terms of its contribution to sustainable development, with few communities receiving significant benefit and mining sites experiencing lasting negative ramifications” (Reed & Miranda, 2007: 15). Although in recent times most mining companies have taken giant steps in reducing or mitigating the devastation effects of their activities in the communities and areas of operation by developing comprehensive Impact Assessment studies and strategies for dealing with the effects as well as massive investment in infrastructure such as roads, hospitals, schools, electricity, water supplies etc, as a means

to at least to offset some of the cost of mining activities, it is noted that most of “these communities have been victims of air and water pollution as well as other forms of environmental degradation resulting from mining operations” (Akabzaa & Darimani, 2001: 34). Mining can therefore have “decisive impact on the communities in which or near which the mines are located” (Anyemedu, 1992 cited in Akabzaa & Darimani, 2001: 34).

Though it is true that economies needs these mineral resources and the proceeds accrued from them to satisfy their basic needs, it is also true that the continual exploitation of the mineral resources is destroying the livelihoods and environments of the communities where mining activities or operations are carried out and had been the root cause of civil unrest and wars, widespread human right abuses, poisoning of people and environment, deforestation as well as forest degradation in many communities and countries (Gualnam, 2008:1). So, to what extent is mining impacting on indigenous peoples and their communities?

In order to understand the extent and nature of mining impacts unleashed on indigenous communities where mining operations are carried out, my topic of research is as follows:

The Social and Environmental Impacts of Mining Activities on Indigenous Communities: The case of Newmont Gold (Gh) Limited (Kenyasi) in Ghana.

This topic is of much interest to me considering the ever increasing news on both electronic and print media of agitation by mining communities in Ghana about impacts of mining operations on their livelihood. It is believed that at the end of the research, both the manifest and latent environmental and social impacts of the activities of mining companies particularly Newmont Gold Ghana Limited in the Ahafo project site of Kenyasi would be established and brought to light and attention of the appropriate authorities drawn to it so that the necessary measures would be adopted to either prevent or manage the impacts. My empirical approach would be qualitative with a combination of qualitative data collection methods of interviews, participant observation and focus group discussion to help me understand the real situation causing such agitations in communities where mining is carried out.

1.2. Research Objective and Research Questions

1.2.1. Research Objectives

The main objective of this study is to examine the environmental and social impacts of mining activities on indigenous community of Kenyasi. The focus is specifically on how the operation of Newmont Gold Mining Company is impacting on the Kenyasi community socially and environmentally. A second aim is to ascertain whether the company is aware of the impacts of their mining activities on the community of Kenyasi and how they are managing or intends to manage them to curtail the numerous agitations by the communities in their areas of operation.

1.2.2. Research Questions

To be able to fully understand and appreciate the extent of social and environmental impacts of mining activities on the community, I developed the following research questions;

- *What was the state of natural resources in the area before the mining project?*

Here, it is important that I assess the state of natural or environmental resources such as water bodies; land and forest cover prior to mining operation in the communities of operation particularly on the people of Kenyasi. This is particularly useful as it would help me make a comparative assessment of the natural and environmental resources of the community before and after the start of mining and to establish the extent of impact in terms of changes that have occurred on these environmental resources in the community since the start of mining.

- *How has the social and natural environment been affected by the onset of mining operations?* It is important to state that most mining communities in Ghana are rural where social life and livelihoods are primarily organized around environmental resources. Hence, the need to explore the extent to which the environment where they derive their livelihood has been affected. Has the Kenyasi community undergone any social and structural changes since mining began? Were they compensated? How the compensation package determined was and what form did the compensation package take? This, I believe would make clear the extent to which the value of the compensation offsets, equals or exceeds the cost that the community would suffer because of the mining operations in the community.

- *What coping mechanisms have been developed alternatively as a result of the social and environmental impacts of mining activities?* Since it is common for people to adjust to environmental and social changes and to develop some form of coping mechanisms. This

question would seek to find out from the community the specific coping mechanisms that have been developed to adjust to the environmental and social impacts of mining in their areas. Here, the various survival and coping alternatives generated by themselves or received from elsewhere, being the government, non-governmental organizations (NGOs) or the mining company itself to either prevent further impacts or adjust to the impacts would be explored and finally;

- Is Management of the Mining Company (Newmont Gold (Gh) Limited) aware of the manifest and latent impacts of their operations on the community and how are they managing or intend to manage the impacts? I intend to find out if the attention of the mining company has been drawn to the real or imagined impacts of their activities on the community in their operation site. If so, what has been their response in terms of managing the impacts of the indigenous people in the community? This question is particularly worth asking in view of the fact that mining has been officially declared as ‘sustainable’ in the World Summit on Sustainable Development (Gualnam, 2008: 1) ironically masking any potential impact that the activity could pose for the communities where mining is carried out.

These questions I believe would be able to “squeeze the juice out of the fruit” and then present the true state of the social and environmental impacts of mining activities on communities and inform policy decisions in granting mining concessions to mining companies especially on “how to carry out their activities and ensure environmental conservation and social justice” (Gualnam, 2008: 1). It would also provide more insight in terms of the benefits and costs of mining activities since the findings would reveal to a larger extent those (multi- nationals, government, businessmen or the local communities) that benefits from the operations of mining companies and those that bear the cost thereof.

1.3. Background of study area

1.3.1. Newmont Gold (Gh) Limited Ahafo project site and the Kenyasi Community.

Founded in 1921 and publicly traded on the New York Stock Exchange since 1925, Newmont is one of the world’s leading gold companies. Headquartered in Denver, Colorado, the company employs approximately 15,000 people, the majority of whom work at Newmont's mines sites in the United States, Australia, Peru, Indonesia, Bolivia, New Zealand and Mexico (Newmont Mining Corporation, 2006). Newmont recently developed its first project in Ghana, which has become the company's next core operating

district and at year-end 2006, had over 20 million ounces of gold reserves in its concessionary sites (Newmont Mining Corporation, 2006). As already stated Newmont's African operations are predominantly in Ghana and include basically, the Ahafo mine. The Ahafo mine situated at Kenyasi is located in the tropical, cocoa-growing region of mid-western Ghana, approximately 180 miles (290 kilometers) northwest of the capital city of Accra and contributes approximately 8 percent of Newmont's worldwide equity gold sales in 2007 (Newmont Mining Corporation, 2006).



Figure 1. The signboard to Newmont Ahafo Plant site. Photo: Researcher, 29th December 2009.

Kenyasi, where the Ahafo mine is located in 2007 produced 446,000 equity ounces of gold and reported approximately 9.7 million ounces of gold in reserves, enough to actively mine for approximately 20 years (Newmont Mining Corporation, 2006). This in essence depicts how the natural resources of the area would be subjected to exploitation for the next fifteen or so years in the area.

Kenyasi is the capital of the Asutifi district in the Brong Ahafo region of Ghana. "The Asutifi District is one of the Nineteen (19) districts in Brong Ahafo located between latitudes 6°40' and 7°15' North and Longitudes 2°15' and 2°45' West sharing boundaries with Sunyani District in the North, Tano South District to the North East, Dormaa District to North West, Asunafo North and South Districts in the South West and Ahafo Ano South and North Districts (Ashanti Region) in the South East" (Government of Ghana, 2002).

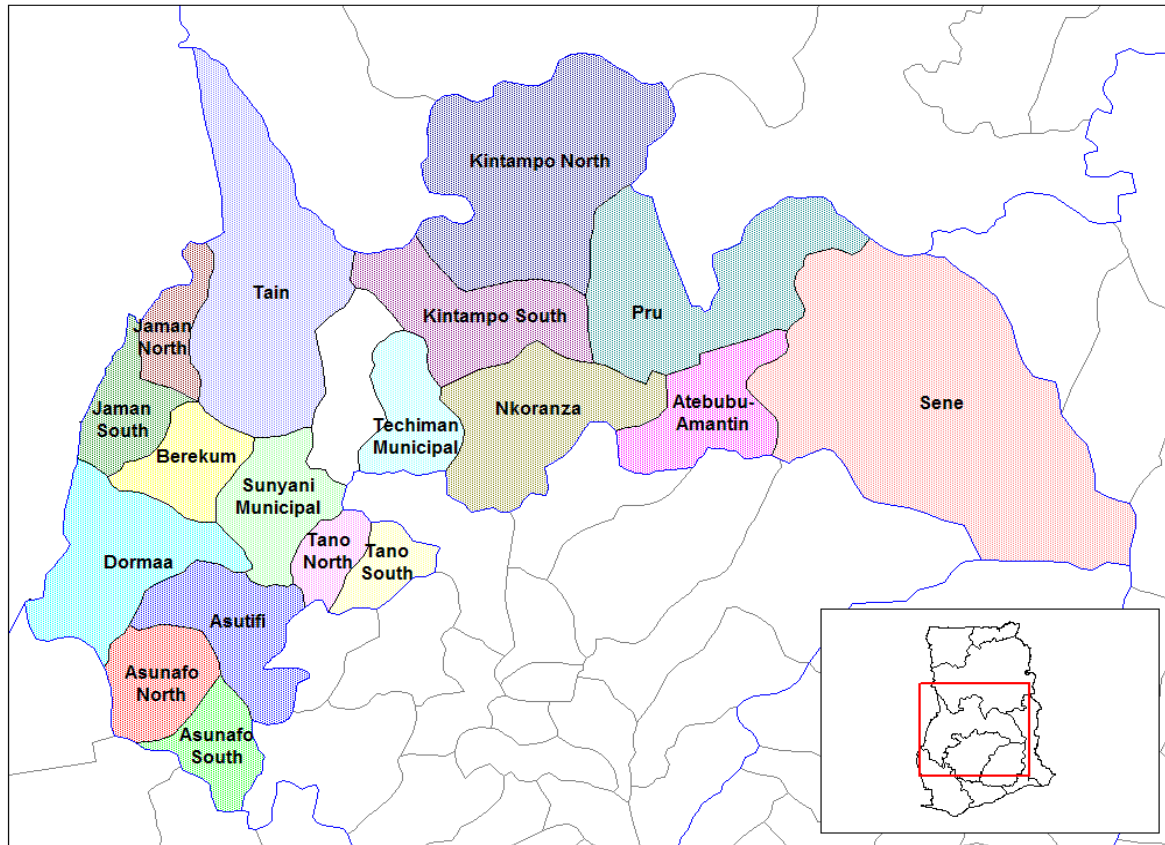


Figure 2. Map showing Brong Ahafo region of Ghana with its districts including the Asutifi District. Data source: Government of Ghana 2009.

Occupying a total land surface area of 1500 sq.km, the district is one of the smallest in the Brong Ahafo Region with a total of 117 settlements in the district and four paramountcies, namely: Kenyasi No.1 Kenyasi No.2, Hwidiem and Acherensua (Government of Ghana (GoG), 2000). “The district capital Kenyasi is about 50km from Sunyani, the regional capital of Brong Ahafo, through Atronie and Ntotroso” (GoG, 2000). Perhaps the most important potential for the development of the district lie in the abundant natural resources in the areas of forest and forestry products, good soil of high agronomic value, sand, clay and mineral deposits like gold, diamond, and bauxite (GoG, 2002).

Topographically, Kenyasi lies within the forest dissected plateau “with average height of about 700 feet above sea level and the lowest part of Kenyasi found along the river basins whilst the highest point is found within a chain of mountains” (GoG, 2000).



Figure 3. Entrance to the Kenyasi community from neighbouring Ntotroso community showing the forests cover of the Kenyasi community. Photo: Researcher, 29th December 2009.

In fact, geologically, the area is fully covered by rocks of Birimian and Dahomeyan formations with these rocks known to be gold, manganese and Bauxite bearing rocks (GoG, 2000) and could explain why currently gold is being mined in the areas where these rocks are found by Newmont Ghana Gold Limited one of the biggest mining companies in the world. Predominantly, it is Kenyasi here that massive exploratory works is being carried out by mining companies. In addition to these are “large areas of forest reserves such as the Biaso Shelter Belt, Bia Tam Forest Reserve, Asukese Forest Reserve, Goa Forest Reserve and Desiri Forest Reserve with these forest reserves together covering a total of about 475.63 square kilometres , about 30% of the entire land surface area of the area” (GoG, 2000) and it is to be assumed that the massive exploitation of the area for minerals would invariably affect these forest since they are also embedded with some Birimian rocks.

The predominant occupation in Kenyasi is subsistence agriculture which engages 66.7 percent of the economically active labour force. As a matter of fact, the sector (farming and animal husbandry) employs majority of women population in Kenyasi.



Figure 4. Women farmers on their way to their farms in Kenyasi. Photo: Researcher, 30th December 2009.

“About 91 per cent of those engaged in other occupations outside agriculture still take up agriculture as a minor activity” (GoG, 2002). With the recent operation of mining activities by Newmont Ghana Gold Limited to mine gold within its boundaries, it has created grave concern about the tremendous implications of the mining activities on the local economy. For instance, farmers feel threatened by the mining operations, but on the other hand, a lot of job opportunities are being created both directly and indirectly. Kenyasi therefore finds itself in the middle of profound structural changes providing opportunities and challenges to managers of the town.

1.4. Methodology in brief

In the conduct of research, there is the need to have a design and in the words of Bryman (2008: 31), “the design provides a framework for the collection and analysis of data”. In essence, the design would influence and determine the choice of the methods to use in the collection of data. Basically, five prominent designs are outlined by Bryman and involve the experimental design, cross-sectional design also known as survey research, longitudinal design, case study and comparative design. For my research, I have employed a case study design because it involves looking at the social and environmental impacts of mining

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activities in a specific place which is Kenyasi and taking the activities of a mining company (Newmont Gold (Gh) Limited) as a single case to study.

With my research approach, I have employed a more qualitative approach and adopted semi-structured interviews, observation, focus group discussion and analysis of texts and documents related to Newmont activities in the Ghana and Kenyasi in particular as my methods for empirical data collection. My choice of these methods is informed by the fact that “case study designs often favour qualitative methods such as participant observation and interviews” (Bryman, 2008: 53). It also enabled me to generate much needed information and as well as doing an intensive and detailed examination of the case study.

For my interviews, I have conducted face to face semi-structured interviews with fifty (50) household in the Kenyasi community. These households were randomly sampled and selected since it is easy to do so because the community settlement pattern is such that people live in households of about eight (8) to about fifteen (15) and more closely knit and related family members living together in the same house. This was followed by a focus group discussion that consisted of seven (7) people including an opinion leader in the community, three migrants but resident in the community and three other indigenous residents of Kenyasi. An interview was also carried out with one employee from the Communication Department of Newmont Gold (Gh) Limited since they are responsible for documenting and communicating all the day to day activities and initiatives of the company to the public. The official’s information given was significant in communicating to me the activities and initiatives of Newmont Company on matters of compensation, social responsibility, vulnerable programmes, environmental management practices, impact mitigation and community development issues. I should however state that the restrictive and closed nature of Newmont company presented a difficulty in getting the Newmont top officials for the interviews. I therefore had to rely on only one employee from the communications department of the company who pleaded for anonymity and confidentiality in the granting of the interview at a secret place.

1.5. Thesis Outline

This thesis is organized as : Chapter one (1) as presented above involves the introduction to my research topic, the research objectives and research questions, the study area comprising mainly of description of Newmont Gold mining Company and the Kenyasi community and a brief description of my methodology of my research. The second chapter

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covers the literature review and presents literature that is related to my topic of study. Chapter three (3) presents the methodology and the method used in the collection of empirical data. In Chapter four (4), the empirical findings from the research on the field are presented and analyzed in the light of the theoretical frameworks that are outlined in the literature review. In Chapter five (5), conclusions are drawn and some suggestions and recommendations are made.

CHAPTER 2: Literature Review and Theoretical Framework

This chapter contains a review of literature that relates to my topic of study and the theoretical framework which would influence the direction which my discussion of the findings would take. The literature review is divided into four sections. The first section deals with issues relating to the state, organizations, companies and the indigenous people or communities collaboration in dealing with the impacts of development projects and activities such as large scale mining and whether such synergies really exists at all in practice or it is just on paper. The second section deals with the current idea of corporate social responsibility of large companies and organizations and assesses whether the current practice of corporate social responsibility is not misconstrued as a mere environmental impact assessment which in most cases is not ‘strategic’. The third section touches on the environmental impacts of mining activities whereas the final section deals with social impacts of mining.

2.1. State, Organization and Community Synergy in the Management of Socio- Economic and Environmental Impacts of Development Projects.

“Indigenous Nations and Peoples are entitled to the permanent enjoyment of their aboriginal ancestral historical territories. This includes air space, surface and subsurface rights, inland and coastal waters, sea ice, renewable and non-renewable resources, and the economies based on these resources” (Declaration of Principles on the Rights of Indigenous Peoples, Numeral 4 cited in Warden- Fernandez, 2001: 2). Far from such recognition, indigenous communities and peoples ‘have been the least regarded of the actors and have historically been neglected in policy and other discussions relating to many development issues such as mineral development’ (Mate, 2002: 3) with “the negotiations and discussions having been primarily between governments and companies and to the neglect of those whose lives and livelihoods are impacted directly and, usually, adversely by mineral operations” (IISD, IDRC 1998; McMahon, 2000 cited in Mate, 2002: 3). In most cases, protests by communities against the adverse socio-economic impact of mineral operations and community disruption of operations have brought about their recognition as important actors who must be consulted even though Akabzaa (2000 cited in Mate, 2002: 4) notes that “this recognition is by no means the norm and that many governments still regard protesting communities as obstacles to foreign investment” and have in most instances reacted and responded with brute force to their protests resulting in various human right abuses.

In Australia for instance, Brereton & Forbes argues that most Australian mining operations have assigned a lower priority to the management of community impacts than to workplace health and safety performance and that issues relating to community impacts have mainly been addressed at the project approval stage, when environmental impact assessments are being prepared (Brereton & Forbes, 2004: 3-4). With the exception of environmental amenity issues such as noise, dust, air quality, etc, to some extent, mining companies have typically devoted few resources to monitoring and managing, in an ongoing way, the impacts of their operations on surrounding communities (Brereton & Forbes, 2004: 3-4).

However, it can be stated that this trend should be expected because recent emphasis on globalization has meant a paradigm shift towards an integrated world economy and rapid advances in technology which have accelerated the development of natural resources throughout the world, hence, the migration of transnational corporations such as mining firms into remoter and seemingly borderless regions and areas, hitherto untouched (Warden-Fernandez, 2001: 2). For many developing countries, “mineral production constitutes a major source of foreign and fiscal revenues for their economies and is also an important activity for some developed economies too” (Mate, 2002: 3). It has been hoped that mineral production and the revenue accrued from them will give commercial value to the lands and hence, provide a basis for economic development (Mate, 2002: 3). Though in practice, this has not always been the case, “a few mineral economies have delivered the development promised” (Auty, 1998 cited in Mate, 2002: 3). Eggert even notes that most mineral-dependent nations constitute some of the poorest and worst performing economies in the world (Eggert, 2001: 3). Although, mining was officially declared as ‘sustainable’ in the World Summit on Sustainable Development (Gualnam, 2008: 1 and World Rainforest Movement, 2004: 13), it has been argued by Eggert that it does not always contribute to sustainable development particularly in economic sense because it does “not only exploit non-renewable resources, but also because they leave behind them destruction of the environment and society, which is very often irreversible” (Eggert, 2001: 3; World Rainforest Movement, 2004: 11).

2.2. Corporate Social Responsibility or Environmental Impact Assessment?

In recent times, the balance has shifted as ideas about corporate social responsibility and sustainable development have been largely espoused and has generated considerable interest on the impacts of mining activities if sustainable development is to be achieved. At

the global and national level, leading mining companies have now formally embraced the paradigms of sustainable development, corporate social responsibility and ‘triple bottom line’ reporting, with these paradigms defining the community obligations of companies quite broadly and stressing of the need for mining companies to improve social, as well as environmental performance of their operation on the indigenous communities where they operate (Brereton & Forbes, 2004: 4).

Major mining companies are now making strides in aligning their reporting practices to the Global Reporting Initiative (GRI) framework which requires that companies provide a description of policies to manage impacts on communities in areas affected by activities, as well as description of the measures to address this issue (Brereton & Forbes, 2004: 4). But even in view of the many efforts by mining companies to make their activities ‘sustainable’, the World Rainforest Movement (2004:13) argues that such moves are attempts in futility since the activity is based on the extraction of non-renewable resources whose impacts go far beyond what people normally understand as unsustainable.

2.3. The Environmental Impacts of Mining.

Mining is an activity that needs to very properly planned with all likely, probable and possible impacts anticipated, identified, evaluated and mitigation, measures planned because it is a short-term activities with long-term effects (Abdus –Saleque, 2008). The issue is that mining involves a lot of stages which usually begins from deposit prospecting and exploration stage, mine development and preparation stage, mine exploration stage and treatment of the mineral itself with each of these stages involving specific environmental impacts (Gualnam, 2008: 2). It is also noted that the preparation of access routes, topographic and geological mapping, geophysical work, hydro-geological research, deforestation of the land and elimination of vegetation affecting the habitats of hundreds of endemic species, consequent erosion and silting of the land, reduction of water table, contamination of the air, water and the land by chemicals such as cyanides, concentrated acids and alkaline compounds and air pollution caused by dust, gases and toxic vapour can have diverse affect on the environment and health and social life of the local communities (Abdus-Saleque, 2008). Hence, it is not wrong to assume that the impacts of mining are related to mining itself, which frequently involves or produces hazardous substances and causes destruction in the natural environment in one way or the other.

In fact, environmental impacts of mining are well documented and the literature abound with environmental impacts in the form of waste management, impacts to biodiversity and

habitat, deforestation of land with the consequent elimination of the vegetation, pollution (water, air, land and even noise pollution) etc. In Ghana and many other tropical areas of mining, it is noted that mining is a major cause of deforestation and forest degradation, generating a large number environmental impacts (World Rainforest Movement, 2004: 43). Surface mining alone is on record to represents a serious threat to the last vestiges of Ghana's forest resources and threatens the rich biodiversity of the country's tropical rainforest, which has raised concern about the question of sustainable forest management and mining activities (World Rainforest Movement, 2004: 44). In addition to the threat posed by mining to biodiversity, the removal of the forest cover is swiftly drying up rivers and streams, resulting in the extinction of river hosted animal and plant species associated with tropical rainforest. Even, many communities complain that snails, mushrooms, medicinal plants, etc. are no longer available in the areas of mining due partly to mining activities (World Rainforest Movement, 2004: 44) in addition to the numerous health problems such as malaria, tuberculosis, conjunctivitis and other skin diseases posed by mining activities (World Rainforest Movement, 2004: 44).

It has been found out that due to the negative environmental impacts of mining activities in Obuasi by the AshGold Mining Company, the health of most of the people in that community is very poor with a high prevalence of upper respiratory tract infection (URTI) in the area which medical experts attributed to the mining activities and its associated pollution, arsenic poisoning (Awudi, 2002: 9). In addition, mining impact related diseases such malaria, diarrhoea, upper respiratory tract infections, skin disease, acute conjunctivitis and accidents is noted to be high in Tarkwa, another mining community in Ghana (Awudi, 2002: 9). In fact, apart from these diseases that may emanate directly from the mining activities itself, it is observed that the miners themselves can also bring diseases to local indigenous populations such as HIV/ AIDS and other transmittable diseases (Rhett, 2006).

It is noted that large-scale mining activities generally continue to reduce the vegetation of most of the mining communities to levels that are destructive to biological diversity (Akabzaa & Darimani, 2001: 47). In Mongolia, it is stated that deterioration in water quality resulting from water pollution, mercury pollution, waste rock piles and tailings repositories as well as air pollution has been a major characteristic of mining induced impacts in communities where mining operations are undertaken (The World Bank, 2006: 1-2). Again, major environmental problems have resulted in most mining communities in Ghana and is largely brought about by the mining boom which requires massive vegetation clearance and land excavation, waste disposal, mineral processing and misuse of mining

chemicals leading to decline in safe drinking water for humans, decline in air quality, loss of ecological biodiversity, decreasing forest cover and decreasing space for human waste disposal (Awudi, 2002: 6). Whereas the exploitation of mineral wealth and resources has become a necessary venture for most countries in supporting their national development agendas, it is also a fact that exploitation of these resources is frequently a destructive activity that damages the ecosystem and causes problems for people living nearby the mining operations (Rhett, 2006).

On a large and probably global scale, environmental impacts of mining are manifested when chemicals such as sulphur dioxide released from mines overtime causes acid rain. The carbon dioxide and methane released by burning fossil fuels from these mines produces greenhouse gases that could lead to climate change. Irritatingly is the deafening sound of the machinery and the blasting in mining creates conditions that may become unbearable for the local people and the forest wildlife (Gualnam, 2008: 2). However, what is most worrying is that the environmental damage inflicted by the extraction process is not uniform either with its severity depending largely upon varying factors such as transportation routes, mine type, ore body characteristics, among others (Gibson & Klinck, 2005: 132) with those communities very close to the mines likely to bear the heavy brunt of the environmental consequences even though other less closer communities could also be impacted negatively by the environmental effects of the mining operations.

