

UNIVERSITY OF CAPE COAST

SURFACE MINING AND COMMUNITY LIVELIHOOD: THE CASE OF
TEBEREBIE ELECTORAL AREA OF WASSA WEST DISTRICT OF GHANA

BY

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DECLARATION

Candidate's declaration

I hereby declare that this dissertation is the result of my own original work and that no part of it has been presented for another degree in this University or elsewhere.

Signature.....Date.....

Hannah Owusu-Koranteng

Supervisor's declaration

I hereby declare that the preparation and presentation of the dissertation were supervised in accordance with the guidelines on supervision of dissertation laid down by the University of Cape Coast

SignatureDate.....

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ABSTRACT

Mining is assuming importance in the economies of mineral-endowed developing nations. These countries have developed new minerals and mining codes to attract Foreign Direct Investment on a massive scale. The benefits and costs of mining have become a contentious issue.

The study assessed the implication of mining on the livelihood of the communities affected by mining within the Teberebie Electoral Area of Wassa West District of Ghana based on the concept of sustainable development.

The study has revealed that surface mining activities have taken away family and stool lands to the detriment of other land users such as farmers. The destruction of agricultural lands, standing forest and rivers has created livelihood problems for community people especially women. Mining has destroyed rural economies and disrupted the social structure of communities. Government has disregarded the fact that farmers have invested in cash crops for sustained incomes. Lands allocated to mining companies without the consent of the farmers and other land users, have generated conflicts. Alternative livelihood programmes by mining companies did not generated adequate income for affected people.

Mining communities believe mining is not bringing development and government should place a moratorium on surface mining to assess the real cost of mining to the country before lands are given out for new surface mining. They further recommend that government should develop a mining policy that increases revenue for Ghana, protects the rights of communities and minimise environmental degradation.

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DEDICATION

To my husband Kwadwo and my children – Akua and Kwadwo Owusu-Koranteng who extended the home to me on campus.

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LIST OF ABBREVIATIONS

ABA	-	Amalgamated Banket Areas Limited
DA	-	District Assembly
DFID	-	Department For International Development
EITI	-	Extractive Industries Transparency Initiative
EPA	-	Environmental Protection Agency
ERP	-	Economic Recovery Programme
FAO	-	Food and Agriculture Organisation
FDI	-	Foreign Direct Investment
FIAN	-	Foodfirst Information Action Network
FGD	-	Focused Group Discussions
FOE	-	Friends of the Earth
GAGL	-	Ghanaian Australian Goldfields Limited
GDP	-	Gross Domestic Product
GGL	-	Goldfields Ghana Limited
GNLP	-	Ghana National Land Policy
HDI	-	Human Development Index
HIPC	-	Highly Indebted Poor Country
ICCPR	-	The International Covenant of Civil and political Rights
ICESCR	-	International Covenant of Economic, Social and Cultural Rights
IFC	-	International Finance Corporation
IFI	-	International Financial Institutions
ILO	-	International Labour Organisation

IMF	-	International Monetary Funds
IUCN	-	International Union for Conservation of Nature
IUCNNR	-	International Union for Conservation of Nature and Natural Resources
JSS	-	Junior Secondary School
MLF	-	Ministry of Lands and Forestry
MMSD	-	Minerals, Mining and Sustainable Development
NGOs	-	Non-Governmental Organisations
OED	-	Operation Evaluation Department
PNDC	-	Provisional National Defence Council
SAP	-	Structural Adjustment Programme
SL	-	Sustainable Livelihood
SSS	-	Senior Secondary School
TGL	-	Teberebie Goldfields Limited
UCC	-	University of Cape Coast
UDHR	-	Universal Declaration of Human Rights,
UNDP	-	United Nations Development Programme
UNEP	-	United Nations Environment Project
UNCTAD	-	United Nations Conference on Trade and Development
WACAM	-	Wassa Association of Communities Affected by Mining
WCED	-	World Commission of Environment and Development
WWDA	-	Wassa West District Assembly
WWF	-	World Wildlife Funds

CHAPTER ONE

INTRODUCTION

Background to the study

Mineral-endowed developing countries have increased their dependence on the extractive sector with the belief that it will help them to achieve their development objectives (Ross, 2001). In many countries with mineral resources, there is a link between efforts towards poverty reduction and the performance of the framework for the mining sector. The mining sector framework relies on commercial-scale mining as a source of foreign exchange and fiscal receipts for governments. There is the belief in developing countries that the commercial mining sector provides jobs to local people. However, small-scale mining operations in developing countries such as Ghana, Bolivia, Tanzania and Burkina Faso provide employment for about 13,000,000 workers (IFC, 2003).

Mineral extraction is important in the economy of Ghana. Ghana is the second largest gold producer in Africa after South Africa, the third largest African producer of aluminium metal and manganese ore and a significant producer of bauxite and diamond. Again, Ghana produces a number of industrial minerals, which include kaolin and limestone (Barning, 1997; Sweeting and Clack, 2000).

Ghana has a long history of gold mining using indigenous methods (Hilson, 2001). Although indigenous methods of gold mining were highly

effective with a long history of evolution and suitable techniques, the Europeans, who came to the Gold Coast during the colonial years, thought the methods were inferior. The colonial masters in the 19th century outlawed the traditional methods used by the indigenes for gold extraction and that paved the way for modern methods after they took over the Ashanti Kingdom (Ayensu, 1997).

The development of modern modes of extracting minerals made gold mining an exclusively foreign-run enterprise. Even though certain ethnic authorities profited from the granting of mining concessions, it was the European mining companies and the Colonial Government that accumulated much of the wealth. The Colonialists during the 19th and 20th centuries took over many small mining companies that operated in the Tarkwa area then known as the Abontiakoon Concession in 1935 and handed it over to the Amalgamated Banket Areas Limited (ABA). ABA also controlled the old Tarkwa Mine, properties of Mantraim; Pepe; Akontansi; Kottraverchy; Patet-Sommahoo; Teberebie and Awunaben-Ahoonabe areas (Goldfields Ghana Limited, 2003).

The dependency of developing countries on mineral extraction led to the extractive sector contributing to 50% of exports of Africa and attracting 65% of all Foreign Direct Investments (FDI in the region (IFC 1999). International Financial Institutions (IFI) and developed countries hold the view that the extractive sector could be a development model if developing countries changed their traditional land tenure systems for companies to have access to mineral- rich lands and therefore see the inherited traditional land tenure systems as obstacles to progress (Mining, Minerals and Sustainable Development, 2002).

Ghana institutionalised the model of development based on mineral extraction when the government of the Provisional National Defence Council (PNDC) launched a neo-liberal Economic Recovery Programme (ERP) in 1983, which led to massive FDI inflows into the extractive sector. The country's efforts to attract foreign investment have brought in a range of companies from Australia; Canada; South Africa; the United Kingdom and the United States, which hold controlling interests in most of the mining companies in Ghana. The passage of the Minerals and Mining Law, PNDC Law 153 of 1986 attracted FDIs into the country.

Even though Ghana's economy is largely agrarian with agriculture providing employment to about 60% of the population and contributes about 36% of GDP, the mining sector is the largest foreign exchange earner. The mining sector contributes 40% of total annual foreign exchange earnings (Mate, 2002). The mining sector provides employment to 1% of the country's labour force (TUC Ghana, 2007). Mining accounts for 11% of the total revenue receipts of the Internal Revenue Service of Ghana. Additional mining benefits to the country include mineral royalty payments and State equity participation, of 10% free, carried equity interest.

Investors benefit greatly from mining due to the generous incentives provided in the PNDCL 153 and Act 703 (Republic of Ghana, 1986; and Republic of Ghana, 2006). The generous incentives include:

- Capital allowance of 75% in the year of investment and thereafter 50% on a declining balance basis;
- Losses not exceeding the capital allowance may be carried forward;
- Exemption from import duties on plant, machinery and equipment imported exclusively and specifically for mining;
- Possibility of deferment of payments for stamp, registration duties as well as payment of royalties;
- Investment allowance of 5.0% in the year of investment; and
- Mining companies may retain up to 90% and a minimum of 55% foreign earnings in external accounts to meet qualifying foreign payments.

Mining companies continue to demand further reforms in the Mining Law because they consider the incentives provided in the Law as inadequate, especially with the decrease in exploration risk capital and this led to a decrease in the reconnaissance and prospecting licences issued by the Minerals Commission of Ghana dropping from 62 in 1997 to four in 2000. This prompted the Ghana Chamber of Mines to press for further review of the 1986 Mining Law to increase incentives to foreign investors (Aryee, 2001).

Mining communities do not experience the benefits associated with the reforms in the extractive sector. The incentives for mining investment under the SAP/ERP intensified the competition between agriculture and surface mining for land, as multinational companies acquired large tracts of land for mining operations (Asad, 2003; Akabzaa, 2000, and Project Underground, 2000). The

Structural Adjustment Programme (SAP) of the World Bank/IMF from 1986, promoted the massive privatisation of the mining sector, accompanied by generous incentives and greater profits, but environmental regulations have been minimised. With the provision of such incentives to the extractive sector, the quantum of foreign exchange earnings held in offshore accounts by the foreign mining companies in Ghana averaged 71.5% thus diffusing the net benefits from mining to the national economy in real terms (Mining Watch Canada, 2001). The government of Ghana put the contribution of gold mining to GDP around 2.0 %.

The panacea for development problems prescribed by the World Bank/IMF for many developing countries during the past two decades depends on the extractive sectors of the economy, especially mining (Sullivan and Frankental, 2001). Ghana Government in its bid to reduce poverty embraced the ERP/SAP. By 1983, only five mining companies operated in Ghana but this increased to 13 in the 1990s and the Government granted more than 200 mining leases resulting in mining companies holding 30% of the country's land surface area in mining concessions (Vital Statistics, 1998). By 2006, the Government of Ghana had granted 166 new mining leases to companies to operate surface mining in Ghana (TUC of Ghana, 2007).

Atkinson (1998) postulates that many communities see land as their legacy from the past, their provider in the present and their security for the future. The indigenous people traditionally own forestlands, and communities have strong ties to their lands (UNEP, 2002). The Massai of East Africa see livelihood in terms of access to and free movement on the land, the use of such land for grazing, pasture

and to their sources of water points (Shivji and Kapinga, 1998). Community people survive on land and natural resources hence increasing surface mining activities threaten community livelihood (Awusabo-Asare et. al, 2000).

The Western Region of Ghana contains 44% of the country's closed forest and accounts for 30% of the country's gold production. The Region also produces about 57% of the country's cocoa and 100% of manganese and bauxite (Republic of Ghana, 2006). The Wassa West District is among the 13 districts in the Western Region and has a total land area of 2354 Km², with two forest reserves. By the end of 1998, eight surface mining companies operated in the district (Akabzaa, 2000). The district presents a typical case of an area endowed with natural resources as well as diminishing livelihood that increases with the exploitation of the resources.

Statement of the problem

The five-year development plan of the Wassa West District (1996 – 2000) cites the major problems of the District as low levels of incomes; land degradation; air and water pollution and low-living standards. Community people derive incomes from land-based activities and mining companies have not developed alternative means of livelihood for the affected community people after the takeover of community lands. Ghanaian Australian Goldfields Limited (GAGL) has a total concession of about 6,000 hectares; 30% of the lease is the active mining area, while the remaining 4,200 hectares also contains forest reserves (Ghanaian Australian Goldfields Limited, 2003a).

Land takeovers restrain community people from having access to forest products like fuel wood, snails, palm fruits and spices that serve as income sources for women. The forest also provides game for family use and incomes. In addition, the men in the communities derive incomes from tapping raffia palm for local wine production. GAGL lists priority problems cited by the various communities within their concession area to include insufficient job avenues and lack of employable skills. According to GAGL, unemployment levels of youth in the Teberebie area in the age group of 15 years to 24 years is 70-90% compared to the national unemployment average of 30% of the population (Ghanaian Australian Goldfields Limited, 2003b).

Surface mining companies use cyanide in heap-leach for mineral extraction, which has adverse environmental, social and economic effects on communities. In June 1996, a spill at Teberebie Goldfields sent 36 million litres of cyanide solution into the Angonaben stream, a tributary of the Bonsa River. The spillage destroyed farms and the local people complained of skin rashes (MiningWatch, 2000). Between 1989 and 2002, Ghana recorded eight accidental cyanide spillages by mining companies; four of these occurred in Wassa West District, which affected major water bodies (Cyanide Investigative Committee, 2002).

The study of surface mining and community livelihood in the Teberebie Electoral Area of Wassa West District investigated mining and land use and how the takeover of forest and agricultural lands affected employment and income generation opportunities of the local people. It also looked at the social, cultural

and spiritual implications of the loss of economic activities to the people in the Teberebie Electoral Area of the Wassa West District.

Objectives of the study

The general objective of the Study is to assess the implication of mining on the livelihood of affected communities within the Teberebie Electoral Area of Wassa West District of Ghana.

The specific objectives are to:

- Assess the effects of mining activities on the environment with regards to the pollution of water and the destruction of biodiversity;
- Assess how surface mining has enhanced or reduced sustainable livelihood opportunities of rural communities within the Teberebie Electoral Area;
- Examine the effects of mining operations on women in the Teberebie Electoral Area; and
- Assess communities' perception of restoring community livelihood in the area, particularly after mine closure.

Research questions

- How have mining operations displaced communities and what has been the effect on communities' sources of livelihood and land?
- To what extent has multinational mining investment affected the cultural sites, shrines, groves and cemeteries of local communities?

- What have been the effects of multinational mining operations on women in mining communities?
- What has been the environmental impact of surface mining on communities in terms of loss of forest, access to water and fresh air?

Organisation of the study

The study is organised into six chapters. Chapter one is introduction which covers the background to the study, problem statement, objectives of the study, research questions and organisation of the study. Chapter two focuses on literature review. Issues reviewed include concept of development; extractive sector and community development; community right to livelihood and surface mining; gold mining in Ghana and mining and gender. Chapter three provides the methodology of the study. It deals with study area; economic activities of Wasswa West District; data source; sampling technique; data collection and analysis and justification for the study. Chapter four discusses the socio-demographic characteristics; surface mining and displacement; surface mining and local economy; community dependence on forest as source of income / livelihood and effects of mining activities on women. Chapter five deals with issues including violation of communities' human rights; effects of conflicts from surface mining on affected communities and mine closure and community livelihood. Chapter six provides summary, conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

Introduction

Mining is an important activity in Ghana and has the potential to accelerate the development of the country. The literature review examines how mineral extraction influences development perceptions of nations and how that helps to achieve developmental goals. The review assesses development not only at the national and international levels but also at also how investment in the extractive sector benefits the host communities. The literature review assesses how gold mining had affected the rights of local communities to livelihood, clean environment, and how mining influences the different social groups, especially women. The literature review further discusses conflicts in mining communities as well as the competing interest groups and how the interest groups affect the social, cultural, economic, and environmental balance in host communities in Ghana, and other parts of the world.

Concept of development

The concept of development has been a subject of controversy when viewed by different interest groups. Rural communities' perception of development is different from the development goals of a country and that of

different societies in the world. The difficulty has been how these different groups could have a common understanding of what constitutes development. This controversy notwithstanding, development economists consider development not only in terms of improvements in the material standard of living but also in the widening of opportunities and expansion of capabilities. According to Sen (1999), economic development may come about when policies relax people and relieve them of the constraints on their material standards of living. Sen again thinks of economic development when there are possibilities for alternatives, which will enhance peoples' choices and expand their capabilities.

Economic development achieved through economic growth indicators does not necessarily lead to human and community development because economic development operates within an environment (Fields, 1997) and revolves around value judgement. Prior to the First World War, through to the 1960s, the global development paradigm in operation led to unfettered production and limitless consumption. This concept of development evolved during the 1920s into the capitalist goal of "sales and profit" rather than promoting the utility of goods produced. This concept of production and development overlooked environmental, social and cultural considerations and human rights. Economic growth advanced from the 1960s and in the 1970s metamorphosed into equitable growth. In the 1980s, the worldview of economic development expanded to sustainable development (Gottlieb, 2001).

Development is desirable changes in the vector of attributes of socio-economic and political systems. Ajakaiye (2001) following from Pearce et.al.

(1990) consider the attributes of development to include increases in real income; per capita; improvements in health and nutritional status; access to resources; educational achievement; a fairer distribution of income and increase in basic freedoms. Ajakaiye describes environmentally sustainable development planning as the use of economic policy instruments to make economic, social and ecological goals more consistent and mutually reinforcing to achieve growth. Other considerations include equity in income distribution and better quality of life. Such characteristics of development do not look at development for the present generation alone but also at equity among generations and the stability of biological and physical systems simultaneously (Ajakaiye, 2001).

United Nations' Brundtland Report (World Commission of Environment and Development, 1987) defines sustainable development in terms of the present generation being able to meet their needs without compromising the ability of future generations to meet their own needs. Equity, futurity and environment are the tenets for the principle of sustainable development. To augment this principle, the President of the Republic of Ghana (Kufuor, 2001) summed up his vision on development and the environment as follows: "Our forest, our trees, our rivers and lakes are not commodities we can abuse; we do not own the land, we hold it in trust for generations unborn. We inherited at our birth a beautiful land blessed with thick forests, precious minerals and varied animals. We have a right to make use of these and other natural gifts to enhance the quality of our lives. However, we do not have the right to degrade the environment; we do not have the right to turn our forestlands into desert just because we want to sell more timber; nor do

we have the right to denude our lands; seas and rivers of the animals and fishes indiscriminately. Let us learn to take care of our environment. We cannot claim to love our land when in pursuit of extracting precious minerals, we leave the land polluted and poisoned. We cannot litter, we cannot leave our surroundings dirty and call ourselves patriots.”

Tamasane (2003) sees the concept of development as holistic and essentially governance-related in a Sustainable Livelihood (SL) approach. The SL approach puts the poor at the centre of development recognising that policies and institutions condition the environment in which people work. The concept of SL emphasises on the importance of linking local realities to central policies and institutions in development interventions. The interventions include organisations, which influence peoples’ lives; the services they receive; the policy environment, the incentives available whether overt or covert as unwritten power relations and the rules, which govern the lives of the poor.

Western economists such as Schumacher (1993) admit that, past growth in developing countries has been associated with severe degradation of natural resources. Africa, with nearly 23% of land area; 13% of the world’s population; 15% of forests and about 5.0% of forest plantations of the world has most of its forest cover dwindling due to poor investment practices (FAO, 2000). With a total forest cover of 8.2 million hectares in 1900, Ghana currently has only 1.6 million hectares of forest cover, which represents only 7.0% of the land surface area. The Western Region of Ghana, which is now the destination for mineral exploitation has the best natural resource (Kasanga, 2002).

Extractive sector and community development

Dependence on the extractive sector as a means of development without putting in place the needed linkages for value addition only depletes the world of its natural capital. Daley (1996) equates modern concept of development models to the destruction of the natural economy and domination of nature by human beings, which leads to environmental destruction. Schumacher (1973) describes economic development that targets the extraction of natural resource as diminution of capital to cater for incomes of nations, which erode the natural capital base of the world and brings no development. He continues to argue that, scientific or technological solutions that poison the environment or degrade the social structure and human beings have no benefit, no matter how brilliantly conceived, or its superficial attraction.

