

**TRANSNATIONAL CORPORATIONS, GOLD MINING AND
ENVIRONMENTAL MANAGEMENT IN GHANA:
A CASE OF ASHANTI GOLDFIELDS COMPANY**

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DEDICATION

This work is dedicated to my lovely wife, Ingebjørg Stokkedal, and our kids, Andreas Kwadjo Opoku-Agyemang Stokkedal and Alexander Yaw Opoku-Agyemang Stokkedal.

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ABSTRACT

This thesis deals with Transnational Corporate Environmental Management in Ghana. Specifically, the thesis examines the content of Lonmin Plc's Environmental Action Plan (EAP) at Ashanti Goldfields Company (AGC), and the context in which the EAP was prepared and is being implemented at Obuasi in the Ashanti Region in Ghana. Thus, it assesses Lonmin's environmental management in relation to the institutional factors, which have influence on Lonmin's environmental management. A case study approach is used in collecting data for the study and both quantitative and qualitative techniques are also used in analysing the data with the help of an analytical model.

The study reports that AGC did not have any Environmental Action Plan (EAP) and was not environmentally responsible until 1989. The Company began taking concrete measures with regard to its environmental responsibility after it had been told to do so by the International Financial Corporation (IFC) as a condition for a loan. Thus, the IFC was the brain behind AGC's adoption and the subsequent implementation of the EAP and that IFC played an instrumental role in Lonmin's relatively enhanced environmental performance at AGC.

The thesis indicates, however, that there is no formal arrangement for allocation of responsibilities on environmental management between the corporate headquarters and affiliate, Lonmin. Thus, there is no central support from the headquarters and that control of AGC seems to be rather decentralised, and responsibility for taking the initiative lies in the hands of the Management of AGC.

The Government of Ghana and the Ghanaian civil society do not have any significant role in respect of AGC's adoption and implementation of AGC's EAP at Obuasi. Thus, the institutional environment in Ghana as a watchdog on AGC's environmental behaviour is ineffective.

By and large, this outcome of this research is a confirmation of my working assumptions: First, AGC's environmental strategies and practices at Obuasi can be explained in relation to the institutional environment within which the Company operates. Second, AGC's recent enhanced environmental performance and practices at Obuasi is due to a positive influence of IFC's loan conditionalities more than a positive influence of the institutional environment within which the Company operates.

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LIST OF ABBREVIATIONS AND ACRONYMS

AER	Annual Environmental Report
AGC	Ashanti Goldfields Company
AMEP	Ashanti Mine Expansion Project
ARB	Africa Research Bulletin
BCSD	Business Control for Sustainable Development
EAP	Environmental Action Plan
EIA	Environmental Impact Assessment
EMP	Environmental Monitoring Programme
ERP	Economic Recovery Programme
EPA	Environmental Protection Agency
EPC	Environmental Protection council
FDI	Foreign Direct Investment
FEB	Foreign Exchange Bureaux
FOE	Friends of the Earth
GAPVOD	Ghana Association of Private Voluntary Organisation in Development
GDP	Gross Domestic Product
GEMI	Global Environmental Management Initiative
GEO	Green Earth Organisation
GMWU	Ghana Mine Workers' Union
GNP	Gross National Product
HLP	Heap Leach Plant
HIPC	Heavily Indebted Poor Countries
IDA	International Development Association
IFC	International Financial Corporation
ILO	International Labour organisation
IMF	International Monetary Fund
ISSER	Institute of Statistical Social and Economic Research
JMS	Jay Mineral Services
LCD	Loss Control Department

LDC	Less Developed Countries
LI	Legislative Instrument
MEG	Mining and Environmental Guidelines
MNC	Multinational Corporation
MP	Member of Parliament
NEAP	National Environmental Action Plan
NEP	National Environmental Policy
NGO	Non-Governmental Organisation
NRCD	National Redemption Council Degree
NUENGO	National Union of Environmental Non-Governmental Organisation
ODA	Overseas Development Assistance
OECD	Organisation for Economic Commission and Development
OTP	Oxide Treatment plant
PNDC	Provisional National Defence Council
PTP	Pompora Treatment Plant
SAP	Structural Adjustment Programme
SEO	Senior Environmental Officer
SMCD	Supreme Military Council Degree
STP	Sulphide Treatment Plant
TNC	Transnational Corporation
TNCEM	Transnational Corporate Environmental Management
TTP	Trailings Treatment Plant
TUC	Trade Union Congress
UNCTAD	United Nations Conference on Trade and Development
UNCTC	United Nations Centre on Transnational Corporations
UNIFOR	“Forvaltningsstiftelsen For Fond og Legater”
USAID	United States Agency for International Development
WASHT	Water And Sanitation Health Team
WCED	World Commission on Environment and Development
WHO	World Health Organisation
WICE	World Industrial Council for the Environment

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CHAPTER 1: INTRODUCTION

Background and Objectives

This thesis deals with Transnational Corporate Environmental Management (TNCEM) in Ghana. Thus, the thesis assesses the role the Transnational Corporation (TNC), Lonmin Plc¹, is playing as regards its environmental impact resulting from its gold mining operations at Ashanti Goldfields Company (AGC-Obuasi)². By description and examination, the thesis specifically examines the written policies, strategies, programmes and procedures, which form Lonmin's Environmental Action Plan (EAP) for AGC, as well as the actors that influence the preparation and implementation of the EAP. In other words, the thesis focuses on the content of Lonmin's EAP at AGC, Obuasi, and the context within which the EAP was prepared and is being implemented.