2.4. The Social Impacts of Mining

The social impacts of mining activities and projects have received increasing attention in recent years. Though it has been argued that mining can be a vital economic propellant for most countries especially the developing ones because it can facilitate industrialization along with the promises of wealth and jobs (Gualnam, 2008: 2), on the contrary, it can also be a source of social discontent, civil unrest and other high social cost (Gualnam, 2008: 2). In fact, the social cost of mining interacts with other cultural and environmental issues that call for concerted efforts in addressing them. There is no doubt that mining appropriates land belonging to the local communities, impacts health, alter social relationship, destruct the forms of community subsistence and life, cause social disintegration by radical and abrupt changes in regional cultures, displace other present or future local economic activities and the working conditions in mines are hazardous and unhealthy (Gualnam, 2008: 2).

However, it could be stated that well-managed mineral endowment can deliver a wide range of long- and short-term benefits and that the most commonly cited ones are the infusion of employment, economic opportunity and hope into rural areas plagued by poverty and chronic underdevelopment. Even, many countries have benefited from foreign exchange earnings, the introduction of new technologies and practices, improved investment climates, construction of infrastructure, and the education and training of mine workers and their families (Anderson, 1997: 18). However, it is noted that “the fruits of such development can seldom be fully harvested without affecting the personal, social and civic lives of many people” and as such policy makers would have to prepare for such impacts and adjustments resulting from their development initiatives and policies (Anderson, 1997: 18).

For instance, in most mining communities, “the degradation of large tracks of land by the large-scale surface mines constitute a major threat to agriculture in the communities and their economic survival” (Awudi, 2002: 7). Akabzaa also notes this trend and states that “that mining companies are annexing vast lands in their operational areas and depriving communities of their chief source of livelihood” (Akabzaa, 2009). At the extreme, mining has led to growing conflicts among most communities displaced by mining operations and has even increased the presence of social vices such as prostitution, drug abuse, alcohol abuse, gambling, incest, inadequate housing, youth unemployment, family disorganization and school dropout rates(Akabzaa & Darimani, 2001: 43; World Rainforest Movement, 2004: 47 & Gualnam, 2008: 2). In Ghana, most mining communities respond to these social impacts with various forms of actions and have included demonstrations and strike action as well as violent actions by the communities and other stakeholders. In fact, Akabzaa has been quick to state that “the growing incidence of conflict between mining communities and their chiefs on one hand, and the mining companies on the other hand, echoes the growing concerns about the effects of the mining sector on the population (Akabzaa, 2000 cited in Akabzaa, 2009).

Though in recent times, affected communities have stepped up the struggle for human rights, self-determination and social and environmental justice, human rights violations as well as other social vices resulting from mining activities continue to rise with several cases of arbitrary arrests, violations of the right of access to food, forceful evictions, inadequate compensation and demolishing of villages (World Rainforest Movement, 2004: 48). Such struggles and opposition to mining projects and activities have also been rife and

recorded in Kenya among the local people who have raised concerns about the desecration of ancestral graves and the fate of their sacred forests, in addition to losing their homes, health, and livelihood (World Rainforest Movement, 2004: 55).

In spite of these grave social impacts and concerns, the literature reveals that efforts at mitigating the impacts of mining have only focused on the environmental impacts and have been wrongly assumed that dealing with the environmental impacts alone would inevitably reduce the social impacts. Though to some extent that it may help to deal with some aspect of the problem because of the interrelated nature of environmental and social impacts of mining, my research intend to at least fill some part of this gap by paying attention to what could be done to mitigate the social impacts of mining activities as being experienced by the people in mining communities, hence, the justification for such a study. The fact that policy initiatives responses are usually geared towards Environmental Impact Assessments implies that social impacts are necessarily not considered.

2.5. Theoretical Framework

Traditionally, most development programmes, policies and initiatives have been the sole preserve of governments, donors, companies, agencies and multilateral corporations who continually rely on experts in executing most of these programmes and initiatives.

However, the outcomes of these policies programmes and initiatives especially in meeting its designed goals have failed in most cases. This has generated much discussion and a search for alternatives to which policies and programmes especially those meant for the poor and the most vulnerable could achieve the desired impact. In recent times, the emphasis has been placed on the involvement and participation of what has come to be referred as the ‘third sector’, which is the community. Ideas about community participation is now espoused as the surest way by which development projects, programmes, policies and initiatives could yield the right impacts. According to Kleemeier (2000: 929) “participatory strategies in all kinds of poverty alleviation programmes is the most effective means to both deliver and sustain benefits to the poor”. These participatory strategies would recognize communities as partners in development rather than seeing them as passive recipients of development and hence, harvest the community resources and capacities for the sustenance of a particular policy, programme or initiative. This is similar to Ostrom’s theories of ‘Co-production and Synergy’ for development.

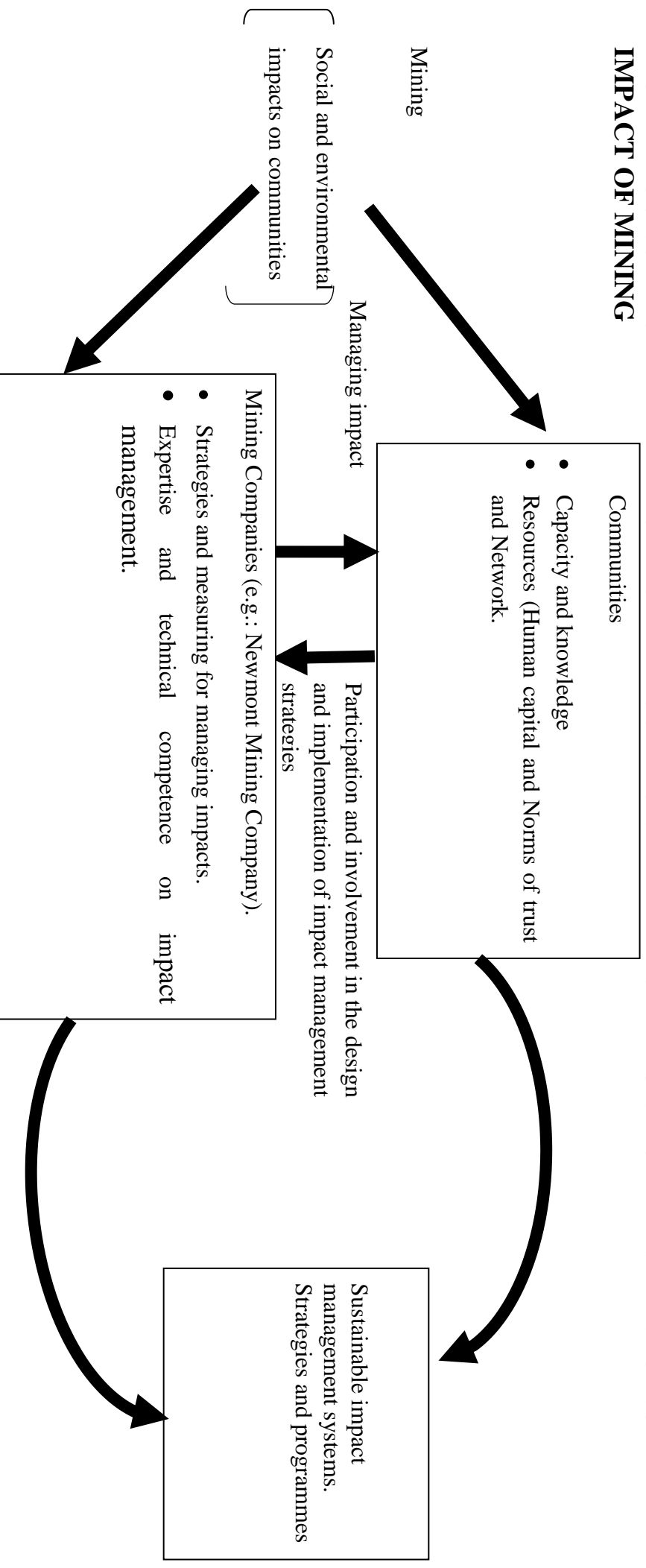
For the purposes of this thesis, I will basically draw on the Community Participation Model as developed by Botterill and Fisher. This model recognizes that “grass-roots community

action is an increasingly political attractive approach to the delivery of public good programs and that while there is increasing cynicism about governments' capacity to deliver solutions, there appears to be a growing belief in the almost mystical qualities of communities as entities with the wherewithal to solve complex social, economic and environmental problems" (Botterill and Fisher, 2002: 3). This model believes in the use of 'bottom up' approaches which uses community capacities as an effective means and mechanism for solving all manner of social problems. This model as postulated by Botterill and Fisher , they believe can be effectively applied to all sectors of the society to address issues ranging from regional economic development; family functioning, education and schooling; childcare; health issues and problems; substance abuse; crime control and prevention; biodiversity; natural resource management; and rural and urban revitalization and renewal. The Community Participation Model according to Botterill and Fisher (2002: 2-3) is based on the premise that:

- 'Top down' approaches through which government and other experts have identified and imposed solutions have failed in the past to resolve these intractable problems.
- the relevant community has a better knowledge of the problem and workable solutions so the problem will be solved.
- involving the community will mobilize many more human resources than could be marshaled by government and acting alone.
- participative programs will build the capacity of the participators to tackle any future problems on their own – they will become self-reliant; and
- Involving the affected population in deciding their future is a good thing in itself and is a more popular policy approach.

Conceptually, I represent this model below:

FIG. 5 A CONCEPTUAL FRAMEWORK OF THE COMMUNITY PARTICIPATION MODEL IN MANAGING IMPACT OF MINING



According to the Botterill and Fisher, the application of the model to the Australian Landcare Programme, Coastcare, Dunecare and the Fisheries Action Program has been very successful and has been implemented in many European Commission and Commonwealth countries (Botterill and Fisher, 2002: 5-6). I therefore intend to apply this model and its basic premises to the mining situation in Kenyasi and how its application could help to achieve the sustainability of Impact Management Strategies in the community as developed by Newmont. Particularly of much importance would be to discuss and assess the findings of the research on the extent to which the community is involved by Newmont in the management of the social and environmental impacts of their mining activities. Attention would be placed on how the community as a whole is involved in the design and implementation of various impact management strategies and measures and the mechanism for community involvement. The nature of existing impact management strategies would be assessed and their level of community participation would be discussed. From the conceptual framework above, the belief is that the active participation of the community in managing the impacts of mining is an effective means and mechanism in ensuring the sustainability of impact management strategies and various development programmes introduced by Newmont and also helping the people to adjust to the impacts. The community is hence, regarded as partners with Newmont in managing the impacts of mining in the community because they are seen as also possessing certain capacities and resources that could be utilized by Newmont who also possess certain capacities that the community lacks. The amalgamation of these capacities and resources from both the community and Newmont is essential in securing the commitment of the community in ensuring the sustainability of impact management strategies.

2.6. Summary of Literature Review

The literature on mining abounds very well and review indicates a trend towards the environmental impact assessment rather than social impacts assessments. Though we cannot de-link environmental impacts of mining from social impacts to a larger extent, it is equally important that social impacts of mining activities are also given the necessary attention if the real benefits from mining are to be derived by the indigenous communities where mining takes place. Useless would it be if mining activities rather make indigenous people drug addicts or prostitutes which in the long run predispose them to a lot of health problem in addition to those health

problems created by mining activities itself. Management and corporate policy measures could help solve problems associated with mining holistically if policy measures on impact assessment consider both environmental and social impact mitigation in totality. As Clark & Clark (1997: 17) notes ‘failure to deal with social and environmental issues can result in the closure of even the largest mines’ especially if it does not possess the requisite knowledge and tools to deal with social and environmental issues at length.

Hence, in order to ensure the sustenance of mining activities and to derive maximum benefit from them, it is important to consider environmental and social impacts of mining as bedfellows and as a result suggests that more research on these two areas are of particular importance even for the continual sustenance of mining firms themselves.

CHAPTER 3: Methodology

This chapter presents the strategies, methods and techniques that I used in the collection and analysis of the empirical data on the field of study. In the first part, I deal with the orientation of the research which is basically rooted in epistemological and ontological considerations and influences the strategy I employed in this research and the rationale for adopting or choosing that strategy. Secondly, the research design is also presented and then proceeds to discuss the data collection methods that I used in the study and also discuss the various stages of the research: sampling and the sample technique that was used in getting the respondents to elicit the information that I needed. In discussing the data collection methods, I point out the advantages of using such methods and discuss some of the challenges that I faced in the field when conducting the study and using one or a combination of these methods.

3.1. Epistemological and Ontological Consideration

In the conduct of research, there is the need to identify the major approach through which the quest to obtain knowledge would be used. The approach to be used largely depends on the nature of the study. Basically, the researcher operates in two major worlds in his approach to gaining knowledge. This is the epistemological and ontological world. According to Bryman (2008: 13) epistemological considerations are mainly concerned with the question of what is “regarded as acceptable knowledge in any discipline of study”. The epistemological consideration is rooted in two major traditions of ‘positivism’ and ‘interpretivism’. The positivist approach is firmly grounded in the natural science approach to studying social reality and advocates “the application of the methods of the natural sciences to the study of social reality and beyond” (Bryman, 2008: 13). The implication is that the study of social reality should follow similar methods as used by natural scientists such as experiments and survey in the study of social reality. This approach believes in the objective nature of social facts that should be studied and presented in an objective manner independent of subjective intuition and introspection. On the other hand, the interpretive epistemology recognizes the “distinctiveness of social reality as against that of the natural order” (Bryman, 2008: 15). The approach recommends that the study of social reality requires that the scientist understand the subjective interpretation and meaning that individual social actors attach to social reality and advocates that the researcher empathize (Bryman, 2008: 16). This is because there is the belief that people within any social setting make

meaning out of their social world and hence acts, feel and think in the way they understand. The researcher should therefore set himself to understand how people think, feel and act and the meanings they attach to their actions.

The other approach to gaining knowledge which is the ontological approach questions whether the entities of the society “ can and should be considered objective entities that have a reality external to social actors or whether they are the result of social constructions built from the perceptions and actions of social actors” (Bryman, 2008: 18). It is also based on two major assumptions of objectivism and constructionism. The objectivist approach asserts that social reality and their meaning to which the researcher sets himself to study is external to the social actors and it is independent of them (Bryman, 2008: 19). Hence, social reality and facts are objective ‘out there’ and social actors merely have to adjust to them because it existed even before they were born. They merely have to adjust to the existing meanings that are objective and independent of their own thinking and understanding. The constructionist ontology on the other hand asserts the continuity of social reality and its meaning being constructed by the social actors themselves (Bryman, 2008: 19). In effect, people make sense and meaning out of social phenomena and the researcher’s responsibility is to understand these meanings that the actors construct. Importantly, the constructionist approach also recognizes the dynamic nature of meanings that people construct and as a result there are variations in how people construct meaning at any place and any point in time.

As a researcher, I am faced with these major worlds of gaining knowledge. For my research, I choose to operate in an epistemological interpretivism and an ontological constructionist considerations. Basically, my focus is to study people in their natural setting and to understand their perceptions, beliefs and meanings they attach to social phenomena and reality that confronts them in their natural setting. In trying to understand the social reality, the adoption of an interpretivist and constructionist approach ensured that I was able to deeply delve into the subjective meanings that individual actors within the social setting attribute to social phenomena and reality they face. I therefore employed methods that helped me understand their social world and their constructions. The approach adopted is therefore very useful. Adopting a positivist and objective approaches on the other hand I recognized would not be very helpful in understanding the perceptions and beliefs of the people in their social reality since the basic tenets of the

approach is to discover objective facts that would be presented objectively as possible and expressed in a 'cause and effect' relationship which is not the focus of my study. Hence, my adoption of an interpretivist and constructionist approach which subsequently influenced the research strategy that I adopted in this study.

3.2. Quantitative or Qualitative Research Strategy

The adoption of an interpretative epistemology and constructionist ontological approaches ultimately influenced my adoption of a strategy for my research. Two major research approaches are used namely the qualitative research strategy and quantitative research strategy even though some researchers use a third strategy known as mixed method that “ integrates the qualitative and quantitative research strategies in a single project” (Bryman, 2004: 452). In my study, I employed a qualitative strategy. According to Gubrium and Holstein (1997 cited in Bryman, 2008: 367), qualitative research follows four major traditions and fundamentally, one of such traditions is naturalism. By this, qualitative research seeks to “understand social reality in its own terms, as it really is; provides rich description of people and interaction in natural settings” (Gubrium & Holstein, 1997 cited in Bryman, 2008: 367).

In my research, I sought to understand the real social and environmental impacts of the mining activities of Newmont Gold mining Company on the indigenous people in their natural environment. This is largely informed by my epistemological and ontological. However, to be able to understand the real impacts of mining companies and their activities on the areas of operation, qualitative research strategy have been adopted since it provided me with the opportunity to observe, understand, assess and explore the nature and extent of the impacts of mining activities in depth and to see the situation as it is without being speculative. Since the research demands that I also make contact with the cross section of stakeholders in the mining industry which involves the indigenous people themselves as well as management of the mining firm, it was feasible to employ combined qualitative data collection methods. Specifically, qualitative data collection methods of interviewing, participant observation, focus group discussion and analyses of relevant documents were used.

3.3. Research Design: Case Study

As indicated earlier, there is the need to have a design in the conduct of research and in the words of Bryman (2008: 31), “the design provides a framework for the collection and analysis of data”. In essence, the design influences and determines your choice of the methods to use in the collection of your data. Basically, five prominent designs are outlined by Bryman and involve the experimental design, cross-sectional design also known as survey research, longitudinal design, case study and comparative design. For my research, I have employed a case study design because it involves looking at the social and environmental impacts of mining activities in a specific place which is Kenyasi and taking the activities of a mining company (Newmont Gold (Gh) Limited) as a single case to study. Using such a single case study of an area would mean that as per the tenets of qualitative research strategy, the issue of generalization would be limited to the context of the study as opposed to that in quantitative research where the use of a case study would result in a careful selection of a sample that is representative enough to be generalized beyond the context in which the study is being carried out.

3.4. Data Collection Methods

Data collection for the study covered a period of four months that initially began from October 2009 to January 2010. In the first month, it was basically concerned with gathering documents from the study area particularly from the Communication Officials from Newmont Mining Company and also establishing contacts and entry points. The remaining months were basically used for the actual field work in the study area, which is Kenyasi where the Newmont Plant site and the company’s concessionary sites are located. Throughout the study, a combination of various data collection methods was employed in the collection of the field data. This is discussed below:

3.4.1. Semi- Structured Interview

Interviewing according to Bryman (2008: 436) “is the most widely used method in qualitative research and that other qualitative methods of data collection such as ethnography and participant observation at some point involve some form of interviewing”. Usually, interviews may be structured where the researcher is guided by what is known as an interview guide to

which all the respondents follow a specific set of questions in specified order. It can also be semi-structured or unstructured. For my research, semi –structured is highly favoured and has been used as such. This form was basically used to elicit information from indigenous people about how the activities of the mining company is and has impacted on them socially and environmentally. The rationale for using semi structured interviews stems from the fact that it helped me to get in-depth information about the social and environmental impacts on the people on a one- on- one basis. Because semi-structured interviews provide a great deal of leeway for interviewees on how to reply because of its flexibility, more information could be provided by respondents just with the asking of a question (Bryman, 2008: 438). In addition, I was also able to probe further since I could pick on the responses given by the respondents to ask further questions. What is most important with this method of interviewing was that though I had fairly specific topics to cover, I was not obliged to follow them in its strictest sense and as a result issues that were not even on the guide were asked as the respondents answered the specific questions. For a research like this with a fairly clear focus, “the interviews will be semi structured ones, so that the more specific issues can be addressed” (Bryman, 2008: 439).

3.4.2. Focus Group Discussion

In order to investigate the views of the indigenous people on the activities of the mining company in their area and how they perceive the impacts of mining activities on their lives since operation began, focus group discussion was a very useful method of ascertaining such general views of the local people. According Bryman (2008: 474), the focus group method represents a form of group interview where there are several participants including the interviewer in which questioning emphasis on fairly tightly defined topic and focus centred on interaction within the group and the joint construction. It is therefore a means to achieve some form of ‘collective conscience’ or opinion of a group of people on their experience of an issue or phenomenon. The study is interested in ascertaining the predominant feeling of the people about the activities of the mining firm since I believed differences may exist as to how the different people may perceive and is impacted by the activities of the mining company.

The rationale was to know whether there exist a general consensus about how the indigenous people feel about the operation of the mining operation and how it impacts on them. Community or opinion leaders and selected indigenous people, some members of pressure groups in the area

was selected to engage in the discussion that basically focused on impacts, coping mechanisms and management of the impacts. It was hoped that since a discussion would be engaged and that consensus was likely to be reached at the end, the final account of the impacts of the activities of the mining firm would be authentic and largely reflect the actual situation on the ground (Bryman, 2008: 475).

3.4.3. Participant Observation

Participant Observation is also another important data collection method in qualitative research. It is noted by Bryman (2008: 402) that participant observation and ethnography are difficult to distinguish because in both the “researcher immerses him or herself in a group for an extended period of time, observing behaviour, listening to what is said in conversations both between others and with the fieldworkers and asking questions”. In fact, by the use of this method, I was exactly performing these roles as a researcher. This is because I basically observed the operations of the mining company and the impacts of their activities in the area for a period of time while also asking people questions as to why they think such impacts are being experienced in the community. Hence, adopting the role of a participant-as- observer (Bryman, 2008: 410). More importantly, by using observation, I was adequately able to compare what I saw or observed with what was said by the people during the interviews and the focus group discussions. The result of this method was an in-depth understanding of the nature and extent of impacts of the mining activities on the indigenous people in the real setting and I also saw for myself the effectiveness of coping measures that the indigenous people are adopting to adjust or deal with the impacts of the mining activities. I was therefore “better placed for gaining a foothold on social reality in this way” (Bryman, 2008: 465).

3.4.4. Analysing Texts and Documents

Assessing literature on mining activities and its impact was very useful to broaden my general understanding of the nature and extent to which mining can impact on communities. For this research, documents on the operational activities of Newmont Mining Company, Corporate Social Responsibility and Environmental Impact Assessment as well as Impact Mitigation and Management Measures in mining communities were reviewed to enable me to understand what I was told by the people and observed myself. Apart from these, documents that serve to describe the area of the mining activities, their economic and social activities prior to the start of mining

in the community were also assessed and then analysed. This is particularly important in making a comparative analysis of the social and economic life of the people before mining activities in the communities and what changes have taken place in the social organization and setting of the people.

3.5. Sampling

According to Bryman (2008: 171), the simple random sample is “the most basic form of probability sample”. This is because it ensures that every member in the population of the study has an equal chance of being included in the study. For this study, the households that were selected for the interviews were randomly selected because the residence pattern of Kenyasi made it quite easy for me to enter into houses and interview them easily. In the houses, male heads mostly answered the interview questions because of the traditional family structure of male dominance over females. However, in some households, some females were interviewed because of two major reasons. First, the men were absent and secondly, the women volunteered to contribute and they were given the opportunity to do so even if the males were around. As noted earlier, this was done randomly. Although the simple random sampling was used in the selection of households for the interviews, at the latter stages of the interview process, snowballing emerged in selecting two households since my key informant, who also happened to be an opinion leader directed me to two households who were very vocal and knowledgeable in most of the issues of interest to my study. I therefore interviewed these two households.

For the focus group discussion, the members of the group were also selected randomly but with much consideration to their social background. Seven people who were all males were selected to be on the group. Consideration was not given to gender in the selection of respondents because the study was not interested in the gendered perspectives of the issues under study although mining can impact on gender differently. Rather, the focus was to unravel the extent to which the community as a whole is impacted by the activities of Newmont Mining Company since the company started mining operations in the community. However, issues of years of domicile in the community, occupational background and residential status, that is, a migrant or indigene of the community were considered. This was particularly important to give a cross perspective and understanding of the issue from people with different backgrounds.

For respondents from Newmont Mining Company, I interviewed one person who was an employee and official of Newmont's Communication Department. I choose to interview an employee from the Communication Department of Newmont other than any other department because the Communication department is repository of all information about Newmont and their areas of operation. Selection of the official for interview was done using the snowballing sample technique since initial people contacted led me to a top communication official of the department who was very conversant and knowledgeable of the issues that was of interest in the study.

3.5. Challenges in the Field

In research, the tendency as a researcher to face certain problems on the field of the study cannot be overlooked. The truth is that certain conditions and constraints exist in social settings that may invariably impact and challenge the work of the researcher. These challenges may be experienced in many ways and can for instance be in the methods that would be used in the collection of the data itself or in the social setting where the research is being carried out.