According to Ajakaiye (2001), every development effort, especially in a developing country, should recognise the influence of the environment on the quality of life of the people. Investment in the extractive sector and the over dependence on Western-style of development models has not helped in developing local communities. Western countries try to apply their own conceptions of “development” to the developing countries, working through local elites and pretending that the benefits showered on these elites will trickle down to the less fortunate; especially through the whole-sale application of Western-Inspired and Western-Supplied technology. According to George (1977), Western countries’ development models have not produced a single independent and viable economy among the entire developing countries, adding that these models are in

reality not meant to bring about development. She argues that “Development” has become the password for imposing a new kind of dependency on developing nations to maximise the benefits of the already rich world and for shaping other societies to meet the commercial and political needs of developed countries (George, 1977).

Within mining communities, mining investment presents different benefits and costs to different categories of people. In broad terms, the classification of groups of people in mining communities are the occupational communities that depend directly on the mining companies for incomes; the residential community who live in the geographical area; and the local communities who are indigenes of the area affected by mining activities (Mining, Minerals and Sustainable Development, 2002). Whilst mining may improve the incomes of occupational groups in mining communities, that of the residential or indigenous groups may experience negative effects. Often, job creation benefits few expatriate staff (Ross, 2001). Surface mining displaces community people creating problems of landlessness, joblessness and homelessness in communities. These increase marginalisation of affected people and lead to food insecurity, breakdown of social systems and loss of access to common resources and public service (Oxfam, 2001).

Community right to livelihood and surface mining

The Akan people in the Gold Coast were sedentary cultivators, who looked up to their kings and chiefs as trustees for the care of the land owned by

all the people (Dumett, 1998) and this right of trusteeship was transferred to the President of Ghana for lands in which minerals were discovered (Republic of Ghana, 1992). With the intensification of large-scale surface mining, family lands are under threat as the Government gives off such lands for mining without the consent of the people (Mining, Minerals and Sustainable Development, 2002). Government is abusing the trusteeship over mineral-endowed lands, usurping the right of communities to natural resource management and denying communities the right to being part of decision-making processes of land utilisation (Kasanga, 1997).

Communities in West Papua New Guinea and Indonesia have implicated mining companies in human rights violations. In Marinduque, mining companies dumped two hundred million tons of mine waste in the ocean over a sixteen-year period. Many communities who complain of human rights abuses and environmental degradation often do not have access to institutions to seek fair and equitable redress of the complaints and the mining companies involved have disregarded the concerns of the affected mining communities (Oxfam, 2003). The effects of mining violate the rights of mining communities, and it is important to generate pressure on governments and the industry to put the concerns of marginalised communities at the centre of mining regulations (International Finance Corporation, 2003).

Mining and national economies

As the mining boom increases in developing countries, mining activities influence the economies of these countries, especially the lives of the economically poor in remote areas. With the World Bank policy of privatisation that hastened the scramble for Africa's natural resources in the 1990s, the World Bank group granted some \$2.75 billion loans to private multinational companies for investments into the extractive sector (Scott, 2003). In the early 1980s, the Government of Ghana, burdened by mounting debts and insufficient sources of revenue, attracted Foreign Direct Investment (FDI) for private industry exploitation of its most valuable natural resource, gold, by instituting the Economic Recovery Programme (ERP) in 1983. The ERP helped Ghana to stimulate the economy by creating an attractive investment climate, and granting concessions to mining sector investors (Project Underground, 2000). The ERP received massive backing from the donor community of developed countries. The IMF/World Bank quickly approved an export rehabilitation project and two structural adjustment operations in Ghana (World Bank, 2003). By the late 1990s, Ghana had attracted more than \$5 billion in Foreign Direct Investment (FDI) into the extractive sector of the economy (World Bank, 2003).

The economic reforms and more recently, the increasing politicisation of policies in which multilateral institutions seek to "manage" national development carries with it, institutional reforms, create distortions in local political, economic and social relations. The World Bank justifies the investment in the extractive sector with claims that it creates jobs, generates revenue and helps in the

development of subsidiary industries with trickle-down effects that helps the communities to alleviate poverty. Investment in the extractive sector for example resulted in 75% export revenue in the Democratic Republic of Congo (Congo DR), and 60% annual foreign exchange earnings in Ghana; employed 7.0% and 5.0% of the people, and contributed 25% and 6.0% to GDP of Congo DR and Ghana, respectively (Ross, 2001).

Both developed and developing nations claim to benefit from investment in the extractive sector. For example, Gordon Peeling, the President of the Mining Association of Canada, summing up the benefits from mineral investment indicates that the mining industry provides employment to 375,000 Canadians and metals exports, contribute \$35 billion to Canada's economy (Kuyek et.al, 2003). The blooming picture of the economic benefits of mining investment to developing countries is, however, a subject of controversy. Local communities can count isolated cases of job creation and payment of royalties. The United Nations Development Programme (UNDP) Human Development Index (United Nations, 1995) assessments of minerals-dependent countries indicate that 12 out of 25 mineral-dependent countries of the world are Highly Indebted Poor Countries (HIPC). Kampfner (2001) indicates that many mining communities in Ghana are getting poorer with mining investments. The notion that mining can reduce poverty and induce development thus becomes an issue for discussion, as the returns from mining are not commensurate with its devastating effects.

According to Sachs and Warner (1997), mineral dependent countries among developing countries have slower per capita growth. In Peru for example,

foreign mining companies in 2001 exported over \$3 billion dollars of minerals, but only paid \$77 million in taxes to the Peruvian Government (MiningWatch, 2003). Because few jobs than expected are actually created by the mining industry and no alternative economic activities are developed for the peasants, who are displaced from their land, the peasants of Tambogrande in Peru protested against the Manhattan Corporation, which wanted to open a gold mine on their land. In Chile, the mining companies paid no royalties (MiningWatch, 2003). According to World Bank (2003), the extractive sector investment in Africa has increased as reflected in the gross exchange rates. In real terms, however, poverty of the African region increased by 30 % from 1987 and 1998. In Ghana, not more than 5.0% of revenue from mineral sales returned into the country over a 15-year period from the late 1980s to 2003 (United Nations Conference on Trade and Development, 2005). Traditional occupations like agriculture gave way to surface mining. For the takeover of community lands, mining companies paid ground rents of GH¢0.50 for a square kilometre of land and by extension, AngloGold Ashanti Iduapriem Mine paid GH¢ 15.50 as ground rent for the year 2005 for its concession size of 31 km² (Ministry of Finance and Economic Planning, 2008). Mining has resulted in both labour and capital shift from agriculture to mining. With mining boom overshadowing agriculture and manufacturing, domestic goods and services suffer during mining investment. This has reflected in the reduction in production of cocoa and coffee in Cameroon, Gabon and Ghana (Scott, 2003).

Ghana by the turn of the 20th century experienced a downturn in the economy because of a high level of indebtedness; high rate of inflation; massive currency depreciation; weak international prices for its major exports and high oil prices. The Gross Domestic Product (GDP) grew at a rate of 3.7% in 2000, or 0.7% lower than that of 1999. Around the same period, inflation doubled to 25.2% at year-end 2000 from 12.4% at year-end 1999. The Ghanaian cedi depreciated by more than 50% against the dollar from 3, 550 Cedis at the beginning of the year 2000 to 6,800 Cedis at the end of 2000; with external debt doubling to \$5.8 billion (Ministry of Finance, 2001).

Gold mining in Ghana

Gold is the most sought-after mineral in the world, and it accounts for about 66 per cent of all mining exploitation in the world (World Wildlife Funds and International Union for Conservation of Nature, 1999). Ghana has produced gold for about 2,000 years. Vestiges of alluvial gold extraction and winning activities dates back to the 6th century AD, and there is a wealth of evidence which indicates that precious metals recovered from the artisanal activities within the region attracted Arab traders as early as the 7th and 8th centuries AD (Hilson, 2002). From the 14th century to the 19th century, Ghana produced 35% of the world's gold.

The Colonial Government banned private Ghanaian gold miners and indigenous mining from operating after 1933, due to the promulgation of the Mercury Law and the beginning of large-scale mining by British and other foreign

investors in the late 19th century. British mining interests were a significant source of influence on the Colonial Office in London that shaped the formulation and implementation of mineral policies in the colonies (Tsitaka, 1997).

Since the mid-1980s, the World Bank has contributed to the transformation of the extractive sector through assistance to rehabilitate government-owned mines and by its wide-ranging support to sectoral supervisory bodies. According to the World Bank (2002), the Bank's support to projects in the mining sector helped in the achievement of the following:

- A thorough assessment of the institutional arrangements, which established a clear blueprint of institutional structure for mining in Ghana,
- A thorough assessment of the Ghanaian legal framework for mining which stakeholders discussed and resulted in the drafting of a new mining law as well as fiscal and environmental regulations, and
- The completion of aerial geophysical work for the attraction of investors to Ghana.

The quest for mining concessions in developing countries by multinational companies has moved into protected lands. With the new initiative of sustainable mining, multinational companies are vying for concessions within protected areas in developing countries. For example, in Ghana, mining companies are moving into protected areas including the Subri River Forest Reserve, a globally significant bio-diversity area and a watershed for major rivers such as the Bonsa and Pra. Some forest reserves that face the danger of

violation are the Supuma Shelterbelt; Opon Mansi; Tano Suraw; Cape Three Points' Reserve and the Suraw Extension in the Western Region. Others are the Ajenua Bepo and the Atewa Range Forest Reserve in the Eastern Region (Anane, 2003a; FIAN, 2003; National Coalition of Civil Society Groups against Mining in Forest Reserves, 2003).

Mining and gender

Mining was an old occupation of women in the Wassa Area before the advent of the Colonialists and the first merchants to Gold Coast saw women monopolising the panning for gold. Further studies show that women were active in all mining operations in addition to farming and hunting for resources from the forest. Women acted as geologists showing their husbands topographic features that suggested the existence of rich underlying reef gold (Dumett, 1998).

The present day surface mining operations has displaced people, who depend on land and natural resources. As mineral extraction erodes traditional sources of livelihoods, people, particularly women and children, sink into extreme poverty because these women cannot find jobs in the mining companies (Project Underground, 2000). Women working in the extractive industry are usually in the informal sectors constituting 15% of the legalised segment of Ghanaian small-scale mining labour force. Women account for only 6.0% of licensed gold buyers, 10% of mining concession holders and 15% –20% of the sponsors of work groups, or members of mining cooperative groups, and thus form a small group of beneficiaries of the country's expansion of the mineral sector (ILO, 1999).

Mining, community livelihood and conflicts in the world

Large-scale investment in the extractive sector of developing countries has evolved new forms of integration into the world market. These investments have initiated new relations among private companies, states and local communities and have produced new social and economic relations reflecting international criteria of productivity, profitability and competitiveness (Campbell, 1999).

One of the profound impacts of surface mining is the loss of access to community land resources. Mineral exploitation worsens community livelihood problems because the main gold belt coincides with the major logging and cropping zones. Mining companies usually pay cash compensation to community people and farmers, with little or no provision of alternate land for them to continue their agricultural activities and thus disrupting their economic and social lives. Mining has also not been a large employer since most surface mining operations are capital-intensive. Even the Ashanti Goldfields Company (AGC) now Anglo-Gold Ashanti, which is mainly an underground operation, is highly mechanised. In 1996, such issues prompted community protests in the mining area of Tarkwa (Mate, 2002)

MMSD believes in the partnership of local communities and mining companies to achieve development goals (Miller, 1998). In defining partnership, Abugre (1999) perceives it as more than consultation but that partnership requires reciprocal, mutually reinforcing obligation, equity and fairness. A formulation from the World Bank (1996) considers partnership as participation in a process through which stakeholders' influence and share control over development

initiatives, the decisions and resources that affect them. However, in the event of mineral exploration, the nature of the relationship between mining companies, communities and the state is fraught with contradictions (MiningWatch, 2000).

Codes have not resolved the contradictions and distortions in the balance of power between communities and mining enterprises in the process of negotiation, resistance and the management of conflicts. The extent to which mining communities participate in processes and decisions depends upon their ability to understand and protect their own interests effectively (Mineral Policy Centre, 1999). However, power relations among communities, mining companies and governments, place communities at the receiving end of investment leading to loss of land and livelihood which monetary compensation has not been able to address adequately (Sweeting and Clark, 2000).

According to Kasanga (1997), investment that induces social unrest; tension; land conflicts and displacement, is not sustainable and is neither in the interest of the country nor in the interest of the affected communities. Akabzaa (2000) identifies mining-related conflicts to include land use conflicts among large-scale and small-scale mining; conflict between mining and local agriculture; conflict relating to mining companies seeking concessions in forest reserves; conflict relating to mining and the destruction of cultural sites and natural landscape. Again, mining investment is associated with community displacement, which the World Bank (1992), sees as a short-term pursuit to maximise profit.

Socio-cultural impact of surface mining

Asad (2003) has observed in the Wassa West District, which contains half of Ghana's large mines, enormous social and environmental impact of the gold boom. The Government acquires land for mining activities under compulsory acquisition where original landowners have no say in land use plans (Republic of Ghana, 1992). Mining displaced 30,000 people during 1990-98, contaminated rivers, streams, destroyed farms and forestlands (Asad, 2003). Community people have experienced broken homes as the men and youth moved out in search of non-existent jobs. Resettlement of communities with reduced number of rooms left some family members with no place in their family homes. Mining companies planned such resettlements without thinking of alternative livelihood programmes. These have normally generated conflicts (Owusu, 2001).

Mining activities destroy community organisations that revolve around traditional structures. The communities lack of independent organisations coupled with illiteracy and poverty have excluded them from national decision-making processes. Both small-scale and large-scale mining can cause environmental damage, which can affect the health and livelihood of community people. Mining and mine closure have implications such as increased poverty, which affect the living conditions of vulnerable groups thereby reducing the opportunities for mining communities to use degraded lands (IFC, 2003).

Conceptual framework

The Ghana National Land Policy (1999) emphasises the need to ensure sustainable land management that would strike a balance in land use for the support of livelihood and human survival. The Constitution of the Republic of Ghana (1992) has implications for sustainable livelihood by providing for the right to life, respect for human dignity and the right to own property and guaranteeing economic rights of citizens. Again, Ghana is committed to other livelihood rights guaranteed in the Charter on Human and Peoples' Rights and UN International Covenant on Economic, Social and Cultural Rights (UN, 1996).

Carswell (1997) believes that the definition of sustainable livelihood is unclear and narrow, and it creates the risk of people simply adding to a conceptual muddle. The tendency is to limit livelihood to economic activity without the cultural, social and the environment for communities to organise their economic activities. Chambers (1997) and Sen (1987) think of livelihood that is sustainable in terms of 'well-being' and 'capability', which provide a wider scope and choices. According to them, well-being and capabilities deal with what people could do or did with their entitlements. Such a well-being approach to poverty and livelihood analysis may allow a group of people to choose for themselves the criteria for defining the elements of livelihood by factoring in their self-esteem; security; happiness; stress; vulnerability; power; exclusion; as well as more conventionally measured material concerns (Chambers 1989).

The Sustainable Livelihood Framework of UNDP (1995) and DFID (1998) describe sustainable livelihood in terms of assets of poor people (physical,

human, financial, natural and social), rights and their preferred outcomes on livelihood strategies and principles, which underlie the approach to development and processes involved. By implication, livelihood and development connote peoples' right to decisions for which self-determination is crucial through participation of the vulnerable in the developmental processes. Participation in this sense is not limited to providing information on decisions but the involvement of the communities in the processes and outcomes of decisions governing mining investment and how these help to achieve community developmental goals. Flowing from this thinking is that although economic rights are important, factors such as who sets the economic development agenda, environmental protection and socio-cultural lives of the mining communities are equally important.

The case study on surface mining and community livelihood in the Teberebie Electoral Area assesses mining investment and community livelihood. The case study looks at mining regulations and links these to the communities' involvement in decisions and participation in decisions that affect their livelihoods.

The author's conceptual framework is to depict what ought to be the governance structure in the extractive sector with the public especially the affected mining communities influencing public policy and decisions relating to mining. Effective community and public participation in national policies in the extractives could contribute to the minimisation of environmental problems, human rights violations and loss of livelihoods and help communities to maximise benefits from mining. The conceptual framework is to provide a normative

relationship and influence that mining communities should have in shaping policy direction to protect their interest when the national goal is to maximise benefits from the extractive sector. Mining has become a major attraction to investors who locate in rural mining communities to carry out their operations. The Government's goal of development will be meaningful if communities participate in decision-making on land use choices since community livelihoods hinge on land. Participation of communities in the making of decisions concerning land use could minimise human rights violations, ensure environmental protection and protect community investments and economic activities as well as socio-cultural heritage of communities. The sum of these will be an indication of development. The framework is expressed in Figure 1:

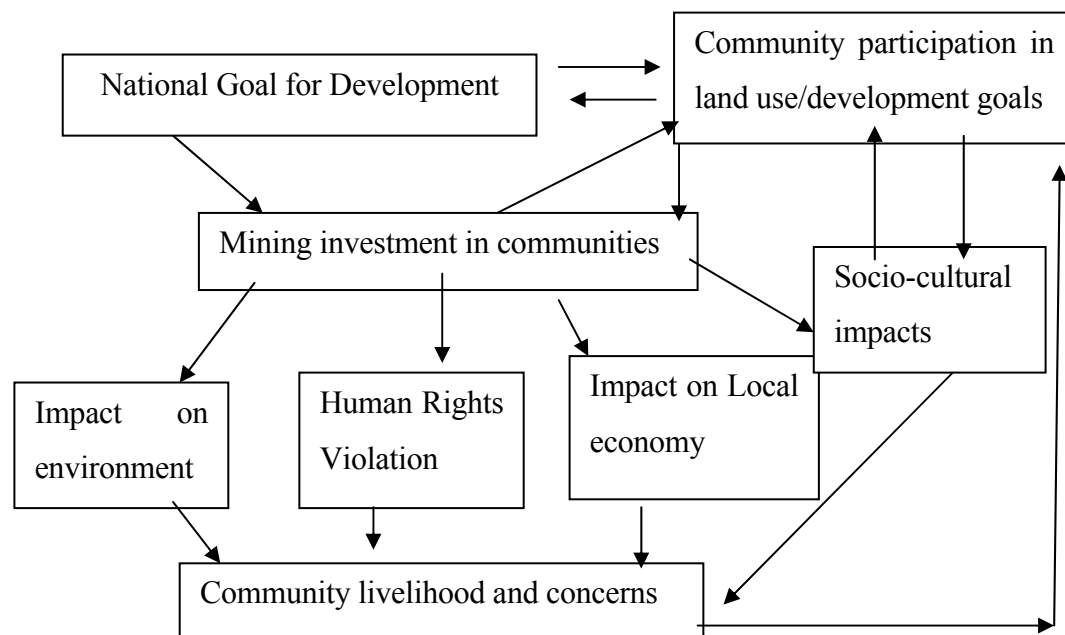


Figure 1: Normative relationship of mining investment and community development

Source: Author's construction (2004)

CHAPTER THREE

METHODOLOGY

Introduction

This chapter deals with the study area, which is the Teberebie Electoral Area, located in the Wassa West District (WWD). Issues in this chapter include the existing environmental features and economic activities in the area with a justification for selecting the area for the case study. The chapter also captures methods used in the fieldwork analysis of data collected.

