The Mining Industry in Ghana: A Blessing or a Curse

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Abstract

Mining has become a controversial business everywhere. Issues of mining are in the wake because of the increasing demands for mineral products and diminishing nature of such minerals in the West. This seemingly opportunity for developing countries like Ghana which have mineral deposits comes with its accompanying repercussions. This paper looks at the general mining environment as a whole, narrowed down to developing countries with emphasis in the Ghanaian context. The impact and contributions of the sector to the economy, as well as the emerging trends of the industry in Ghana in terms of law enforcement are touched on. This conceptual paper identifies that with the international mining industry becoming more cosmopolitan, developing countries will have to develop a competitive mining regime based on greater economic equality, mutual benefit and in accordance with generally accepted notions of fairness.

Key words: Ghana, Mining, Mineral Products, Impact, Economy

1.0 Introduction

Mining is the process of digging into the earth to extract naturally occurring minerals. It is the world's second oldest and most important industry after agriculture (Down & Stocks, 1977). It is currently the fifth largest industry in the world and it plays a crucial role in world economic development. The trade of mineral commodities represents a substantial part of international trade (Madeley, 1999). There are two kinds of mining; surface and underground mining. Surface mining, also called open-pit mining or strip mining is undertaken if the mineral deposit lies on the surface of the earth. This method is usually more cost-effective and requires fewer workers to produce the same quantity of ore than the underground mining does. Underground mining on the other hand is used when the mineral deposit lies deep below the surface of the earth. Mining investment, irrespective of the type or kind of mining being undertaken is capital intensive. It is a high-risk as well as a high reward business for mining companies and communities (Wood, 1999). The historical importance of mining in the economic development of Ghana is considerable and well documented, with the country's colonial name Gold Coast, reflecting the importance of the mining sector, particularly, the gold trade to the country (Agbesinyale 2003; Akabzaa 2000).

The country has a long tradition of gold mining with an estimated 2,488 metric tons (80 million ounces) of gold produced between the first documentation of gold mining in 1493 and 1997 (Kesse, 1985; Ghana Chamber of Mines, 1998). The country also accounted for 36% of total world gold output (8,153,426 ounces) between 1493 and 1600 (Tsikata, 1997). It 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 (Coakley, 1999). Despite the economic potential of the mining industry in Ghana, mining output had decreased significantly since the late 1950's with gold experiencing the most dramatic decline in production. As Aryee (2001) puts it "For four decades up to the 1980's no new mine was opened in Ghana due to a myriad of problems faced by mining sector investors and potential investors alike, as a result of the economic, financial, institutional and legal framework within which the mining sector operated" (2001:62).

To stimulate investment into the minerals economy in Ghana, from 1985 onwards, the government implemented series of laws and policy measures to create an effective regulatory framework for the mining industry (Akabzaa, 2000; Iddrisu & Tsikata, 1998). This led to the liberalization of the mining sector with the government selling out the majority of shares of state owned mines to private companies most of which were of foreign decent.

1.1 Players in the Mining Industry

"Across Africa, in countries with rich mineral reserves and barren economies, thousands of the unemployed dig for fortunes operating illegally and unregulated. These miners use primitive extraction techniques, with dynamite, pick axes, mercury and the strength of their arms" (Harkinson, 2003: 1). Indeed, these miners earn a living at great threat to their lives. This situation is not different from the happenings in Ghana where the small scale/artisanal sector employs about 300,000 people most of whom are stark illiterates and employ very primitive methods in mining at the expense of their lives. The opposite can be said for the large scale mining sector which uses highly mechanized equipment and thus employ very few but highly skilled individuals. Thus the small scale/artisan miners and the large scale miners are the two main players in the industry. The major gold producing companies in Ghana are: Goldfields Ghana Ltd (Tarkwa and Abosso mines); Anglo Gold Ashanti (Obuasi and Iduapriem mines); Central Africa Gold (formerly, AngloGold Ashanti Bibiani Mines) Golden Star Resources (Bogosu/Prestea and Akyempim mines); and recently Redback Mining Ltd (Chirano mine) and Newmont Ghana Gold Ltd (Ahafo and Akyemmines). Ghana Bauxite Co. Ltd. (GBC) operates the country's only bauxite mine at Awaso, just as Ghana Manganese Company Limited's Nsuta-Wassa open pit mine remains the only significant producer of manganese ore in the country. Ghana Consolidated Diamonds' Akwatia diamond mine is also the only operating diamond mine in Ghana.