One major challenge that I faced in the community where my research was undertaken was the uneasy access to information from the people concerned in the study. Usually, rural communities in Ghana are sceptical of outsiders who come to them for information. The low level of literacy have created some impressions in the minds of local folks that all people who come to them for information and data are people who have been assigned by the government to collect taxes. As a result, people are usually reluctant to give out much information. Even when given, they are usually economical with the information since doubts remain in their minds as to the real identities of the researchers. Such a situation therefore posed a great challenge to me since I had to spend a considerable amount of time to identify myself and adequately explain and convince them about the reasons for the research to all the people I intended to interview.

Again, there was attempt on the part of the people to give me information they thought I wanted to hear. Hence, some information given was exaggerated and as such did not reflect the real situation on the ground. Coupled with this were the vast differences in some of the information provided by the indigenous people through interviews in particular and what I observed personally as an observer. In line with observation, chances were that personal biases may influence the outcome of information that was available to me since personal observation may

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give me a different impression about the real issues on the ground as against what the people gave me. Hence, bias and personal introspection could influence an objective research outcome.

Finally, though it was easy for me to understand the language of the people in the area where the projects were undertaken, problems occurred in the process of asking the questions of the interview guide since I had to translate them into the local language or speak a dialect to make people to understood and respond appropriately. Translation from English to the local language demanded that certain words are added for easy comprehension. But this had the effect of introducing biases into responses especially stemming from the ways the questions are asked in the local dialect. This was a major challenge that I faced in the field since most of the people were illiterates.

CHAPTER 4: Presentation of Empirical Findings

This chapter presents the empirical data and findings from the field of study as given by the community respondents, key informants and an employee of the mining firm (Newmont Gold (Gh) Limited) in the various interviews and the focus group discussion made in the field. These findings are presented in relation to the research questions and objectives of the study. However, sub categories of very important issues are also presented under the various research questions. Some of these categories were preset and were included in the interview guide while some of them developed as a result of the interview process and the various responses that respondents gave upon probing further.

The findings are therefore presented around the following research questions: the state of the natural resources in the area before the onset of mining, how the social and natural environment have been affected with the onset of mining operations, coping mechanisms that have been developed alternatively as a result of the social and environmental impacts of mining activities and whether management of the Mining Company (Newmont Gold (Gh) Limited) is aware of the manifest and latent impacts of their operations on the community and how they are managing or intend to manage the impacts. The findings begin with a brief description of the socio-demographic profile of the respondents who are basically residents of the Kenyasi township or community.

4.1. Socio-demographic characteristics of respondents

It is almost always expedient to have a sufficient personal information or knowledge concerning respondents who participate in a particular research. Such information will provide readers with a fair idea about the category of people who took part in the research.

For this study, personal information about respondents in terms of their gender, occupation and years of domicile in the community was collected. The total number of households who participated in the study was fifty (50). They were made up of both male and female respondents. Out of this total number of respondents, twenty (20) of them representing 40% were females whereas thirty (30) of the respondents were males (60%). The trend is in no way based on any biased assumptions about gender equalities or inequalities because most of the households in Kenyasi are male dominated with most males being household heads who in most cases are given the respect by allowing them to speak on most issues concerning the household or

community. In most cases, females who were interviewed did so because the male heads of the house were not absent or they volunteered to do even if the males were present. Below is a table graphically depicting the gender distribution of household respondents in this study.

Table 1. Number of participants and respondents based on Gender

	Males	Females	TOTAL
Household Respondents	30	20	50
Focus group Discussion	7	0	7
Official Interview from the Mining firm	1	0	1

Source: Researcher, Field work.

The table shows the number of people who were interviewed for this study. One official employee from the communication department of the mining firm who is a male was interviewed while those who constituted the focus group were all made up of males but with different social status ranging from three indigenous community residents, three migrant residents and one key informant who is also an indigenous resident of Kenyasi community.

4.1.1. Occupational background of respondents

One major determinant of the social status and ‘economic power’ of people is their occupation. In order to understand the economic livelihood of the people vis-à-vis their poverty levels and a high expectation of job creation and opportunities with the onset of mining by Newmont, the occupational background of the respondents were sought. From the responses given, the majority of the people are mainly farmers and continue to farm even with the start of mining in the community with only a few people engaged in other forms of petty commercial business such as selling phone cards and credit transfers, building materials, drinking spots, roasted plantains, sachet water and bicycle repairing. Even those engaged in petty business at one point or the other go to the farm and only use the petty commercial business as a support or ‘back up’ to their main economic livelihood which is farming. Numerically, forty-five(45) out of the fifty (50) respondents (90%) indicated they were full time farmers with farming being their only source of livelihood or occupation and the remaining five (5) respondents constituting 10% also indicated

engaging in other forms of petty commercial business to augment their farm proceeds. It is also worth noting to state that the relatively younger respondents both males and females who were interviewed and whom I classify as the youth were all engaged in farming. This confirms the observation made by the Government of Ghana (GoG) source that the main occupation for the people of Kenyasi is predominantly agriculture with about 91% of those engaged in other occupation outside agriculture still take up agriculture as a minor activity (GoG, 2002).

4.1.2. Years of Domicile of respondents in the community

Respondents were asked about the number of years that they have stayed in the Kenyasi community. This question was particularly useful and worth asking as it helped to determine the level of familiarity and knowledge of environmental and social issues in the community before and after the start of mining operations by Newmont and thereby being able to give a comparative account of the situation in an objective manner. Interestingly, most of the respondents indicated they were indigenes of the community implying that they were 'born and bread' in the community and have grown as residents of the community. Some even indicated that since their birth they have never travelled out of the community before since all their relatives are indigenes of Kenyasi and as a result were very much knowledgeable when it comes to the matters relating to the community in various ways. In fact, only a few people interviewed were migrant settlers but have stayed in the community for seven (7) years or more. Such people I realized were also vexed in the community affairs and were also good source of information for the study.

4.2. The State of Natural resources in the Community 'Now and Before'.

The findings on this section are from interviews made with household respondents and a key informant in the Kenyasi community as well as observation that was made on the field of study. Basically the idea is to ascertain the current state of natural resources especially arable land, forest reserves, water bodies and even the presence of trees, flora and fauna in the Kenyasi community over the past ten years and to help make a comparative assessment of the level of changes that have taken place with the start of mining in the community.

4.2.1. Current state of natural resources in Kenyasi.

An assessment of the state of the natural resources in the Kenyasi community particularly on water bodies, forest reserves, landscape and trees, flora and fauna were mainly given by respondents who had lived and stayed in the community for a longer period of time especially over and above ten years. The responses given through interviews by the respondents could best be described as ‘mixed’. From the interviews however, most respondents indicated massive changes in the natural environment of the community especially with the start of mining by Newmont in the community. They indicated how large areas of land, forests and trees have been destroyed by the mining company for the purposes of mining gold. These lands and forest areas according to the respondents were earlier used for agricultural purposes and indicated that even though parts of the land and forest areas were cleared on a seasonal basis for agricultural purposes, they believed that the damage that resulted from their agricultural practices were very insignificant compared to the devastation of these resources for mining by Newmont. For instance one respondent indicated:

“For a long time, we have been clearing small piece of the land here for our farms. We only use cutlasses to clear the lands and not bulldozers. For us, we leave all the trees standing but for Newmont, their machines are very huge and they destroy anything that comes their way if the area is marked for gold” (female respondent, personal interview, 25th December 2009).

However, some of the respondents indicated that, for them, only a few areas have been destroyed for mining purposes even though other areas have been marked by Newmont for future mining and as a result see no major changes to natural environment to a larger extent. They were of the view that since larger areas of land and forest areas still exist which they can still have access to for their agricultural purposes, they do not see any major changes to the natural resources of the area. This was confirmed in an interview with an employee of Newmont who stated this:

“ Oh Jones, there is no way natural resources would not be destroyed or affected in any mining operation. It is true that our company has destroyed large areas of land and forest cover for mining purposes, I can also say that much is left for the people to use for their agricultural and farming purposes; There is still a lot of arable land and forest cover as you can see for yourself when you visit the community even though more other areas have been marked for future mining” (Newmont employee, personal interview, 23rd January 2010).

In fact, documented records from Newmont archives reveals that as at 2009, deforestation and land clearance for mining purposes in the company's whole concession including Kenyasi will be limited to the smallest extent possible and will be in accordance with their biodiversity plan (Newmont Sustainability report 2005). The same source indicates that currently the company has disturbed 1,344 acres (544 hectares) of land and have even reclaimed 62 acres (25 hectares) of the disturbed lands (Newmont Sustainability Report 2005). However, almost all the respondent indicated that water bodies particularly streams and rivers that were previously used by the community for various purposes is no more usable as they have been warned by Newmont Company to desist from using them for any kind of purpose or activity for safety reasons.

4.3. Social impacts of mining activities in the Kenyasi community.

This section deals with responses that sought to elicit information from the respondents on major and significant impacts that the community is experiencing with the onset of mining. This is based on interviews and focus group discussions made. The impacts were grouped into social impacts and environmental impacts. For the social impacts, certain basic social indicators were assessed for impacts while the environmental impacts were based on the most common environmental resources that have been impacted as given by the respondents themselves. These were then placed under the environmental impact adequately by the researcher.

As a sequel to identifying the major changes to the natural resources of the Kenyasi community, respondents were asked to comment generally about what changes they have personally observed over the past ten years especially when Newmont started operating in the area and to make a comparison to the existing situation in the time preceding the period under review (10years). The responses from the interviews were affirmatively a 'yes' response with major changes and impacts indicated by respondents centring on social changes or impacts which spanned mostly from social indicators of crime, prostitution, population growth, escalating prices of goods and food commodities, employment, poverty, minor conflicts with company workers and staff, infrastructure development as well as business (economic activities) in general and environmental changes and impacts that also focused mainly on water bodies destruction, air pollution and noise pollution especially. This was corroborated with observation made during the period of staying in the area.

As indicated in the literature, the social impacts of mining are widespread and that mining in any form ultimately affect the social, personal and civil lives of the people in the community involved. To ascertain the level of social impact the mining operation in Kenyasi is having on the people, the respondents were asked to indicate whether they have been affected by the presence of Newmont and their mining activities in one way or the other. Forty-eight (48) of the respondents stated that they have been affected in a way by Newmont activities (96%). In the first place, all these respondents noted that their farmlands have been destroyed for mining purposes by the company and have therefore changed their social and daily routine which was to get up every day and proceed to the farm to work since they are farmers. To them, this lifestyle has changed since they now have to stay at home without any farm work, sit under trees with community members and drink local gin or engage in petty trading which they are not used to doing. To them, adjusting to their new social life is a big problem since they are not used to such commercial ventures but farming. Only two (2) respondents (4%) indicated they still farm on their lands for their livelihood even though they have been affected in other ways by the mining activities in the community. Respondents were then asked to indicate how they were affected by Newmont's mining operation. Their respondents were grouped into social and environmental impacts. For the social impacts, the following social indicators below have been used to assess the impacts.

4.3.1. Social indicators to assess impacts of mining

To be able to fully establish the extent of social impacts on mining, I found it extremely important to use certain basic social indicators which can easily be identified and analysed by the researcher. Among the major social impacts experienced by the people in Kenyasi which all the respondents noted affects them in one way or the other is mentioned as high prices of good , services and food commodities, increase in certain types of crimes, prostitution, population growth, high levels of poverty, employment problems, conflicts, infrastructure development and business or economic activities in general.

4.3.2. Impact on goods and services

One important aspect of social life that is affected in communities where mining takes place is the prices of goods and services. On prices of goods , services and food commodities, majority of the respondents lamented how the start of mining operations in the community have resulted in escalated prices of goods, services as well as food commodities which hitherto were cheap. It is

realized that the mere perception of the people about a gold mining firm to them indicates that workers of such companies are very wealthy people and as a result are willing to pay any amount for a commodity they need. As a result, providers of basic services, petty traders and prices of general goods are so high with the view that workers of Newmont would be ready to pay for them when they need them. Community residents who usually complain about the high prices are usually told to leave if they cannot afford them since other people and by implication Newmont workers would come and buy them even at such higher prices. By observation and actual confirmation, I decided to buy a sachet of water which according to the respondents some few years cost 5pesewas (Ghana currency) but now being sold for 20pesewas. Apart from the fact that most of the residents saw me as researcher, in their minds, they also wondered if I was not a disguised Newmont worker and as a result sold the water to me at that high cost which I knew do not cost that much even in the cities. A male respondent for instance indicated to me that:

“A few years ago, when I give one Ghana cedi (the ‘cedi’ is the higher denomination for Ghana’s currency and starts with the one (1) cedi denomination which is a little lower in exchange value to the US Dollar, i.e. US\$1=GH¢1.40pesewas. The ‘pesewas’ on the other hand is the lower denominations of Ghana’s currency and is usually found in coins) to my wife, she can buy plantain, cassava, fish and meat to prepare meal for the entire household. But now, I have to give her about GH¢5 cedis and then go to the farm to get other vegetables to add to that. If not, the whole family will starve and you see, we are farmers and our farms have been collected by Newmont for mining. No work for us too. Where do we get the money to cater for our family? We are suffering” (Male respondent, personal interview, 24th December 2009).

Similar responses were given by most of the responses and the passion with which they expressed themselves in relation to high prices of good and services in Kenyasi is particularly interesting to observe.

4.3.3. Impact on crime

Social vices are noted to be a necessary by-product in communities where mining takes place. These vices including various types of crime and criminal activities as well as prostitution is usually rampant in communities where there are economic activities, influx of strangers such as mining areas. Questions about crime and criminal activities in the community since mining

operation began were asked and the responses from the respondents are at best 'mixed'. A crime that is noted to be common in Kenyasi is stealing from farms and assault. However, very heinous crimes such as murder and burglary are very uncommon. In fact, only thirty (30) representing 60% out of the fifty (50) respondents indicated having heard about someone caught stealing from someone's farm or any other property. They however attributed the low level of crime rate especially murder to the existence of certain traditional folklores and taboos in the community that provide for serious consequences for people who engage in such criminal acts. For instance, the belief in the existence of a river god who watches their deeds and reward or punish people accordingly.

4.3.4. Impact on prostitution

Prostitution is usually described as 'an old age' profession. It employs people in most countries although its widespread could be very devastating and could have long term social and health impacts for any society if not properly controlled especially when certain categories of people are involved. Views about the subject of prostitution have been very diverse and in some societies, its discussion is much closed. In Ghana, the discussion of the subject matter of prostitution evokes morality and as such it is not usually discussed in public circles. On prostitution which I believed was quite sensitive and much closure exist in terms of its discussion, in both interviews, the focus group discussions and personal observation especially at night provided very revealing insights although to some extent I expected a certain trend in that direction. Interestingly, almost all the respondents interviewed and the general response in the interview and agreement during the focus group discussion indicated an upward and significant increase in prostitution and other forms of sexual relationships that have developed in the community with the start of Newmont mining in the community. Usually, the responses usually go like this:

"Hmm! That one, huh! It is so common that even young girls and children are involved in the practice. Now all our girls are been deceived into it because of money. It is the money they want because we are poor and they have to cater for their needs as well. At least, they do that for a living. Even this Christmas, you can see them at night" (one female respondent, personal interview, 24th December 2009).

Observing at night, I could easily see young girls standing around some major guest houses and hotels in Kenyasi with some of them also moving in and out of the hotels and guest houses with men, some of them being expatriates, supposedly, top officials of Newmont resident in the community. Usually, girls of age ranging from 16years to 35years are mostly spotted. In fact, in the focus group discussion, it was particularly revealing when one member of the group retorted:

“Now these Newmont people have ‘collected’ all our girls and wives and they are sleeping with them indiscriminately because they have the money and we are poor. For instance, when we give GH¢1 cedi (US\$1=GH¢1.40pesewas) to our wives, the Newmont man will give her more than GH¢100(equivalent to US\$90). Because of them, our wives nowadays do not respect us because they think we are poor and we can’t give them what they want. Most of our wives are divorcing us and marrying the Newmont workers and the young girls are just getting pregnant. As for me, if any of them should come near my wife, I will shoot him” (Male group member, Focus group discussion, 28th December 2009).

This comment affirmed responses from majority of the respondents that the presence of Newmont and their mining activities have increased divorce rates in the community since the employees of Newmont according to the respondents have the money to provide for all the needs of the women they have an affair with which they themselves lack.

4.3.5. Population growth and mining

Population growth is usually expected in communities where mining takes place because of the increased presence of mine workers in such communities. The impact of mining in Kenyasi on population growth is also very visible. In their responses, all the respondents stated that over the past four to five years, the population of Kenyasi has increased significantly. In attempt to seek clarity and to account for the reasons for that trend, they were asked what really accounted for such population increase in the community over the past few years. Basically two major reasons were assigned to the trend namely increase in birth rate and migration into the community by strangers who are either workers of Newmont or came to the community with the hope of getting job in the mining firm. However, out of the 50 respondents, forty (40) of them representing 80% indicated that the increase was basically due to the migration into the community by strangers and foreigners from different parts of Ghana who are there for jobs in the mines. Only seven (7) of the respondents constituting 14% of the total number of respondents thought birth rate was the

major cause of such population increase which they attributed mainly to the increased prostitution in the community since mining began while the remaining three (3) respondents representing 6% indicated both reasons (high birth rate and migration) as the cause of the massive population increase in Kenyasi.

4.3.6. Poverty in Kenyasi.

The general belief is that the presence of such a huge mining company such as Newmont in any particular area would inject massive capital investments into the area or community which would in effect trigger capital or cash flows, put more money in the system and hence reduce poverty since economic activities would be generated. This belief I can say to a larger extent accounts for the high prices of goods, services and food commodities in Kenyasi because it is not uncommon to hear people say something like ‘oh, gold is here and as such people here are rich’.

In order to confirm this assertion and belief that is dominant in the community and even among people living outside the Kenyasi town, respondents were asked if the start of gold mining have resulted in a reduction in poverty levels that is dominant in the community. From the responses, all the respondents indicated that poverty levels have rather increased in the community since mining started in Kenyasi. However, fifteen (15) out of the fifty (50) respondents representing 30% were quick to add that families who have any of their relative working at Newmont Company have had an improvement in their levels of poverty. Ten(10) of the respondents also representing 20% indicated that those whose lands were taken for mining were compensated with quite huge sums of money and as such they believe that such people also living quite better lives now.

On the contrary, respondents who have had their lands taken over by Newmont for mining when asked about the improvements in their poverty situation noted that the money was not enough and as such could not cater for their needs which have brought untold hardships on them, even much worse than before. A few indicated that they invested the money in building of houses but added that at some point, the money was not enough to complete such projects. Others also indicated using their money to buy lands for future use. Some of the respondents also indicated that they extended their houses by building extra rooms for rent which they now depend on for their livelihood. The general feeling from the focus group discussion and the interviews is that poverty levels have rather worsened since mining began in the community since people whose

lands were taken over by the mining firm do not have any other place to farm for their subsistence and the compensation given to them is woefully inadequate to make any serious lifetime investment which they can derive their daily livelihood. In an interview with one female respondent, she angrily said:

“Massa (meaning master), this Newmont people have made our lives very miserable. They have taken over all our lands and now we do not have any place to farm and sell our produce to feed our families. Now, we cannot buy meat or fish for our meals and we have to go to the bush to catch crabs as meat for our dinner. Why? Look at me and the children there, how do we feed them? At first, when we sell our farm produce, we get money to feed them and send them to school. But this people (Newmont company) have collected our farms and on top, they failed to employ our children” (Female respondent, Personal Interview, 24th December 2009).

Flowing from this comment, this respondent compelled me to take a picture of crabs that the son had gone to the bush to catch for dinner since they did not have the money to buy meat or fish because with the coming of mining in the community, their source of livelihood, which is their farms have been taken over by Newmont Company without adequate compensation. Below is a picture of the bowl of crabs that the above female respondent showed me.



Figure 6. A picture of a bowl of crabs which is used as a substitute for meat or fish because of poverty on Kenyasi. Photo: Researcher, 24th December 2009.

4.3.7. Impact on Employment

The promise of jobs has been one of the major incentives for most communities to open up mining activities. In order to confirm the responses on high levels of poverty, respondents were asked about employment situation in the community because most of the respondents had earlier indicated that families who have any of their relative working at the Newmont Company have had an improvement in their livelihood. The aim was to draw a link between employment levels and the prevalence of poverty in the community as indicated by the respondents. Initially, respondents were asked if there was any promise from authorities or management of Newmont Company for the provision of jobs to the members of the community before mining began in the community. In fact, a Newmont Report states that “their labour recruitment discourages excessive migration from outsiders to local communities due to their policy of hiring local people” (Newmont Sustainability Report, 2005: 14-15). As a response to this question, all the respondents indicated affirmatively ‘Yes’ and indicated that the promise of jobs for the people of Kenyasi at the mines was a major reason for accepting the proposal for the company to start mining in the community. They believed that employment in the mining firm would alleviate their financial problems and poverty and therefore accepted that promise readily.

In a sequel to this question, respondents were asked if they or their children have been employed in the mining firm since mining operations began. Forty-eight (48) out of the fifty (50) representing 96% of the respondents reacted angrily to this question and stated that they have not been provided with the promised employment. Neither their children nor any relative had been provided with any form of employment linked with mining activities in the community. Only two (2) out of the fifty (50) respondents representing 4% stated that they have one of their relatives working with the company. Further probing these respondents revealed that they were relatives of the Kenyasi chief and as a result the chief supposedly used his influence as the community leader to get them employed in the company.

Further, the respondents were asked to give explanation as to why they have not been employed by the mining firm. Forty-five (45) of the respondents representing 90% indicated that the mining company failed to employ them because they complained that the local people do not have the relevant and requisite skills to work in mining companies. Five (5) of the respondents constituting 10% also attributed the situation to bribery and corruption (particularly

impersonation) on the part of the community leaders and Newmont officials (mainly Ghanaian managers) to employ people who can pay. All of them however stated that since the company tells them that they do not have the skills and competence to work in the mines coupled with their inability to pay the bribes that are requested by some Newmont officials for employment, most of their children have become miserable and frustrated because they do not have anything to do and also cannot farm because the land have been taken over by the mining company. One interviewee stated this when assigning reasons as to why they are not employed:

“Newmont people are saying that we have not gone to school and we are illiterates. They say they need people who have gone to school and have knowledge about how to do mining. For us here, we are only farmers and we are not educated. So if you want your son or daughter to work at Newmont, then you have to pay bribe. Sometimes, they say we have to pay GH¢1000(about US\$900) if we want employment” (Male respondent, Personal Interview, 26th December 2009).

Respondents were further asked about the type or kind of people who are working at Newmont. Most of them indicated that workers of Newmont are basically not local people from Kenyasi but rather migrants from other mining areas in Ghana particularly Obuasi, Tarkwa, Prestea, Kumasi, Sunyani and even Accra where mining companies have operated for quite long periods of time and the people have somewhat high educational levels and standards. Only a few people from the community have managed to pay bribes and have got employment as unskilled and semi-skilled labourers in other related services of the mining operation like catering and driving of vehicles. Observation from the community confirms the fact that only few local men and women are employed at Newmont and hence, they can be seen readily loitering about in the community or playing football or other forms of traditional games without work. Interview with the employee from Newmont Company also confirmed that most of the local people have been denied employment because they are illiterates and lack the skills to work in the mines where huge machines and equipment are used. He even advised me to tell them to attain education if they are to get employment in the mining firm if not directly at Newmont but then with other subsidiary services associated with the mining operations in Kenyasi (Newmont employee, personal interview, 23rd January 2010).

On the contrary, a review of Newmont’s documents indicates that the company have been committed to their promise to the community by hiring 100% of unskilled labourers from the

local communities and have given priority to local community members in jobs where skills and experiences are required (Newmont's Sustainability Report, 2005: 15). This same report notes that by July 2006, the mining firm is committed that 35% of their operational workforce will be local people from the surrounding villages like Kenyasi. This is in sharp contrast to the respondents' responses and what was observed as well as the response on employment from the Newmont employee interviewed (see above). According to Newmont its employment rate has been increasing since 2003 with an initial start of 706 employees, rising to 2,693 and 4,803 for the year 2004 and 2005 respectively with a national employment rate in the mines being 50 percent whereas local employment rate is 38 percent (Newmont Sustainability Report, 2005: 9). It can therefore be realized that comparatively more people from other part of the country are employed than local residents of Kenyasi and confirms the respondents' responses that more outsiders are employed by the mining firm than local Kenyasi residents.