The study area

The Wassa West District (WWD) is a district in the Western Region of Ghana. It has a total land surface area of 2,354 km², lies between latitudes 4° 50' N and 5° 40' N and Longitude 1° 45' W and 2° W. The district lies in the central part of the Western Region, shares boundaries with Ahanta-West; Wassa Amenfi; Nzema East and Mpohor Wassa East districts with Tarkwa being the district capital. It has an altitude of between 150 - 300 metres above sea level. WWD has evergreen mountain ranges, which present appealing aesthetic scenery for people living in the area. WWD (Figure 2) has Bonsa, Ekumfi and Neung Forest Reserves covering 440.15 km² of the land surface area and about 10% of the

country's close forest, which are headwaters for rivers like Bonsa, Ankobra and Huni.

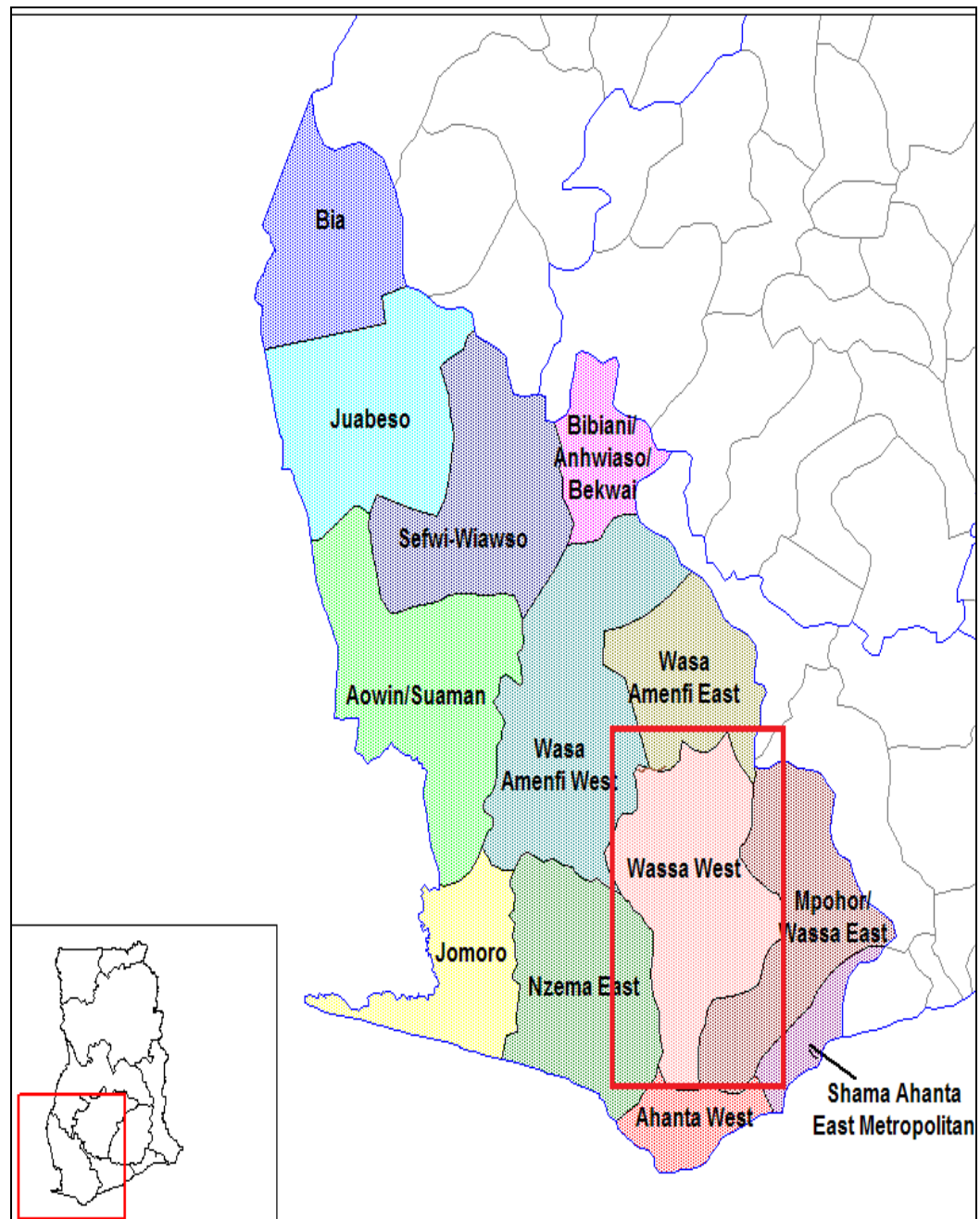


Figure 2: Waasa West District in regional context

Source (Ministry of Interior, 2006)

The study of surface mining and community livelihood focuses on the Teberebie Electoral Area ((Figure 3). The Teberebie Electoral Area has a population of 4,276 (Ghana Statistical Service, 2000).

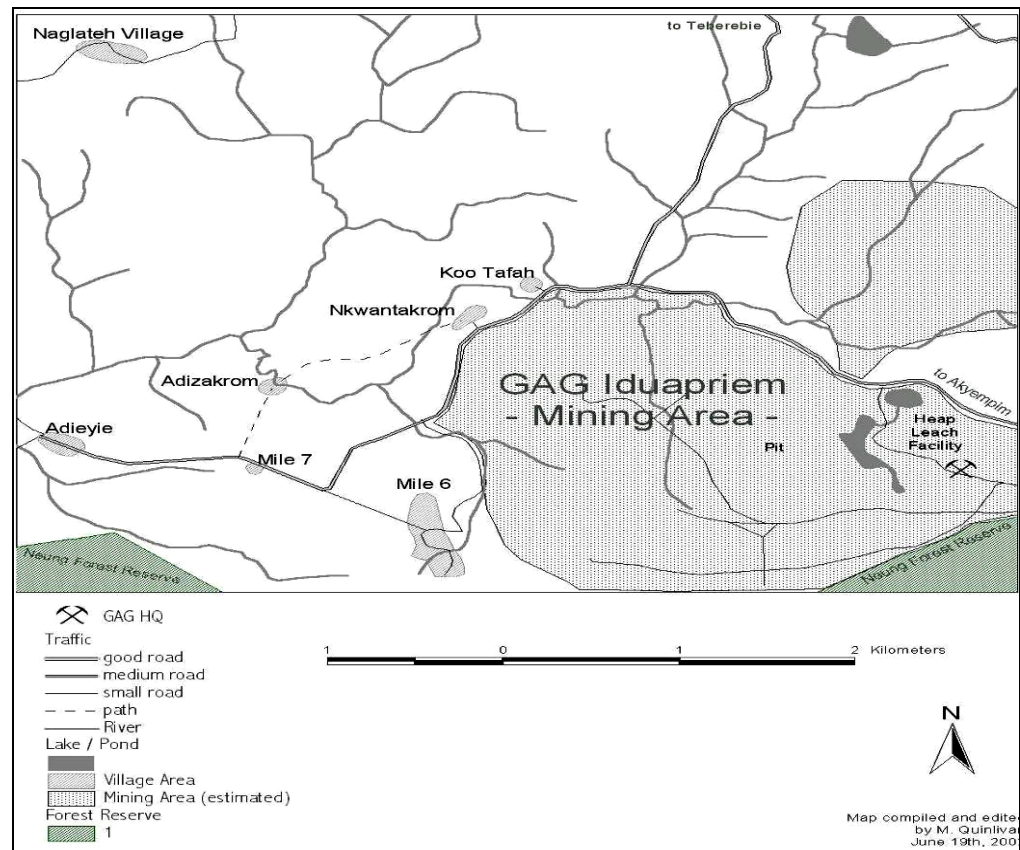


Figure 3: Map of mining area under GAGL Iduapriem

Source: (Quinlivan, 2002)

The survey focused on the Teberebie area for its uniqueness in multinational mining activities. The area since 1990s has seen the activities of many small and large-scale multinational companies that have engaged in exploration and actual mining. Subsequently, three multinational mining companies; the Teberebie Goldfields Limited (TGL), Ghanaian Australian Goldfields Limited (GAGL), and Goldfields Ghana Limited (GGL), have mined

in the area. Currently AngloGold Ashanti Iduapriem Mine and Goldfields Ghana Limited (GGL) share the land area with GAGL being the larger concession holder. The mining companies paid compensation to some affected people in the communities, resettled some communities and ignored others.

Economic activities of Wassa West District

Communities in the Wassa West District (WWD) have lived with mining and agriculture for many centuries. Some people in the area especially the rural women look for oil palm, snails, herbs, spices and firewood from the forest as a source of income. Artisanal mining, popularly called “Galamsey” has been the traditional method of gold mining of the people in the area for over 400 years until the Colonial Administration declared indigenous mining activity illegal in 1905 (Conservation International, 2000).

The Wassa West District produces an estimated 35% of Ghana’s gold output (GAGL, 2003). For the communities of Wassa West that have lived with underground mining, artisanal mining, and large-scale surface mining, identifying the interrelationships of the economy, social enhancement and environmental protection on a sustainable basis helps to determine the level of development. Six large-scale mining companies operate in the District, five of them are mining gold and the other is a manganese mining company. Additionally, eight registered small-scale companies are engaged in gold mining. The WWD has the largest concentration of surface mines in a single district in the country (Akabzaa 2000).

Data sources, sampling techniques and sample size

The communities within the concession of GAGL were clustered purposively into communities affected by the operations of mining companies and communities not affected. The selection of communities not affected by mining operations provided a basis for comparing the results of the effects of mining using the non-affected community as a control. The communities within each cluster were listed and using the microcomputer-generated random numbers, four affected communities and two communities that are not affected by mining were selected for the survey.

Many of the communities on the concession of GAGL have been affected by its operations hence the selection of more affected communities than those that are not affected by mining for the case study. The six randomly selected communities accounted for 6.0% of the 98 communities/hamlets within the Teberebie Electoral Area (Ghana Statistical Services, 2000) and this is a good sample size to minimise errors. The six randomly selected communities (Fig. 4) are Badukrom, Teberebie, Nkwantakrom and New Iduapriem for communities affected by mining operations; with Mile 5 and Techiman representing the communities not affected by mining. The purpose of the random selection of communities was to minimise biases and subjectivity that would affect the outcome of the study.

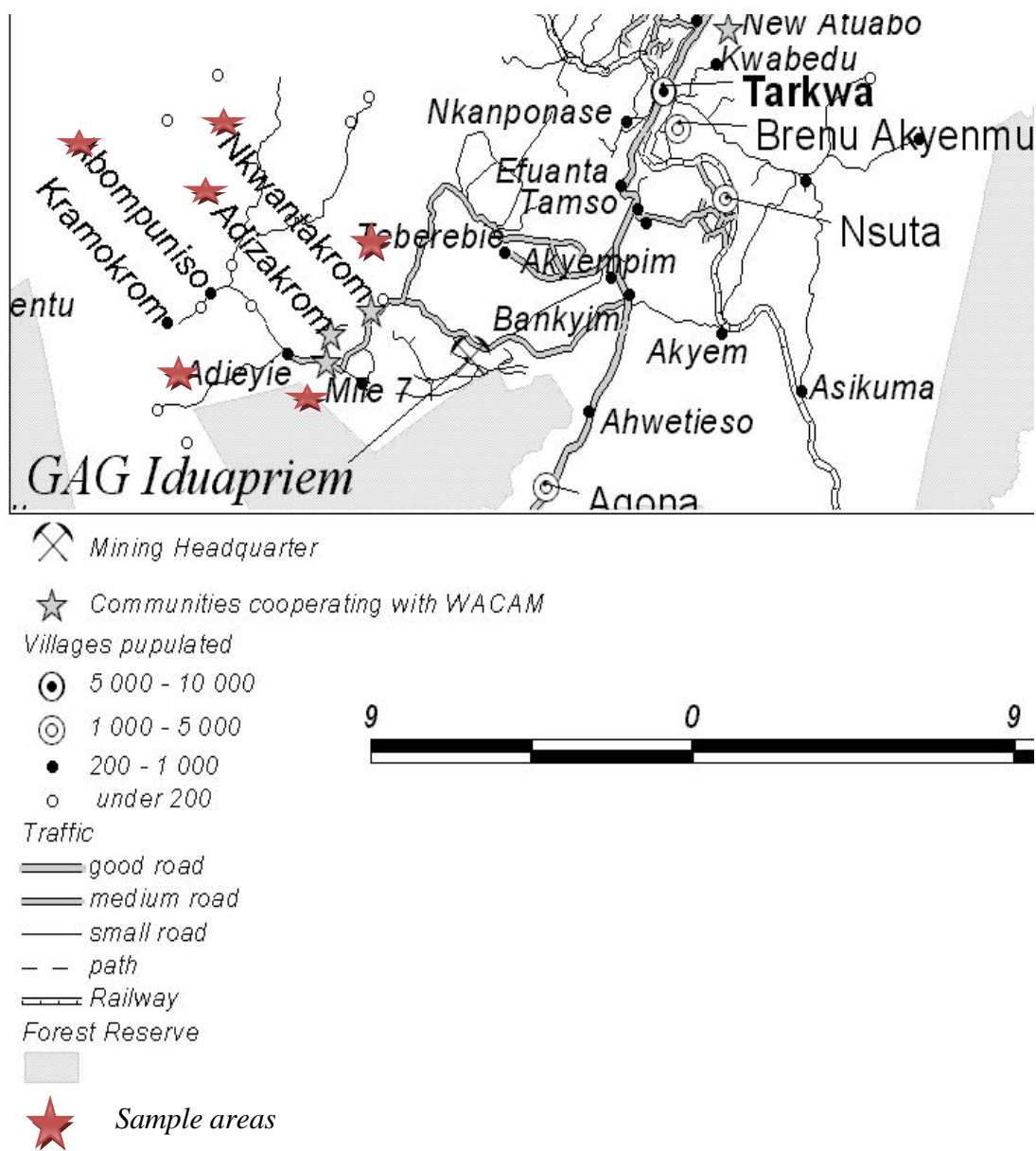


Fig. 4: Six sample areas within the Tarkwa Municipality

Source: (Quinlivan, 2002)

Data collection

Primary data was collected from six communities on the concession of GAGL. The survey targeted 40 respondents from each of the communities who came from ten households per community. The 10 households were selected randomly by counting the houses in the community, coding them, writing the codes on paper and picking the papers randomly. From each of the selected households, the head of the household, a woman, one youth, and any other member of the household were interviewed. Apart from the forty respondents, the survey targeted key informants within the selected communities, which included the Assembly members or Unit Committee members, the Chiefs, and other local leaders. In all, 243 persons were interviewed, representing about 5.6% of the population of the Teberebie Electoral. The case study used two sampling techniques namely purposive sampling and random selection. The purposive sampling technique was used to cluster the communities into affected and non-affected communities within the clusters and a random selection was used to select communities of the Teberebie Electoral Area as listed by the District Planning Office of the Wassa West District Assembly. Apart from the community interviews, officials from the decentralised departments of the Wassa West District Assembly were interviewed.

The data was collected from primary and secondary sources. Primary data was collected from a structured questionnaire (Appendix 1). The questionnaire had both closed and open-ended questions, which solicited for information on:

- What the communities thought were alternative means of livelihood in the communities; socio-economic profile of respondents,
- Socio-economic and environmental effects of surface mining on communities,
- How communities see as ways of alleviating the negative effects of surface mining on community livelihood in the area,
- How women were affected by mining operations; and
- How communities are involved in the processes to ensure sustainable livelihoods, particularly after mine closure.

Four Research Assistants were engaged to administer the questionnaires based on their good command of Akan and English languages. The Research Assistants were trained after which they pre-tested the questionnaire in Mile 9 and Ajopa communities. Two Focus Group Discussions (FGD) were organised targeting at least one opinion leader, a woman, head of family and a youth from each community in both communities affected by mining and communities that are not affected by mining as a form of cross- checking the information collected from the personal interviews.

Data analysis

The data collected were screened, and the open-ended questions were coded for analysis using the Statistical Product for Service Solutions (SPSS) programme. Both content and case analyses were used. The content analysis was

used for analysing data within the clusters, whilst case analysis was used for analysing the different information from the clusters and these were compared with other patterns from other works relating to the topic.

Secondary data were collected from reports of Government Agencies in the Decentralised Departments of Wassa West District including the Department of Mines, and the Environmental Protection Agency who have the responsibility for regulating activities of mining companies. Other sources of information came from NGO reports on mining effects. There was also an extensive literature review of related topics within the country, Africa, and elsewhere in the world.

Justification of the study

The study of surface mining and community livelihood: the case of Teberebie Electoral Area of Wassa West District of Ghana targeted six randomly selected communities around the Ghanaian Australian Goldfields Limited (GAGL) concession area, all located in the Teberebie Electoral Area. Many authorities see the current mining boom as having the potential of reducing poverty and promoting development of the country and communities. A different view is that, large-scale surface mining poses threats to the environment and community livelihood. The threat to environment and livelihood is rooted in human rights abuses of community people in the form of the destruction of the natural environment, the loss of farmlands and water bodies and the payment of low compensation to communities during mining.

The study is focused on Teberebie Electoral Area because the area has experienced the operations of three of the eight multinational mining companies in the Wassa West District and is likely to give clear indicators for measuring development and economic well-being, which could be attributed to Foreign Direct Investment in mining. The option for a case study of the Teberebie Electoral Area as against a study of effects of mining operations in the whole Wassa West District provides the opportunity for a focused work on specific aspects of mining effects on community livelihoods. Again, a document by GAGL (2004) indicates that the mine operated by GAGL may end by 2019. The mine closure may pose social, economic and environmental challenges to the residents on the concession since communities' lands and forest may not be available for socio-economic and cultural activities. Additionally, advocacy NGOs and some affected mining communities on the concession of GAGL have engagements with GAGL, which resulted in the development of a Community Action Plan (GAGL, 2003) to mitigate some community concerns. These factors informed the selection of the area in a case study to assess how the operations of GAGL affect communities.

CHAPTER FOUR
ECONOMIC AND SOCIO-CULTURAL IMPACT OF SURFACE
MINING

Introduction

Ghana has witnessed three jungle gold booms in 1892, 1938 and the 1980s. The Wassa and Adansi areas have been the locations for the last two jungle booms (Agbesinyale, 2003). The Wassa area has been a major destination of gold mining companies and eight multinational mining companies located in the area during the Third Jungle Boom. Apart from gold, the Wassa West District (WWD) has a rich store of other natural resources. The WWD, therefore, gives an indication of the levels of mineral exploitation over the thousand years of mining in Ghana. The question now is what have been the benefits and costs of the extraction of minerals to the people living in the area in particular, and the country in general?

Socio-demographic characteristics of respondents

The majority of respondents who took part in the survey were heads of households with 83 from the affected and 37 from communities not affected by mining operations. Seventeen respondents from the affected communities and 13 from communities that mining operations have not affected were youth in the

households. Eight respondents from affected communities and 12 from communities that mining operations have not affected were adult males who were not heads of households. Two hundred and forty-three respondents of whom 150 were from communities affected by mining activities and 93 from non-affected communities responded to the questionnaires.