1.2 Structure of the mining industry

The structure of the mining industry appears pyramidal. At the apex of the pyramid are a few large companies from Canada, Australia, and South Africa and in recent time the United States. There are however, lesser investors from the United Kingdom, Norway and China. In terms of nationality of ownership, 85% of the industry is owned by foreigners and the rest by the state of Ghana and several small scale Ghanaian operators largely due to the legal restriction of small scale mining to nationals (Akabzaa & Darimani, 2001). Currently, there are eleven large scale mining companies operating eight gold mines, one bauxite, one diamond and one manganese mine, in various communities in the country. With the exception of Anglo Gold Ashanti, which still operates an underground mine at Obuasi, all the other mines are surface mine operations. Tarkwa, a town in the Wassa west district in the Western region has the highest concentration of mining companies in the country, in the West African sub-region and possibly the African continent (Akabzaa and Darimani, 2001). Out of the 11 large-scale mines in Ghana seven of them are located in the Tarkwa area, producing a significant proportion of the country's gold output. The only manganese mine in the country is also located in this area.

1.3 Benefits of the Mining Industry

Minerals are a blessing. They are a gift of nature available to be developed, sold and used to better the lot of a nation's citizens (Eggert, 2002). A number of industrialised countries like Australia, Canada, Sweden and United States have depended on the exploration and extraction of minerals for their economic development. Mineral production generates income and foreign exchange through exports, and can stimulate local economies through the local purchase of inputs. Mining companies employ workers who earn income, some of which they spend on domestically produced goods and services. Governments receive tax revenues from mineral production which are available to fund education, health care, roads, electricity supply and other forms of infrastructure development. In fact most mining companies on their own accord provide some infrastructure development to the local communities within which they operate without recourse to their tax obligations. By creating jobs and economic growth, mining companies help catalyze other private investment at the local, regional and national levels, and they have a huge demonstration effect. The informed consensus by most researchers therefore is that minerals have the potential to contribute significantly to economic development (Ascher, 1999; Davis, 1998; Deaton 19

2.0 Mining and the Developing World

Many developing countries pose high risks for foreign investors. However, the mining industry remains a priority area for Foreign Direct Investment (FDI) in most developing countries with mineral resources (Weber-Fahr, 2002). The mineral sector in spite of the horrendous picture painted of it, the associated health and safety hazards, and the call by some international NGOs for its abolishment in developing countries, is heavily relied on by many developing countries as a driving force for economic development (Dias & Begg, 1994; Zank, 1995).

There is growing evidence that the sector forms a large source of government revenues in most mining countries and continues to be the highest contributor in terms of FDI of most developing countries. In response to economic and political reforms, the international mining industry is expanding in areas formerly closed to mineral exploration for legal, political and economic reasons and new mining projects progress into remote areas of the world (Madeley, 1999). Over the past decade more than 100 countries have introduced new regulatory regimes resulting in the growth of the mining industry. Over 75 mineral producing countries in the developing world have liberalised their investment regimes since 1989 and investment flows overseas have increased, stimulated by the privatisation of formerly state owned mining enterprises (Warhurst & Bridge 1997). This movement has allowed trans-national mining companies to explore in areas which for years have been inaccessible. While these companies operating in developing countries have contributed towards improved social development through providing jobs, paying taxes, building an industrial base, enhancing efficiency, earning foreign exchange and transferring technology, they have also been linked publicly to deepening disparities in wealth, poor labour conditions, pollution incidents, health and safety failings, forced displacement and other human and civil rights abuses (Thomson & Joyce 1997). This has led to an increasing pressure from NGOs, Community Based Organisations (CBOs) and Civil Society Organisations (CSOs) over the world for multinational corporations to become more accountable.