The failure of Newmont to employ local people has resulted in grief, frustration and hatred from the people towards the mining company and its employees resulting in some minor conflicts and tensions. In the focus group discussion, members indicated that there is a simmering tension in the community between the youth especially and the mining company and that any least provocation can trigger a clash. One of the members in the discussion stated that there had been a time when the youth tried to kill one of the employee drivers of the firm when passing by with the company's car. They smashed all the screens of the car and had attempted to kill the employee driver but for the early intervention of one opinion leader. It is particularly revealing when one other respondent reported in an interview:

“Let me tell you, when you come to Kenyasi here, all of us have guns in our rooms waiting for a day when tension sparks. That day, only God knows what will happen to these people (Newmont workers)” (Male respondent, personal interview, 28th December 2009).

This comment I believe shows the extent of grief and frustration that has filled the hearts and minds of most of the people in the community.

4.3.8. Mining and Infrastructural Development

Infrastructure basically refers to those physical structures that enhance the life and living conditions of people in any place. These usually include electricity, roads, schools, and social

amenities etc that make life comfortable. Kenyasi typically lacks certain facilities and infrastructure comparable to bigger cities in Ghana like Kumasi, Accra or even Sunyani, which is the regional capital. However, popular thinking in the community as in many other mining areas in the world is that the presence of big mining firms like Newmont Mining company would inevitably lead to a massive infrastructural development in the community due to the massive injection of capital and infrastructural investments in such communities.

Respondents were therefore asked to indicate whether mining in the community have impacted significantly on infrastructural development in the community. Responding initially to this question, most of the respondents noted that one major reason for accepting the proposal for mining to take place in the community was the promise made to them by the company, the government and community leaders about provision of certain basic infrastructure and social amenities like good drinking water for households, provision of electricity to houses, building of hospitals, schools, tarring of untarred roads and other physical structures that can open up the area readily for variety of economic activities and hence, create employment and reduce poverty. When asked whether such infrastructure have been provided, most of the respondents (36 of them) representing 72% of the people interviewed said that such infrastructure have not been provided or the existing ones improved in the community since mining started. They rather indicated that the few that already exists have rather been worsened or destroyed because of the pressure that the company has brought into the community due to the large number of migrants and strangers moving into the community who compete with the local people for few existing ones.

This is confirmed by a report prepared by Newmont which states that the presence of mining in the community has “increased pressure on social services, health, education and sanitation due to new residents” (Newmont Sustainability Report, 2005: 14). Specifically, they mentioned a promise to build a hospital for the community but so far, Newmont has not built a hospital. Instead, the company has only rehabilitated part of the community clinic that was built by the Ghanaian government some years back. However, one school as shown below in Figure 8 had been built by Newmont at New Kenyasi, a resettlement site and at another place called ‘Tutuka’ after declaring that the area where the school was initially built will be a mining site. However,

the school built by the mining firm lacks basic infrastructure and amenities like electricity that can easily ease and facilitate school work.



Figure 7. A school built by Newmont at Kenyasi new site. Photo: Researcher, 2nd January, 2010.

These same respondents said that facilities like drinking water and community roads are very deplorable and there are no plans by the company to improve and maintain them or to provide new ones for the community. Eight (8) of the respondents constituting 16% said that they believe with time and as the years roll by, the company would invest in the community and that they should be given enough time to operate and plan for the future of the community. Six (6) of the respondents however indicated the company has done well in providing infrastructure for the community such as information centre and a bank and strongly believed that Newmont will help the community authorities in maintaining the existing facilities like drinking water.

Contrary to popular responses by the respondents which indicates that no major infrastructure investments had been made in the community since mining started, a review of Newmont documents however contradicts these responses and notes that as at 2005 and 2006, Newmont has committed US\$358,841 in monetary community investments with the largest allocation of

US\$222,222 made for civil projects followed by US\$132,000 for education. Another report also notes that in 2003 alone, the mining company spent US\$110,000 on community investments primarily on health, education and social infrastructure with community leaders involved in directing investments (Newmont Report, 2003: 8).

4.3.9. Impact on Economic and Business Development

It is noted that mining can be a major propellant of economic activities in most mining communities by creating wealth, providing jobs and stimulating business ventures for community members. In affirming this, respondents were asked if mining in Kenyasi has created conducive economic environment for stimulating businesses, creating wealth and providing personal jobs for the people in the community. Forty-one (41) of the respondents representing 82% said that the mining has generated petty businesses in the community. Seven (7) said that the mining has created some local jobs and businesses but not many as expected (14%) whereas two (2) of the respondents constituting 4% indicated that businesses in the community were already existing before mining started. Respondents were further asked about the kind of people who owned petty business ventures in the community. Most of the respondents however said that those who own businesses are people whose lands and farms were taken over by Newmont and were given compensation. Such people they added for fear of not getting their daily bread decided to invest in petty business ventures that could provide them with a source of livelihood since it is their main livelihood which was their farms that had been taken over by the mining company. By observation, I noticed that most of the businesses were mainly table top business like selling toffees, ice-water and roasting of ripe plantain known locally as 'kokoo'. It is also common to see people doing business in telecommunication particularly selling phone credits, cards and credit transfers.



Figure 8. The centre of Kenyasi town showing destroyed road to the Newmont offices and petty businesses in the town. Photo: Researcher, 29th December 2009.

A review of a Newmont report indicates that the local businesses in Kenyasi is thriving very well since mining started in the community and that the installation of a communication tower has provided dozens of jobs for local phone service workers with about 20% of the population having purchased a mobile phone since its installation (Newmont Sustainability Report, 2005: 14).

4.4. Environmental Impacts in Kenyasi

This section is based on interviews with respondents, focus group discussion and personal observation of environmental impacts of mining in Kenyasi. Environmental issues raised by the respondents covered issues of water bodies' destruction, air pollution, land pollution and destruction as well as noise pollution. Personal observations are also included.

4.4.1. Water Pollution in Kenyasi.

Water, they say is life. For the people of Kenyasi, water is a very important resource in their lives particularly in their occupation as farmers. Water bodies in the community serve as a source of drinking water for the people as well as for irrigating their crops and farms especially in the

dry seasons. It is also used for a wide range of family and household chores and constitutes an important component in the daily activities of the people of Kenyasi. The area is blessed with major water bodies such as 'Subika', 'Subri', 'Asuosika', 'Apensu', 'Kwamensua' and 'Atoko' which were used by the Kenyasi people for various purposes. As indicated by the Newmont employee interviewed, mining will inevitably affect the environment including water bodies. Considering the enormous importance of water bodies for the people of Kenyasi, they were asked how their water bodies have been impacted as a result of mining activities by Newmont. Majority of the respondents, specifically forty-three (43) respondents representing 86% indicated that their water bodies have been polluted and hence cannot use them any more. Seven (7) of the respondents constituting 14% noted that the water bodies have not necessarily been polluted but rather they are not using them again because of the warning given to the community by Newmont company and the community leaders to desist from using the water bodies for any kind of activity. It is noted that upon the start of mining operation in Kenyasi, Newmont warned the people to stop using the water bodies for their activities because of safety and health reasons. Most of the water bodies are still fresh and look quite hygienic except river 'Subika' that had visibly been polluted by some waste and dust from the community and the untarred roads.

All the respondents were quick to add further that earlier, apart from the water bodies that lie in the community that were used for various purposes particularly for drinking, one major source of drinking water for them before mining started in Kenyasi was rain water. However, they have stopped using rainwater as well because Newmont also warned them not to use rainwater because they have been told that some harmful chemicals have been released into the atmosphere from their mines which mix with rainwater and makes them harmful for human and animals. Rainwater is no longer used in Kenyasi by the people for fear of dying or getting ill. They complain about the lack of access to portable drinking water and notes that when Newmont had not started mining in Kenyasi, water was not a problem. Now, people buy water from boreholes and few standing pipes provided by the local authorities and Newmont. Alternatively, some also use dug-out wells which are also expensive to afford for many people. The figure below is River 'Subika' that is heavily polluted as a result of the mining in Kenyasi which was observed some few meters on entering the Kenyasi community.



Figure 9. Polluted River ‘Subika’ in Kenyasi with a canal that carries waste into the river.
Photo: Researcher, 29th December 2009.

It was interesting observing that the ‘Subika’ river is so polluted that it has been overgrown with weeds and algae that most residents do not even attempt to use the once usable river for any kind of activity since the mining operations began. Intuitively, one can readily observe that using water from the river can have serious consequences on the person’s health and safety.

4.4.2. Air pollution in Kenyasi.

Air is a very important natural resource for humans, animals and even plant life. Its pollution may have serious consequence on the health. However, access to good and quality air can be challenging and a problem. Respondents were asked if mining operations in Kenyasi have resulted in air pollution due to the use of mining machines and other equipment by Newmont from the mining site. Most of the respondents indicated that air pollution from the mines is non-existent in the community because the machines used by the mining company do not produce fumes and smoke. However, they intimated that pollution in the atmosphere is basically from the huge cars and vehicles that are used by Newmont in the transportation of heavy equipment and machines to and from the Kenyasi community which produce large amounts of dust in the

atmosphere because Newmont has failed to tar the roads linking the communities and Newmont plant sites. By observation, I could see huge vehicles owned by Newmont parading these untarred roads and producing massive dusty particles into the atmosphere. One has to cover the mouth and nose with a tissue paper or any other material to prevent the direct inhalation of the dust particles. Plants such as cocoa, palm and cassava farms are visibly seen with dust covering their leaves due to dust produced by passing vehicles from Newmont. Periodically, these untarred and dusty roads are sprinkled with water by Newmont Company even though the dust keeps coming back within few days. Figure 11 below shows a huge vehicle owned by Newmont that sprinkles water on most of the untarred dusty roads in Kenyasi.



Figure 10. A huge water sprinkler owned by Newmont sprinkling water on the dusty roads in Kenyasi. Photo: Researcher, 1st January 2010.

However, three (3) of the respondents noted that though they seldom see pollution from the mines, they believe that latently, the atmosphere is filled with chemical and harmful gases which they do not see with their naked eyes. Their response flows from their prevention from the use of rainwater by Newmont which did not use to be the case. They believe that blasting of the surface

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of the earth by the mining company releases some chemicals and dust into the atmosphere though invisible. Rhetorically, one of the three respondents asked:

“If the atmosphere is not polluted, why have they (Newmont) told us to stop drinking rainwater?” (Male respondent, personal interview, 28th December, 2009).

Moreover, another respondent noted that in recent times, water stored in barrels and containers changes its colour within a day and that she could visibly see some particles settled on the water surface in the containers. She added that Kenyasi used to be vegetative and covered with large forest trees and cover devoid of massive dust particles and as such one could store water for longer periods of time without changes in its colour. However, she believes that the blasting done by the mining company might have resulted in such pollution from dust.

4.4.3. Land pollution and Degradation

Land is inevitably a valuable asset to many people and for the people of Kenyasi. This all important resource is so important to them because it is the very source of their livelihood especially with most of them being farmers. They were asked whether this resource has been impacted in any way with the start of mining in the community and whether they feel this resource and their livelihood is threatened with mining operation in Kenyasi. Majority of the respondents (40) indicated that their land is hugely degraded and destroyed by Newmont’s mining operations. Seven (7) respondents also noted that only a small portion of the land has been excavated so far for mining and as a result did not see how their land is seriously affected or destroyed. Three (3) respondents however stated that Newmont’s mining operation do not destroy the land like the way it is destroyed by illegal miners in the community. People who believed in the destruction of the land by Newmont’s mining operation indicated that huge equipment is used to excavate the land, clear large areas and dig huge pits that destroy the topography and landscape of the area which they believed would be difficult to reclaim in the future for use. They believe that since illegal miners in Kenyasi do not use heavy equipment like Newmont, their pits can easily be covered and the land levelled easily when the need arises.

On the contrary, Newmont’s pits are so big and wide with heaps of sand rising to mountain levels and the respondents believed that such areas would be difficult to cover and levelled for use in the future. Those who believe that only a small portion have been destroyed by

Newmont's mining operations noted that their lands have not been affected and therefore believed that large lands are still intact as it used to be. Others who thought illegal miners were rather destroying the land believed that since the illegal miners do not obtain permission before mining and also mines indiscriminately without the use of any geographical data, they mine indiscriminately irrespective of whether the area bears gold or not. They dig pits any where they like only to find no gold deposits and moves to other areas and start digging without covering or levelling the land previously destroyed. Further questioning reveals that Newmont is currently undertaking surface mining and accounts for digging of large pits and trenches although most of the respondents indicated that Newmont have indicated their plans to start using deep mining. This was confirmed by the Newmont employee interviewed who indicated that within the next two or three years from 2009, Newmont would start massive deep and underground mining (Newmont Employee, Personal interview, 23rd January 2010).

By observation, one can see heavy heaps of sand from dug trenches at Newmont mining sites as shown in Figure 12a below. These sites are heavily secured and sand heaps are protected and well managed by the mining firm contrary to those found at the illegal mining sites where sand heaps are deposited and dumped anywhere on the adjacent land. It is not uncommon to see deep pits and trenches scattered all over illegal mining sites and one could easily fall into one of them as also shown in Figure 12 below.



Figure 11. Heap of sand at one of the Newmont mining site in Kenyasi. Photo: Researcher, 1st January, 2010.



Figure 12. Some part of the illegal mining site showing dug holes and pits scattered over the land. Photo: Researcher, 3rd January, 2010.

Most of the respondents however lamented that comparatively, Newmont's mining sites are safer than the illegal mining sites because the area is well secured and people except the excavators are prevented from going to the site with the mining limited to only particular areas where deposits have been confirmed exists. In an interview with the Newmont employee as well as a review of Newmont documents, this was confirmed. This is because the mining company has the intention to reclaim the land many years after the mining operation is over (Newmont employee, personal interview, 23rd January, 2010 and Newmont Report, 2003: 10). They agreed that for the illegal miners, the area is not secured and is easily accessible posing much risk to people living near or in the area.

4.4.4. Noise pollution in Kenyasi.

Usually, most people in Ghana do not consider noise as a form of pollution and have come to accept noise making as part of their everyday living irrespective of where it is coming from. The same can be said for the people of Kenyasi. However, knowing the dangers associated with noise and the nuisance it can create for people, respondents were asked if mining in Kenyasi by Newmont has increased noise levels particularly from the machines and equipment used in the mining operation in the community. All the respondents said that noise levels are relatively down from the mining sites especially from the machines and equipment used by Newmont for mining. However, they indicated two major sources of noise that to them are only periodic but not regular. Noise from blasting the land for mining (usually three times a week) and heavy duty vehicles that transport equipment to and from the plant site were the main sources of noise but these are only heard periodically. They said that the heavy vehicles create noise when they pass through the town. But, noise from the blasts is the most complained about by the residents in the community and is usually heard during nights when they are sleeping. The respondents lament how the blast noise from the mines disturbs their sleep and even causes their houses to crack. One respondent in describing the noise from the blasting sites said:

“For the blasting, it is not easy especially at night when we are asleep. As we are sleeping, we often boooooom!!! And our houses and its foundation are usually felt shaking. You go round and see for yourself, most of the houses in Kenyasi have cracks because of the blasting. It is very dangerous” (Female respondent, personal interview, 1st January, 2010).

Going round to observe, it was visibly clear that seven (7) out of every ten (10) houses counted had serious cracks running through the buildings. Even, the new settlement buildings at the new sites that were constructed by Newmont for the displaced residents have also had their fair share of the cracks resulting from the blasts as shown below.



Figure 13. Cracks in some building due to site blasting by Newmont Company. Photo: Researcher, 1st January, 2010.

4.5. Health implications of the environmental Impacts.

Respondents were further questioned about the implications of the environmental impacts on the health conditions of the people in the community. Majority of the respondents said that health conditions cannot easily be ascertained because they can not say whether diseases people suffer from are the results of the mining activities since that is only determined at the Hwidiem hospital and the information there is kept confidential. Most of them however indicated that people in recent times complain frequently of certain types of diseases and illnesses especially cold and flu, typhoid, buruli ulcers and skin rashes but cannot say for sure if they are the direct result of mining because such illness especially flu was common although the numbers affected were small relative to those who are affected recently. The general feeling of the respondents is that in some ways, the increases may be related to the mining especially the chemicals used in the blasting although they cannot confirm or say for sure.

4.6. Management and Development of Coping Mechanisms of the Social and Environmental Impacts of Mining.

This section is specifically the result of personal interviews with respondents on coping and survival mechanisms developed by the community residents themselves in response to the social and environmental impacts that are experienced in the community. It also finds out the nature of the survival or coping mechanisms and how these mechanisms were developed or obtained in order to adjust to the impacts.

4.6.1. Management of social impacts by Kenyasi residents.

Naturally, it is common for people to devise measures to deal with impacts of a particular phenomenon on their lives. This is what is usually called coping and survival mechanisms. This can also be said about impacts of mining and its resultant impact on people especially when such impacts threaten their very survival and livelihood. For the people of Kenyasi, managing and developing alternative coping and survival mechanisms is a natural outcome of the impacts that are experienced in the community as a result of mining activities. As noted above, the social impacts exerted by mining activities in Kenyasi is mainly centred on issues of crime, prostitution, population growth, escalating prices of goods and food commodities, employment, poverty, minor conflicts with company workers and staff, infrastructure development as well as business (economic activities).

In finding out from the respondents what mechanisms they have adopted to adjust or mitigate these social impacts, most of the respondents readily responded that they do not have any technical capacity to mitigate these social impacts since they believe that its effects are beyond their control. At best, they merely have to adjust. For instance, they stated that issues of crime control and prevention, prostitution, escalating prices of goods, services and food commodities, conflicts, and infrastructure development to a larger extent is the main responsibility of the government and the responsible institutions of state and can only complain and draw the attention of those state institutions responsible for controlling and managing them. However, for employment in particular, most of the respondents indicated that since they need to survive, they quickly have to develop an alternative means of survival. Out of the fifty (50) respondents, thirty-nine (39) of them representing 78% indicated that a major coping mechanism to their employment problem is to engage in illegal mining popularly known as ‘Galamsay’ in Ghana. This is an illegal mining for gold that involves the use of crude methods without recourse to

environmental concerns. The youth in the area are mainly involved as a means of employment in their desperate quest to survive. When asked, most of respondents said:

“Please, the ‘galamsay’ is our life wire now. Now this is what we depend on mostly to survive because when we wake up, we and our children go there to dig and mine gold so that by evening time, we will get something to eat. Had it not been this illegal mining, most of our children would have been armed robbers by now. They should leave us alone to do our ‘galamsay’ because they didn’t employ us” (Male respondent, Personal interview, 5th January, 2010).

Observation at the illegal mining site revealed large number of young men and women as well as old ones involved in brisk mining on site without any environmental consideration. As noted by most of the respondents, many of the young workers on the illegal mining site noted that they have to engage in that work as means of survival since they have not been employed by Newmont and their farms have also been taken over for mining purposes. The figure below shows the brisk mining activities at the illegal mining site in Kenyasi undertaken by the people in the community.



Figure 14. Illegal mining activities undertaken by most community residents in Kenyasi.
Photo: Researcher, 3rd January, 2010.

Apart from engaging in illegal mining as an alternative to their employment problems, nine (9) of the respondents (18%) also noted that as an alternative to employment, they have entered into

agreement with other community members whose farms have not been taken over by the mining company to farm and share the products of the farm with the owners of the land. This is popularly known in the community as 'abusa' where the land is cultivated and after harvest, the farm produce are divided into three with the land owner taking two and the farmer taking one. Though the respondents indicated that this system is very exploitative and biased towards the landowner, they have no other alternative but to agree to such arrangements since that is the only option available to them if they are to survive. Again, two (2) of the respondents (4%) also stated that now they are engaged in petty business of some sort since their farms were taken over by Newmont for mining.

Respondents were further asked if apart from their own coping and survival mechanism generated by themselves for their survival, other bodies particularly the government or its related agencies, non-governmental organization or the mining company itself has provided them with a means to adjust or mitigate the social impacts so identified. Most of the respondents indicated that it is only Newmont Company together with the Opportunities Industrialization Centres International (OICI) that has taken some steps to deal with the poverty situation in the community through Newmont's Vulnerable Programme by providing some families whose farms have been taken over by the company with household consumables such as cooking oil, canned drinks, rice and corned beef to supplement their diet and the Livelihood Empowerment and Enhancement Programme (LEEP) ran by the OICI respectively. However, they added that the distribution of the consumables under Vulnerable Programme is very selective with Newmont officials only classifying some people as vulnerable and non-vulnerable without any clear criteria for the households. Only those who in the wisdom of the Newmont official are seen as vulnerable are given such products to the neglect of many households. For instance, one respondent stated:

"When they come here, they say some of us are not vulnerable. They usually ask how many children you have. If you have eight or less children and you have a mobile phone, they say you are not vulnerable because you can buy phone credits to make calls. If you have more than twelve children, they say you are vulnerable and they give you rice and cooking oil. But how do they know I am vulnerable or not even if I have one child? I learnt they sell the remaining

consumables and they also give some to their girlfriends” (Female respondent, Personal interview, 3rd January, 2010).

Interview with the Newmont employee as well as a review of Newmont documents confirmed the Vulnerable Programme and states that the programme is born out of the conviction of Newmont that some household are directly impacted by their activities which have caused some changes in their lives and hence putting them in vulnerable positions. The official noted that the Vulnerable Programme food basket involves Rice (400kg), Beans (85grams), canned fish (34.1 grams), cooking oil (1 litre) and whole Milk powder (8 grams) as shown below. However, not all these items are given to the households according to the respondents.



Figure 15. Some household consumables given to a household by Newmont as part of the Vulnerable Programme. Photo: Researcher, 3rd January, 2010.

Respondents also added that some NGOs periodically come to the community to ask them about how they are coping with the mining and its impacts, but they do not help them in any way in adjusting or mitigating some of the negative social impacts that they experience.

4.6.2. Management of environmental impacts by Kenyasi residents.

Since the people of Kenyasi interact with their environment to survive, they were asked how they are coping and adjusting to the environmental impacts that mining in the community is having on them. For environmental impacts on land, air and noise pollution, most of the respondents

indicated that like most of the social impacts, they only have to adjust or accept such impacts since the community does not have the means to deal with the impacts but to accept them. However, for impacts on water, it is clear that some measures have been taken by the people in response. Since most of the water bodies have been rendered unusable since mining began, most respondents (41) indicated that they have resorted to the digging of deep wells in their homes to provide them with water since they cannot use rainwater and other water bodies previously used. Nine (9) other respondents noted that they make use of water pipes provided by the Newmont at a fee. Respondents complained that the digging of wells in their homes and the buying water from the pipes is very expensive and further adds to their poverty woes. They lament how they could initially easily access water from rivers like 'Subika' and 'Atoko' without having to pay any money.

On mining impacts on air, most respondents noted that mechanisms developed to adjust and mitigate its impacts is done by Newmont Company which involves the periodic spraying and sprinkling of the roads with water from water tankers. However, the spraying is done at long intervals and one could easily see dust particles in the atmosphere at Kenyasi especially during the day.

4.7. Newmont's Awareness and Management of Impacts in Kenyasi.

This section is based on interviews with the community respondents as well as Newmont employee and text analyses on the awareness of Newmont to the social and environmental impacts of mining activities on Kenyasi. Specifically, measures devised and developed by the company are elicited from the Newmont employee and some text analyses of such measures and strategies are also reviewed.

4.7.1. Awareness of Impacts by Newmont Management.

One most important first step in dealing with any problem is the acceptance and knowledge of the existence of the problem. To be able to devise strategies and measures to deal with the impacts of mining on the people of Kenyasi, the management of Newmont first need to be aware of the existence of any such impacts and then be able to develop strategies to mitigate or help people to adjust to them. As a result, respondents were asked if in their opinion major social and environmental impacts of Newmont's operation in the community have come to the attention of the management of the mining firm. From the responses given, almost all the respondents 96%

said that the company is fully aware of the impacts that their activities are having on the community because of two major reasons. First, the officials of the Company have been having some meetings with the community and their representatives periodically and secondly, there is the existence of information centres for Newmont that the community residents' lodge complains and grievances. On the other hand, 4% indicated that not all the impacts are known by the company because they believe the most important and real problems on the ground in the community are not communicated to the Newmont management by the chiefs and their community leaders. One interviewee when asked about Newmont awareness of most of the environmental and social problems the community faces since mining started said:

“When you go to the information centres and tell them your problems, they do nothing about them. Our representatives are also bribed and so they don't tell them the real problems facing us” (Female respondent, Personal interview, 28th December, 2009).

Asked the same question, the Newmont employee interviewed noted that most of these impacts have already and earlier been anticipated by the company even before the start of the operation and they continue to develop strategies to mitigate and help the people adjust to them.

When asked further if apart from the community leaders, the Kenyasi residents cannot make complains to Newmont themselves, most of the respondents indicated that some people had on their own tried to meet Newmont officials themselves but had difficulties meeting them. However, they added that most people are afraid to complain to Newmont officials directly. When asked why they were afraid, most of the respondents noted that there is likely to be a contradiction in what their chief tells Newmont officials and what the community residents will also tell the officials. The disgrace that will result they indicated cost them either their lives or other forms of punishments from the community leaders. One respondent in the interview said this:

“Who am I to tell Newmont or the chief what to do? We cannot complain much. Those who complain are punished by the chief and in extreme cases are killed. For me I don't want to die early” (Male respondent, personal interview, 3rd January, 2010).