Figure 5 shows the sex distribution of respondents. Sixty-three females and 87 males in the affected communities took part in the survey. In the communities not affected by mining operations, the composition of respondents was 47 females and 46 males.

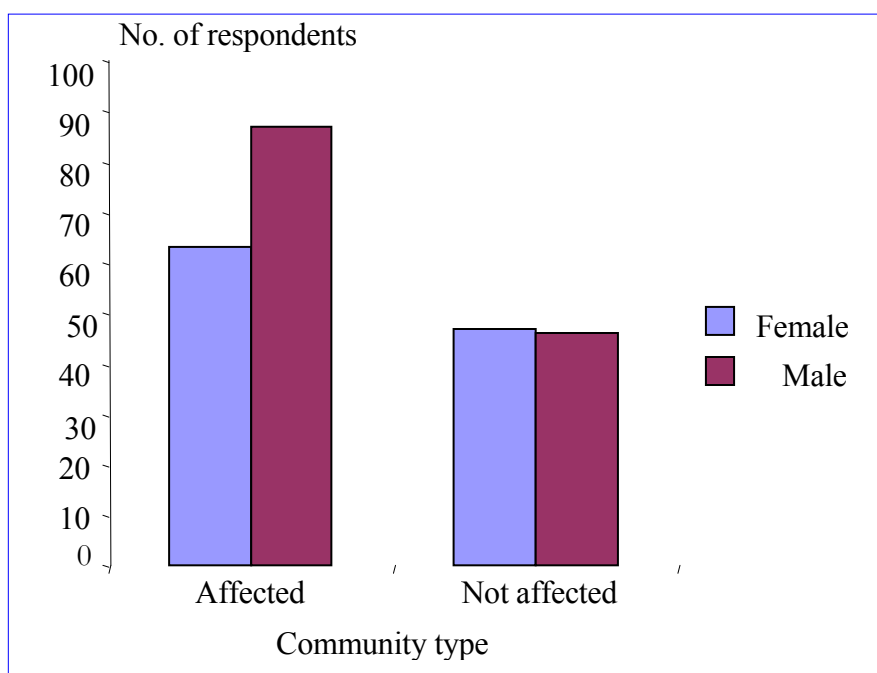


Figure 5: Sex distribution of respondents

Source: Field data (2004)

Figure 6 shows the social status of respondents in the communities. Members of the community who did not have any leadership roles in the affected communities were 112 whilst 78 of the same category responded in communities

that mining operations have not affected. The total number of women leaders in communities was three for both the affected and communities not affected by mining operations.

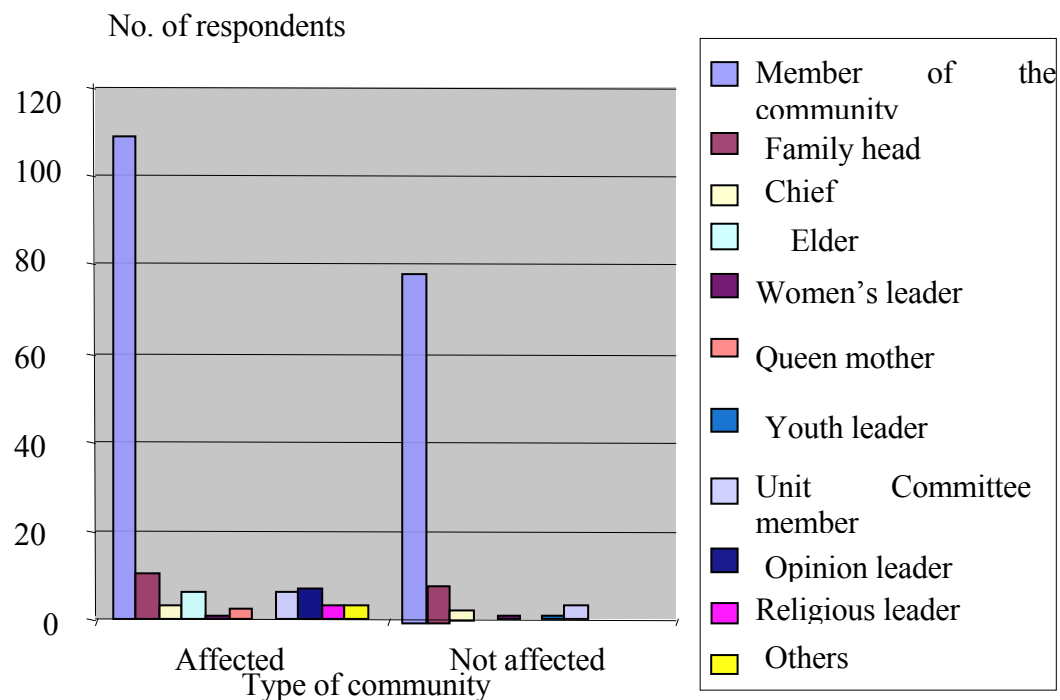


Figure 6: Social status of respondents in community

Source: Field data (2004)

Although some of the communities affected by mining are indigenes, the Field Data indicates that the average period that the respondents lived in communities was 13 years, which indicates the regular movement of people to and from the communities. About 65 % of respondents were married, 26 % were single and 8.7% were either divorced, separated or did not respond.

An average family size was 13 persons with the average age of respondents about 38 years. The level of education of respondents was very low.

Out of the total respondents of 243, 32% have no formal education; 7.0% have functional education; 23% have education up to the primary level; 32.9% of youth respondents have basic level education and only about 3.0 % have secondary or technical education.

Table 1: Characteristics of respondents

Respondent Characteristics	Type of Community					
	Affected		Not affected		Total	
	N	Mean	N	Mean	N	Mean
No. of years in community	148	12.6	93	13.3	242	12.9
No. of people in household	142	13.7	93	12.3	235	13.2
Age of respondent	148	38.7	93	34.6	241	37.8
No. of chn in primary school who live in community	96	2.4	36	2.0	132	2.3
No. of chn in JSS who live in community	54	1.7	15	1.4	69	1.7
No. of chn in SSS who live in community	10	1.6	2	1.0	12	1.5
No. of chn in Tertiary institution who live in community	5	1.6	0.0	0.0	5	1.6
No. of chn working who live in community	18	1.6	7	3.3	25	2.1
No. of chn in primary school who live outside community	6	2.0	12	2.1	18	2.1
No. of chn in JSS who live outside the community	3	2.3	13	1.8	16	1.9
No. of chn SSS who live outside the community	4	1.5	6	1.3	10	1.4
No. of chn in Tertiary Institution who live outside the community	1	1.0	0.0	0.0	1	1.0
No. of chn working outside community	14	2.9	6	2.83	20	2.85
Total	150		93		243	

Note: Total responses is more than total number of respondents due to multiple responses

Source: Field data (2004)

Less than 0.5% has tertiary education. The distribution indicates that many of the respondents are in their reproductive age and over 50% of the children under age 10. There was no significant difference in the age distribution of children in affected communities and the communities not affected by activities of surface mining.

The influx of people from different parts of the country to the Wassa West District in search of employment and mining fortunes has influenced the ethnic composition of a hitherto homogenous community. Figure 7 shows this trend in the survey that only 15.6% indigenes of the respondents live in the communities. Of the 243 respondents, about 27% are non-Ghanaians and some are Ghanaians whose ethnicity was not listed in the questionnaire.

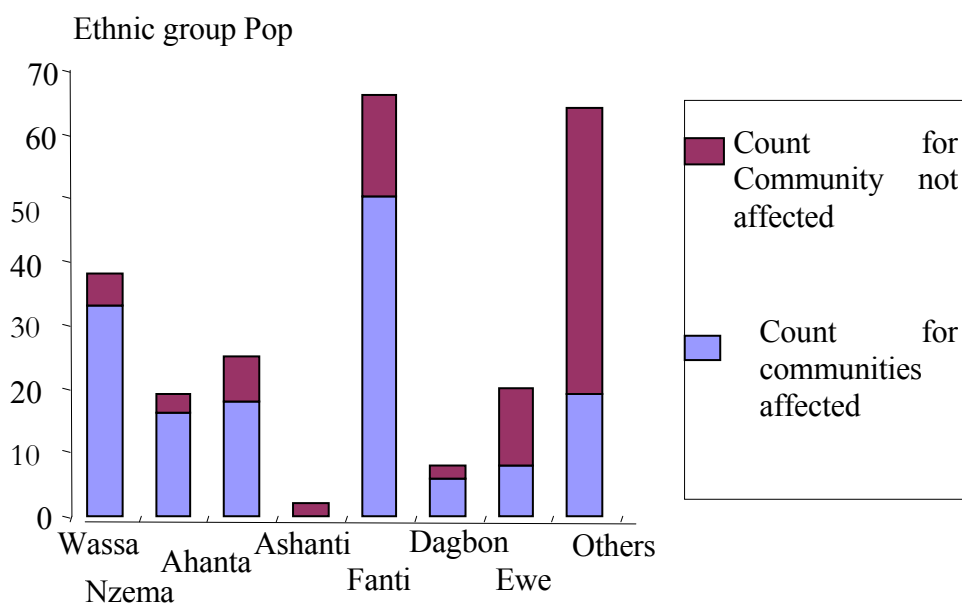


Figure 7: Ethnic group of respondents

Source: Field data (2004)

Surface mining and displacement

Surface mining during the Third Jungle Boom took over a concession covering about 70% of the total land area of the Wassa West District (Akabzaa, 2000). Ghanaian Australian Goldfields Limited, which has about 1,800 hectares of its concession as active mining zone, has displaced community people from their original settlements. Some of the displaced community people have moved into nearby communities. Figure 8 shows that 95 respondents out of the 150 respondents affected by mining have moved from their original place of residence.

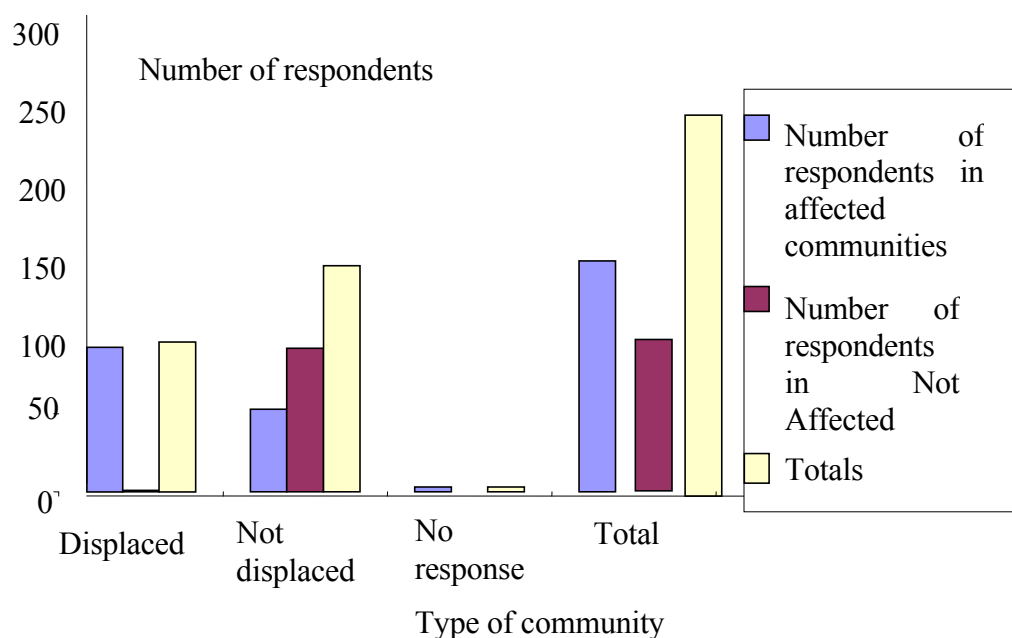


Figure 8: Displacement of communities by surface mining

Source: Field data (2004)

Further investigations into the number of people who have lost lands revealed that out of the 95 respondents from the affected group who were moved from their original communities, 45% lost from 1-5 acres of land; 30% lost 6-10

acres of land whilst 25% lost over 10 acres of land. The social and cultural implications of such displacement include changes in the economic status of community people and 8 respondents believe that changes in their economic activities are increasing poverty. Community people also experienced divisions in families with 27 displaced respondents indicating that displacement divided their families. Other socio-cultural implications include increase in divorce rates as shown in Figure 9.

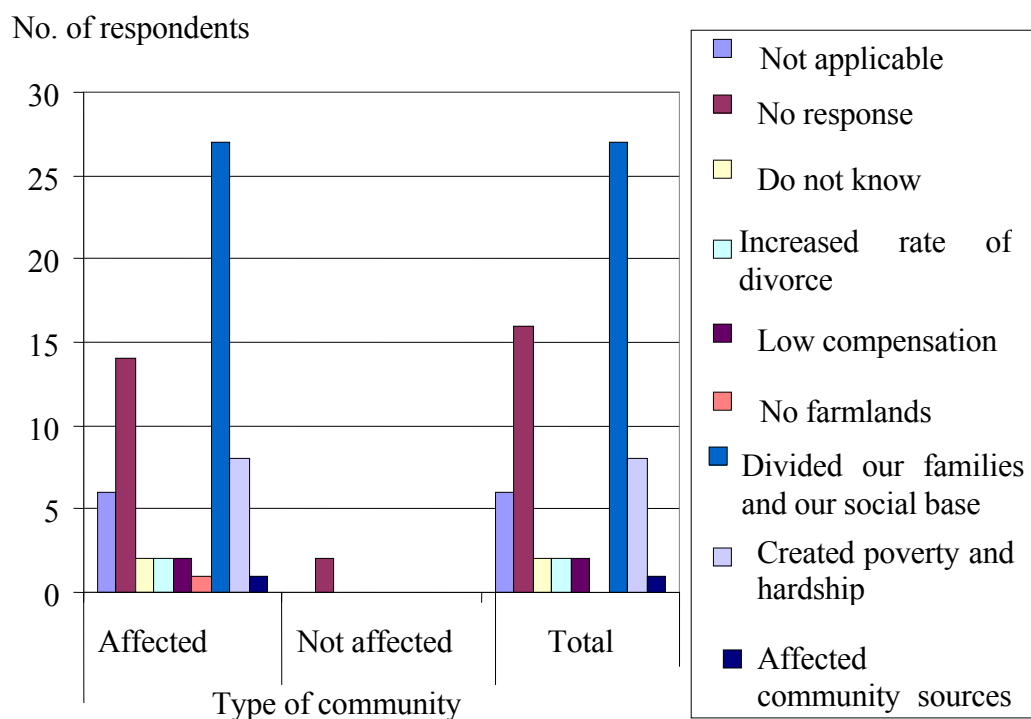


Figure 9: Socio-economic effects of mining operations on communities

Source: Field data (2004)

Surface mining and local economy

Residents within the concession area of GAGL in both the communities affected by mining and non-affected are farmers. At the national level, agriculture employs 60% of the workforce mainly as smallholder producers. The Wassu West District Assembly (2002) estimates that 48% of the district's population is engaged in agricultural activities, which is below the national average.

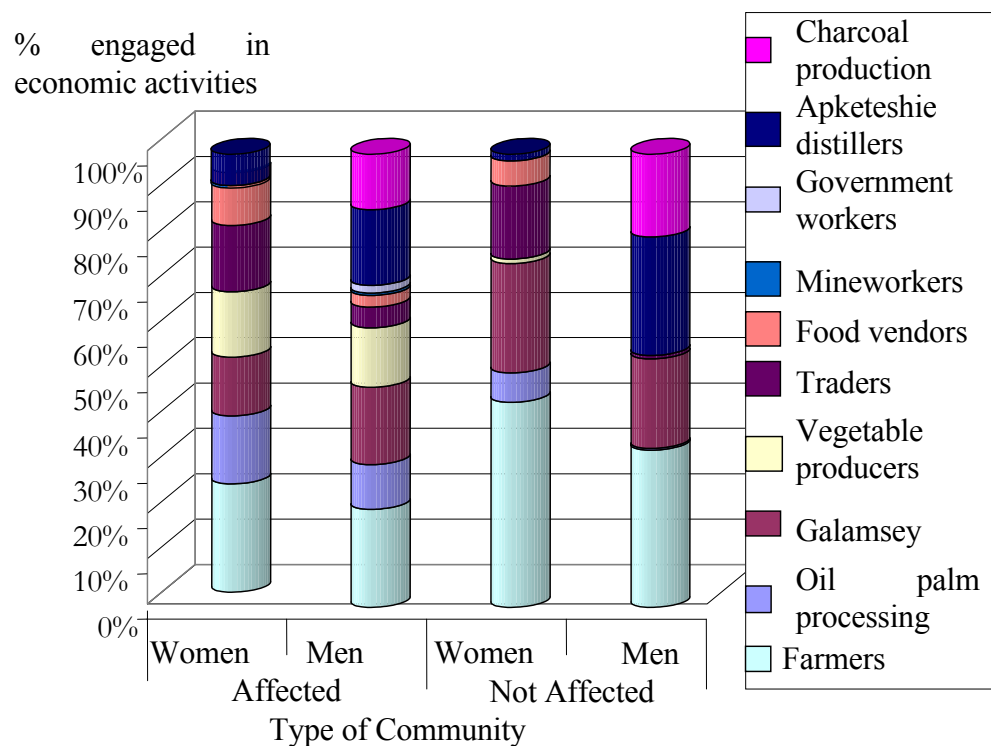


Figure 10: Economic activities of respondents

Source: Field data (2004)

In multiple responses, Figure 10 shows that farming is the major occupation for both women and men in the mining communities. From the field survey, more people were involved in agriculture in communities that mining operations had not affected. Results indicate that about 50% of community women as against 40% of men were farmers in communities not affected by

mining, whilst less than 20% of both women and men in affected communities engaged in agriculture. About 25% of women and 20% of men in the communities that mining operations have not affected engage in galamsey compared to 10% women and 15% men in the affected communities. The implication is that communities not affected by mining see small-scale mining as a second occupation, whilst there is more diversity in income generation activities in the affected communities. The study in the GAGL concession area indicates further reduction in agricultural activities below the district average.

Contribution of mining to local economy

Although the major expectation of mining investment is to reduce poverty, Kampfner (2001) indicates that many mining communities in Ghana are getting poorer with mining investments. According to Scott (2003) for a variety of reasons, downstream processing industries do not emerge after the development of extractive industries. In Figure 11, 93 of the respondents from affected communities and 80 from the communities that are not affected by mining operations did not see any meaningful development that had come to the communities because of mining investments. Significantly, respondents talked about the development of roads in the area, 42 respondents from the affected communities said the company has developed roads. They, however, added that the mining company did not develop the roads for the welfare of the affected communities and that the roads constructed increased the distance that they needed to travel which in some cases affected the education of children in

communities like Badukrom/Wangrakrom. Less than 20 respondents said that mining investment in their communities had created opportunities such as better homes, and that parents could afford better care for their children.