As worldwide demand for mineral products continues to increase and operating costs rise and reserves dwindle in the west, there is expected to be more exploration across the globe especially in developing economies where there are mineral deposits and there have been reforms to encourage foreign investment. The metals Economics Group estimates that in two decades, a third of the world's mineral output will come from the developing world. This conclusion they arrived at based on their estimation that about 14% of exploration budgets are directed to Africa, 29% to Latin America and 7% to Pacific South East Asia. (Mining Journal, 2001:353). If these estimates are anything to go by, then there is no doubt that mining as an industry will continue to expand over the next 20 to 30 years and that developing countries will almost certainly play an increasingly important role in that expansion. However, considering the numerous controversies that surround mining projects all over the world it is very important that Governments of the developing world put their house in order not to be overtaken by events as they open their doors to foreign investors in the mining sectors.

According to Ahmad et al. (2003), the most difficult issues to predict and deal with in the mining industry are the socio-economic impacts. They assert that it is natural to aim at maximising benefits from mining activities but this must not be at the expense of other important socio-economic factors and those related to the environment. Environmental, Health and Safety standards in western countries are tough and getting even tougher (Howard, 2006). This is perhaps due to the realisation that every aspect of the environment virtually affects physical, mental or psychological health in some way, either positive or negative. In the developing world however, these are work in progress. Thus they have just started. Considering the volume of investment being attracted by developing countries to their mining sector and the various types of risks and hazards associated with the industry, Governments in the developing world can no longer afford not to step up environmental, health and safety standards in order to reap the full benefits of the industry.

3.0 Contribution of the Mining Industry to the Ghanaian Economy

The mining sector of Ghana received priority attention unrivalled by any other sector in the country under the Economic Recovery Programme (ERP) in 1983. Apart from the general macro-economic policy reforms for the country, there were specific sector policy reforms that sought to boost investor interest in the mining sector. For instance, between 1984 and 1995, there were significant institutional development and policy changes that offered generous incentives to investors to reflect the new paradigm. The establishment of the Minerals Commission in 1984; the promulgation of the minerals and mining code in 1986; the promulgation of the small scale mining law in 1989 and the establishment of the Environmental Protection Agency in 1994 were all to boost the mining industry in Ghana. In addition to the regulatory framework developed via the laws and institutions, generous incentives were provided to foreign investors to boost foreign direct investment in mining. For example; corporate income tax on mineral production of private companies in Ghana decreased from 50-55% in 1975 to 45% in 1986 and 35% in 1994 (Campbell, 2003; Akabzaa, & Darimani, 2001). Companies received breaks on import duties on equipment and accessories necessary for mining production. Additionally, mining companies were allowed to keep a minimum of 25% of foreign exchange in an external account for various purposes including acquiring physical capital requirements necessary for production and dividend payments as well as for expatriate labour.

The benefits accrued to mining companies as a result of the dynamic evolution of mineral laws and policies have led to a rapid growth of Ghana's mining economy. Between 1983 and 1998, the mining industry brought approximately US$ 4 billion in FDI to Ghana, representing more than 60% of all such investment in the country (Ghana Minerals Commission, 2000). The mining sector is credited with bringing in a significant amount of foreign exchange earnings, employment generation, mineral royalties, employee income, taxes payments etc. It is noteworthy that mining's contribution to GDP increased from 1.3% in 1991 to an average of about 5.2% between the years 2001-2004 (Ghana Minerals Commission, 2006). The sector's contribution to the nation's gross foreign exchange earnings has also increased progressively from 15.60% in 1986 to 46% in 1998. In absolute terms, the sector generated US$ 124.4 million in 1986, and US$793 million in 1998 (Ghana Minerals Commission, 2000). The sector continues to be one of the highest contributors to the Internal Revenue Service through the payment of mineral royalties, employee income taxes, corporate taxes and ancillary levies.