4.7.2. Management of Social and Environmental Impacts by Newmont Company

One major reason for people to accept the impacts of mining (social and environmental impacts) is the commitment by mining companies to manage, mitigate and help community members to adjust to impacts so experienced. This would involve the implementation of measures and strategies to help the people who are impacted directly or indirectly to live normal lives even though such impacts are felt by them. From the interviews, it is clear that the majority of people in Kenyasi are directly or indirectly affected by the mining activities. For instance, when asked whether Newmont's mining operation affects them, forty-eight (48) of the respondents representing 96% said they are affected directly by the mining activities while two (2) of them (4%) noted that the impacts on them are not direct. Those who said they are affected directly were those whose lands have been taken over by the company for mining leading to a loss of their source of livelihood. The other respondents also stated that their lands have not been taken by the firm and only experience the general impacts on air, water, noise and other basic social impacts.

In the view of the company, one major way to deal with the impacts is to use compensation as a means to persuade and convince the people to accept the impacts (social and environmental) of their mining activities. Particularly, people whose lands are taken over are in theory entitled to compensation in cash or kind. Respondents whose lands have been affected or taken over by Newmont for mining were asked if they have been compensated in any way. Most of the respondents indicated that they have been compensated by the company but also expressed some reservation with the compensation given them. They were further asked what form the compensation took. The respondents indicated two major forms of compensation. They noted that houses and cash were used to compensate them. They added that those whose farms were destroyed were compensated with money whereas those whose houses were destroyed were relocated and compensated with new houses. In fact, twenty (20) out of the fifty (50) people interviewed (40%) noted that their houses were destroyed and have been relocated to new houses built by Newmont for them whereas thirty (30) of the respondents indicated have had their farms destroyed and compensated with cash. However, from the responses given, those who were compensated with cash noted that the compensation was not adequate and did not equal the value of their farms destroyed while those who were relocated into new house also complained about the small sizes of the rooms as compared to the ones they built and have been destroyed.

As a result of these responses, the respondents were furthered asked about the criteria and how the company determined what should constitute a compensation package for a person affected and whether they were involved in the determination of the value of the compensation package. All the respondents noted that they were not consulted or did not participate in the determination of the value of the compensation package but was rather imposed on them by the company by force or at best in consultation with some community leaders.

For instance, they indicated that at some point, they were threatened to accept the compensation if they like it or not and risk receiving any compensation if they fail to accept what they were being offered by the company since the company stated that they have already bought the lands from the government and were only helping the people by compensating them. Some of them noted the extent to which some farms were destroyed without their notice upon their failure to accept the compensation given them. One respondent indicated that his farm was destroyed without his notice because he failed to accept the compensation given him. He produced copies of the letters presented to the Ghana Human Rights Commission and the Ghana Ministry of Lands and Mineral Resources where he is demanding from the mining firm adequate compensation for his destroyed farm without his knowledge and also a penalty awarded to him by the mining company. As at the time of interviewing the respondent, the said compensation and penalty have not been paid by Newmont mining company to the respondent. The petition of the respondent and the correspondence from the Human Rights Commission is shown below.

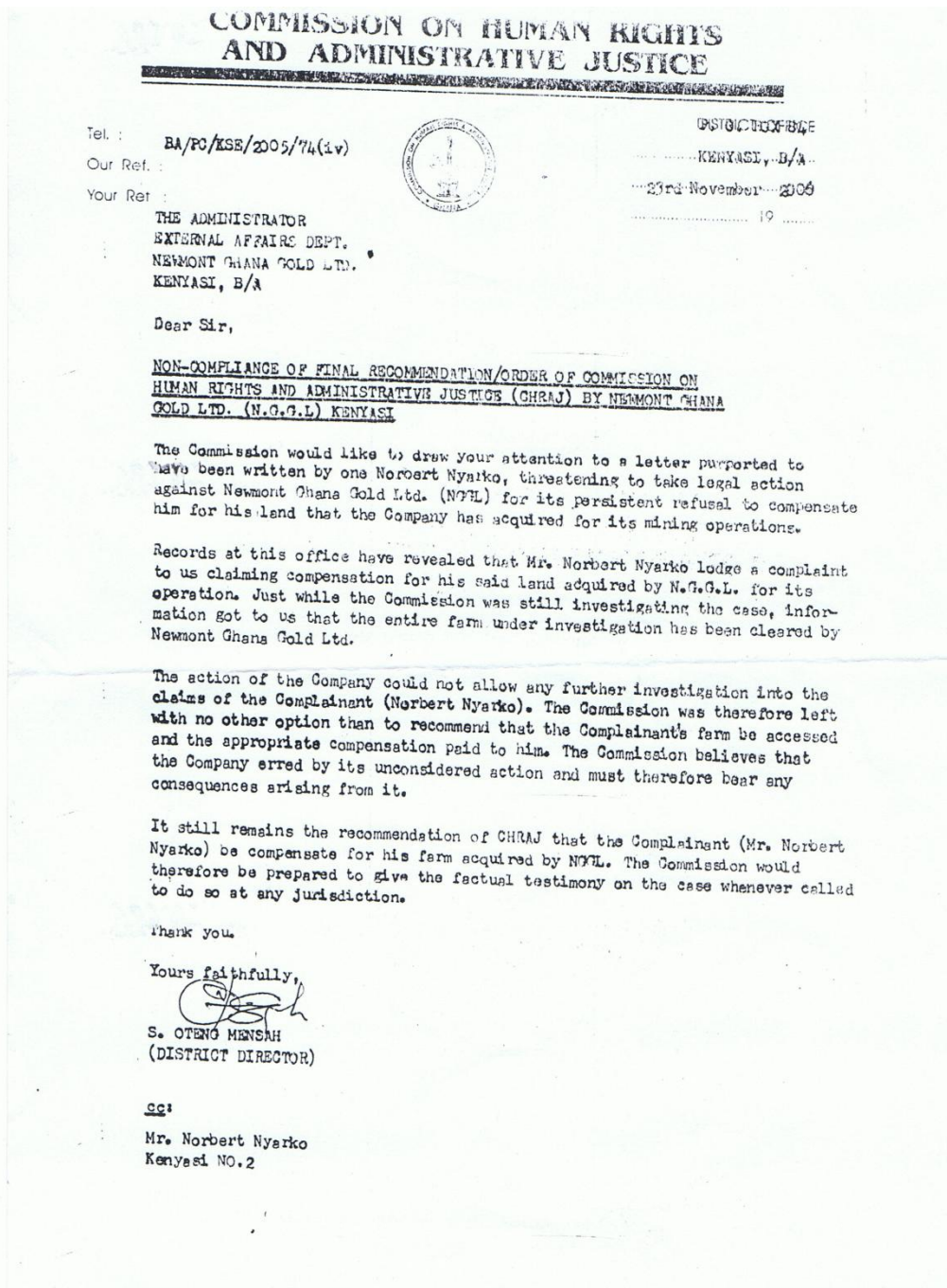


Figure 16. A correspondence letter from Ghana's Human Rights Commission on compensation to be paid to a farmer affected by Newmont's activities. Source: Norbert Nyarko (Interviewee).

Norbert Anane -Nyarko
House No. K.J. 19
Kenyasi No.II -B/A
Phone : 0542 013994

8th September, 2009

THE MINISTER
OF LAND AND
MINERAL RESOURCES,
ACCRA

Dear Sir,

UNFAIR TREATMENT AND COMPENSATION

My 18 acres Teak Plantation at Tailings Storage Facility ~~was destroyed~~ by Newmont during its operations at F.S.F. Kenyasi without being surveyed. The issue was referred to Commission on Human Rights and Administrative Justice (CHRAJ) at Kenyasi for redress. That was April 2005. Locus Inspection was conducted by CHRAJ in the presence of Newmont Officials including Dominic Kyeremeh Chief Surveyor and Kwame Freitas, the Administrator and other officers. Two (2) CHRAJ Directors and some of their workers, myself, (Norbert Anane- Nyarko) The farmer and Albert Kuma the land owner.

At the farm Newmont Officers admitted their mistake for destroying the farm without my concern and without surveying it. That is unlawful entry. The parties, CHRAJ, Newmont and the Complainant (farmer) agreed for a second inspection of the farm as Dominic Kyeremeh alleged that some body has surveyed some part of my teak plantation.

On 23rd July, 2006 when I visited the farm to harvest some plantain, to my surprise I found that the whole farm has been destroyed by Newmont. I reported what has happened to Mr. Kwame Freitas, the Administrator of Newmont and then to CHRAJ Officers on the same day.

Three weeks after, I was invited to CHRAJ Office where I was given the attached note to take to Newmont for assessment of the farm and appropriate compensation paid to me Norbert Nyarko.

At Newmont, the Administrator told me frankly that they needed that area for their activities that is why they could not wait for the second inspection of the farm. And that the company's decision is that, it will only compensate me for part of the farm in which the teak is matured. I rejected their decision and claimed compensation for the whole farm since I used five (5) years to cultivate the whole plantation, from 1999 to 2003.

Since 15th August, 2006 when CHRAJ made the recommendation for Newmont to compensate me, the company has refused to comply to the CHRAJ order. As a member of RNC and secretary of farmers representatives in the House and a citizen of Kenyasi I wish the issue be solved amicably and my due compensation paid me to avoid any inconveniences.

On the 9th April, 2009 I wrote personally to Newmont through the complain and Grievance office at Kenyasi No. II. No concrete action has been taken by the mining company. It is three (3) years now since CHRAJ ordered Newmont to compensate me for unlawfully destroying my Teak Plantation. I am therefore appealing through your Honourable Ministry or outfit to help me to receive my due compensation to alleviate me from poverty. I am at my old age and now 71 years old.

Attached is the photocopy of CHRAJ's recommendation note for your reference

Hoping for your usual co-operations.

Thank you


.....
NORBERT ANANE -NYARKO

Figure 17. A compensation letter written by one interviewee to the Ghana Minister of Lands and Mineral Resources demanding compensation from Newmont Gold (Gh) Limited. Source: Norbert Nyarko (Interviewee).

On the criteria for determining the compensation package, all the respondents indicated that their lands were not compensated by the company but rather only crops were counted for compensation since the company said that all lands in Ghana belongs to the government and not for individuals. A review of Newmont's records confirms this response from the respondents as the company categorically states that "as specified by Ghanaian law, we compensate for crops and structures on land and not the land itself" (Newmont Sustainability Report, 2005: 13). As such they did not compensate for lands but crops. Respondents said that only crops that are mature and is ready for harvesting were counted and priced according to 'Newmont rates'. Young crops are not counted for compensation as well as those planted after the moratorium date (cut –off date (in the case of Kenyasi, it was set at 10 February, 2004) after which all crops and assets would not be compensated). For instance, cocoa trees that do not have cocoa pods on them are not counted for compensation. Only those with their pods are priced, which to most of the farmers is not fair. When asked about the prices for the crops, the respondents gave varied amounts for the monies paid to them for their crops. Some of them said they were paid GH¢2.50pesewas (equivalent to US\$2) while others also stated they were given GH¢3.50pesewas (equivalent to US\$3) depending on the discretion of the valuer of the farm.

However, an employee of Newmont interviewed noted that he cannot state emphatically any amount paid for the crops compensated since the different crops have its own price to be paid that are determined by a committee known as Crop Rate Review Committee which the community members have their representative on it. For instance, differences exist in the prices for cocoa, palm tree, plantain, cassava, vegetables etc. However, he added that the company has paid a lot of money in the form of compensation to the farmers affected by the activities. Newmont's records however reveal that as at 2005, the company had spent US\$13.5 million on crop compensation and US\$1.6 million in structure compensation. On the other hand, respondents whose houses were destroyed have been resettled in a new site at Kenyasi and Ntotroso, a nearby community away from the mining area. The respondents stated that instead of building houses with room sizes equivalent to what they owned, the ones built by Newmont are of very small room sizes. They indicated that the rooms for the Newmont houses are so small that it can only accommodate their beds alone with no space for other room items. They are compelled to keep their other belongings in wooden structures or make some wooden extensions to their houses such as the one shown below.



Figure 18a and 18b. New settlement site at Kenyasi and one of the houses built by Newmont for a person affected by their mining activities in Kenyasi New site. Photo: Researcher, 1st January, 2010.

One respondent said:

“The rooms are just too small for me and my family. Now, I and my wife have to sleep in one room together with three of my children while the other four sleeps in the other small room. Now, I cannot enjoy sex with my wife because my children are also present in the room” (Male respondent, Personal Interview, 5th January, 2010).

The Newmont employee interviewed also indicated the small-size nature of the rooms they have built for the people but was quick to add that in the opinion of Newmont, it is better than the mud houses that people lived in at Kenyasi prior to their coming into the area (Newmont Employee, personal interview, 23rd January, 2010).

The respondents further added that people who had five rooms in their old homes were given three room houses in the new site whereas those who had three rooms houses were given two or one room house by Newmont in the new site buildings.

4.7.3. Managing Social Impacts

In finding out about specific measures and strategies that the company is developing to deal with the impacts, the Newmont employee mentioned a wide range of strategies that has been rolled out by the company to deal with the major social and environmental impacts of their activities in the community. On social impacts, he mentioned that programmes such as the Vulnerable

Programme which is meant to reduce poverty and improve the people's livelihood by giving them food such as rice, fish (canned), beans, cooking oil has been rolled out in the community. On employment, he notes that the company has embarked on a Labour Pool Training Programme that serves to train the local people in job skills and apprenticeship such as mechanics for future employment in the mining company and money management in partnership with the Opportunities Industrialization Centres International (OICI). He also mentioned the Livelihood Enhancement and Community Empowerment Programme (LEEP) that was launched in 2005 to promote economic growth, wealth creation, and empowerment and thereby reduce poverty. A review of the Newmont's records however notes that as at the end of 2005, more than 2,500 people participated in the LEEP programme. The table below shows the 2005 targets of the LEEP programme.

Table 2. LEEP TRAINING

PROGRAMME	TRAINING TARGET	ACTUAL NUMBER TRAINED IN 2005
Agricultural Opportunities	750	632
Money and Financial Management	1500	1,309
Small and Medium Business Enterprises	1500	646
Waste and Sanitation Committees	8 Groups	8 Groups
Borehole Maintenance Crew	4	4
Resettlement Sites Youth Groups	2	2

Source: Newmont Sustainability Report, 2005.

In addition to these programmes, the Newmont employee added that to help facilitate community development, the company has established what is called the Ahafo Social Responsibility Forum in which US\$1 per ounce of gold sold and 1% of net profit from the mines is set aside for the community's development projects (Newmont employee, Personal interview, 23rd January, 2010). The fund would be used for such projects that relate to Human resource development- 24% (e.g. scholarships, training for farmers), provision of infrastructure- 23% (e.g. maize dryers, silos, roads, clinics, schools, toilets), provision of social amenities- 18% (e.g. community centres, police posts, libraries), Economic empowerment- 17% (e.g. assistance with establishing businesses, factories, credit facilities, market stalls), protection of natural resources- 12% (e.g. reforestation, environmental awareness programmes) and support for cultural heritage- 6% (e.g. support for festivals, upgrading of palaces) (Newmont Ahafo Social Responsibility Forum, 2005). In addition, the Newmont Agricultural Improvement and Land Access Programme (AILAP) have been introduced since 2006 to help farmers who have been affected directly by the development of the Ahafo mine project in Kenyasi (Newmont Fact Sheet, 2006).

4.7.4. Managing Environmental Impacts

On environmental impacts, the Newmont interviewee noted that the company believes in what they call 'environmental stewardship' which involved managing water and energy resources responsibly and ensuring that they comply with regulations that guide their emissions to land, water and air. As a result they have developed an Environmental Integrated Management System Standards and Environmental Discipline-Specific Standards that is used to manage and monitor their environmental activities and maintain best practice. This was used to measure their environmental performance for 2005 as shown in the chart below.

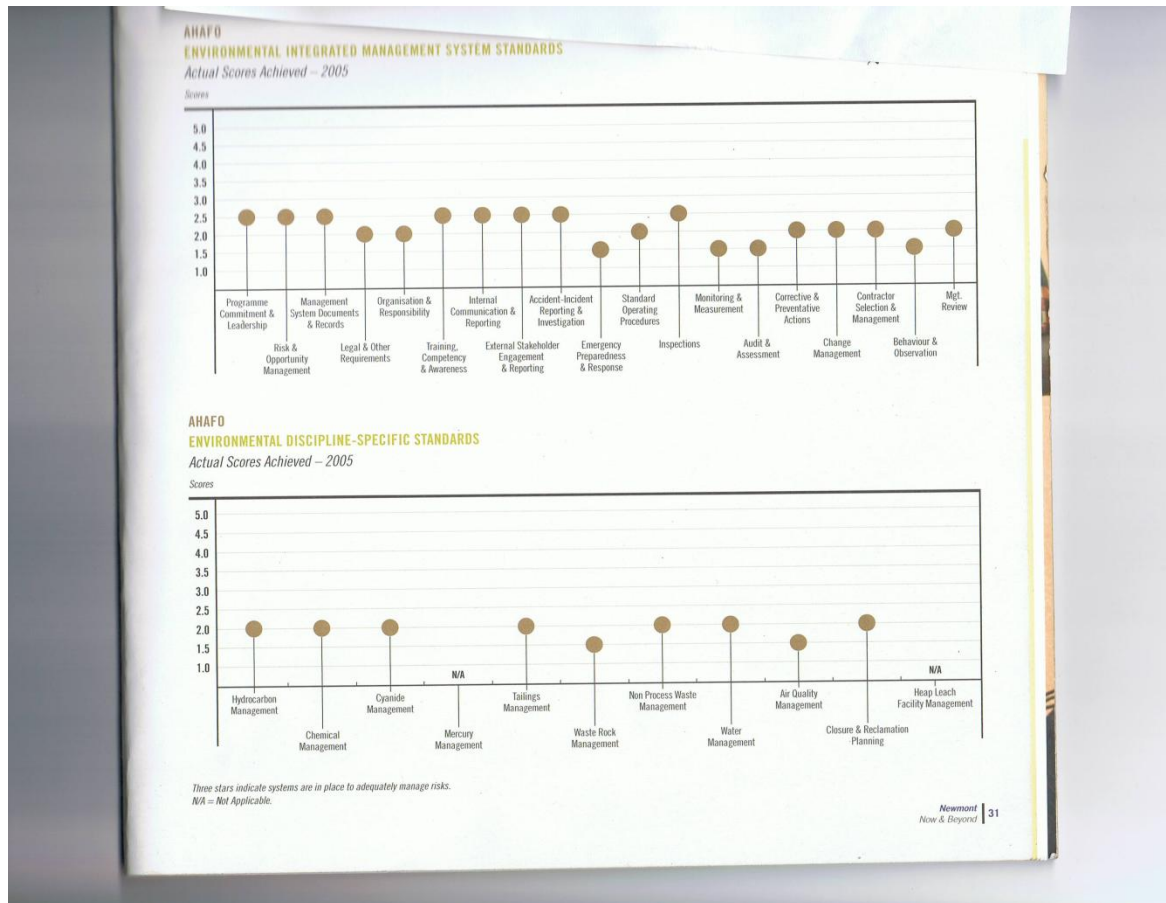


Figure 19: Environmental Integrated Management System Standards and Environmental Discipline-Specific Standards for Newmont Gold (Gh) Limited. Source: Newmont Sustainability Report, 2005.

In addition, he indicated that a Biodiversity Management Plan has been developed to protect the biodiversity in the community forest areas such as plants, animals and the ecosystems that support them. For instance, he notes that to safeguard wildlife from the mines facilities, they have installed fencing and barrier controls. On the water pollution, the Newmont employee interviewed indicated that tailings and crushed rocks as well as cyanide according are stored in specially designed storage facilities equipped with leak detectors that are regularly monitored to particularly prevent cyanide leakage into major water bodies in the Kenyasi community. On land pollution and degradation, he stated that a Reclamation Plan has been developed as part of their Environmental and Social Impact Assessments that would ensure that soil is reclaimed from all disturbed areas and visual impacts minimised with the reclaimed lands capable for use for

subsistence farming through a re-vegetation programme that is undertaken by the company alongside their operations.

When asked about how the mining company is managing air pollution especially from their vehicles and heavy equipment, he noted that the machines used by the company at the plant site where the gold is processed does not produce fumes or smoke that pollutes the atmosphere or air.

However, he indicated that in managing the air pollution especially from the dust particles from the untarred roads in the community, he stated that the company manages that pollution by periodically sprinkling water on them to keep the dust particles in the atmosphere at low levels. He however indicated that the company does not intend to tar the roads any time soon since roads that are linked to mining sites are not tarred because of the nature of vehicles used which can easily damage the roads when used on such tar roads. For now, they are only managing the situation by sprinkling water on the dusty roads from time to time.

Again, when asked about how the company intends to manage or is managing noise pollution, the response from the Newmont was that the company operate within a standard required for noise generation. Noise for blasting for instance he noted is inevitable because they have to blast the earth before they can mine the gold. He however noted that considering the severity of the noise from the blast, they manage it by placing adverts about the time and day for blasting so that the residents of the community will be aware of the blasting and not taken unaware. He also added that since the noise from the blast is usually great, they have limited the blasting periods within a week (2 times in a blasting week) and also undertake the blasting at midnight so that it does not disturb the people's activities during the day. This he noted has been the practice ever since they started operation in Kenyasi.

CHAPTER 5: Analysis of Empirical Findings

This chapter discusses and analyse critically the empirical findings and data as presented in chapter four. The section is basically divided into two sections. The first part analyse the empirical findings on the social and environmental impacts of Newmont's mining activities in the Kenyasi community. The second section deals with the impact management of Newmont's mining activities at Kenyasi by the community residents themselves and Newmont as a corporate entity. Here, the relationship between the community and that of the mining company in managing the social and environmental impacts is analysed in the light of the theory of Community Participation on Sustainability Model or Approach as developed by Botterill and Fisher.

5.1. Comparative Assessment of Natural Resources Change in Kenyasi.

This section of the analysis focuses on the state of the natural resources in Kenyasi before and after the start of mining operations in the community as presented in the chapter on empirical findings (sees Chapter 4, sub-section 4.2.1). The analyses makes a comparison about how these natural resources have been affected since mining started in the community.

Unavoidably, mining activities in Kenyasi has affected natural resources in the Kenyasi community. Particularly affected are some acres of land, plant and forest cover as well as major rivers and water bodies that were previously used by the people in Kenyasi. Rainwater is no more usable in the community and it can be said that chemicals gases that are released into the atmosphere by the mining company especially during the blasting of the land for excavation is the major reason why people no longer use rainwater. Though the mining company has cleared large acres of land for mining, mining activities is limited to only small portions of land comparative to whole land area of Kenyasi even though the company has earmarked other areas for future mining activities. This is a confirmation of the company's report that as of 2009, deforestation and land clearance for mining purposes in the company's whole concession including Kenyasi is limited to the smallest extent possible (Newmont Sustainability report 2005). As a result, large areas of land and forest cover still exist untouched at Kenyasi thereby maintaining its original outlook as a forest.

In fact, the natural resources that have been affected mostly since mining started in the community are the water bodies that served various purposes for the people in Kenyasi. Irrespective of whether the mining activities are closer to the water body or not, it is no longer used by the community because the people are afraid that chemicals and other pollutants might have been released into them unknowingly although only two of the water bodies namely 'Atoko' and 'Subika' can be visibly seen as polluted by substances that may or may not be direct from the mining company. Though I can say that to some extent natural resources have been altered comparative to its previous state before mining started in the community, the changes have not been so great because there are still large areas of land and forest cover in particular that have not been altered by the mining firm for gold mining. At worst, the changes are mostly limited to the water bodies but even with that, their changes lie not so much in its destruction by way of pollution but rather their inability to be used by the people as it used to be earlier before mining started.

However, it is also worth stating that the current mining practice of Newmont which is surface mining would in the next five to ten year pose a serious risk and changes to natural resources of Kenyasi since the continual clearance of large acres of land and forest cover for mining from time to time would result in serious deforestation and land degradation that would lead to a massive loss of large vestiges of land and forest cover. Though currently the loss is not so great in terms of acreage of areas covered and excavated for mining which currently stands at 8,000 acres out of the total 535 square kilometres of mining lease in the Ahafo area (Public Agenda, 2008), the areas earmarked by the company for future mining however gives an indication of the extent to which the damage to the natural resources would reach. This trend inevitably confirms the observation made by the World Rainforest Movement that surface mining poses a threat to large vestiges of Ghana's forest resources, land and biodiversity and hence raises questions of sustainable forest management and mining activities (World Rainforest Movement, 2004: 44). Although deep mining can be an option to maintain major natural resources of the area, which the Newmont employee confirmed is under consideration by the mining company, its associated problems cannot be glossed over since it may also in the medium and long terms tamper with the landscape of the Kenyasi community.