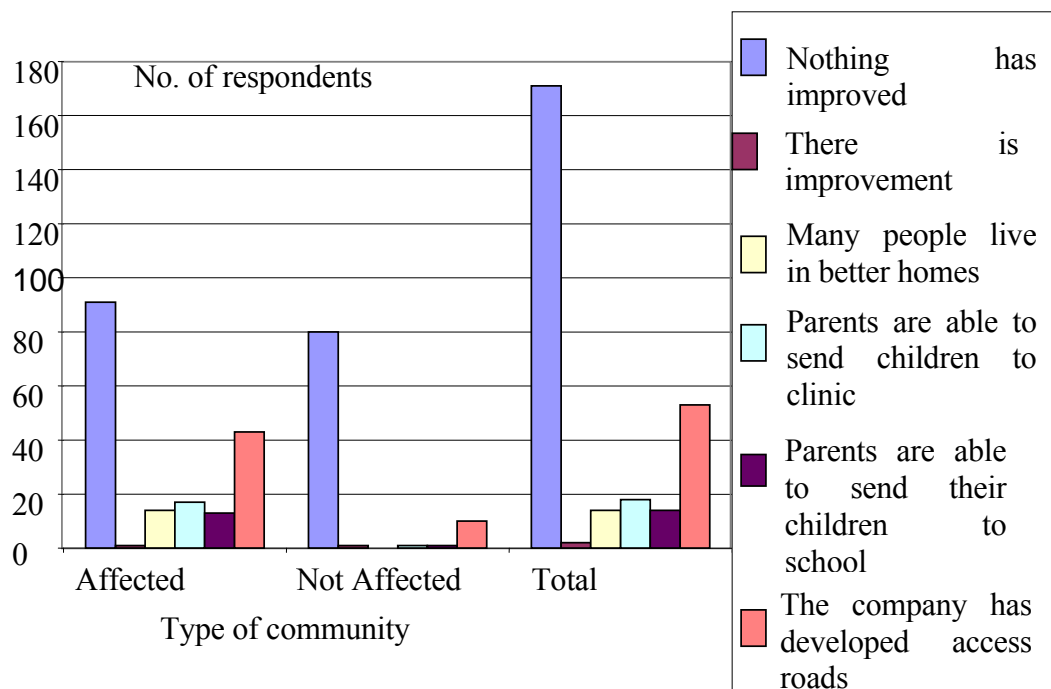


Figure 11: Contribution of mining to local economy

Source: Field data (2004)

In multiple responses by respondents, the field data indicates in Table 2 that, 46.7% respondents from affected communities believe that surface mining has reduced economic activities of mining communities because of reduction in size of the agricultural land area of farmers. More than 50% of respondents said there was no improvement in the communities. 60.7% respondents from the affected communities and 86.1% from communities that are not affected stated that surface mining had not improved local economy in any way. According to these respondents, mining has not created permanent employment opportunities

for community people. Where mining companies employed community people, the community people worked as casual labourers for company contractors who laid them off after one to three months of work.

Table 2. Effect of surface mining on communities' sources of income

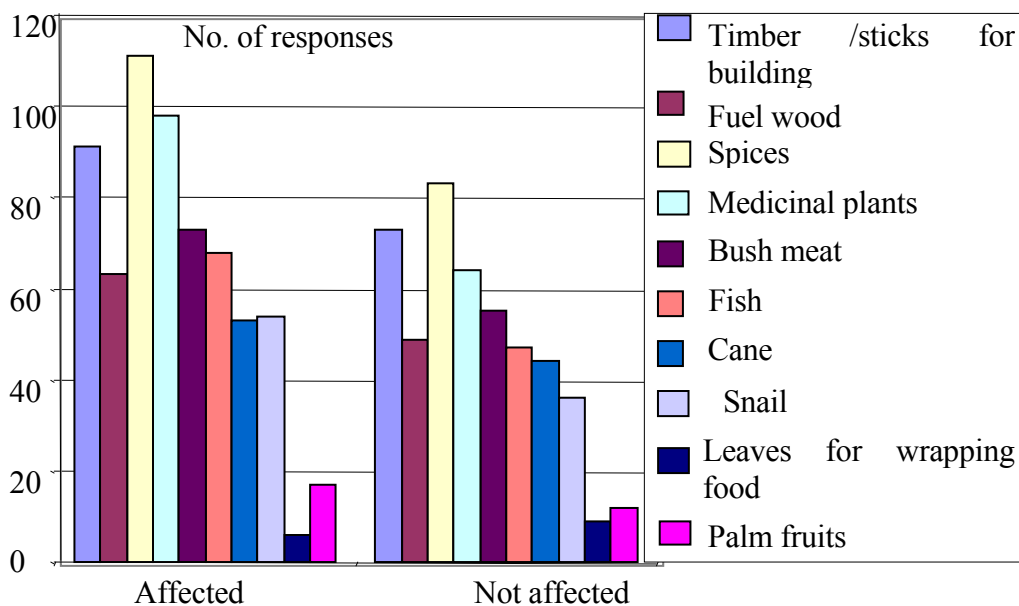
Effects	Type of community				Total
	Affected		Not Affected		
	Freq.	%	Freq.	%	
No improvement in local economy	91	60.7	80	86.1	171
No improvement in the community	77	51.3	47	51.5	124
Reduced economic activities and incomes of mining communities	70	46.7	0	0.0	70
We no longer have agricultural lands	33	22.0	0	0.0	33
Destroyed community source of livelihood	29	19.3	0	0.0	29
Our rivers have been polluted	11	7.3	0	0.0	11
Community members became poorer due to low compensations	5	3.3	0	0.0	5
Roads to our farms have been diverted and increase the distance to our farms	3	2.0	0	0.0	3
Has reduced our yields	2	1.3	1	1.1	3
No response	3	2.0	0	0.0	3
I do not know	0	0	8	8.6	8
Not applicable	0	0	84	90.3	84
Total	150	100%	93	100%	243

Note: Total responses exceeded total respondents because of multiple responses.

Source: Field data (2004)

Community dependence on forest as sources of income/livelihood

Figure 12 indicates that the respondents depend heavily on forest for their survival. Seventy-nine per cent of respondents depend on the forest for spices, 68% of respondents depend on the forest for non-timber product and 66% of respondents obtain medicinal herbs from the forest. Women harvest leaves from the forest for wrapping food, wild palm fruits for oil processing and spices from the forest for sale. Men tapped wine from raffia and oil palm trees; trees form major raw materials for charcoal production as well as building materials for the communities. Respondents believe that the forest provides favourable conditions for agricultural activities.



Note: Total responses exceeded total respondents because of multiple responses.

Figure 12: Dependence on forest resources

Source: Field data (2004)

Effects of mining activities on women

The study indicates that more women become worse-off with the loss of the forest. One hundred and twenty respondents from the affected communities and 53 of their counterpart from communities that mining operations have not affected stated that mining had negative effects on women. In Table 3, 23 respondents linked loss of forest to negative effects of mining on women. Only nine respondents believed women benefited from mining.

Table 3: Effects of Surface Mining on Women

Effects	Type of community				Total
	Affected community frequency	%	Not affected community frequency	%	
Negatively	120	80.0	53	57.0	173
Both	14	9.3	0	0	14
Positively	9	6.0	0	0	9
Do not know	6	4.0	36	38.7	42
No effect	1	0.7	3	3.2	4
No response	0	0	1	1.1	1
Total	150	100%	93	100%	243

Source: Field data (2004)

Figure 13 gives an indication of the effects of surface mining on women. Seventy-eight respondents from the communities affected by surface mining said that surface mining creates less employment and limited training opportunities for women. Eighty respondents from the affected communities said that family-

related problems like divorce increased when surface mining operations began in their communities. More than 100 respondents from affected communities said that both women and men left their homes in search of alternative sources of income. One hundred and four respondents in affected communities said that children dropped out of school; 77 respondents said that some children are forced to work to earn incomes thus affecting children’s education. Further investigations indicate that women became economically worse-off when they lost their livelihoods with the loss of farmlands and standing forest.

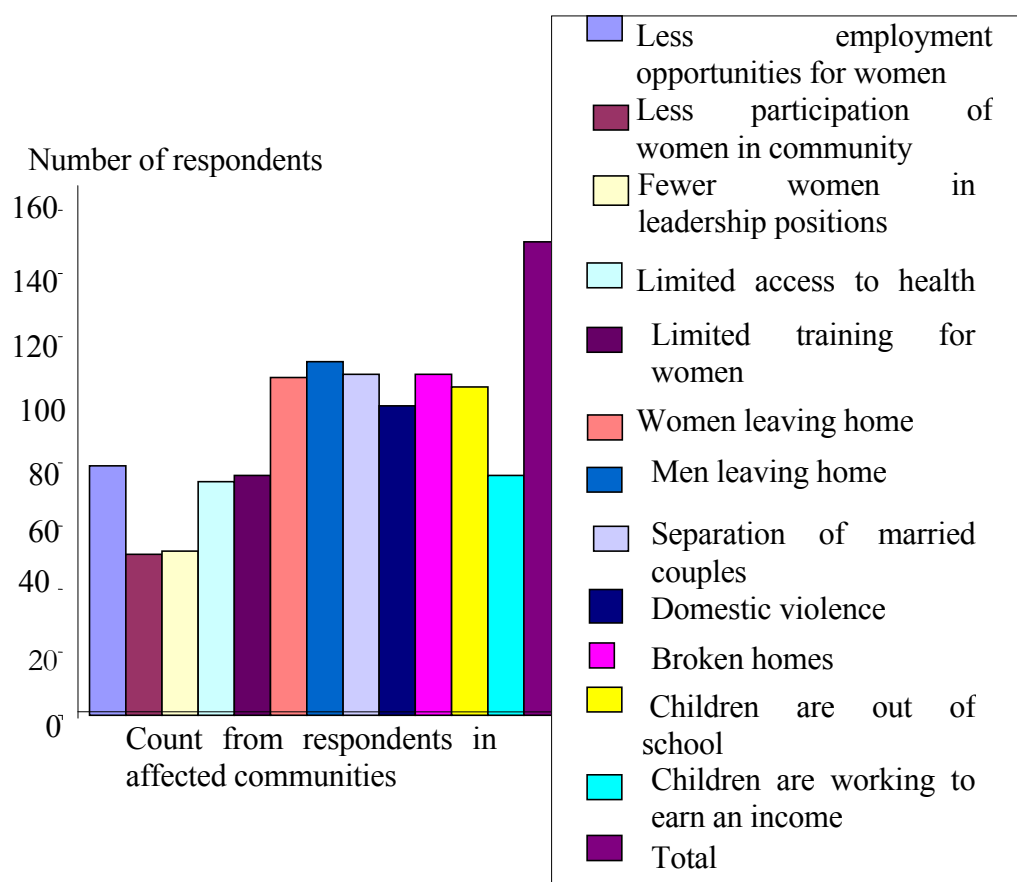


Figure 13: Influences of surface mining on women and their children

Note: Total responses exceeded total respondents because of multiple responses.

Source: Field Data (2004)

CHAPTER FIVE

MINING AND HUMAN RIGHTS OF AFFECTED COMMUNITIES

Introduction

The uncontrolled expansion of mining in the Teberebie Electoral Area has resulted in conflicts between communities living in and around the mining concessions and mining companies. Conflicts have mainly revolved around land use rights; relocation or resettlement plans for communities affected by mining projects; disagreements over negotiations or lack of negotiations; the inadequacy of compensation for the destruction of communities' properties; pollution of communities' water sources; destruction of environmental and cultural sites. These conflicts and the practices of mining companies with respect to the issues of compensation; resettlement or relocation; eviction of communities from mining concessions and the destruction of the environment, often led to the violation of the fundamental human rights of these communities.

Community people recognise the weak legislation and the lack of capacity by Regulatory Agencies to enforce existing regulations as factors contributing to the violations of the rights of mining communities. World Bank (2002) recognises the ability of developing countries to enact a modern competitive fiscal and environmental regulatory framework to regulate the extractive sector as a challenge. The prescription and broad influence of International Financial

Institutions (IFIs) on critical matters of policies as depicted in the case of Ghana is the same for mineral-endowed countries in Africa. By the influence of IFIs on broad issues on mining in mineral-dependent countries, especially in the area of mining regulation, the World Bank has unleashed an unhealthy competition among poor countries in Sub-Sahara Africa for the attraction of mining investment through the reduction of standards in what could be described as a “race to the bottom”. For example, the industry players in Ghana have been pushing for the lowering of standards in order that the country would compete with other countries that have relatively weaker mining regulations to attract mining investment. From 1994, more than 70 countries in the developing world changed their laws to attract foreign mining companies.

These conflicts have not augured well both for profitable investment in mining or for the maintenance of social, cultural, and economic stability of communities affected by mining operations. Respondents in the affected areas indicated that mining companies polluted rivers in the Teberebie Electoral Area through their activities. Out of the 150 respondents from the affected communities, 86 perceived water bodies as polluted by surface mining activities whilst 44 were of the opinion that surface mining had destroyed sacred forests. Thirty-seven and 28 respondents from communities affected by mining and communities not affected by mining, respectively, believed that mining companies had destroyed hills and polluted water bodies. Issues that have generated conflicts differed in communities affected by mining from those that mining company activities had not affected. Communities affected by mining

operations have varied opinion of conflicts ranging from land use to pollution. About 20% of respondents from affected communities and communities that are not affected have conflicts over agricultural lands and environmental pollution. There are also conflicts between ‘galamsey’ operators and mining companies. Other issues that generate conflicts include low compensation payment and non-payment of compensations. Respondents from communities that have not felt the effects of surface mining, however, see two major areas of conflicts with the mining company and these are conflicts over water pollution (54%) and environmental pollution (40%) as indicated in Figure 14.

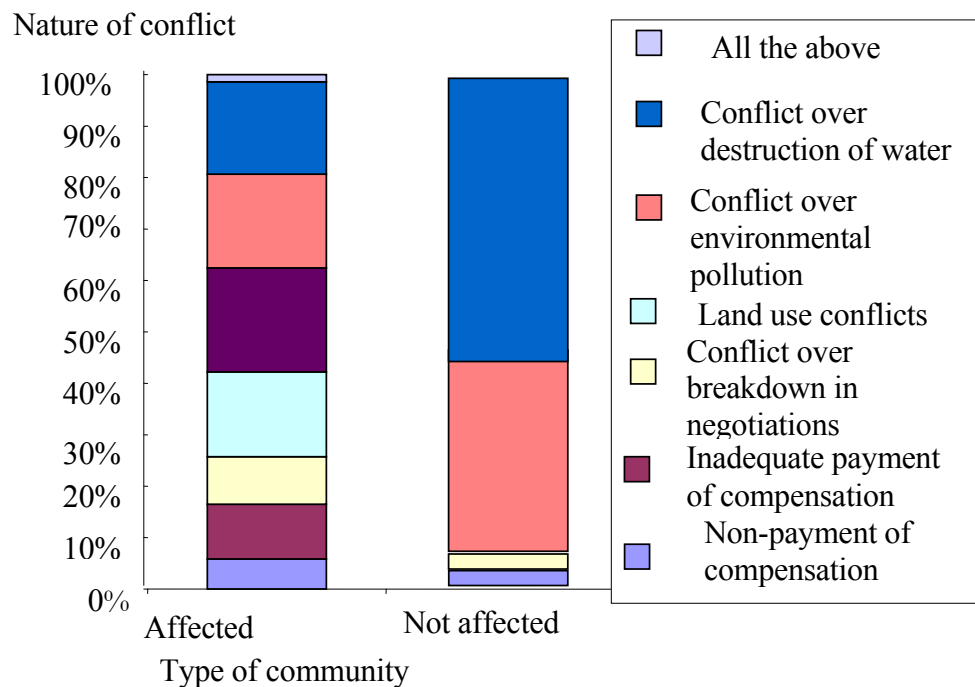


Figure 14: Issues generating conflicts in mining communities

Source: Field data (2004)

Violation of communities' human rights

Conflicts in mining communities have resulted in human rights abuses. Communities suffer human rights violations including right to clean environment manifested in pollution of community water bodies, air and noise pollution. Respondents singled out pollution of water bodies as a major concern to livelihood and said they are compelled to drink from polluted streams when boreholes constructed for communities as alternative source of water do not yield water.

Communities that mining operations have not affected echoed the view on water pollution as a serious human rights concern with 98% of the respondents from the non-affected communities expressing this opinion. They link the pollution of streams and ground water to violations of the social and cultural rights. Other related human rights violations include denial of communities' access to ancestral lands; forced evictions; demolition of community buildings; assault; unlawful detentions; and sometimes shooting of community people. About 33% of the respondents stated that major sources of conflicts are pollution of water bodies; 25% cited lack of access to family lands; 10% arrests and detentions; 10% demolishing of community buildings and another 10% cited assaults and brutalities as specified in Figure 15.

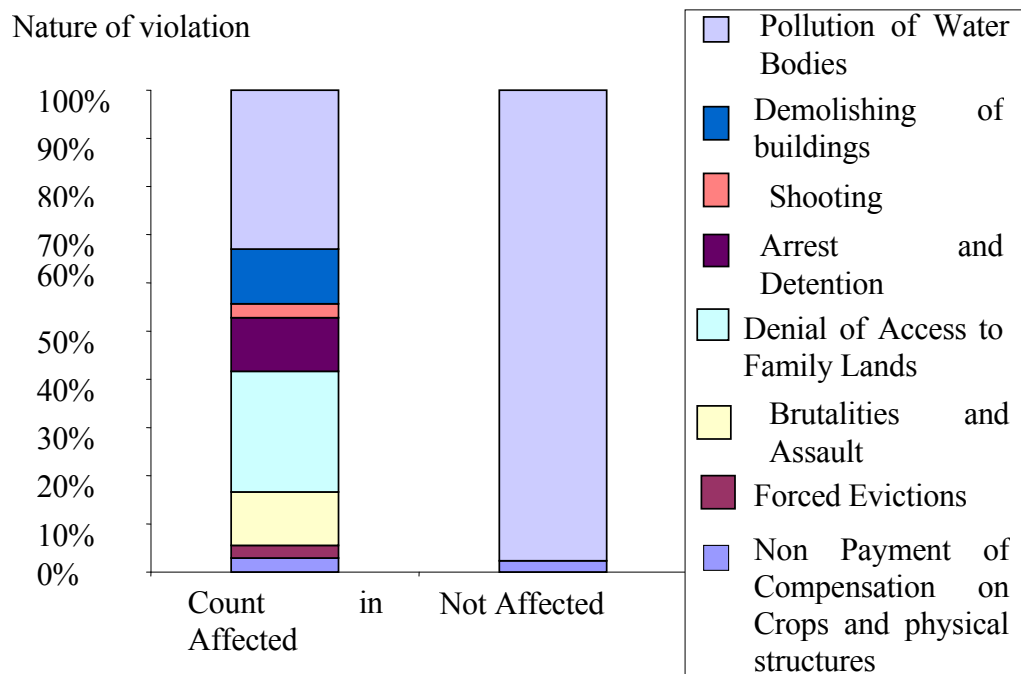


Figure 15: Human rights violations in mining communities

Source: Field data (2004)

Avenues Used by communities for seeking redress

Community people sought redress by reporting human rights violations to the mining companies, the District Assembly, the Paramount Chief of the area and to the NGOs that engaged in advocacy work in the mining communities. Both the affected communities and non-affected communities believed that mining companies should address community complaints. About 23.6% of the respondents from affected communities and 23.5% from the unaffected communities stated this fact. This, notwithstanding, mining companies did not show any sensitivity to the community complaints. This prompted the people in the affected communities to use other avenues for redress. About 22% of

respondents reported human rights violations to the District Assembly believing that government agencies would compel mining companies to do the right thing. About 14% reported complaints to the paramount chief of the area and 10% reported to the local NGO that is Wassa Association of Communities Affected by Mining (WACAM), for support and direction as shown in Figure 16.