The sector however, has a relatively limited capacity to generate employment. This is because most of the mining companies in the country have surface mining operations which are capital-intensive with relatively low labour requirements. Employments in the minerals sector though not the best as compared to other sectors of the economy surged, at least up to the close of 1995. The total labour force of the sector rose from 15,069 in 1987 to 22,500 in 1995 (Ghana Minerals Commission, 2000). Direct employment by producing members of the Ghana Chamber of Mines as at December 2004 according to figures from the Chamber stood at 10,624. Of this, expatriate staffs constituted only 1.4% and the rest were all Ghanaians. This level of employment excludes employees in exploration, contractors, mining support service companies as well as suppliers to the large-scale mining companies, not to talk about those companies not registered with the Chamber of Mines. Although the direct employment generated by the mining industry is a relatively small part of the Ghanaian labour market, it is a very important source of both direct and secondary employment in the regional areas of the main mining regions of Western, Ashanti, Eastern and Brong-Ahafo. The sector has attracted a significant number of sector support companies such as security services, transport companies, explosive manufacturers, and mineral assay laboratories among others in these regions.

Mineral production in the country has been on the ascent after the reforms and this is reflective in the export earnings accrued to the state. Ghana recorded a significant increase in all mineral productions in 2005 with gold taking over from cocoa as the leading foreign exchange earner for the country. Mineral revenue went up from 798 million dollars in 2004 to 995.2 million dollars in 2005 contributing about 13% of the total collection of the Internal Revenue Service. Gold production recorded an increase of 63% with its export revenue increasing from 731.2 million dollars to 903.9 million dollars. Bauxite revenue increased from 11.9 million dollars in 2004 to 18.1 million dollars in 2005, while that of diamond rose from 26 million dollars to 34.7 million dollars. Manganese exports realised 39.1 million dollars in 2005, up from 30.2 million dollars in the previous year (Ghana Chamber of Mines, 2005).

Though the Ghanaian economy is not by the United Nations definition, a mining economy, the minerals sector has made noteworthy contributions to foreign exchange earnings and Gross Domestic Product (GDP). Currently, Ghana's mining sector contributes approximately 40% of Gross Foreign Exchange (GFE) earnings and accounts for approximately 5.2% of GDP (Ghana Minerals Commission, 2006). In 2000, minerals accounted for 38.96% of total export earnings, followed by cocoa (22.51%) and timber (9.03%) (ISSER, 2001). Indeed, mining remains a key industry for the growth and development of the Ghanaian economy.

Ghana has become the preferred destination for most mining investors in recent times. This is evidenced by the merger of Ashanti Goldfields and Anglo Gold and the emergence of the giant USA mining company Newmont in the field of gold mining in Ghana. The mining industry of Ghana therefore offers a bright opportunity to unravel the mystery surrounding the insinuated sense of helplessness, fatalism and other causal attributions for accident occurrences in the mines and help in the promotion of health and safety in the industry. Ghana has signed up to the Extractive Industries Transparency Initiative (EITI), an initiative of a global standard for improving transparency and accountability in the management of oil, gas and minerals in resource-rich countries. The underlying principle for the concept is the belief that the prudent use of natural resource weal is an important engine for sustainable economic growth that contributes to sustainable development and poverty reduction, but if not managed properly, can create negative economic and social impacts with untold hardships on the citizens who rather should have benefited from the natural resource.

3.1 Impact of Mining Operations in Ghana

Almost all the large scale mining companies in the country employ the open-pit method of mining in addition to cyanide heap leach operations. These methods have far-reaching consequences for human health and environmental safety (Akabzaa, 2000). The use of heavy machinery in exploiting the minerals also has a destructive effect on the vegetation as it generates more dust (ILO, 2005) and noise pollutants. While mining projects may generally have weak links with the rest of a host national economy, they can have a decisive impact on the communities in which or near which they are located (Anyemedu, 1992).