5.2. Significant Impacts of mining activities in Kenyasi.

Although there has been a few major changes and alteration in the natural resources particularly land, forest cover and water bodies in Kenyasi since mining activities by Newmont Company started, there is no doubt that mining in the community is seriously impacting the people of Kenyasi in one way or the other. These impacts are social and environmental in nature and therefore affect the very lives and livelihood of the people.

5.2.1. Social Impact Indicators

The social impacts of the mining activities in Kenyasi are mixed in terms of its positivity or negativity. With the impacts spanning through social indicators such as employment, population increase and migration, economic and business development, prostitution, crime, conflict, poverty issues, infrastructural development and prices of goods and services, there is the general acceptance in the community on the impacts of mining activities in the community in any of these ways. After all, majority of the respondents indicated that they have been affected by major social and structural changes in the community since mining began.

5.2.2. Employment

On employment, the situation is very unique in Kenyasi because contrary to popular opinions of job creation and massive business development in mining areas due to mining activities, the situation as it persists in Kenyasi is far from such reality. In fact, the promise of jobs and employment in the mining company to the people of Kenyasi which in one way or the other served as a guarantee for mining in the community has not been forthcoming to the disappointment of the people. Most of the people are unemployed especially the youth after their farms and lands have been taken over and destroyed by Newmont and have been denied employment into the mining company basically due to two major reasons namely, lack of employable and requisite skills to work in mines because of the high illiteracy rate in the community and secondly, corruption mainly from bribery and impersonation. In a similar study of mining impacts on economic growth and development in Ghana, Awudi notes that “the input of capital into the sector has not been translated into significant increase in employment” especially in recent times when labour-intensive underground mining has been replaced with capital-intensive surface mining (Awudi, 2002: 5). It is also found out that large surface mining such as the one undertaken by Newmont accounts for the highest rate of unemployment in

mining communities such as Obuasi and Tarkwa because it takes large tracts of land from farmers without providing a corresponding number of enough jobs to match the total number of people laid off from agriculture which is usually the livelihood of the communities (Akabzaa & Darimani, 2001: 45).

The implication of the finding is that mining cannot be solely depended on by countries and their governments as an avenue for reducing unemployment rates by providing its citizenry with enough employment since most of the large mining companies have gradually shifted from the labour based mining methods like underground mining as previously practiced by most mining firms. This is because large scale mining in particular has proven to lack the capacity to employ a chunk of the teeming unemployed Ghanaians since on the national scale, its total share of employment of the working age population is only 0.7 per cent, in comparison to agriculture's 55 per cent, trade's 18 per cent and manufacturing's 12 per cent (Ghana Statistical Service, 2000 cited in Akabzaa, 2009). On the contrary, it largely displaces most community residents previously employed especially at the agricultural sector and hence, deny them their source of livelihood.

Moreover, workers in the mining firm are mostly outsiders and non- indigenes of Kenyasi community who have worked in mining firms in Ghana such as those of Obuasi, Prestea, and Tarkwa with other people from neighbouring town of Sunyani who are educated to some level. In a similar situation in Canada, "while efforts have been made to ensure employment quotas of local and/or Aboriginal workers, outsiders still disproportionately occupy the highest rank and paid positions"(Gibson & Klinck, 2005: 131). This is the prevailing situation in Kenyasi. The lack of employable skills especially those related to mining have been cited by Newmont Company as the major reasons why most of the people in the community of Kenyasi are denied employment at the mines. This has created a situation where employment at the mines have been favoured people with high levels of education and experience leaving behind those with low educational levels and qualifications to their fate (Gibson & Klinck, 2005: 131). With more outsiders and migrants working in the mines due to their high educational levels, qualification, skills and experiences as opposed to the low educational background of the local Kenyasi residents, there is a clear violation of the company's promise to the people in terms of priority to

local people in jobs where skills and experience are required (Newmont Sustainability Report, 2005).

Again, due to massive bribery and corruption for which Ghana is ranked 69th according to the Transparency International Corruption Perception Index published in 2009 scoring a low mark of 3.9 out of 10 points indicating the high prevalence of corruption in the country as against countries like New Zealand, Denmark, Sweden and Norway with high scores of 9.4, 9.3, 9.2 and 8.6 out of a score of 10 respectively indicating low corruption levels (Transparency International, 2009), few people in the community who would have otherwise got employed are denied such opportunities since some top Ghanaian management members of Newmont demand bribes from prospective job seekers of about GH ₵700 (equivalent to about US\$650) and more before employing them but which most of the people cannot afford to pay. It is also revealing to state that some people who are usually from other parts of Ghana and are not indigenes of Kenyasi are using the names of some Kenyasi community members to work in the Newmont Company even though the real bearers of those names who are indigenous Kenyasi residents are walking idle in the community unemployed. This act of impersonation is carried out in connivance with some community leaders in Kenyasi and their Ghanaian managers at Newmont who are given some form of reward, usually money in the process. The employment situation in Kenyasi currently really contradicts the employment figures stated in Newmont Sustainability Report for 2005 that is shown in Figure 7 above which suggests that about 1,808 people representing 38% of the total workforce of Newmont are local residents of Kenyasi who work in various capacities within the company. As a confirmation of the real situation on the ground, only two respondents indicated in the interview that they have one of their relatives working in the mining company but further indicated that they are related to the chief of Kenyasi. The truth of the matter is that for any Kenyasi resident to get employed in the mining company, then, the person has to necessarily either relate the chief and community leaders of Kenyasi or be able to pay the bribe money demanded by the employment officials.

But the question is that if some people related to the chiefs and community leaders who also have low employable skills to work in the mines have been employed to perform some kind of work at the mines, why cannot other members of the community also be employed at the mines to work in areas that do not require much of skilled labour since there are subsidiary works

related to the actual mining itself such as cleaning that do not require much skills? After all, Newmont promised of “hiring 100 percent of the unskilled labourers from the local communities” (Newmont Sustainability Report, 2005: 15). However shocking it may be, these unskilled tasks are performed by people who are not residents of Kenyasi but migrants from bigger towns in Ghana largely because they have the money to bribe the authorities especially some opinion leaders who are influential in securing them the jobs in the subsidiary services or have some form of prior experience with that kind of job previously acquired elsewhere. As a consequence, the major form of employment in Kenyasi is illegal mining popularly known as ‘galamsay’, which employ most of the youth in Kenyasi, both unskilled migrants who failed to get jobs at Newmont mines and indigenous residents who are largely considered by Newmont as illiterates and unskilled to work in the mines. In fact, large-scale mining companies throughout Ghana including Newmont only employ about 20,000 workers whilst over twice this number is involved in the illegal and small-scale mining of gold (Awudi, 2002: 5). It is specifically estimated to provide direct and indirect employment to over one million people in Ghana and serving as a main livelihood for most residents of communities affected by mining including Kenyasi (Akabzaa & Darimani, 2001: 25).

5.2.3. Population Growth

Compounding the problem of unemployment in Kenyasi is the massive increase in population growth. The trend is basically attributed two major factors, migration and high birth rate over the last few years. The influx of strangers from other mining areas of Ghana has increased the physical presence of people in the community in the search of jobs at the mines. It is observed that mining in the Kono District of Sierra Leone have also attracted a lot of immigrants both local as well as international to an extent that the district is more of a cosmopolitan area leading to the amalgamation and multiplicity of cultures and behaviours, sometimes creating clashes in cultural practices (Johnbull & Rahall, 2004: 6). For Kenyasi, the clashes are found in the form of competition. These migrants compete with the local Kenyasi residents for jobs at the mines and are in most cases employed because of their previous experience with mining. The other reason is the high birth rate resulting from the sexual relationships that have developed in the community because of the presence of migrants. They engage in sexual activities with the local people, resulting in pregnancies. Painfully, the financial vulnerability and high levels of illiteracy makes it difficult for the local people to demand their rights when problems of pregnancies occur

especially in demanding paternity for the children because most of the men deny responsibility and subsequently leaves the community permanently.

It is evident from responses obtained from field interviews that the large influx of migrants mainly accounts for the increase in Kenyasi's population and is confirmed by data from the Asutifi District where Kenyasi is located that there have been a 4.7% increase from the figure of 50% working group in the year 2002 largely attributed to the influx of unskilled and skilled youth from regions outside Asutifi and even the Brong Ahafo into the district expecting job opportunities especially in the mining areas of Kenyasi and Ntotroso (Asutifi District Profile, 2006). The population figures is estimated have to increase from 84,475 as at 2000 to about 108,682 in 2009 considering the fact that demand for mining related jobs and services increased within the period leading to a massive influx of migrants into the district particularly Kenyasi and Ntotroso (Asutifi District Profile, 2006).

5.2.4. Economic and Business Development

The presence of Newmont Mining Company in Kenyasi has undoubtedly created and generated some business and economic opportunities for the people of Kenyasi with some people now engaged in other business ventures particularly in the selling of phone card and credits, operating mini-restaurants, selling food and water on the streets as well as general merchandise. In a similar study of the impacts of mining, it was observed that while some local people employed in mining obtain direct income as mining wages, the non-miners and many people in the community increase their income through different socioeconomic activities, including sales from food crops and menial business activities (Kitula, 2004: 409). Kotey and Adusei in their study of the sustainable development in the mining sector of Ghana also found out that with the presence of Newmont in Kenyasi, about 1500 people have benefited from small-to-medium scale enterprises (SMEs) that is not directly related to the mining and its ancillary services with the company still developing a micro-credit scheme for most affected people in Kenyasi with an initial amount of \$200,000 to help them engage in small to medium scale businesses and economic ventures (Kotey & Adusei, 2007: 16).

Although this seem laudable, this study finds that the number of people engaged in these business ventures is only a handful and are usually some people who have been compensated for their destroyed farms who decides to invest their monies in these businesses as alternative means

or source of livelihood. Only few people indicated to have benefited from such SME schemes but even complained that start up capital given them was inadequate resulting in the collapse of most their businesses and eventual inability to pay the credit given them by the company. In essence, the capital- intensive nature of these businesses makes it very difficult for most people in the community to engage in them because of the poor financial situation of the people in the community. Their lack of employable skills and its subsequent guarantee for jobs at the mines ensures that their access to purchasing power and sources of finance is very limited.

5.2.5. Prostitution

Well documented in the literature (Akabzaa & Darimani, 2001: 44-45; Gibson & Klinck, 2005: 125; Kitula, 2004: 410), prostitution has been identified as one major social vice that has seen an upsurge in communities that mining of all forms is carried out. Although not considered crime in most communities, its impacts on the larger society can be far reaching. Kenyasi as a mining community has seen the practice developed and thrived steadily with the start of mining in the community by Newmont. In simple term, prostitution is high in Kenyasi especially since mining started. The lack of employment among the youth coupled with the high levels of poverty has resulted in increased levels of prostitution among women. It is not uncommon to find very young women at night trading sex for money at various hotels and guest houses at Kenyasi. Usually, clients are Newmont workers and some expatriate workers at Newmont who have the money to pay for sexual services. In support of this finding, Gibson & Klinck found out that prostitution really caters to the high incomes of the mine workers and usually serve their sexual demands because of long periods of time they spend away from their spouses (Gibson & Klinck, 2005: 125). At times, these expatriate mine workers and prosperous ‘galamsay’ operators are the specific targets for the sex worker (Akabzaa & Darimani, 2001: 45).

Similarly, it has been observed that prostitution has increased tremendously in Tarkwa, a mining community in Ghana and is largely attributable to the concentration of mining in the area resulting in the migration of people in search of jobs and other trading activities (Akabzaa & Darimani, 2001: 44). Most respondents indicate that the quest to survive, poverty and the lack of employment in the community have created this condition. These reasons lend support to the findings by Akabzaa and Darimani in their study of mining in Tarkwa that failure of most people especially women to attain jobs and other business opportunities make them resort to prostitution

as the last option for survival (Akabzaa & Darimani, 2001: 45). Similarly, migration of young ladies into mining centres in search of non-existent jobs has also been found to increase prostitution in Tanzania gold mining area of Geita (Kitula, 2004: 411). At the extremes, married women are also engaged in the practice because their legitimate husbands who are usually Kenyasi indigenes cannot provide for all their needs. Some of these women have divorced their legitimate husbands and are now co-habiting with some Newmont workers who have supposedly promised to marry them.

5.2.6. Poverty

Concerning poverty in the community, one would have thought that the large presence of migrants and newcomers in the community resulted in increased demands for goods and services, the growth of other petty businesses as well as the flow and circulation of cash in the rural economy would reduce poverty of the people. However, the livelihood of the people has been worst off with the start of mining activities. A report by National Strategic Environmental Impact Assessment (NSEIA) in Ghana notes that poverty is more endemic in communities directly impacted by mining activities with communities proximate to mining projects being generally poorer than those further away from mining (NSEIA, 2007 cited in Akabzaa, 2009). Because most of the people in the community previously were and continue to be farmers and live very simple lives, the destruction of their farms for mining activities and the general lack of alternative employment for most of the people have brought untold hardships to the people. In fact, most of the people have had their major source of livelihood curtailed with mining activities. This case of mining induced poverty largely results from displacement. Akabzaa notes that mining companies annex vast lands in their operational areas and deprive communities of their chief source of livelihood with such rampant dislocations of communities for mining activities fostering poverty among these displaced communities (Akabzaa, 2009). Their poverty situation is also compounded by inadequate compensation for their lost livelihoods with the “monetary compensation commonly quickly spent, leaving everyone worse off than before with no land or money left for them again” (Richards, 2008). In essence, “low levels of compensation payments exacerbate the problem of poverty in mining communities” (Owusu-Koranteng, 2005: 4) and is a major contributor to the worsening poverty in Kenyasi since most residents continually complain of the inadequacy of the compensation packages given them in spite of the loss of their major source of livelihood, the land.

For Kenyasi, poverty has been worsened by the increased transformation of such an agrarian community into cash-based that requires that people spend more money in order to obtain their basic needs to which most of the people do not have due to lack of employment and the destruction of their farms. As a result, the purchasing power of most Kenyasi residents has reduced significantly to the extent that most of them now cannot afford their basic needs. The increased poverty levels mostly accounts for the increased levels of prostitution among the youth in Kenyasi since they need money to provide for their basic needs and also to support their families especially when their main source of livelihood which was farming has been curtailed by mining activities.

5.2.7. Prices of Goods and Services

Generally, the prices of goods and services in Kenyasi that hitherto used to be low have increased tremendously because of mining. This is confirmed by almost all the respondents interviewed who complained about arbitrary increases in foodstuffs in particular. This trend in Kenyasi has also been confirmed by a study in the mining town of Tarkwa which found out that food, accommodation, health, water and other indices that make a decent life have a price tag beyond the reach of the average person (Akabzaa & Darimani, 2001: 47). Kenyasi is now an expensive town because it is now filled with workers of Newmont who are perceived to be very rich. This is also true in Tarkwa where there exist disparity in incomes which are usually in favour of mining company staff, mostly indexed in US Dollars, with the expatriates especially paid internationally competitive salaries, raising their incomes and hence making such high-income earners able to influence the pricing of goods and services such as housing, food and other amenities (Akabzaa & Darimani, 2001: 46).

In fact, Gibson and Klinck contends that mining is the highest resource sector wage occupation in Canada with the average weekly earnings of employees in the mining sector being \$1,130.50, compared to an average of \$626.45 within all other industries with employees working specifically in metal mines taking home weekly incomes of \$1,196.15 (Statistics Canada, 2000 cited by Gibson & Klinck, 2005 :116-117). The massive presence of these high income groups in Kenyasi has resulted in increased prices of basic goods and services because most of the people who have the capital to start up any form of business would want to cash in because of the supposed increased demand by the mine workers. This has compounded the poverty situation in

the community since the local people would have to buy the same goods and services at the same prices as the workers of Newmont who can easily afford them at any rate. This confirms that there is not only the perception that miners are rich but that they actually are.

5.2.8. Infrastructural Development

Infrastructural development basically comprises projects such as electricity, roads, good drinking water, schools, hospitals and clinics and the general provision of social amenities that would enhance the general living standards of people in the community. The existence of these infrastructures at Kenyasi remains very unchanged as it used to be earlier. At best, the existing infrastructure remains depleted and highly pressured because of the influx of large number of migrants into the community. Newmont Gold Mining Company promised the local residents of the provision and improvement of major infrastructure before mining started but most of them have not been provided even though the company notes of massive infrastructural investments in the community. However, some few projects have been initiated by the mining firm such as the rehabilitation of the Kenyasi clinic, the building of a new school at the new resettlement sites although it lacks basic facilities like electricity and computers and has also provided some electric bore holes and pipes for the community due to the unsafe nature of the water bodies which the people previously used. Although few infrastructure have been provided by Newmont, majority of Kenyasi residents are not pleased with them because Newmont can do more than what they have done because of the gains they make from mining gold in the area. Kitula found out that although most mining communities benefit from some infrastructural development, in reality only “20.3% benefit from improved road networks, water and school construction” (Kitula, 2004: 48). Water from the bore holes and water pipes for instance is now purchased by the people as against the earlier practice where the people obtained water from the rivers for free. This has further deepened the financial and poverty woes or burden of the people.

Most roads remain untarred in Kenyasi except those that lead to the camp settlement of the Newmont expatriate workers. The rest of the community roads are dusty and untarred. It is however to be questioned that if roads leading to the settlement sites for the expatriate workers who also reside in a new site of Kenyasi can be tarred, why cannot roads in the Kenyasi community be tarred as well? After all, the heavy duty mining machines that are considered threat and causes damage to asphalted roads are stationed permanently at the mines sites without

plying the main roads in the community. Hence, the argument held by Newmont that roads in mining communities are not suitable to be tarred do not hold for Kenyasi since the same roads linking the site where the Newmont staff lives have been tarred without any problem to the roads. The company can improve their social responsibility standings in the community if the roads in the community that are also constantly used by their vehicles are at least tarred to reduce the effects of the air pollution from dust on the Kenyasi residents. Leaving the main roads in the community untarred while tarring the ones that lead to the settlement sites for the Newmont staffs gives the impression that the company respects their staffs welfare while belittling the welfare of the community in which they operate. This is not good for Newmont's corporate image. Electricity was extended by the mining company to the community especially to the resettlement sites but not to individual homes. The people are supposed to extend electricity from the community grid to their homes themselves at their own cost. This cost Newmont believes should not be borne by them since in the company's view, one has the prerogative to decide to use electricity or not (Newmont employee, Personal interview, 23rd January, 2010). This is a clear confirmation that "many companies believe it is not their role to serve as substitutes for government and are therefore reluctant to engage in activities associated with provision of public services" (Institute of Social and Ethical Accountability, 2004: 36). As a result, most people especially at the resettlement sites do not enjoy electricity because they cannot afford the cost of connecting electricity to their homes. Infrastructure at Kenyasi that is very visible existed before mining started and the situation had not in any way improved for the better with the start of mining. The few already existing ones have rather depreciated due to pressure from population increase in the community since mining started.

5.2.9. Crimes and Conflict

Crime in the community however is minimal especially murder and burglary but petty theft has increased relative to the previous situation before mining started in the community. This is a contradiction to what Johnbull & Rahall found in the Kono district which indicates a high prevalence of crime in the district as compared to other non-mining areas (Johnbull & Rahall, 2004: 6). For Kenyasi, one major reason for the low level of crime is the existence of some traditional taboos that imbibe some high levels of fear in the people in committing major criminal acts like murder and burglary. However, the increase in theft especially in other people farms is because poverty in the community has worsened, and as a result some have resorted to

stealing farm produce in particular to sell to other people or use it. Almost all the respondents attested to increased theft of farm produce and the general believe is that peoples whose farms have been taken by Newmont might be responsible for the practice.

Although it is clearly evident that the increased poverty in the community accounts for these practices, it has not resulted in any form of communal conflict in Kenyasi even though there are clear indications that there is tension in the community and the people are very prepared to engage in any form of conflict especially with Newmont Company when the time is ripe for them. It is usually contended that struggles between mining communities and mining companies have existed and in extreme cases have resulted in brutal confrontations between the local people (especially the illegal miners) and the companies (Awudi, 2002: 8). In fact, responses by some respondents about the purchase of guns by most Kenyasi people is a clear confirmation of the simmering tension and readiness of the people to engage in conflict with the mining firm when the time comes. It is therefore a sign that Kenyasi residents are largely dissatisfied with Newmont's activities in the community especially when their expectations have not been met and the promises made to them have not been fulfilled by the company. This finding although very revealing calls for measures by Newmont and the local authorities to ensure a cordial relationship is maintained and promoted between the mining company and the community as a whole by fulfilling the expectation of the community residents especially the youth who feel frustrated due the loss of their livelihood and disappointments from many unfulfilled promises made by Newmont and the local authorities to them before mining began in the community.

5.3. Summary Social Impacts

The discussion and analysis of the social impacts of mining in Kenyasi indicates a worrying trend of how mining is impacting on the social life of the residents of Kenyasi. Impacts on employment, high prices of goods and services, lack of infrastructure and social amenities and increased poverty levels are very widespread in Kenyasi and are largely felt by most people in the community in one way or the other. In reality, the number of people affected by the social impacts of the mining activities is very widespread and in fact, social life and organization of the people in particular have greatly been affected. As Gualnam (2008) notes that the social impacts of mining to a larger influences the social organization of communities, there is no doubt that in Kenyasi, their social structure and organization has largely been tampered with increased

disruptions in their traditional ways of lives especially in the disruption of social ties due to the resettlement.

5.4. Environmental Impacts

The environment and its resources remain a significant asset to humans because it is the very source where we derive our very livelihood. Even more so for the people of Kenyasi, as the very nature of their occupation involves a constant and direct interaction with the environment, it constitutes their major source of livelihood. The environmental impacts and natural resources considered in this study for assessing the impacts of mining activities in Kenyasi focuses are land, water, air and noise pollution. Impacts on these natural and environmental resources to a larger extent influence the quality of life of the people in the community in one way or the other.

5.4.1. Land Pollution

Land is a vital resource for the people of Kenyasi. Predominantly a farming community, land serves as the main conduit for their livelihood because they cultivate the land for their basic sustenance. However, mining in any form or scale appropriates the land and can cause serious devastation and degradation of it. Kenyasi is no exception. The impacts of mining activities by Newmont especially through excavation in Kenyasi has affected the land and degraded it to some extent. The same situation can be found in Tarkwa where “the huge scale of excavation has led to a complete change of land form suitable for agricultural and any other livelihood activity” (Awudi, 2002: 7). But for Kenyasi, it is to be stated that currently, not all lands have been affected by mining activities even though a lot of arable and farm lands have been marked for mining in the future by the mining firm. Most farmers that were interviewed have lost their farm lands. Mining by Newmont Company is limited to only few areas even though those areas have been excavated and large pits dug for mining. There are about three major pits dug by Newmont where currently mining activities are limited to but the heaps of sand from the pits covers large areas of land that cannot be used for any purpose as shown in Figure 12a above (See photo above). Awudi found a similar situation when he noted that heaps of mine waste have been dumped and often occupy large amounts of land, thereby disfiguring the landscape (Awudi, 2002: 7).

On the better side, land within the Newmont concession is carefully managed and controlled and is only mined upon intensive geological and seismic assessments of gold deposits. Hence, it is

uncommon to find indiscriminate land destruction in search of gold by the company. Land degradation is very serious in some parts of Kenyasi where illegal miners have taken over the land and are indiscriminately mining gold as shown in Figure 12b (See photo above). Their activities are not backed by any expert assessment of gold bearing land and rocks and as a result their activities results in the destruction of the land resource. In reality, massive land degradation is very serious and prevalent in illegal mining sites in Kenyasi as compared to the concession sites owned by Newmont Company, however connected to concessionary mining, as local residents revert illegal mining to compensate for lost land.

5.4.2. Water Pollution

Water has been a very important resource in the lives of people in Kenyasi because it is used for their domestic activities as well as their agricultural activities. The community can boast of a number of water bodies such as rivers ‘Atoko’, ‘Subika’, ‘Asuosika’, ‘Subri’, ‘Apensu’ and ‘Kwamensua’. It should be stated that ever since mining started in Kenyasi, these water bodies have been rendered unusable because they have been polluted by mining activities. Earlier warnings by Newmont have compelled the residents to avoid using them for any purpose because they fear to die or contract diseases. Although most of these water bodies can still be seen as it used to be, they are not used by the people. It is only river ‘Subika’ that can visibly be seen as polluted by some waste and dust particles because a canal has been constructed to deposit waste products from the mines and the general community into them since mining started. Though most water bodies still look as they were before mining started, the truth is that they have been polluted especially by dust particles from the blasting at the mining sites. This may not be visible but one can be assured that some chemicals and dust particles find themselves into these water bodies unknowingly.