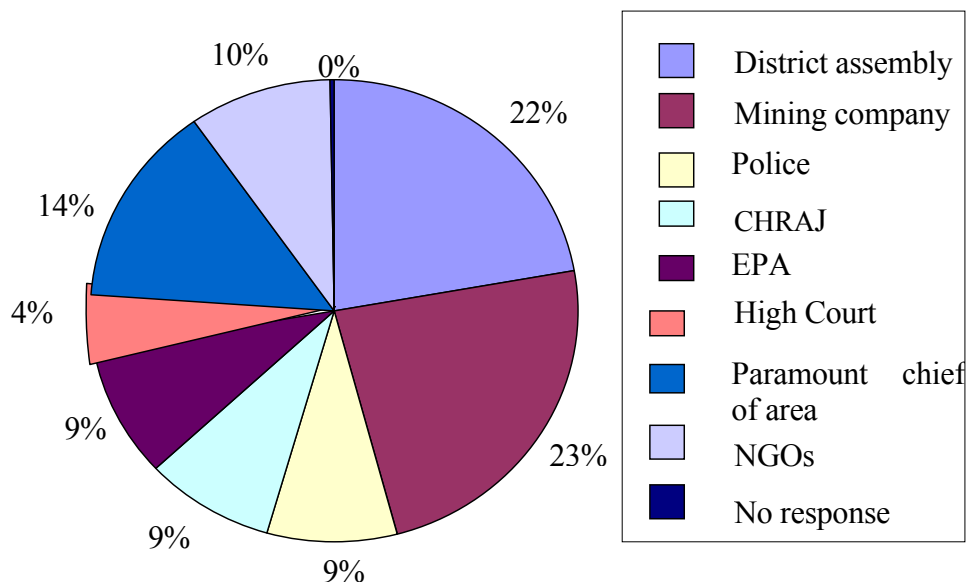


Figure 16: Communities’ responses to grievance handling

Source: Field data (2004)

Respondents’ suggestions for conflict resolution mechanism

Although community people view the District Assembly as having the power to compel mining companies to do the right thing, respondents have the view that the District Assembly had not done much to resolve community complaints when mining companies violate community rights. Almost all respondents from communities that mining operations had affected and 70% of

respondents from unaffected communities expressed the opinion that the District Assembly did not address community complaints on human rights violations by mining companies as indicated in Figure 17. However, the District Assembly and Regulatory bodies like the Environmental Protection Agency mentioned that they had made efforts to resolve the community conflicts.

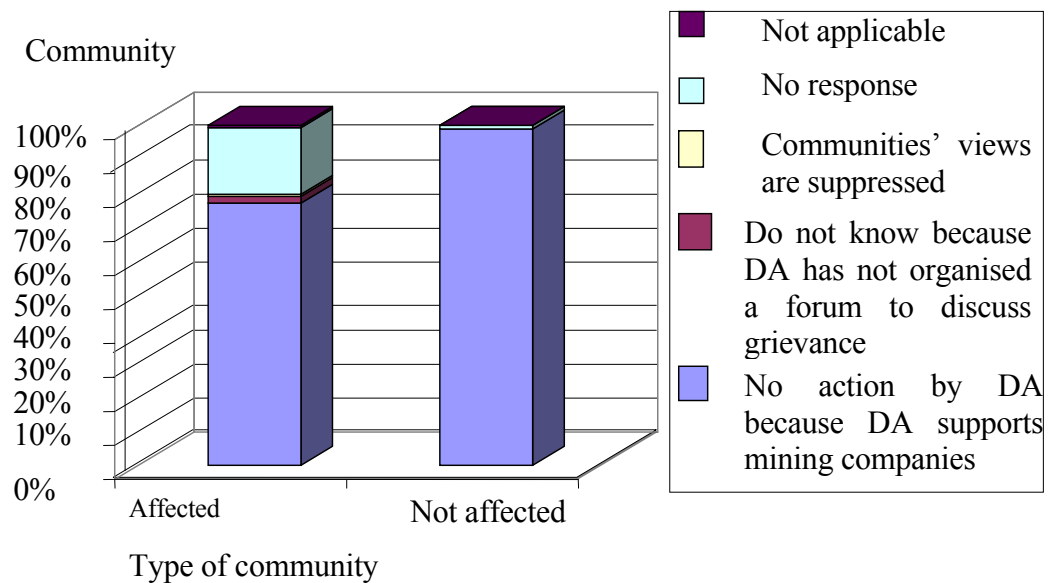


Figure 17: Responses to community grievances

Source: Field data (2004)

Effects of conflicts from surface mining on affected communities

Community people said that non-resolution of conflicts had affected the productive capacity of mining communities. In Figure 18, 41% of the affected community respondents said that economic activities had reduced due to conflicts. About 20% believes that the destruction of the environment and the degradation of agricultural lands, pollution of water bodies and diversion of access roads to

farms had negative effects on crop yields. Another 20% of respondents indicated that such conflicts emanating from human rights violations destroyed community livelihood. According to the respondents, conflicts have the potential of destroying family cohesion. Divisions in communities destroy the ability of community people to use the communal spirit to develop their communities. Divisions among community people have the potential of destroying the ability of communities to present a united front in their struggles to protect their rights, which exposed community people to exploitation by investors, who want to maximise their profit. In the Focus Group discussions with the resettled Teberebie community, residents revealed that their relationship with the defunct Teberebie Gold Fields in terms of conflict resolution was better than GAG because the former developed a dialogue process with communities to resolve conflicts.

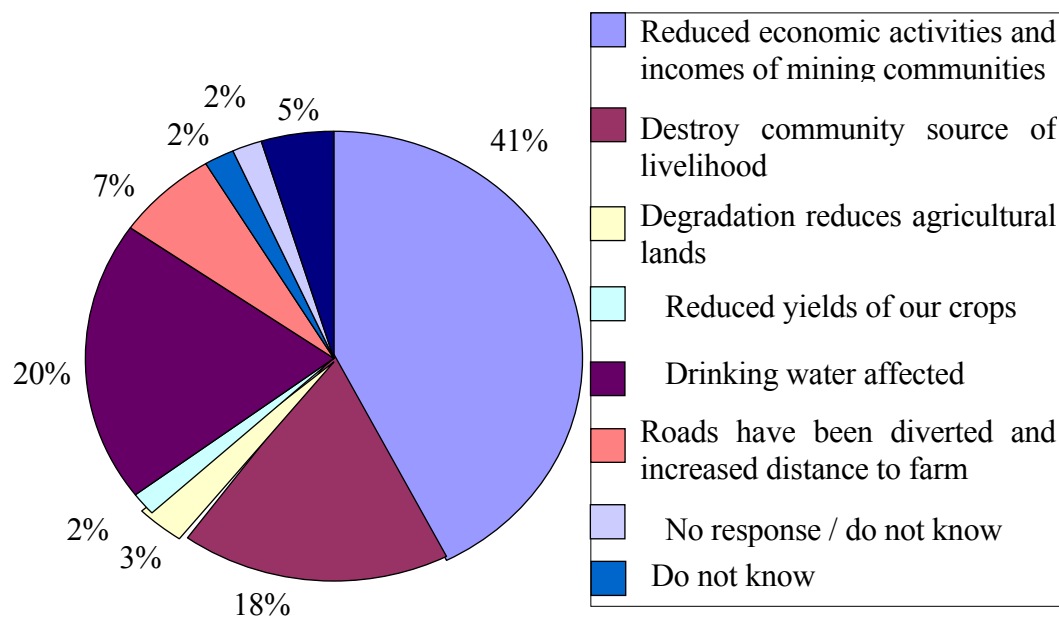


Figure 18: Effects of surface mining on affected communities

Source: Field data (2004)

Relocation and surface mining

Article 20(2) (a) of the 1992 Constitution of Ghana provides for the payment of adequate compensation for compulsory acquisition of property for mining. The State Lands Amendment Law, Act 586 (2000) deals with compensation payments, and modes of payments in case of compulsory acquisition of land. The State Lands Amendment Act and the 1992 Constitution of Ghana permitted the affected parties to make claims for compensation. In the case of mining, the Minerals and Mining Act, 2006(Act 703), provides for the payment of compensation to the owner or the lawful occupier of any land subject to mineral rights. Such compensation should restore the livelihood of the owner or the lawful occupier. Compensation payment and relocation are major causes of loss of livelihood and increased poverty for the affected mining communities. Out of the 150 respondents from the affected communities, only 48 received compensations of any type. The respondents indicated that the mining companies paid compensations for crops; six out of the 48 respondents received compensation for buildings as shown in Table 4. The company compensated others by building new homes for them although as many as 35 respondents representing 72.9 % of communities affected by mining had the number of their rooms reduced. The company provided other social amenities like school, access roads, meeting places and clinics.

Table 4. Types of compensations paid to 48 affected people who received compensation

Nature of compensation	Affected Community	%
Paid for my crops	42	87.5
Provided the community with electricity	36	75.0
Built my house but reduced the number of rooms	35	72.9
Provided basic school for the community	34	70.8
Provided community with potable water	32	66.7
Provided community with a meeting place	31	64.6
Provided access road	27	56.2
Provided me with agricultural land	7	14.6
Paid for my buildings	6	12.5
Provided bursary and scholarship for the children	5	10.4
Provided the community with a clinic	5	10.4
Provided community with a market place	2	4.2
Provided credit schemes	2	4.2
Built my house with the same number of rooms	2	4.2
Provided the community with an early childhood centre	1	2.1
Total number of respondents who were compensated	48	100%

Note: Total number of responses is more than total number of respondents due to multiple responses

Source: Field data (2004)

Of the 48 respondents who received compensations, only three said they were satisfied with the levels of compensation. Twenty-three said they were not satisfied and as many as 26 felt the company cheated them through compensation payments as indicated in Figure 19. The survey results show that compensations paid to community people by mining companies did not satisfy community people aspirations and the communities think they are worse off with the compensation package.

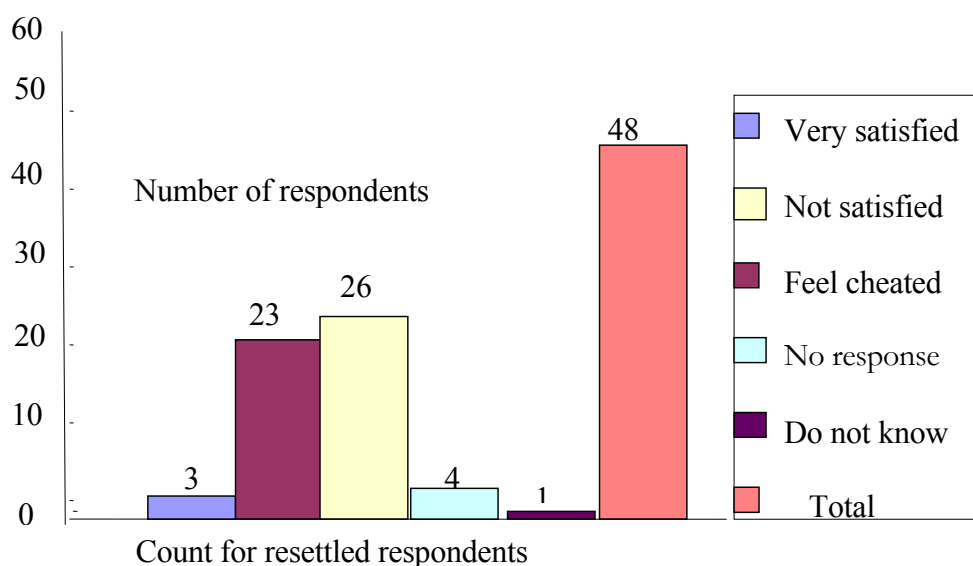


Figure 19: Levels of satisfaction for compensation/relocation.

Source: Field data (2004)

About 71% of respondents think that compensation payment made them worse- off and reduced the quality of life of community people. Only 23% of respondents said they had better homes than before as indicated in Figure 20.

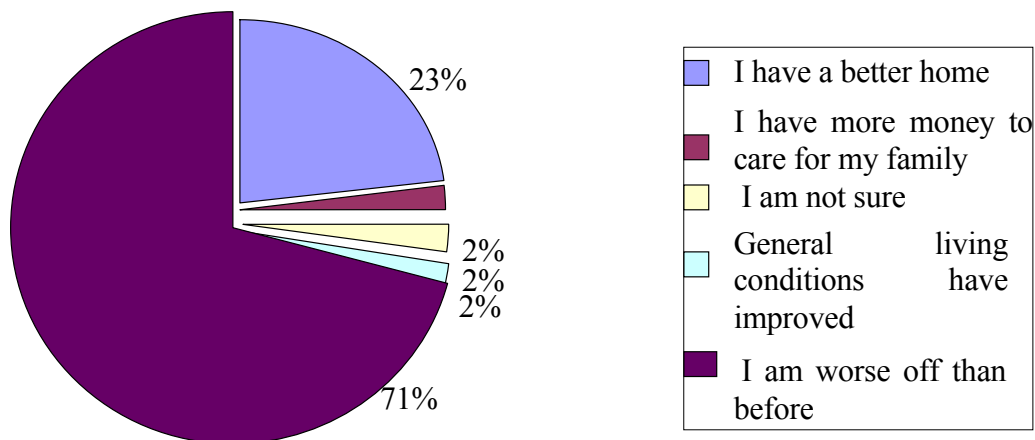


Figure 20: Effect of compensation /relocation on community livelihood

Source: Field data (2004)

The survey indicates that the reductions in the number of rooms, low level of compensations among other things had adverse effects on community livelihood. In their assessment of benefits of mining investment in their communities as depicted in Figure 21, 87% of respondents from the affected communities were of the opinion that mining investment had been a curse to communities; only 3% considered mining as a blessing.

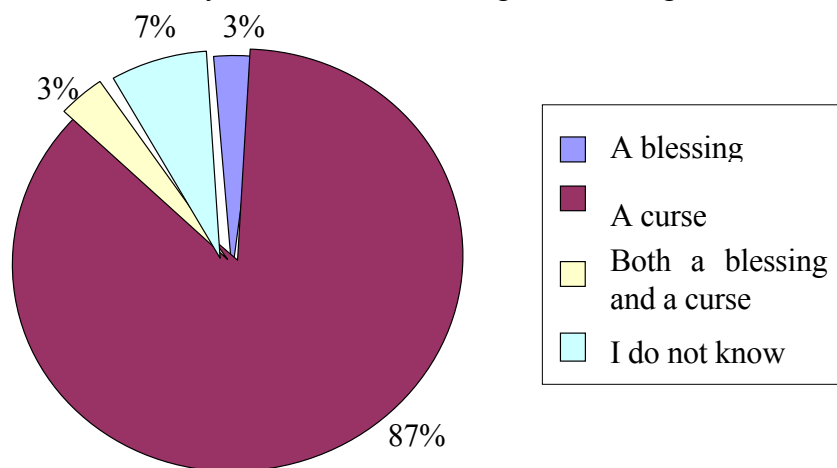
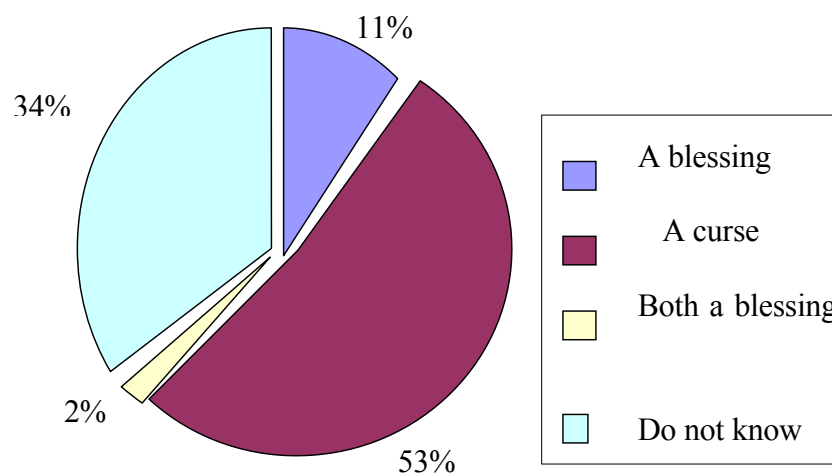


Figure 21: Assessment of benefits of surface mining for communities.

Source: Field data (2004)

The situation was not very different even in communities that operations of surface mining had not affected because 53% of respondents in these communities as shown in Figure 22 thought that mining investment was a curse to mining communities. Whereas 34% of the respondents from communities not affected were not sure whether mining was a curse or a blessing, about 2.0% said that mining was a blessing and a curse. About 11% of the respondent said mining was a blessing. The field survey results indicates that mining investment affected community income levels and exacerbated poverty which made community people to conclude that mining investment is a curse to communities and not a blessing



Count for communities not affected

Figure 22: Assessment of benefits of surface mining in unaffected areas.

Source: Field data (2004)

Surface mining, environment and community livelihood

Traditionally, rural people established their communities around rivers and streams. Rivers and streams were important for food production, river-based

employment, recreation and cultural reasons, in addition to the satisfaction of biological and household needs. The proliferation of surface mining companies had resulted in stream pollution because of frequent cyanide spillages, acid mine drainage; tailings leakages, mine waste disposals, and the digging of mine pits. These have deprived communities of access to water - a basic need for human survival.

Table 5. Existence of natural elements in the Teberebie area

Environmental elements present	Responses	Type of community		Total
		Affected	Not Affected	
Forest	Yes	44	37	81
	No	100	56	156
	Don't know	5	0	5
	No response	1	0	1
Rivers	Yes	90	3	93
	No	54	90	144
	Don't know	6	0	6
Hills	Yes	10	0	10
	No	135	93	228
	Don't know	5	0	5
Total		150	93	243

Note: Total responses exceeded total respondents because of multiple responses.

Source: Field data (2004)

Project Underground (2000) indicates that lack of access to clean potable water in mining communities has a relationship with the reduced health status of the communities, as they are plagued with many water-borne diseases. The field data

shows in Table 5 that communities had forests, rivers, and hills before surface mining operations began in their communities.

Table 6. Effects of mining on the natural environment in community

Environmental elements	status	Type of communities		Total
		Affected	Not affected	
Forest	Still around	3	1	4
	Destroyed	44	37	81
Rivers	Still around	8	0	8
	Destroyed	86	3	89
Hills	Still around	23	26	49
	Destroyed	11	0	11
Total responses		44	26	60

Note: Total responses exceeded total respondents because of multiple responses.