Reforms in the Ghanaian mining industry have not received corresponding reforms in the other sectors (e.g., the environment and health sectors) to accommodate the potential impacts arising from an accelerated growth in the mining industry. This situation has led to adverse effects not only on mining communities but the economy at large. An attempt to quantify annual losses to the economy through environmental degradation by the Environmental Protection Council in 1988 put conservative estimates at 41.7 billion cedis, the equivalent of 4% of total GDP. Just as the benefits accrued from the industry appear enormous so are the problems that emanate from mining operations. The impact of mining operations in Ghana both from the large and small scale miners are diverse and quite devastating for it touches on the livelihood and the very existence of people. The principal elements of the environment (i.e., land, water and air) have been severely affected by mining activities in Ghana. Large tracts of land for farming activities have been acquired by mining companies for large scale surface mining operations depriving mining communities of their source of livelihood (Akabzaa & Darimani, 2001). Sporadic cyanide contamination of water bodies by large scale surface mining operations and mercury contaminations from small-scale and illegal mining activities are common features of mining communities.

Statistics from the Inspectorate Division of the Minerals Commission on occupational health problems caused by mining activities from 2000-2004 includes malaria and upper respiratory tract infection, the two topmost causes of outpatient morbidity between 2000-2006 (Ghana Health Service, 2007). Quite informative on the statistics of diseases is the inclusion of sexually transmitted diseases. Most mining towns in Ghana harbour a number of commercial sex workers some of whom migrate to these towns in search of jobs or with the intention of trading, the failure of which compels them to turn to prostitution as the last resort. The trend for reported cases of HIV in the Wassa West district of the Western region has been on the increase since 1992. Recording 6 cases in 1992, 25 in 1993, 37 in 1994, 68 in 1995 and as large as 100 cases in 1996. It is believed that the growing incidence of HIV cases in the Wassa West District, the highest in the Western Region, is due to the increased incidence of sex trade in the area. But what might be cause of this awful incidence? Perhaps, the concentration of mining companies in the area.

The use of illicit drugs (e.g., marijuana and cocaine) as stimulants to work harder is also taking root particularly amongst illegal and small scale miners in Ghana. Other health and social impacts created by mining activities includes hearing losses and silicosis, conditions created by the blasting and drilling activities with their resultant noise and dust, which have become nuisance in the mining regions.Large scale surface mining unlike the underground mining of the past has taken up large tracts of farmlands from mining communities. Meanwhile, an operation in this area is more capital intensive than it being labour intensive. Thus it requires less and very skilled labour to operate the very complex equipment used in the exploitation and processing of minerals. This situation coupled with the increased migration to mining communities in search of jobs has worsened the unemployment situation in these areas. It has also created other social problems as overpopulation, congestion, and pressure on social amenities among others. Thus the "gains" from the sector in the form of increased investment and foreign exchange earnings are being achieved at some significant environmental, health and social costs to the people living in mining communities and the nation as a whole.

4.0 Challenges Posed by the Mining Industry

In spite of the positive economic implications of mining in the development of an economy, some researchers and other Non Governmental Organisations (NGOs) continue to be on the heels of mining companies trying to discourage their operations in developing countries. Sachs and Warner (1999) indicate that natural-resource intensity is negatively associated with both the quality of legal and government institutions in a country and the degree to which an economy is open to international trade. According to them the more dependent a country is on natural-resource exports, the poorer the quality of institutions and the more closed an economy tend to be to international trade (Sachs & Warner, 1999).

Ross (2001) in his review of the oil, gas, and mining sectors in developing countries concludes that; "…the best course of action for poor states would be to avoid, export-oriented extractive industries all together, and instead work to sustainably develop their agricultural and manufacturing sectors that tend to provide direct benefits for the poor, and more balanced form of growth" (Ross, 2001: 17). This comment is however at variance with that of Richards, (2002) who asserts that: "farming and forestry have a far larger footprint than mining, and probably a far greater negative environmental impact if the effects of fertilizers and pesticides are considered" (Richards, 2002: 18). Friends of the Earth, an International NGO, in a position paper released in 2000 calling for the phasing out of public financing for mining and fossil fuel projects argued that "extractive industries do not foster sustainable development or alleviate poverty" (Friends of the Earth, 2000).

The industry by its very nature is a "foot print industry" thus it leaves an environmental, social and economic impact wherever it finds itself (World Bank, 2002). Poorly managed impacts on the environment and social fabric of society can reflect negatively on the economic parameters. It is therefore important to conduct a cost benefit analysis of the industry's operations and to mitigate any negative impacts in order to reap the desired benefits of the industry.