On the contrary, Newmont maintains that cyanide is not released into any water body in Kenyasi because the company has constructed its own event pond and Environmental Control Dam where cyanide solutions and waste are deposited and carefully managed and controlled. It can however be argued that even though Newmont have the Environmental Control Dam, one cannot be fully guaranteed of safety in using any of the water bodies in and around Kenyasi since reports of cyanide spillage from the control Dam into a nearby stream called ‘Yaakyi’, a tributary of river ‘Subri’ have recently been reported due to leaks in the Control Dam which Newmont failed to

detect but for the early detection of some community members living around the stream who noticed dead fishes floating on the stream surface (Ghana Business News, 2009). This is not a new event to most mining communities in Ghana since “the use of cyanide and its accidental spillage has in the past polluted the water bodies of the communities in and around AngloGold Ashanti’s mining areas in Ghana” (Kotey & Adusei, 2009: 20). A case in point is a situation where the ‘Kyekyewere’ community within the concession of AngloGold Ashanti complained of occasional cyanide leakage from pipes close to the community (Akabzaa & Darimani, 2001: 52). An account by one interviewee who complained of severe stomach ache and skin rashes after fetching water from a nearby stream confirms the extent to which water bodies have been polluted even though on face value, these water bodies still maintain their natural outlook. Although other sources of water has been provided for the people in the community which is used for domestic purposes particularly, access to portable water now comes at a cost to all residents of Kenyasi.

5.4.3. Air pollution

Clean air is very important because its lack thereof can have very serious consequences on the health of the people. In many countries, quality air is non-existent because of the increased air pollution through the release of harmful chemical gases and dust particles as a result of a variety of human activities. Air pollution in the Kenyasi community mainly comes from the dusty untarred roads that are continually used by heavy-duty vehicles belonging to Newmont for transporting machines and other equipment to the mine sites. It is difficult to visibly see chemical gases, fumes and smoke from the mining site. However, during the blasting of the earth, dust fills the atmosphere for some time. Chemicals that are used in the blasting process are also released into the atmosphere and explain why people in the community have been barred from using rainwater for any kind of activity. Although the Newmont has responded to the air pollution especially from dust and untarred roads by periodically sprinkling water on the roads, the practice is very unsustainable since this is not done regularly. The situation can be linked to the increased respiratory ailments such as flu and cold (catarrh) as most respondents complained about even though Akabzaa & Darimani also notes that “all fine dust at a high level of exposure has the potential to cause respiratory diseases and disorders and can worsen the condition of people with asthma and arthritis” (Akabzaa & Darimani, 2001: 56).

5.4.4. Noise Pollution

Until recently, most Ghanaians did not consider noise as a form of pollution. However, the nuisance it creates for people has drawn the attention of authorities to its regulation and control whenever the need arises. Now, noise pollution standards are set for most companies that make use of heavy equipment and machines and are constantly assessed on their noise emission levels. The same can be said of Newmont Company. The truth is that noise from Newmont plant site itself is very low and one can seldom hear noise from the site.

Noise pollution in the community is mainly from blasting at the mining site. This noise is so great that most building foundations in the Kenyasi community are shaken and one can easily see cracks on most buildings in the community. In Tanzania's Geita region where mining is carried out, it has been found out that approximately 52 cases of housing collapse resulting from mine-induced explosions have been reported (Kitula, 2004: 409). Similarly, the frequent blasting in the mines has caused considerable cracks in buildings in communities in the Tarkwa area (Akabzaa & Darimani, 2001: 59). Although notices are displaced about the time and date for blasting, these notices are placed on the roadside and the mining sites. As a result, most community residents are mostly not informed about the times of blasting and are therefore taken unawares especially during the midnight blasting. Although Newmont has responded to the impact of the blasting on the people and the buildings in the community by closing the building cracks with mortar and cement, their approach is only ad hoc and unsustainable since the constant blasting keeps on cracking the buildings again and again. Even with this approach, majority of the houses have not benefited from this approach and as such more houses still shows cracks.

Noise from heavy duty trucks belonging to Newmont is another major source in Kenyasi and most respondents complain about how these heavy trucks destroy the few tarred roads and the noise they make when passing through the community. Most people in the community are mostly worried by the noise from the passing heavy duty trucks more than the noise from the blasts since to them, that is only periodic unlike the trucks that keeps passing through the community every passing minute, hours and days.

5.5. Health Implication of Environmental Impacts

Considering the extent of the environmental impacts, most people in the community have tried to draw a link between these impact and some health conditions currently experienced in the community. Although residents are not able to draw a direct linkage because of the lack of clinical data to buttress their thinking, there is a high tendency that some of the health conditions are directly and indirectly related to some of the environmental impacts. Although attempts to gather data from the local clinic and the Hwidiem hospital to confirm this proved futile, there is a growing indication that this is true and that the massive inhalation of dust may be accountable for the increase in these health problems especially cold and flu.

However, the lack of high prevalence of major diseases associated with mining areas such as typhoid, respiratory diseases etc in Kenyasi is a clear indication that Newmont started operation in the community not long ago. But residents are confident that within the next five to ten years, these diseases would be quite manifest in the community because their development takes quite sometime. Their non- prevalence in the community is therefore not a surprise but people should be highly expectant of them in the next few years ahead if proper measures are not taken to limit the impacts of the mining activities.

5.6. Summary of Environmental Impacts

Although the environment has been impacted by Newmont, it should be stated clearly that mining activities of Newmont is limited to only some marked areas of Kenyasi where gold deposits have been found. As a result the company to a larger extent have not tampered with most of the environmental resources particularly large vestiges of land and forest cover since the company currently operate only three mining pits which are carefully monitored and managed. However, the company cannot be completely absolved of any impact of their activities since other aspects of environmental impact usually pollution of the air, noise and water is largely felt in the community and is a source of great concern to the community especially the relationship between these environmental impacts and the rise in some diseases such as flu and cold even though its direct linkage have not been established by any clinical data in the community.

5.7. Applying Theory: Community Participation Model and the Management of Social and Environmental Impacts

In this section, the various management measures and strategies adopted by the community and Newmont Mining Company is discussed as expressed by the interview responses. This is discussed in the light of the community participation model as presented under the theoretical framework. Then, the next step will assess the sustainability of these impact management strategies and measures in the face of the community participation model. The discussion looks at the impact management strategies developed by the community residents themselves and that of Newmont. This is made on the basis of the premises that underlie the Community Participation Model. As already stated, the Community Participation Model operates on five main principles or premises that involve: Top- down management approaches, mobilization of human capital and resources, community knowledge of problems and their solutions, capacity development and involvement of affected communities (Botterill and Fisher, 2002: 2-3). This is done to make the discussion more focused and ensure a flow of analysis as outlined by the framework.

5.7.1. Top- down management of impacts.

In the literature, the term ‘top-down approach’ has been defined variously. However, I choose to define the term as the an approach to management in which decisions are determined and made by top officials of government, institutions and experts without direct grassroots involvement and participation in the decision- making process. One major characteristic of most development projects is the tendency for these projects to be developed and initiated by so called experts and technocrats and then imposed on the people for whom they were meant without their participation and involvement in the determination, design and implementation of the projects. Being aware of the major social and environmental impacts that their mining activities is having on the people of Kenyasi, Newmont has taken steps to manage and deal with such impacts on the people to ensure that the people live normal lives. However, the extent to which the community is involved or participates in the development of these impact management strategies is of much concern to this research. The Community Participation Model notes that ‘top down’ approaches usually fail to resolve many problems for which they are designed and hence advocates for a much more ‘bottom up’ approaches to solving problems. The aim is to ensure the sustainability

of these strategies, programmes, initiatives or policies. The findings show that peoples' lives have been worse off with the start of mining as the responses on the poverty situation indicates in 4.3.7.

In the light of this, Newmont has introduced the Vulnerable Programme that gives food items as a supplement to the diet of Kenyasi households especially those affected by their mining activities. Assessing the programme, it is evident that decisions about what should constitute the food components and the criteria for identifying households who should benefit from the programme are rather top down instead of being bottom-up which is the ideal approach in effectively managing community problems. The community was not involved at any stage in deciding what they want to have included in the food basket. The food items are decided by Newmont officials who determine what the food basket should contain at any period in time and it is given to people without consultation. Mainly, the criterion for determining which household is 'vulnerable' is very questionable since Newmont's definition of the vulnerable in the community is different from what the people themselves consider as vulnerable. Newmont however operate 'their own' definition and the result is that most families do not enjoy from this programme even though a closer look at their situation reveals high vulnerability risk.

By Newmont's criteria, households with less than eight children are seen as not vulnerable by Newmont likewise household in which people use mobile phones. In one interview, a respondent stated: "they say I have a mobile phone and I can afford call credits and so am not vulnerable. But how do you know if am vulnerable or not if I have a phone and especially when you have taken my land" (male respondent, Personal Interview, 28th December, 2010). Households are therefore in disagreement with the Newmont officials who distribute the food baskets and complain bitterly of neglect and corruption on the part of Newmont. Though the initiative is good, its purpose has been defeated since people who are vulnerable in effect are not benefiting because they do not meet Newmont's criteria of vulnerability even though their lands have been taken by Newmont. Others also complain the food basket is given once a year instead of being monthly. Questions therefore surround the sustainability of the programme since the people have not been involved in its design and implementation especially in the determination of the vulnerability criteria and even the components of the food basket. It is simply something that is

imposed by Newmont on the community people with no participation of the community people in the whole design and implementation of the programme.

The compensation system as used by Newmont is also worth noting. As the findings reveal, Newmont compensates people whose lands are taken. This compensation takes two major forms which is cash for people whose crops were destroyed or taken over by the company and the provision of housing and subsequent relocation of those whose houses lie in Newmont gold concessionary sites. In both cases, the compensation packages are simply determined and imposed on the people by Newmont with no community participation and involvement in the discussion of the packages. Newmont have their own compensation rates that have been set by the Company's Crop Rate Review Committee. This is what is given to the people even against fierce resistance by some community farmers. Mostly, those who fail to accept these rates have had their farms destroyed without compensation. People are therefore forced to accept the rates even against their will. Residents believe it could be better if the company bargains with them individually on the rates rather than setting their own rates and imposing it on them even if they are not satisfied with it. Although Newmont notes that the community has one of its members on the Crop Review Committee and may represent community participation to some extent in theory, the truth is that most people who have been compensated are not satisfied with the rates that were given to them for their crops as compensation.

Furthermore, findings from the study reveals that in the determination of building compensation, the building design is determined solely by Newmont and its building contractors and community residents cannot make inputs to the determination of the structure's size and number of rooms that they are entitled to. It is found out that in most mining communities, "resettlement packages have been imposed on mining communities and the state security apparatus had been used in forced resettlements and evictions" (Owusu-Koranteng, 2005: 5). This situation does not give recognition to the important role that community participation in house designs could limit the many complains that the community residents affected by relocation make about exploitation by Newmont by displacing them from their traditional homes only to put them in small structures. In fact, complains about the small nature of the rooms (9x9feet or 8x8feet in new structures as compared to 12x12feet in previous homes) as well as exploitation is dominant in the

community since people who initially lived in two or three rooms are given just one room in the new resettlement site and as a result feel cheated with such a trend.

In managing one major environmental impact which is pollution of water bodies in Kenyasi, Newmont reacted to this impact by providing electric pipe borne water for the residents in Kenyasi as a means of managing the impact of mining activities on water in the community. Although water from these pipes is very healthy and clean, the empirical findings from the study prove that its provision has failed to solve the water problem in the community brought about by mining activities for one major reason. Newmont Company built these pipes in the community without demanding from the people the type of water system they needed. The truth is that residents of Kenyasi are not used to electric water systems. As a result, their access to water has become increasingly dependent on electricity supply which is not reliable even in big cities in Ghana let alone a small town like Kenyasi. Water becomes a problem when the electricity goes off. Currently, residents have to pay money to get water from the pipes because of the cost of the electricity in pumping the pipes. This has further deepened poverty in the community.

As a consequence, most community residents still do not access water from these pipes because they cannot afford it. They rather prefer to make use of dug out well water from other households who have managed to dig them in their homes. In effect, Newmont impact management strategy on water pollution has not been very successful since the problem it aimed at solving still persist, even much serious than before. It is found out that residents preferred bore-holes which used only manual strength to pump water at no cost. There could have been a better alternative to managing the impacts on water if only the people's inputs were solicited and incorporated in the water management system in the community. That would have solved the water situation in the community since that do not use electricity and water flow is constant. However, the lack of participation and involvement in the design of the water system for Kenyasi has resulted in a top down imposition of a system that has failed to solve the very problem it was designed to solve but instead created another problem for the people, which is an extra financial burden and inconsistent flow of water as a result of inconsistent electricity supply.

Hence, water problems in the community have intensified comparable to the situation that existed before because of the unsustainability of the electric pipe borne water system provided by Newmont in Kenyasi.

5.7.2. Mobilization of Human Capital and Resources: Coping with Mining Impacts

Adam Smith defined human capital or human resources as “the acquired and useful abilities of all the inhabitants or members of the society. The acquisition of such talents, by the maintenance of the acquirer during his education, study, or apprenticeship, always costs a real expense, which is a capital fixed and realized, as it were, in his person” (Smith, 1776 cited in Chen et al, 2007). By extension, all people wherever they are, have very vital abilities and capacities that can be harnessed effectively to bring about required levels of development in the community or society whether it was acquired through education or imbibed in the very person by virtue of his birth or existence. At the very basic level, the people of Kenyasi have taken giant steps in managing the impacts that mining has unleashed on them in the community. Most people in the community have naturally developed their own coping and survival mechanisms in response to the impacts that mining is having on their lives in order to survive. Solely individual households and residents developed these mechanisms themselves without the help of any external body. For most Kenyasi residents, coping with or managing major social impacts such as crime and conflict, prostitution, escalating prices of goods, services and food commodities, and the lack of infrastructure does not lie within their capabilities. This is because to them they lack the technical and expert capacities to manage and deal with such impacts. In terms of social impacts, employment is the only impact that the people have naturally developed their own way of managing the unemployment situation. The question remains whether community participation be applied to managing impacts that are not considered manageable by community residents?

One major principle that underlines the community participation model is to see the community as partners in development and not passive recipients of development. In fact, community engagement and social license are mutually reinforcing and parallel processes that occur both as cause and consequence of addressing and managing social and economic impacts at the community level” (Institute of Social and Ethical Accountability, 2004: 22). This would imply some high levels of partnership and participation from the community and the institution, company or government involved. For most of the social impacts, it is evidently clear that community participation and involvement in managing the impacts in Kenyasi is lacking. This is supported by the responses from most of the respondents who indicated that managing most of the social impacts except employment lie outside their capabilities. This trend is evident because

Newmont has failed to empower the people in realizing that they possess certain inherent capacities and resources which the company can utilize in managing the social and environmental impacts of mining in the community. Botterill and Fisher (2002: 8) notes that “enthusiasm for community action as an avenue for addressing policy problems must be tempered by a recognition that some social problems are of such magnitude that they are beyond the capacity of individuals and communities to address without significant government and organizational support”. Hence, there is the need for the recognition of partnership between the community and Newmont in the complementarity of their resources and capacities.

The enthusiasm of the people especially the youth in Kenyasi as the empirical findings reveals is indicative of the fact that the community possesses the human resources in terms of labour power and commitment that is a vital resource in managing most of the social impact such as crime, conflict, prostitution, infrastructural development and even unemployment but which have not been recognized and explored by Newmont. Newmont on the other hand possess the technical competence and logistical capacities and can adequately be used to engage the community residents in managing some of the social and environmental impacts in the form of community watch dog, crime and conflict control teams to check crime and conflict through daily and night patrols and periodic outreach programmes. By teaching them basic security measures and crime control tactics as well as conflict resolution measures, the community is better placed to manage most of the crime situation in the community which they feel do not have the capacities to manage. It can be argued that a large chunk of human resources is left untapped in Kenyasi while Newmont continues to struggle with achieving community commitment in dealing with most of the impacts of their activities.

In discussing the mobilization human capital and resources for managing social and environmental impacts of mining, another potent area is infrastructural development. However, currently at Kenyasi, mobilizing the community human resources for infrastructural development in the community is virtually non-existent. Newmont’s current practice of engaging building contractors outside the community to undertake the few major infrastructural development projects in Kenyasi such as the construction of new settlement site is a clear example of neglect of the abundant community human resources. The contractors employ and make use of both skilled and unskilled labour hired from other areas apart from Kenyasi. The recognition of the

community as partners in the development process possessing certain resources and norms that can be utilized for managing mining impacts is an effective means of soliciting community commitment in the carrying out of development projects and managing impacts and hence, achieving the development agenda of the community and Newmont. But this recognition is lacking from Newmont who continually maintain that the residents of Kenyasi are unskilled and uneducated and as a result cannot be engaged in jobs or projects related to the mining activities in the community until they are trained or educated.

On the contrary, the findings demonstrates the willingness of the people in partaking in any development project initiated by Newmont which they are invited to participate since the community have used a system known as 'communal labour' in the development of the community through the norms of trust, social ties, networks and traditional community responsibilities in undertaking development projects in the community in earlier times. In this system, community members are assembled to construct schools, water wells for the community, bridges etc which are used by the community. Such projects are maintained through the same communal labour and practice when the need arise because the community feel ownership of such projects and are willing to maintain them. Hiring people from outside the Kenyasi community as it is done currently by Newmont defeats the major principle of community participation model which recognizes the enormous resources that communities possess in contributing to their development.

Major projects such as the new settlement site school and electric pipe water projects at Kenyasi lacks maintenance because the community feels that it is the property of Newmont because there is no sense of community ownership of these projects. This is probably due to the lack of community participation. On the contrary, households that have managed to dig their own wells continually maintain them at their own cost and do not necessarily care about the water pipes that have been provided by Newmont since they do not have any concern for such projects. It can be argued that sense of ownership can be transferred to the management of community projects only if the people's human resources are tapped for that purpose. In fact, the current situation in Kenyasi as shown by the empirical findings points to the fact that the lack of community participation in the provision of development projects in Kenyasi threatens the very sustainability of these projects. In Malawi, Kleemeier found out that the use of community human resources

from the design to the actual implementation and construction of the project in a rural water pipe scheme in Malawi ensured that the community owned the project and delivered such public good to the people. The project has been sustained up to recent times in Malawi (Kleemeier, 2000: 931). It is this active utilization of community human resources and participation that is visibly lacking in Newmont's operations such as infrastructural development in the community that is meant to enhance the lives of the people.

5.7.3. Community Knowledge of Problems and their Solutions

Community Knowledge has been defined as “the vast and vague information that communities possess which enables them to interpret the everyday world and also identify a menu of possibilities for asserting and responding to our own needs and aspirations and the needs and aspirations of others” (Lopez, 2004: 70). This by implication is that the community residents are the very people who own their problems and it is the same people who have the best solutions to them among the very many possible alternatives for solving the problems. Therefore, development initiative or programmes cannot be developed with them in isolation. This is the situation in Kenyasi because the people demonstrated great deal of knowledge about the problems that they are facing individually and collectively as community members and gave various measures that could be implemented to manage and solve these problems especially those that are the direct and indirect result of the mining activities.

It is evidently clear from the findings about the individual solutions that people in the community have developed as responses to the social and environmental impacts. On the current employment situation and some environmental impacts especially on water, community residents have entered into farming partnerships with landowners whose lands have not been taken as well as engaging in illegal mining as means deal with their unemployment situation. The people of Kenyasi believe that such measures are very significant and in fact, are major alternatives in managing their unemployment situation or problems since their lands have been taken over by Newmont for mining. For water, the fact that many household have constructed dug out wells in their homes as a solution to the impact of mining on water shows that the people owns their problems and solutions. As a result, impact management strategies that Newmont have developed such as the Vulnerable Programme that is meant as dietary supplement to households

in Kenyasi may not be sustainable because it does not address the community's imminent needs and hence, not a solution to their problems.

The people in Kenyasi have lived over the years without enjoying food components of the Vulnerable Programme such as canned fish and beef because they live simple lives and such food components are only luxury and a change of their taste. The empirical findings reveal that the people do not consider that a major priority because the end result has been an over-intensification of their financial woes due to changes in their taste and its consequent desire to buy them to supplement their diets subsequently. The sustainability of the programme which according to Newmont is a major impact management strategy is therefore questionable. The fact is that the programme has neglected Kenyasi residents in the decision making process that resulted in the programme especially what should go into the components of the package. In this programme, the package is distributed by Newmont officials themselves to the households and while this can be done by the people themselves through their own elected representatives who are not necessarily opinion or traditional leaders who are largely seen by the residents as corrupt. These elected representatives from among the community households know much about the community members and those heavily affected by the mining impacts and largely have the trust of the people. This demonstrates the extent to which Newmont do not believe in the capacity of the community residents in handling such an initiative. It represents a general lack of trust in the people of Kenyasi by Newmont Company. The trend accounts for the constant complains in the community about the bias in the distribution of the package and the questioning of the criteria for selection of households for the package. The apparent lack of community involvement in the determination and management of the very problems that affects the people and the identification of the appropriate solutions for the people reveals the relegation of community knowledge in the identification of pertinent problems and the development of solutions for them. It is the basic reason why the programme has failed to serve those who really need and deserve it.

5.7.4. Capacity Development.

Developing the capacities of people is one major and surest way to help people to manage and deal with major development problems and is adequately espoused by the Community Participation Model by Botterill and Fisher. This is because it would better equip people with the skills and abilities to deal with problems on their own without dependence on external help.

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Capacity Development is “the process by which individuals groups, organizations, institutions and societies increase their abilities: to perform functions solve problems and achieve objectives; to understand and deal with their development need in a broader context and in a sustainable manner" (UNDP, 1997 cited in Lusthaus et al, 1999: 3).

The management of mining impacts would be very sustainable and achieves the desired results if the capacities of the people who are impacted are adequately developed to manage the impacts. The people of Kenyasi undoubtedly understand their problems best and know their solutions. However, what is most needed is the necessarily capacity to sustain such solutions developed to manage the impacts. Findings from the study demonstrate that for most social problems, people lack adequate technical and logistical capacities to deal with them even though they have ideas about possible solutions. However, community residents can deal with the major social and environmental problems if they are adequately developed and empowered to do so. This development takes the form of training people with the requisite skills and technical abilities in dealing and managing impacts as well as the provision of logistics and facilities that will sustain that effort. The empirical evidence from the field demonstrates an effort by Newmont in developing the capacities of the people in Kenyasi.

One major programme developed by Newmont as impact management strategy is the Livelihood Enhancement and Community Empowerment Programme (LEEP). This is a capacity development strategy that the company has implemented in managing the social and environmental impacts of their mining activities. It involves training of Kenyasi community residents with employable skills such as in mechanics, catering, soap making, mushroom farming, grass cutter rearing, dyeing, driving, agro-practices, animal husbandry, money management skills, education on critical public issues like health, education and wealth creation as well as the provision of basic logistic and infrastructure that will support such efforts. The strategy ensures that major social and environmental impacts are well managed by community residents by empowering them to better manage and deal with the impacts. This programme by its vision has a great potential of avoiding long-term community dependency on Newmont and create sustainable ventures that would last even after the lifecycle of the mining activities in the community.

On the other hand, Newmont's Agricultural Improvement and Land Access Programme (AILAP) that equips farmers directly affected by Newmont's mining activities by giving them farmlands, training in some technical and agricultural skills and practices in acquiring new lands, improving agricultural output on their new farms, marketing and business skills after harvest of produce and also providing the people with farm inputs and cash that would help sustain their farming activities is an initiative that has developed the capacities of some farmers especially in increasing their crop yield. This is because their knowledge and capacities in engaging in improved farming practices have improved drastically with the skills and training given them. However, although this capacity development programme is laudable, its sustainability particularly the distribution of farmlands, farm inputs and cash cannot be guaranteed because there are complaints that for some time now, it have not been forthcoming and new farmers whose lands are taken are only trained with the farming skills without given new lands, cash and farm inputs. This defeats the basic assumption underlying capacity development which ensures that people take charge of their lives and are able to deal with problem with little or no dependence on external help. However, the inability of most farmers to start up on their own once again questions the extent to which the AILAP programme which aims at capacity development of farmers is actually achieving the desired impacts.