Source: Field data (2004)

Destruction of forest, hills and pollution of water bodies has implications for the clean environment and habitat of life forms. Destruction of hills also alters the soil structure and the ability of the soil to support certain crops after mine closure (Anane, 2003b). 85 respondents in both the affected and the communities not affected know of the existence of forest in their areas, and 81 of them said that mining had destroyed the forest. Eighty-nine out of 97 respondents in both the affected and the communities that are not affected by mining perceived rivers as polluted and 11 out of 60 respondents in the affected communities said that hills were destroyed as specified in Table 6.

State of environmental elements

In the assessment of the state of the environmental features, 50% of all respondents from the affected communities believed that surface mining activities had destroyed forests, hills and valleys. Sixteen respondents from the affected communities and 32 from communities not affected by mining activities agreed that the destroyed forest included forest reserves and sacred grooves. Twelve respondents in the affected communities feel that mining operations had destroyed shrines in the communities. All the 150 respondents from the affected communities and the 92 from the non-affected communities gave an indication of impact of mining on the fauna and flora as well as other aspects of community livelihood due to environmental destruction through mining activities. On the destruction of forests by mining, 140 respondents from the affected communities and 14 from the communities that mining has not affected confirmed that such destruction results in the creation of marginal lands, loss of valuable herbs and increased erosion of soils. One hundred and thirty-one respondents from the affected communities confirmed that increased soil erosion had polluted rivers and streams of communities. The scale of impacts in communities that mining operations have not affected is lower except for water pollution in which 72 respondents said mining activities had polluted their streams as shown in Table 7. Though some of the respondents did not know of the destruction of the physical environment by mining, the result gives credence to the claims of the destruction of the physical environment including loss of vegetation cover, which compels affected mining communities to live on marginal lands.

Table 7. Impact of mining on community livelihoods

Impacts	Affected	Not affected
Leads to destruction and degradation of forest and fertile lands	140	14
Reduced fertility of agricultural lands	140	3
Streams polluted by loose soil that move into them	137	1
Farms are destroyed	131	43
Farmers have limited land as mining takes land	129	10
Water bodies are polluted	109	72
Destruction of forest products	88	1
Animals in the forest have vanished	69	41
Land degradation / increased erosion	53	12
Valuable herbs are lost	25	3
Migration of affected communities	4	0
Mining related diseases	2	0
Do not know	0	19
Total	150	93

Note: Total responses exceeded total respondents because of multiple responses.

Source: Field data (2004)

Mine closure and community livelihood

GAGL and International Finance Corporation (IFC) (2003) stated that the Iduapriem and Teberebie Gold Mines operated by GAGL have a lifespan of nine to twelve years depending on the gold price and operating costs. The report further indicates that the mine closure will pose difficult social, economic and environmental problems to the local population of the villages located on the

concession. About 62% of respondents from affected communities will like to continue with agricultural activities after surface mining as they consider agriculture as a sustainable occupation. Only one respondent from affected community want the company to continue with mining operations. The respondents were, however, not sure, if the land can support their agricultural activities. Whilst 20.8% of the affected communities want mining companies to resettle them, 20% were undecided. About 13% of respondents from affected communities would want the mining company to resettle them because of mining operations and less than 1.0% of respondents want to engage in galamsey

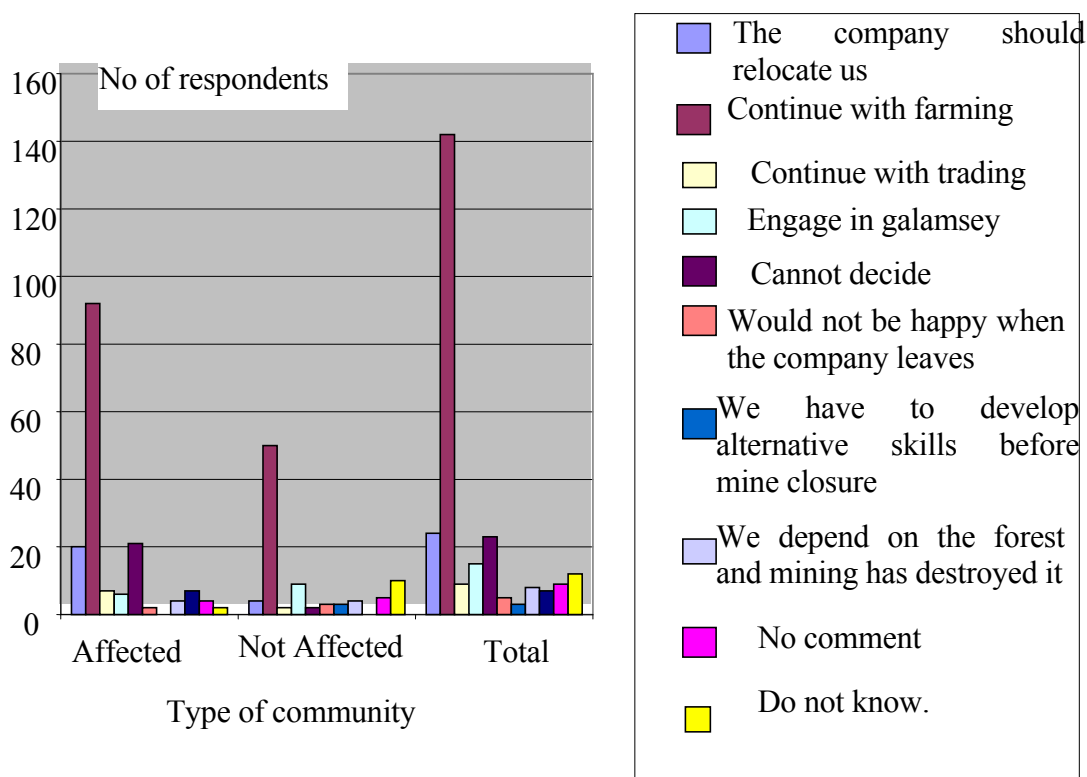


Figure 23: Comments of respondents on the way forward after mining

Source: Field data 2004

Figure 24 shows respondents' view on life after surface mining. 72% of respondents from affected communities and 83% from communities not affected by mining said the Government should place a ban on surface mining activities. About 28% of responses from affected communities and 39% of their counterpart in communities not affected by mining said policy makers should review activities of surface mining. Again, 41% of affected communities and 41% of communities not affected by mining operations stated that surface mining degraded the environment and 32% of them wanted the Government to compel mining companies to reclaim the environment.

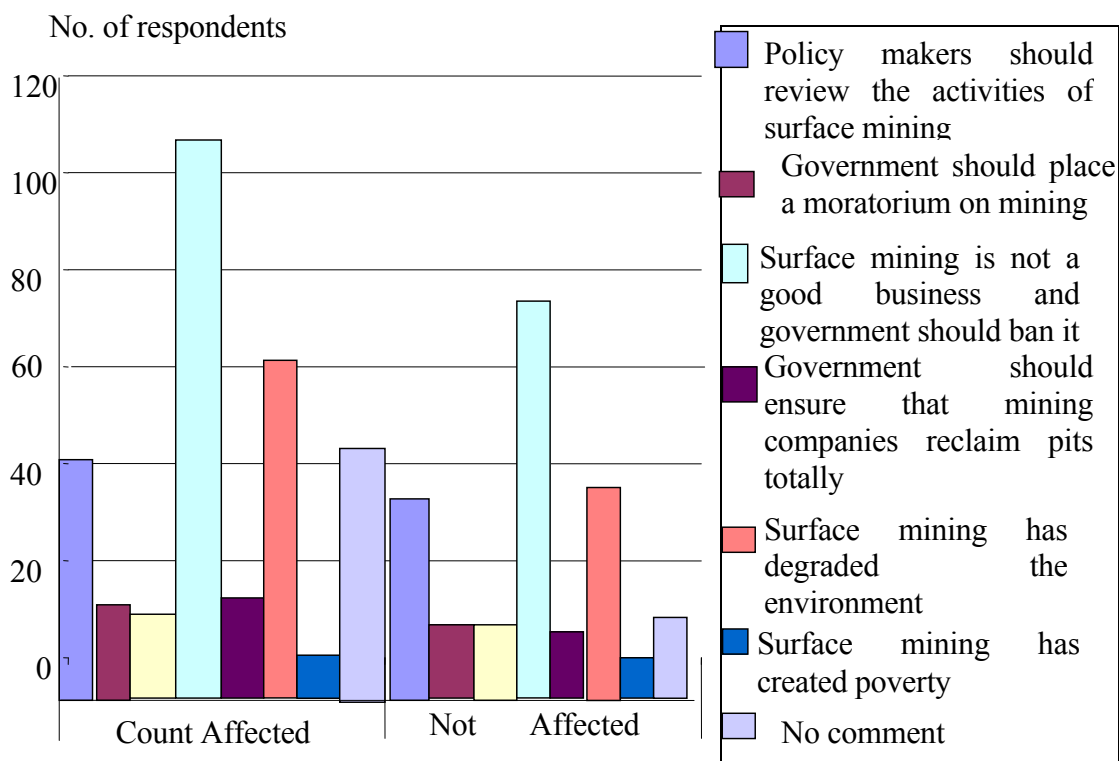


Figure 24: Comments from respondents for the way forward

Source: Field data 2004

Mining impact and communities' right to self-determination

Figure 25 shows how the non-participation in decision-making can affect the use of the land. Surface mining affects the ability of community people to fulfil their roles and responsibilities in society. Involvement of community people in decision making to restore livelihoods at both the company and governmental levels had been limited. Mining community people who invest in their farms and develop plans for sustained incomes in future have little or no livelihood options when their lands are ceded to mining companies. The involvement of affected people in decision-making processes relating to the development of mines is important. Proper inclusion and training of communities in negotiations and human rights before mining operations begin will also equip them with capacities to negotiate adequate compensations when their farms fall within the mine-take areas. The practice where affected communities received information on mining projects from company representatives that their lands had been committed to mining, created distortions in community livelihood programmes. Community people in trying to protect their right of ownership of land had experienced many human rights violations, which include the use of national security personnel and mine security to further abuse community rights. If affected communities were involved in the making of decisions relating to land use, they would have the opportunity to protect their agrarian-based livelihoods. Involving mining communities in the making of decisions on mining will educate policy makers to recognise the investments potentials of communities and the investment that the

community people had made in the national economy. This will help to avoid the tendency of placing mining above other investment alternatives.

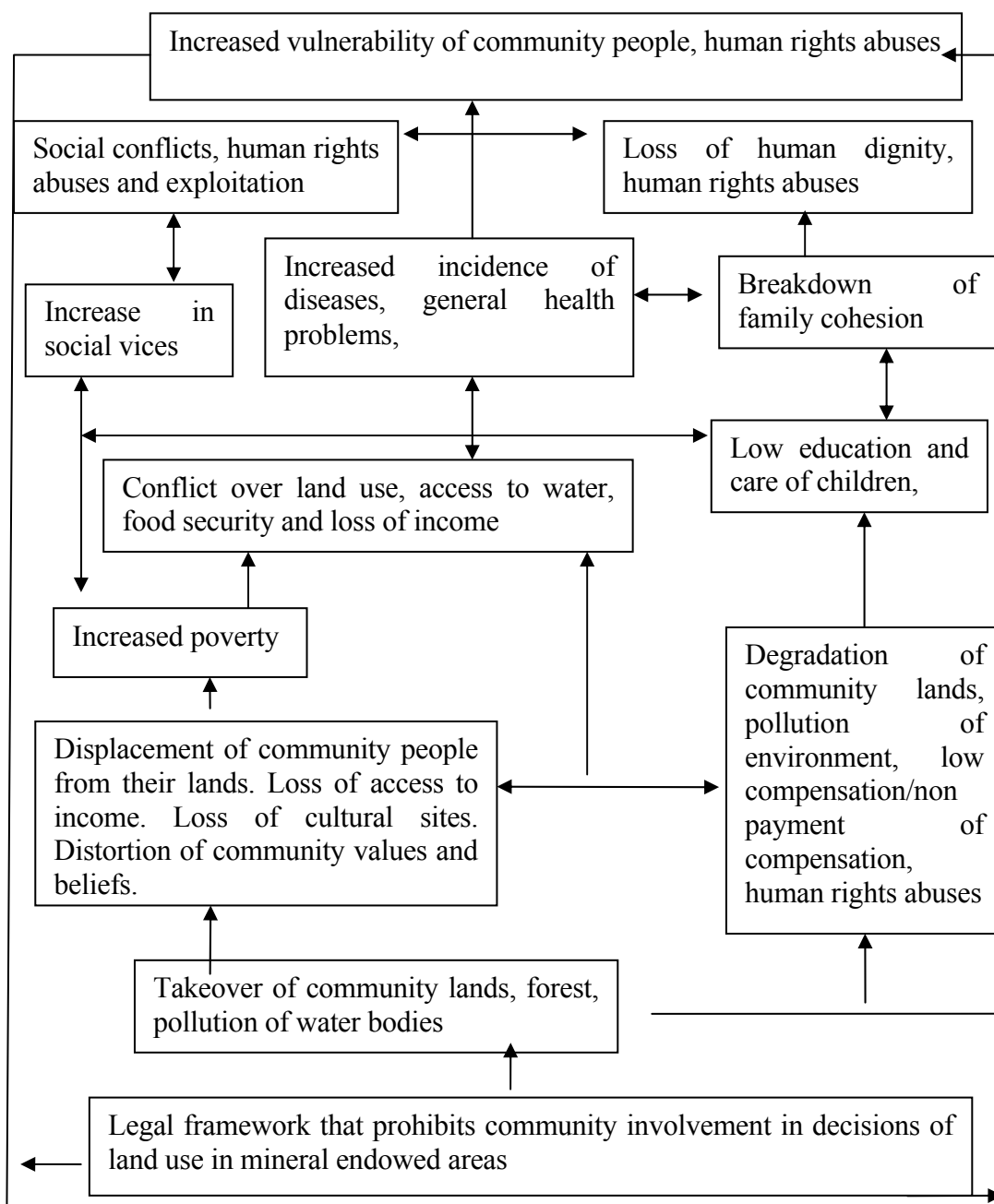


Figure 25: Effects of non-participation of communities in decision making on land use

Source: Field data (2004)

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

The study assessed the implication of mining on the livelihood of affected communities within the Teberebie Electoral Area of Wassa West District of Ghana. Specifically, the study assessed the effects of mining activities on the environment with regard to the pollution of water bodies; destruction of biodiversity; loss of community livelihoods and mitigation measures that are in place and how mining affected community groups especially women.

The study used quantitative and qualitative analysis in the case study. The study area was clustered purposively into communities affected by mining and communities not affected by mining with six communities out of 98 communities in the Teberebie Electoral Area selected for the study. The respondents were 243 with 150 of them affected and 93 not affected by mining operations. Respondents targeted were heads of families, and youth with a female - male ratio of 0.82-1. Both primary and secondary data were used in the analysis, which was facilitated, by the use of Statistical Product for Service Solutions (SPSS).

The following are the main findings of the case study:

- The literacy level of people living in mining communities is low with only 32% of the respondents having basic education. There was no significant difference in communities affected by mining and communities not affected by mining in relation to literacy level.
- Mining activities in the Teberebie Electoral Area resulted in displacement of community people with 63% of respondents from affected communities displaced. All the displaced community people also lost farmlands of an average size of 6 – 10 acres. About 60% of respondents lost their livelihoods with the destruction of forests as these respondents depended on the forest for livelihoods and incomes
- Destruction of environment has a direct bearing on community livelihood and development. In the survey, about 71% of the 243 respondents in the communities did not see any meaningful development in their communities. The respondents attested to the development of roads as a positive impact of mining and 21% of the survey supported this assertion.
- The increasing influence of transnational corporations in the process of defining the development agenda for poor nations is gradually eroding the abilities of developing nations to develop participatory processes for national development. The respondents affected by mining operations from the Teberebie Electoral Area have limited opportunities in decisions that affect their development.

- 71 of all respondents claimed that mining had affected women the most as women had limited skills besides working on the land. The effects of mining on women had effects also on children and 43% of respondents said there was increased school drop-out rate with 32% claiming that children engaged in child labour
- The Teberebie Electoral Area showed a trend of community rights violations. The human rights violation manifested in conflicts with the company, and 54% of respondents from communities affected by mining had conflict over water pollution whilst 40% of the respondents from the communities not affected by mining had conflicts around environmental pollution.
- About 87% of respondents from affected communities said mining was more of a curse than a blessing. In a multiple response, about 70% of affected community people wanted the Government to place a ban on surface mining activities. About 84% of people in communities not affected by mining operations also expressed this view.

Conclusion

The study in the Teberebie Electoral Area established that struggles over land involving communities and the mining company had eroded economic activities at the community level, which had worsened poverty in the mining communities. Again, community poverty become worsened when community

people as investors receive low compensation and in some cases do not receive compensation when multinational mining companies destroyed their properties

When community people are not able to use the structures of state to resolve the problems resulting from mining operations, it leads to violent conflicts between mining companies and the communities, which breaks down the trust of communities in state agencies such as District Assemblies, Security Agencies and Environmental Protection Agency. The mistrust indirectly affects dialogue between communities and government agencies.

Legacy issues are real concerns in mining communities that need the attention of the Government, as the country may have to address the accumulating environmental problems, youth unemployment, and water stress after the mining boom is over.

Recommendations

The recommendations of the study are:

- It has become necessary for the Government to formulate a land use policy, which would take into consideration other land uses and environmental protection.
- Mining communities and farmers are investors who have invested in the land. The government is destroying their investment by giving away their farms for mining investment without ensuring the payment of adequate and fair compensation. There is the need for the Government to develop

regulations for the payment of compensation based on the compensation principles which take into consideration the loss of earnings resulting from the destruction of crops, life expectancy of crops, disturbance on land and compensation for land as enshrined in Minerals and Mining Act, 2006 (Act 703)

- The Minerals and Mining Act of Ghana, 2006 (Act 703) should clearly establish “No Go Zones” for the mining sector in Ghana in order to protect forest reserves and other national strategic assets. Government has given away protected forests for mining operations, which would increase the rate of depletion of tropical forest with implication for biodiversity loss and climate change.
- Mining is inherently unsustainable and mineral extraction, which makes use of heavy machinery, high-energy consumption and toxic chemicals that endanger human life and the environment coupled with inappropriate disposal methods, pose a bigger threat to governments and communities. The legacies of mining investments would have long-term negative effects on the environment and the communities. It is the responsibility of the government and the people of the country to assess the real costs and benefits of investments in the extractive sector. Mining companies in externalising environmental cost of their operations puts the Government and the host communities in a disadvantaged position since Government

would have to bear the cleanup costs of environmental pollution or leave the host communities to live with most of the negative legacies of mining.