Mining exploration and production activities inevitably cause physical and material damage not only to the environment but also to the inhabitants therein (Veiga, & Beinhoff, 1997; Warhurst, 1994; 1999). The creation of large scale surface disturbances, the generation of volumes of waste materials and the exposure of previously buried geological materials to the forces of oxidation and precipitation are intrinsic to the mining industry and may continue to present complex environmental and health problems even when the best available practices are conscientiously followed (Chiaro & Joklik, 1998). The use of chemicals and explosives in many areas of mining also create health and safety hazards by exposing the environment to pollutants like chemicals, dust, and fumes.
In the past two decades, environmental issues have received an impetus in mining operations; taking a centre stage in mining related issues (Omalu & Zamora, 1999). The environment's costs of mining are now being viewed as an additional tax. It has therefore become a standard practice to see Environmental Impact Assessments (EIAs) and Environmental Action Plans either in mining agreements or in general mining legislation. The Philippines was among the very first of the developing countries to adopt environmental impact assessment through legislation. This was done by a presidential decree (Presidential Decree No. 1121) which created the National Environmental Protection Council (now the Environmental Management Bureau) to formulate policies and issue guidelines for the establishment of environmental impact assessments. In Ghana, the national environmental policy requires mining companies to undertake an environmental impact assessment before they can be granted approval for a project.

Another important issue is that of the reclamation of an exhausted mine site. In Ghana, mining investors in addition to Environmental Impact Systems (EIS) are required to prepare an initial reclamation plan to achieve specified minimum standards before being granted the permit to operate. Mining companies are sometimes required to provide some funds to be placed into escrow accounts, which are made available to fund restoration/reclamation expenses, when the operator closes down. The escrow account thus acts as both a security and a tax-efficient funding device for the required reclamation work.

Modern agreements in the developing world tend to devote more attention to environmental issues than issues of employee safety and quality of life. This is so because while most developed countries have well developed systems of environmental mining regulation, most of these systems are not appropriate for developing countries, neither are they practical nor desirable for implementation in developing countries (Otto & Barberis, 1994). However, most large scale mining operations in the developing world are being carried out by companies with backgrounds from the developed world, which makes the transfer of environmental systems difficult. While in recent years mining companies have become more aware of the need to address environmental issues and to incorporate environmental management systems into their overall policy, there are still issues to be addressed in terms of the social and health impact a mine may have on its employees and the local community at large. Indeed, issues of quality of life and health and safety of employees who work under arduous and dangerous conditions cannot be said to be adequately addressed in today's mining industry, especially, in the developing world. Employment levels have fallen in many mining companies as a result of decreased productivity, radical restructuring and privatization of the mining sector by the government of Ghana. This change has not only affected mine workers who have to look for alternative employment, but also those remaining in the industry and have to work in very different ways, requiring more skills and more flexibility.

Finding the balance between the desire of mining companies to cut costs and the determination of workers to safeguard their jobs compounds the already existing issue of health and safety in the mines. This is because as masters of mines seek sudden huge profits, the miners' life value is more likely to be trampled upon at the expense of expensive safety equipment. Desperate employees who are also very determined to safeguard their jobs will go every length to do so forgetting about energy sapping protective equipment which would not allow them achieve their production targets.

5.0 Conclusion

There is no question that the mining sector is crucial for those living, working and investing in developing countries. With the international mining industry becoming more cosmopolitan, developing countries will have to develop a competitive mining regime based on greater economic equality, mutual benefit and in accordance with generally accepted notions of fairness. Otherwise, the sector stands to detract from the very stability of the investment conditions which it purports to bring about. Though the Ghanaian economy is not by the United Nations definition, a mining economy, the minerals sector has made noteworthy contributions to foreign exchange earnings and Gross Domestic Product (GDP). However, considering the numerous controversies that surround mining projects all over the world it is very important that the Government of Ghana puts her house (such as ensuring better negotiation terms) in order not to be overtaken by events as they open their doors to foreign investors in the mining sectors.

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