5.7.5. Conclusion: Does Community Participation in Impact Management of Mining in Kenyasi Work?

Community participation in development theories emphasize the importance of participation of communities as a vital tool in ensuring that desired impacts of policies, initiatives and programmes are achieved. Some initiatives introduced by Newmont and as presented above have to a larger extent involved the community and the local residents. It is also important to note that this study questions the extent and level of participation and engagement as well as the form it takes. At various levels, Newmont claims to have adequately involved community members in most of its programmes. In most of the impact management strategies, the company contends through the interview with a Newmont employee and a content analysis of their reports that the community was involved and participated in the design and implementation of them. But to what extent do the local residents participate in the development of strategies for managing the social and environmental impacts of Newmont? I recognized through the study that for Newmont Company, community participation operates at two basic levels. First, the representation of the

community by a selected representative, opinion leader or the community chief is at one level and secondly, the establishment of Information Centres in the Kenyasi community where the residents could lodge their complaints. For the first level, Newmont deals with community representatives on most of the initiatives and programmes that the company intends to roll out in the community. Findings from the study indicate that community leaders are usually made to meet officials Newmont periodically to present their grievances. It is based on such complains and grievances that the community representatives present to Newmont that impact management strategies are developed. However, what goes into the design of the programmes and initiatives in terms of the decision making processes and the determination of course of action is undertaken by Newmont officials and only communicated to the people after the processes have been completed mainly through its information centres, community meetings or radio.

At the second level, Newmont's Information Centres in Kenyasi is used by the mining firm as a means to reach out to the people and act as an effective channel that the company communicate with Kenyasi residents and listen to their view points and complains. Newmont refer to it as an 'open door' policy because any member of the community can assess the facility freely with their grievance. However laudable these levels of community engagement can be, subjecting it to the premise of the Community Participation Model reveals grave inadequacies especially as an effective means of fully involving the community members in the design and implementation of impact management strategies. The two levels of community engagement in the first place fail to recognize the capacities of communities in contributing to development but only treat them as passive recipients of development projects and initiatives rather than as partners in development. Although this fact can be challenged, the empirical findings reveals that most of the complaints and grievances presented through any of these levels of community engagement have not been addressed and dealt with by the mining company. In fact, it has been found out that grievances response system provided by Newmont for the residents of Kenyasi was judged to be ineffective by an independent assessor because of the difficulties in channeling community grievances to the management or having access to management in order to air their concerns (Kotey & Adusei, 2009: 15). It implies a weak link between the company and the community in getting problems resolved especially those that spans from mining related impacts.

The study finds that most of the community residents feel that they are helpless because most of the impact management strategies that have been developed by Newmont do not help to mitigate the social and environmental impacts of mining. The people feel so neglected in the face of the social and environmental impacts to the extent most of them believe there is nothing they can do about their predicaments in terms of demanding help from the mining company or the community chief and leaders. The study reveals that this feeling is general in the Kenyasi community and is largely rooted in cultural and traditional structures in Kenyasi that require community members to report their grievances to their chiefs whom they highly revere and respect. Nonetheless, the findings further suggest that the community has lost faith in their chief in compelling Newmont to develop strategies that target their specific problems that mining has brought upon them. However, there is the general feeling among local residents that they cannot complain because they believe the chiefs themselves have been bribed by the mining company. This is because of the excessive and affluent lifestyle change of the chief and some community leaders since mining started. In fact, while some chiefs in Kenyasi have reaped the direct benefits of mining, “the people they represent live a different reality with negative mining impacts” (Owusu-Koranteng, 2005: 5).

Although community residents acknowledge the use of community meetings in recent times in ‘listening’ to them, the meetings can be best described as mere ‘rubber stamp and cosmetic’ because in most cases, it is only at such meetings that the company gets the opportunity to communicate its programmes to a larger group of community residents. Information is usually given to the people on what the company intends to do and views collated by the company at such meetings are only considered ‘afterthought’. This process though seemingly resembles a community participation avenue; it does not adequately provide the people with a platform to participate in the management of the impacts. In reality, the process is a mere ‘information dissemination’ method instead of being a participatory process. Though one major requirement for effective community participation is information flow and education that will empower the people to effectively participate, it is useless if platforms are not provided where people can actively participate in the development process and people with the right knowledge of the problems are involved in the process.

Without doubt, if the right people with adequate knowledge of the real and pressing problems on the ground are involved in the decision making process that results in the development of impact management strategies, the strategies would be well informed and designed to tackle specific problems of the people. For most of the people in Kenyasi, the feeling is that they should be heard and their grievances acted upon if the development agenda proposed by Newmont and the community members is to be achieved.

The study shows that the nature of most of the impact management strategies that have been developed by Newmont are a direct reaction to anticipated impacts on the people, based on previous experiences elsewhere before mining started and as such are designed on such speculative guesses. What Newmont has failed to recognize is that societies are dynamic and the needs of a society are relative to the other and as a result, each society and its impact should be managed on its own merit. It is therefore wrong to assume that management strategies would work in all settings without considering variation in social realities. As in most development theories, development initiatives have to be localized and that if “progress is to be achieved, development cannot be imposed from outside but be built on small, locally based initiative” (Marsden, 1991:21).

CHAPTER 6: Conclusion

Undoubtedly, mining has become a major source of revenue for most countries especially the developing ones that have been endowed with these minerals. In their very quest to develop and improve the lives of their citizens, these resources and natural capital are exploited to earn the much needed revenue. However, in a countries desperate quest to develop with mining as one area of reaping substantial revenue to support this development agenda, there is a need to address the critical question of ‘sustainable development’. How sustainable is mining to countries and especially to communities that are affected by their operations? Operating with Brundtland’s definition of sustainable development as “development that meets the needs of current generation without compromising the ability of future generations to meet their own needs” (Brundtland, 1987 cited in Skaer, 2002: 2), it is imperative to recognize that development activities or process that create social, economic and environmental problems for people, deprives them of their very livelihood and sustenance and even cripples the future livelihood and prospects of generation yet unborn cannot be considered sustainable. Although “all paths to development have social, environmental and economic implications which must be evaluated and understood by decision makers, and communicated to those potentially affected” (Anderson, 1997: 18), it is important that such decisions about a particular development process must made in such a way that peoples’ lives do not become worsened off. The impacts of mining activities which can be social and environmental as demonstrated in the literature can be and is a major source of devastation for peoples’ lives especially in communities where mining takes place.

In spite of the dangers and impacts that mining can unleash on communities and its residents, it has been given major a boost by most government as a major catalyst to their development agenda. This inherently implies that it is very important to subject mining to a ‘cost and benefit’ analysis. Since arguments have been made for and against mining, there is a good justification for a study like this that serves to reveal the real impacts of mining and then make an independent assessment about the reality of impacts in communities where it is undertaken. This is what I have set myself to find out throughout this study to point out. On the basis of the findings and discussions presented and made in the last two chapters (4 and 5), I draw my conclusions and make some recommendation that would assist any reader in ascertaining the real

costs and benefits of mining and to make informed decisions concerning mining related development agenda.

6.1. Conclusion

The impacts of mining in Kenyasi are dual. The social and environmental impacts are very glaring. However, the social impacts resulting from mining in the Kenyasi community is very widespread and severe in comparison to the environmental impacts although both situations interact and it is very difficult to delink the environmental impacts from the social impacts because of their linkage. One latent social impact apart from the visible social impacts discussed previously has been the tampering of the social organization of the people of Kenyasi and this mainly resulted from the displacement and relocation of the people whose lands were taken for mining by Newmont. The settlements at the new site are designed in such a way that residents would have to stay in the area with completely new people who are largely unrelated by any ties. Major familial ties and networks have been broken as a result and in effect weakened their activist front in demanding for development in the community. People seem powerless because there is a general lack of trust among the people because the displacements and relocation have related any form of affinity that existed among the people prior to mining in the community by Newmont. Such break in ties and networks in essence have relegated a major aspect of community life in co-dependence and interdependence to the background. People in need are therefore unable to get help from friends and other relatives as it used to be when they lived together before mining started.

Increased frustration among the people especially the youth is another outcome of Newmont's mining activities in Kenyasi. Basically this resulted from the disappointment of Newmont to provide the people with employment and jobs and overall development of the community on the reason that they are unskilled and uneducated to work in mining set up like Newmont. This has indeed increased unemployment situation in the community since those whose farms were taken by Newmont had the hope that they would get jobs in return and continue to have a source of livelihood. There is a sense of deception lingering in the minds of Kenyasi residents due to this disappointment. I have realized from the findings that this frustration and sense of deception dominant in Kenyasi has created some form of tension and hatred for Newmont employees and as a result community members would attempt to attack Newmont and its employees or officials

at the least provocation. There is simmering tension in the community because most of the residents are aggrieved. I therefore find a misfit in what communities are promised before mining takes place and whether such promises are fulfilled in reality.

The empirical findings points to the fact that an increasing trend that has emerged and developed in Kenyasi in response to their lack of jobs and employment is the large scale involvement of the youth in illegal mining in Kenyasi. Illegal mining employs about 70% of the youth and people in Kenyasi now even though other people continue to farm. Migrants into Kenyasi particularly people from Northern Ghana are mostly engaged in the illegal mining business with local and indigenous Kenyasi residents providing subsidiary services and petty businesses such as selling sachet water in support of the people in the illegal mining sites. In fact, any attempt by the local authorities, government or government to quell this practice would have disastrous consequences in the community in terms of peace and stability in the community since most of the people in the community working in the illegal mining fields have vowed to resist fiercely any attempt by authorities to curtail their source of livelihood now which is illegal mining or 'galamsay'. The illegal mining is now the livewire of most people in Kenyasi even though some of the residents continue to engage in agriculture or engage in both illegal and farming.

Furthermore, it should be stated categorically that although Newmont have made some giant strides and move to managing the impacts of the activities on the people in the community, most of their impact management strategies can best be described as ad-hoc in nature and highly unsustainable. This is because findings provided by the study indicate that most of the community residents whom these impact management strategies and measures are developed to serve them are not benefiting from them. Hence, these strategies are not achieving the right purposes and have resulted in the development of some form of apathy among the residents in participating in any project that serve to manage the impacts of mining on them. This is particularly the result of the fact that most of these impact management strategies do not address the specific needs of the people in the community and are largely based on assumptions and early experiences of the mining company elsewhere in their operations.

Again, the findings have demonstrated that although some form of attempts have been made by Newmont in ensuring community involvement and participation in the activities of company especially in enhancing community and company interaction, the methods used for the

community engagement and participation is not adequate enough to achieve overall community participation and involvement in their activities to ensure sustainability of these activities. For instance, the use of period community meetings with the Kenyasi residents in large auditoriums and meeting ground is not good enough to achieve maximum participation because most people who attend these meetings do not have the opportunity to communicate their grievances. The company rather prefers that the community residents direct their problems and grievances through the community leaders especially their chiefs and opinion leaders. However, the study reveals that most community residents have lost confidence in these leaders and opinion leaders because the residents accuse them of not presenting and representing their interest to the company. Because of existence of traditional norms of respect, residents also feel intimidated to openly express their problems and grievances for fear of being victimized by the community leaders. Hence, this approach to involving the community in the company's development processes is not effective. Also, the use of information centres although laudable has failed to achieve the desired results since most complaints lodged by the residents are not communicated to the management of the mining firm for action to be taken probably because they are considered as trivial, unimportant or obstacles to what the company has planned to do.

Although health implications of mining activities can be severe and great in most communities affected by mining, the current situation in Kenyasi demonstrates that Newmont's activities have not had much health consequence on the Kenyasi residents even though some people believe that some sicknesses being experienced in the community could be traced to the mining. This is particularly because Newmont's as a company started mining operation in Kenyasi not long ago (specifically in July, 2006) and as a result health impacts have not become manifest even though it may be latent. There is however the expectation emanating from the study that within the next few years, major diseases that are usually suffered especially respiratory as well as skin diseases due to mining impacts would be manifest on a large scale in the community.

In fact, sustainability of impact management strategies and measures is threatened due to the apparent lack of cooperation and partnership between Newmont Company and the community residents at the grass root level. Failure on the part of Newmont to recognize the massive human resources and capacities existent in the community and utilizing it to achieve overall community ownership of their development strategies has accounted for the failure of most of the strategies

implemented by the mining company and the lack of community ownership of them. Hence, most of the strategies are seen by the community as activities or projects independent of them and explains the apathy in the community which prevents most of the people in the community from actively getting involved in activities or development initiatives introduced by the community.

Finally, it is revealed through the study that even though large parcels of land and other environmental or natural resources have been affected with the onset of mining by Newmont, Newmont's mining operations ensures the long term environmental sustainability since their concessionary sites are highly controlled and managed with a view to reclaiming natural resources after the end of mining in Kenyasi. Waste disposal from the mines are controlled and managed by highly restricted dams created by the mining company, excavated lands and the sand from the mining areas are protected and managed to prevent spreading to other lands that have not been earmarked for mining. However, environmental sustainability is a problem in areas that have been taken over by the youth of Kenyasi who engage in illegal and indiscriminate mining of gold and hence destroying most of the environmental and natural resources along the way without any plans for future reclamation and replenishment. Although the practice have become a major source of livelihood for the people in Kenyasi especially the youth, its nature poses a great threat and danger for environmental sustainability and by extension, the very livelihood of the people themselves in the future when mining ends in the community.

6.2. Recommendations

Although the study was faced major challenges in terms of time and resources, it should be stated that the overall findings and analysis given in this studying justify and represent the true situation as it persist in the mining community of Kenyasi. The findings are therefore valid in the context for which the study was conducted although in terms of generalizability to all other mining communities and context is doubtful considering the qualitative nature of this study which only favours generalization in the context of the study. On the basis of the findings, I provide the following recommendations which I believe will be useful for Newmont, the local and national authorities in Kenyasi and Ghana in general in managing the impacts of mining on the community as well as other mining communities in Ghana. The recommendations I believe

can also stimulate future research and investigations into mining in other areas of Ghana or Kenyasi.

In terms of promises development and other social benefits made to the people that invariably served as a social license for Newmont to operate in the community, it is demonstrated by the findings that to a larger extent, this has not been met by the mining company. It is therefore recommended that the company take steps in fulfilling its promise of infrastructural development and investment particularly water, electricity, hospital and other social amenities at little or no cost to the community residents. In addition, the few existing ones can be expanded to provide and cater for the needs of the teeming number of community residents especially when migrants settlers into the Kenyasi community has increased tremendously with the start of mining in the community, thereby putting more pressure on the existing facilities and infrastructure resulting in its destruction and demise. Adding more facilities and expanding the existing one would in the long ease the pressure on the few ones and prolong its lifespan in the long ran.

In line with unfulfilled promises to the people, it is recommended that great attention be paid to the massive unemployment situation caused largely as a result of the displacement of the people from the farms which basically served as the major source of employment and livelihood for the people because they are predominantly farmers. The disappointment that has greeted the Kenyasi residents particularly the youth due to the failure of Newmont to employ the majority of the residents in the mines directly or its ancillary jobs is a source of great worry and it is gradually turning the people in the community destitute and hopeless. Such a situation poses a great risk to the operations of the mining company itself since the trend if not halted could cause resentment and feud between the mining company and the community. The apparent simmering tensions as indicated in the findings of this study is a warning signal and Newmont should make it a serious point in employing the local residents as stipulated by their policy statements of giving priority to locals in times of employment. It should be stated that the blank excuse given by Newmont that the people are illiterates and uneducated to work in the mines is dangerous and as such it is recommended that Newmont takes steps to provide the people with some training and programmes to make them capable of working in the mines or its subsidiaries. Although some training programmes have already been initiated and ran by Newmont, it has not been adequate in training most of the people in the community and equipping them to work in the mines or

other related services. This is largely because of the corruption that initially greeted the programme which resulted in apathy on the part of the people in participating in them. Newmont should take steps in winning the commitment of the local people in support of such programmes and training to improve them and thereby, get employment in the mining business. It is not enough to make only announcements for people to join such training without taking measures to sustain their interest for participation in them.

Regarding illegal mining or 'galamsay' which is illegal in Ghana by the country's mining laws, the current measures adopted by Newmont and the local authorities by using national security operatives and soldiers to swoop and brutalize the youth at the mining site is very dangerous especially for the stability and peace of the community. It should be realized that the lack of employment caused largely as a result of the displacement of people from their farmlands and the subsequent failure to get jobs at the mines have invariably given rise to practice of illegal mining in the community in the desperate quest of the people to survive and make a living. Since it is said that 'a hungry man is an angry man', the people would largely resist any attempt again to deprive them of their livelihood especially when they are jobless and their livelihood have been lost. It is recommendable that instead of haunting the people from the illegal mine sites, the local authorities can regularize their activities by putting in place measures to monitor and streamline their activities to conform to standards. To maximize benefits, the people can be made to pay taxes monthly to the government whiles they are made to operate in line with various environmental and mining standards. In this way, the people's livelihood would in one way or the other be restored whiles the state also reaps benefits from their activities in a more regularized manner. This would ensure a peaceful co-existence between Newmont and the community in particular.

It has been demonstrated in the study that although some form of community engagements is undertaken by Newmont in its activities especially by engaging community representatives in their activities and programmes that are carried out by the mining firm, the mere engagement of community representatives have not been adequate in ensuring the success of most of the impact management strategies adopted and rolled out by Newmont largely because the community feel the representatives have been corrupted by the mining company. Also, the platforms provided by Newmont for community residents to express their grievances especially the information centres

and periodic meetings in the community at large auditoriums have not achieved the necessary impact since the residents see such platforms as an information dissemination avenues for Newmont rather than community engagement platforms. The company should do more to ensure community participation and engagement by providing the platform where the community residents can interact with Newmont management on personal basis as well as communicate and participate directly in programmes and strategies undertaken by Newmont. This should be followed by a commitment to address the specific needs and contributions from the people rather than implementing strategies that have been developed by the company largely from previous experiences elsewhere. A greater sense of partnership should therefore be fostered between the community residents and the Newmont to achieve community commitment of their development programmes. Rather than seeing them as recipients of development assistance, the community should be seen as a more active participant of the development process itself. In that way, the people would be empowered to work out their own development initiatives and also be committed in making those initiatives succeed. Newmont should therefore value the enormous potentials and capacities of the community in helping achieve development and this should be fostered vigorously.

Finally, it is recommended that Newmont becomes more accountable to the people by making known to the community various development initiatives and programmes that are rolled out by the company. As it stands currently, most of the residents are not aware of programmes and initiatives that is undertaken by the company to which the residents can benefit. It is not in anybody's interest to keep such programmes in the dark from community access. The company should take a conscious effort to market their developmental programmes, initiatives and investments in the community. The use of media like brochures and leaflets is not adequate since the illiteracy rate is very high. However, the use of radio programmes, information vans to announce such programmes in the community, community durbars are the very few useful means that can be employed by the company to market their programmes and to educate and inform the community about them. In this way, the company would achieve acceptance by the people since most of them would appreciate the efforts the company is making to improve their lives and increase community awareness. This at the end would improve the company's corporate image and reduce any negative perception dominant in the community about the company. If this is done effectively, Newmont would be better placed as a mining company that do not renege on its

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corporate social responsibilities in communities of its operation and better be placed to contribute to sustainable development of its mining communities.

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Appendices

Appendix 1

1.1. INTERVIEW GUIDE FOR KENYASI COMMUNITY

1. Years of domicile in the community by the respondent.
2. Occupation of respondent.
3. Main source of livelihood for the people of Kenyasi.
4. An overview of the community's state of natural resources over the past ten years.
5. The current state of natural and environmental resources of Kenyasi. Eg forests, trees, water bodies, landscape etc.
6. What has significantly changed within the community since Newmont started operating in the community? Find out the extent of changes and compare with what existed for the past 10 years.
7. Do the activities of Newmont affect the respondent directly or indirectly?
8. In what ways does it affect the respondent?
9. How has the social life of Kenyasi been affected by mining operations at Kenyasi eg, daily activities and cultural life?
10. Changes in settlement patterns.
11. Migration pattern and in flux of strangers and visitors to the community.
12. Have the population increased or decreased significantly in the community. How? Is it through migration or birth rate? If death rate has increased, what mostly accounts for the death of the people in the community?
13. Look at issues of crime rate. Has it increased, decreased or at the same rate? What is the nature of people involved e.g. Youth, the aged, men, women etc. what is the common type of crime committed? Does it differ from what was already committed at earlier times?
14. Poverty levels and livelihood improvements with the start of mining operations in the community. Are there changes? What major factor do you think has contributed to the increase or decrease of poverty levels and livelihood?
15. Employment levels. Has the coming of mining operation increased or decreased employment especially from what people used to do? What is the type common type of employment in the community currently?

16. Income levels for the people in the community. What is there to show that people's income levels have increased or decreased?
17. Social Infrastructure. Has mining operations resulted in the provision of various types of infrastructure? E.g. clinics, schools etc.
18. Find out about the impacts of mining activities to social vices like prostitution and teenage pregnancy and find out the major cause and reason for the increase or decrease.
19. Major environmental impacts on water bodies, air, land, noise etc.
20. Major health problems and conditions. Look at the types and nature of health problems and diseases prevalent before and now with the start of mining. (Common ones).
21. Any measures and facility provided in the community for dealing with any health problem?
22. Is there any compensation for those affected by the mining operations either directly or indirectly? In what ways are the people compensated? (Social compensation and environmental compensation).
23. What are the compensation packages? Are there any criteria that one should meet to qualify for a compensation package?
24. Does the compensation given equals the value of the impact that the people suffer with the operation of the mining company?
25. What coping mechanisms and measures have been developed alternatively as a result of the negative environmental and social impacts of the mining activities? How are the individuals or community trying to adjust, mitigate or deal with the impacts?
26. Is the mining company aware of the extent impacts of their activities on the community? How are they helping the community to adjust, mitigate or deal with the impacts? If no, what is the community's next line of action against the company?
27. Is the government or other NGOs helping to deal, adjust and mitigate the negative impacts of the mining operations and to prevent further impacts?
28. Any major positive impact that the company has brought to the community since mining started? Give some of them!
29. How is the community involved in determining what are needed in the community and are they provided by the mining firm or are development projects imposed on the community by the firm without any community involvement?

30. Are some profits accrued to the company given to the community leaders to undertake developmental projects for the community? Are there royalties paid by the company to the community. What form does it take? Or profits or royalties solely for the company and government.

Appendix 2

1.2. INTERVIEW GUIDE FOR FOCUS GROUP DISCUSSION

1. Can you tell me about the Kenyasi community before mining started (occupation, lifestyle of the people, the landscape and natural resources, main sources of livelihood etc).
2. What have been the major changes in the community with the coming of Newmont and mining operations?
3. What is your view on mining in this community (Kenyasi). Is it beneficial or not? Reason for the response?
4. What have been the greatest benefits and disadvantages of mining in the community?
5. Have the people of Kenyasi's lives changed for the better or worse with start of mining operations by Newmont in the community?
6. What has been the greatest needs of the community and has Newmont made any move to provide or providing such needs with start of their operation?
7. Is the community involved in the determination and provision of development projects in the community or is it just carried out by the company?
8. Was the community promised any development projects by the company and the other authorities before mining agreement was made for the community?
9. Have such promises if any been fulfilled or provided in the community?
10. Has there been any new health problem or condition in the community since mining started in the community?
11. How is the community dealing with such health conditions and problems (are there facilities)?
12. Do you think the health problems and conditions are related in one way or the other to the mining activities?
13. What are the community's main sources of livelihood?
14. Has that source of livelihood destroyed with the onset of mining?
15. Have the community's main sources of livelihood changed and if so, what is new source of livelihood for the people?
16. How is the community coping, or adjusting to the changes in their sources of livelihood?

17. Do you think the Newmont operation is destroying the environment and natural resources in the community? (Pollution of land, water bodies, forest cover and reserves). If so how?
Any chemicals released into the environment?
18. Are any mechanisms being put in place to restore the destroyed natural resources and environment in the community by the community itself or Newmont?
19. What have been the greatest environmental challenge, problem and damage in the community since mining started?
20. Is any form of compensation for such environmental destruction by the company to the community?

Appendix 3

1.3. OBSERVATION SCHEDULE

1. Waste management from the mining operations in the community.
2. Environmental damage and changes from the activities of the mining operation (land, pollution of air, water bodies, forest resources etc).
3. Social Life of the people in the community.
4. Development projects and initiatives and infrastructure undertaken and provided by the mining company for the community.
5. Health conditions of the people in the community and identify its linkage to the mining operations in the community.
6. Environmental management practices undertaken in the community and Newmont.

Appendix 4

1.4. INTERVIEW GUIDE FOR NEWMONT MINING COMPANY

1. Have the people of Kenyasi's lives changed for the better or worse with start of mining operations by Newmont in the community?
2. What has been the greatest needs of the community and has Newmont made any move to provide or providing such needs with start of their operation?
3. Is the community involved in the determination and provision of development projects in the community or is it just carried out by the company?
4. Was the community promised any development projects by the company and the other authorities before mining agreement was made for the community?
5. Do you think the Newmont operation is destroying the environment and natural resources in the community? (Pollution of land, water bodies, forest cover and reserves). If so how? Any chemicals released into the environment?
6. Are any mechanisms being put in place to restore the destroyed natural resources and environment in the community by the community itself or Newmont?
7. What have been the greatest environmental challenge, problem and damage in the community since mining started?
8. Is any form of compensation for such environmental destruction by the company to the community? How is the compensation package determined?