- The new Minerals and Mining Act, 2006 (Act 703), is not very different from the PNDC Law 153 when it comes to environmental protection and community rights. The Government of Ghana should strengthen the regulatory institutions so that they can develop standards to address the negative effects of mining. The review of mining laws and the regulatory framework should recognise the importance of safeguarding community interests and the environment. Thus, government should equip the EPA to perform its legal function of developing enforceable standards based on the “Polluter Pays Principle”, in line with transparent disclosure of information and participation of all stakeholders in the monitoring processes of mining investment.
- Poverty, illiteracy and lack of access to information have excluded many rural communities from the decision-making processes at the local, national and international levels. When communities lose their economic base through mining, they become disempowered, vulnerable and policy makers impose unfriendly decisions on them. It is thus important for the Government to mainstream the UN Declaration on Indigenous Peoples Rights for indigenes to give their Free, Prior and Informed Consent (FPIC) for industries to start operations in their territories. This right is also attributed to non-indigenous peoples through the ILO 169 declaration

- The affected mining communities have lost confidence in the ability of the state agencies to protect their sovereign rights and they perceive Government as promoting and protecting the interest of mining companies. Mining communities lack the needed organisation that would articulate their concerns and ensure the strengthening of community capacity for effective engagements with mining companies. Government agencies and advocacy organisations should recognise the capacity-gap between the affected communities and the mining companies; and to develop appropriate mechanisms to protect the interest of communities.
- There is the need for the Government of Ghana to ratify United Nations General Assembly Declaration on the Right to Development. This right entitles all people to participate in, contribute to and enjoy economic, social, cultural and political development to realise fully, all human rights and fundamental freedoms. In addition, the Government of Ghana should take steps to bring into operation the African Charter on Human and Peoples' Rights in the judicial system of Ghana. Article 22 of the African Charter on Human and People' Rights states that all peoples have the right to their economic, social and cultural development with due regard to their freedom and identity enjoyed as a common heritage of humanity.

REFERENCES

- Abugre, C. (1999). *Partners, collaborators, or patron-clients: defining relationships in the aid industry: a survey of the issues*, Quebec: Canadian International Development Agency.
- Acheampong, E. A. (2001). *Annual Report, Forestry Service*, Tarkwa: Wassa West District Assembly.
- Agbesinyale, P. K. (2003). *Ghana's gold rush and regional development the case of Wassa West District*, Dortmund: Spring Centre University of Dortmund.
- Anane, M. (2003a). Ghana: Government puts the last nail in the coffin of Ghana's forest, *World Rainforest Movement Bulletin* 68, 4-5.
- Anane, M. (2003b). Gold discovered beneath Ghana's forest reserve, *World Rainforest Movement Bulletin* 71, 13-14.
- AngloGold Ashanti (2004). *Annual Report*, Johannesburg: AngloGold Ashanti Limited.
- Ajakaiye, D. O. (2001). Economic policy incentives and the promotion of environmentally sustainable development in developing countries, http://www.worldbank.org/wbi/sdlinkages/publications/abuja/EconomicPolicies/2_001 Accessed 19/09/04.
- Akabzaa, T. (2000). *Boom and dislocation: environmental and social impacts of mining in Wassa West District of Ghana*, Accra: Third World Network.
- Akabzaa, T. and Darimani, A. (2001). *Impact of mining sector investment in Ghana: a study of the Tarkwa mining region*,

http://www.saprin.org/ghana/research/gha_mining.pdf Accessed
20/09/04.

Arthur, L. (1983). *Development and distribution*, New York: University Press.

Aryee, B. N. A. (2001). Ghana's mineral and mining sector: its contribution to the national economy, *Resource Policy*, 27:2, 61-75.

Asad, I. (2003). *Canadian mining companies destroy environment and community resources in Ghana*, Ottawa: MiningWatch Canada.

Atkinson, J. (1998). *Undermined: the Impact of Australian mining companies in developing countries*. Victoria: Oxfam Community Aid Abroad.

Atkinson, J., Brown. A. and Ensor, J. (2001). *Mining Ombudsman Annual Report* Victoria: Oxfam Community Aid Board.

Awusabo-Asare, K., Kendie, S. B. and Abane, A. M. (2000). Population, poverty and environmental degradation in the closed forest zones of Ghana- views from below and clash of interests, *Oguaa Social Science Journal*, 2:1.

Ayensu, E. S. (1997). *Ashanti Gold: the legacy of the world's most precious metal*, London: Marshal Editions Developments Ltd.

Barning, K. (1997). *Industrial mineral resources of Ghana*, Accra: Ghana Minerals Commission.

Campbell, B. (1999). *Canadian mining interests and human rights in Africa in the context of globalisation, rights and democracy*, Quebec: Department of Political Science University of Québec à Montréal.

- Carswell, G. (1997). Agricultural intensification and sustainable rural livelihoods: a think piece, *Institute of Development Studies Working Paper 64*, Brighton: Institute of Development Studies.
- Chambers, R. (1997). Sustainable livelihoods, environment and development: putting poor rural people first, *Institute of Development Studies Discussion Paper 240*, Brighton: Institute of Development Studies.
- Cyanide Investigative Committee (2002). *Ministry of Environment and Science cyanide investigative report*, Accra: Ministry of Science and Environment.
- Daley, P. O. (1996). Regaining control over the environment: A Pan Africanist agenda, *African Journal of Policies*, 62-65.
- Department for International Development (1998). *Sustainable livelihood approach*, London: Department for International Development.
- Dumett, R. E. (1998). *El Dorado in West Africa: the gold-mining frontier, Africa labour and colonial capitalism in the Gold Coast, 1875-1990*, Athens: Ohio University Press.
- Food and Agriculture Organisation (2000a). *The challenges of sustainable forestry development Africa; Twenty-First*, Rome: Food and Agriculture Organisation.
- Food and Agriculture Organisation (2000b). *State of the world's forests*, Rome: Food and Agriculture Organisation.
- Food and Agriculture Organisation (2001). *Global farming systems study: challenges and priorities to 2030 regional land analyses Sub-Saharan Africa*, Rome: Food and Agriculture organisation.

- Foodfirst Information Action Network (2003). *Ghana: gold mining threatens forest communities*, Heidelberg: Foodfirst Information Action Network International.
- Fields, B. C. (1997). *Environmental economics: an introduction*, New York: McGraw-Hill.
- George, Susan (1977). *How the other half dies – the real reasons for world hunger*, Montclair: Allanheld, Osmun &C.
- Ghana Australian Goldfields (2003a). *GAG Iduapriem/Teberebie gold mine Community Action Plan*, Tarkwa: Ghana Australia Goldfields
- Ghana Australian Goldfields (2003b). *Resettlement action plan Teberebie southeast waste rock dump report*, Tarkwa: Ghana Australia Goldfields.
- Ghana Statistical Service (2000). *Population and housing census*, Accra: Ghana Statistical Service.
- Goldfields Ghana Limited (2003).
- Gold Fields Ghana Limited (2004). *A technical report on the Tarkwa Gold Mine, Ghana*, Toronto: Iamgold Corporation.
- Gottlieb, R. (2001). *Environmentalism unbound Cambridge: exploring new pathways for change*, Massachusetts: The MIT Press.
- Hilson, G. (2001). *A contextual review of the Ghanaian small-scale mining industry*, London: Imperial College Centre for Environmental Technology.
- Hilson, G. (2002). Small-scale mining and its socio-economic impact in developing countries. *Natural Resources Forum* 26, 3–13.

International Finance Corporation (2003a). Key topics in mining
<http://www.ifc.org/legal2003> Accessed 29th September 2004.

International Finance Corporation, (2003b). Key topics in mining
http://www.worldbank.org/ogmc/mining_poverty.html2003 Accessed
29/09/04.

International Labour Organisation (1998). *World Labour Report 1997-98
industrial relations, democracy and social stability*, Geneva:
International Labour Organisation.

International Labour Organisation (1999). *Social and labour issues in small-scale
mines: report for discussion at the tripartite meeting on social and labour
issues in small-scale mines*, Geneva: International Labour Organisation.

Kampfner, J. (2001a). Ghana - prisoner of the IMF, BBC News, November 5,
<http://www.jubilee2000UK.org/worldnews/africa> Accessed 29/09/04.

Kampfner, J. (2001b). Profits of doom BBC News, 2 November,
<http://www.news.bbc.co.uk/1/hi/programmes/correspondent/1634502.stm>
Accessed 29/09/04.

Kasanga, K. (1997). Land resources management for agricultural development in
Ghana, *Ghana Academy of Arts and Science 30th Anniversary Lectures*.

Kasanga, K. (2002). Surface mining threatens farming (ii), *Daily Graphic* May
15.

Kuffour, J. A. (2001). Independence anniversary speech, *Daily Graphic* March 7.

Kuyek, J., Winfield, M., Taylor, A. and Caimans, C. (2003). *Industry criticism of
looking beneath the surface: an assessment of the value of public support*

for the metal mining industry in Canada - a response from the authors,
Ottawa: MineWatch Canada.

Lassey, A. (2000). Mining and community rights – The Tarkwa experience,
Africa Agenda, 2: 3.

Mate, K. (2002). *Africa recovery boom in Ghana's golden enclave major new
investments boost output, but environmental concerns are growing,*
Geneva: United Nations.

Miller, C. G. (1998). *Preventing problems: a partnership approach,* Ottawa:
International Council on Metals and the Environment.

Mineral Policy Centre (1999). *14 Steps to sustainability,* Washington DC: Mineral
Policy Centre.

Mining, Minerals and Sustainable Development (1999). *Final Report: The results
of a scoping project for the World Business Council for Sustainable
Development,* London: International Institute for Environment and
Development.

Mining, Minerals and Sustainable Development Report (2002). *Breaking new
grounds,* London: Earthscan Publications Ltd.

MiningWatch Canada (2000). *A research agenda for communities affected by
large Scale mining activity,* Ottawa: MiningWatch International
Development Research Centre.

MiningWatch Canada (2001). *The globalisation of natural resources: mining and
the World Bank/International Monetary Fund: a special focus on Ghana,*
Ottawa: MiningWatch Canada.

- MiningWatch Canada (2003). *Placer Dome's exploration in Indonesian protected area*, Ottawa: MiningWatch Canada.
- Ministry of Finance (2001). *The budget statement and economic policy of the Government of Ghana for the 2001 financial year*, Accra: Ministry of Finance.
- Ministry of Finance and Economic Planning (2008). *The aggregation / reconciliation of mining benefits in Ghana (January to December 2004) Report*, Accra: Ministry of Finance and Economic Planning.
- Ministry of Interior (2006). *Districts maps of Ghana*, Accra: Ministry of Interior.
- Ministry of Lands and Forestry (2001). *Ghana national land policy*, Accra: Ministry of Lands and Forestry.
- National Coalition of Civil Society Groups against Mining in Forest Reserves (2003). Campaign against mining in Ghana's forest reserves, Accra: *World Rainforest Movement Bulletin* 71, 15-16.
- Owusu, J. (2001). *Annual Report, Town and Country Planning*, Tarkwa: Wassa West District Assembly.
- Oxfam (2003). *Community Aid Abroad Mining Ombudsman Annual Report*, Carlton: Oxfam Australia.
- Oxfam (2001). *Oxfam Community Aid Board Mining Ombudsman Annual Report*, Victoria: Oxfam Australia.
- Project Underground (2000). Gold mining in Ghana destroys livelihoods, health and the environment, *Drill bits & Tailings*, 5: 19.

- Quinlivan, M. (2002). *Maps compiled and edited by Marcus Quinlivan*, Berlin:
Carl Duisberg Gesellschaft
- Republic of Ghana (1992). *The 1992 Constitution of the Republic of Ghana*,
Accra: Government Printer, Assembly Press.
- Republic of Ghana (2003). *Land Administration Project Environmental Impact
Assessment Report*, Accra: Ministry of Lands, and Forestry.
- Republic of Ghana (1986). *Minerals and Mining Law (1986). PNDC Law 153*,
Accra: Government Printer, Assembly Press.
- Republic of Ghana (2006). *Minerals and Mining Act (2006). Act 703*, Accra:
Government Printer, Assembly Press.
- Ross, M. (2001). *Extractive sector and the poor*, Washington DC: Oxfam
America.
- Sachs, J. D. and Warner, A. M. (1997). *Natural resource abundance and growth*,
Cambridge: MA Centre for International Development and Harvard
Institute for International Development.
- Schumacher E. F. (1973). *Small is beautiful – economics as if people mattered*,
New York: Harper and Row, Publishers Incorporated.
- Scott, P. (2003). *Poverty reduction or poverty exacerbation? World Bank Group
support for extractive industries in Africa*, Washington: Environmental
Defence.
- Sen, A. K. (1999). *The possibility of social choices*. American Economic Review
89(3) 349-378.

- Shivji, I. G. and Kapinga W. B. (1998). *Massai rights in Ngorongoro, Tanzania*, London: International Institute for Environment and Development.
- Sullivan, R. and Frankental, P. (2001). *Human rights and mining: reconciling expectations, perspectives and reality*, Warwick: Amnesty International (UK) Business Group, University of Warwick.
- Sweeting, A. R. and Clark A. P. (2000). *A new geographic focus: mining in the tropics' lightening the lode: a guide to responsible large-scale mining*, Geneva: Conservation International.
- Tamasane, T. (2003). Sustaining livelihoods in Southern Africa, *Background to SL Governance*, 8: 2.
- Tsikata, F. S. (1997). The vicissitudes of mineral policy in Ghana. *Resources Policy* 23 (1), 9-14.
- Trades Union Congress of Ghana (2007). Assessment of the 2007 budget statement and economic policy of the Government of Ghana, *The Ghanaian Worker*, 32, 10-11.
- United Nations Environment Project (2002). African environment outlook report, *New York: EarthPrint Limited, United Nations Environment Project*.
- United Nations (1995). *United Nations Development Programme Sustainable Livelihood Approach*, New York: United Nations.
- United Nations (1948). *United Nations universal Declaration of Human Rights*, New York: United Nations.

United Nations Conference on Trade and Development (2005). *Economic development in Africa, rethinking the role of foreign direct investment*, Geneva: United Nations Publications.

Vital Statistics, (1998). Mining in Africa *Drillbits and Tailings* 21: 8.

Wassa West District Assembly (2002). *Annual Report Department of Mines*, Tarkwa: Wassa West District Assembly.

World Bank (1992). *Strategy for African Mining; Mining Unit, Industry and Energy Division* Washington DC: World Bank

World Bank (1996). *World Bank Participatory Source Book*, Washington DC: World Bank.

World Bank, (2003). *Key topics on mining*, Washington DC: World Bank Group, World Bank.

World Commission on Environment and Development (1987). *Report on World Commission on the Environment and Development: our common future*, New York: United Nations.

World Wide Fund and International Union for Conservation of Nature (1999). *Metals from the forest* Gland, Switzerland: World Wide Fund and International Union for Conservation of Nature.

APPENDIX

Appendix 1: Instrument for survey

UNIVERSITY OF CAPE COAST INSTITUTE OF DEVELOPMENT STUDIES: PREPARED INSTRUMENT FOR FIELD STUDY SURVEY

I am a student of University of Cape Coast working on my dissertation for a Masters Programme in Environmental Management and Policy. The questionnaire that I am administering is to help me to collect data to achieve my academic pursuit. I am assuring all the people who are willing to answer the questionnaire that the responses they give would at no time be used against them as the study is for academic purpose only. I would also want to assure the respondents that their identity would be protected at all times and that all what would be said would be treated as confidential. The study is part of the requirements of a MA Sandwich programme in Environmental Management and Policy programme, which is being undertaken in fulfilment of the programme in the Institute of Development Studies, University of Cape Coast

Title of Case Study: Surface Mining and Community Livelihood: The Case of Teberebie Electoral Area in the Wassa West District of Ghana

A. SOCIAL/DEMOGRAPHIC BACKGROUND OF RESPONDENT

1. Name of respondent's community
2. How many years have you been living in this community?
3. Number of people in household
4. What is your Position in the home?
5. Age of Respondent
6. Sex
7. No. of children of respondent
8. Marital Status
9. Age distribution of children
10. What do your children do if you have them

Code	Status of children	Live in community	Live outside the community
01	No. of Children in primary school		
02	No. of children in JSS		
03	No. of children in SSS		
04	No. of children in Tertiary Institutions e.g. University, polytechnic etc		
05	No. of Children working		
06	Do other things - specify		
07	No response		

B. SOCIO - CULTURAL BACKGROUND

13. Did your community have any of these cultural sites in the past

Code	Cultural site	Yes	No	Do not know	No response
01.	Shrines				
02.	Sacred grove				
03.	Sacred rivers				
04.	Hills/Mountains				
05.	Cemetery				
06.	Sacred forest				

14. Which of them are still around today?

15. If they are destroyed, what destroyed these cultural sites?

16. If they are destroyed, what has the community done about it?

17. How has the destruction of these cultural sites affected the life of the community?

C. HUMAN RIGHTS OF COMMUNITIES AND SURFACE MINING

18. Has the community been moved from where they used to live before surface mining?

19. If yes, what was the nature of resettlement?

20. What other things were provided for the community?

21. What discussions took place before the company resettled the community?

22. Are you satisfied with the resettlement plan / compensation received?

Code	Level of satisfaction		Reason
01.	I am very satisfied		
02.	I am fairly satisfied		
03.	Not satisfied		
04.	Feel cheated		
05.	Feel bitter		
06.	Do not know		
07.	No response		

23. Please state how the resettlement affected the family cohesion within communities.

24. Has surface mining generated any conflicts in the area

25. If yes, what issues have generated the conflicts?

26. How has the conflicts affected livelihood in the community?

27. How are conflicts resolved?

28. Has community's human rights been violated because of the conflicts?

29. If yes, what was the nature of human rights violation?

30. Has the community complained about the human rights violation?

31. If yes, whom did the community complain to?

32. What have been the responses to community complaints on human rights violation?

33. What do community think is the best way of resolving conflicts?

34. What has been the role of the District Assembly in resolving conflicts?

D. GENDER, SURFACE MINING AND COMMUNITY LIVELIHOOD

35. What work do men do
36. What work do women do in the community
37. How has surface mining affected the work that the communities do?
38. Traditionally, what do men and women do in the communities?
39. Which of these activities have changed because of surface mining?
40. What opportunities have women had from surface mining in the area?
41. What opportunities have men had from surface mining?
42. What problems have been created in the family from the changes in work of women and men?
43. How have women been affected by surface mining operations?
44. Please explain the effect of surface mining on women

E. SURFACE MINING AND LOCAL ECONOMY

45. What is your main source of income?
46. What other sources of income do you have?
47. Do you depend on the Forest and Rivers for your food or income?
48. If you are a farmer, what do you grow or rear?
49. What are the things you take from the forest?
50. How is mining contributing to the local economy?
51. Were you living here before surface mining?
52. If the community has been moved, what compensation was paid to you
53. How has the compensation affected your life?

- 54. Would you say that surface mining is a blessing or a curse?
- 55. What do you think would make communities benefit more from mining activities?

F. SURFACE MINING AND ENVIRONMENTAL IMPACTS

- 56. Has surface mining affected the environment in any way?
- 57. What have been the environmental impacts of surface mining on community livelihood
- 58. What are your sources and availability of drinking water?
- 59. What was your source of drinking water before mining?
- 60. How has surface mining affected the lands/forests?
- 61. Have you lost any farming land when surface mining began in your
- 62. If yes, how much land have you lost?
- 63. Which of these sites do you have in your community?
- 64. Which of the following sites are lost through activities of surface mining?
- 65. What do you hope to do after mining company leaves the community?

- 66. Any general comments on surface mining and environment.

Thank you for your contribution and the time you spent answering the questions.