It must be emphasised that it is not the aim of the study to attempt at making a thorough economic assessment of the driving forces behind AGC's environmental strategies and practices at Obuasi. The point is that even though TNCs make rational decisions with respect to their environmental responsibilities from an economic point of view, the context within which such decisions are made and implemented, which differ from country to country, are of utmost importance to such decisions and should be examined. The EAP is the practical outcome of an Environmental Impact Assessment (EIA) conducted by AGC in 1989. The EAP constitutes the basis for the Corporation's environmental practices and performance at AGC, Obuasi. Some empirically documented environmental impact consequential to AGC's gold mining operations are cited to support the various arguments in the analysis.

It is claimed that TNCs are moving from a decentralised, fragmented approach to environmental issues towards a more global and integrated orientation (Hansen &

¹ Lonmin Plc was formerly called Lonrho Plc. Lonmin Plc, UK-based TNC, is the sole TNC operating at AGC (Ghana) Ltd. Lonmin is responsible for the management of the Company. The management of the Company is discussed in chapter four of this thesis.

² AGC is a limited liability gold mining company in Africa. AGC's oldest and biggest subsidiary is at Obuasi in the Ashanti Region of the Republic of Ghana. Obuasi is where the company is located. The Mine at Obuasi is currently owned by

Ruud 1995). This has come about due to, among other things, the globalisation of economic activity, the increasing role of TNCs in the world economy, and the increasing political attention that environmental problems have received in recent years all over the world (Ibid. 1995). In recent times, because of international environmental laws and regulations, which have set some common environmental standards regarding the operations of TNCs, some of their technologies and environmental management strategies have been more favourable to environmental protection in their areas of operations. Again, the formation of international business groups, such as the World Industrial Council for the Environment (WICE), the Global Environmental Management Initiative (GEMI), the Business Council for Sustainable Development (BCSD), and the active involvement of many TNCs in the preparatory process leading to the Rio Conference underscore the fact that TNCs are now environmentally conscious in their operations world-wide (Ibid. 1995).

Consequently, some TNC affiliates in developing countries have attempted to implement stricter environmental standards, in accordance with the home country's operations (Hadlock 1994). According to Hansen and Ruud (1995), if this alleged global orientation of the environmental activities of TNCs becomes materialised and if it is transformed into corporate practice, it would have significant implications for environmental protection in Less Developed Countries (LDCs) in some ways. One of the important implications of this development is that the improved corporate environmental performance may off-set the often weak and poorly implemented environmental regulations in LDCs, and facilitate the dissemination of locally improved industrial environmental protection. Therefore, it could be argued that "the real litmus test for corporate contributions to sustainable development is not what companies may or may not do in countries with already existing strict environmental regulations, but rather what companies do abroad and particularly in LDCs" (Hansen & Ruud 1995: 5). Following from these arguments, the writer asks what contribution Lonmin is making towards sustainable development at AGC, Obuasi.

Importance of TNCs in the World Economy

Transnational Corporations, which are one of the main components in economic development, and one of the agents that can significantly influence the state of the environment, without doubt, play an important role in the world economy. Thus, TNCs stand at the heart of the debate over the merits of global economic integration vis-à-vis the environment. Their critics portray them as bullies, using their heft to exploit workers and natural resources with no regard for the economic well-being of any country or community (The Economist, November 22nd –28th 1997), and the environment (Castleman 1978). The impact of TNCs' activities on the environment is extensive: they dump inappropriate technologies in LDCs, and more than 50% of global greenhouse gas emissions are in the province of TNCs (UNCTC 1992). However, their advocates see them as a triumph for global capitalism, bringing advanced and environmentally sound technology, and management know-how, to developing countries, and increasing their domestic production capacity.

Transnational Corporations invest more than \$225 billion each year outside their home countries and 95% of these investments come from industrialised countries (World Investment Report 1992). It is also asserted that 70% of the world trade is controlled by TNCs, and 90% of all technology and product patents worldwide are held by TNCs. The United Nations Centre on Transnational Corporations (UNCTC) has identified about 600 TNCs in mining and manufacturing sectors with annual sales of more than \$1 billion in 1985. This created more than one-fifth of the total industrial and agricultural production in the world economies. Out of the 600 TNCs, 74 TNCs accounted for 50% of the total sales. In addition to these 600 TNCs, the UNCTC also identified a further 365 major TNCs in business services (Dicken 1992).

TNCs are the major actors behind capital movement world-wide as they undertake foreign direct investments. They are the masterminds behind the recent proliferation of global trade, investment flows and communication linkages in a world of rapid technological transformation. Thus, they are the conduit behind economic

globalisation³. Therefore, there is every reason to believe that the role of TNCs in the world economy is likely to increase in the coming years, as more nations, especially developing nations, pursue economic growth and development objectives through market reform and liberalisation of their economies. TNCs are increasingly becoming engines of capital formation, human resource development, technology transfer, and the exchange of goods and services.

However, as regards the global trends of Foreign Direct Investment (FDI), I would argue that sub-Saharan African countries have received an insignificant proportion of the world's FDI, compared to other regions, especially South-East Asian countries. Total flows of FDI to developing countries relative to global levels increased from 9.3% in the 1982-87 period to an impressive 38% in 1997 (UNCTAD 1996). Unfortunately, Africa's share of the flows of FDI was minute as the bulk of the FDI went to South-East Asia. Africa's share of developing countries' FDI, according to UNCTAD, has fallen from 11% in the 1986-90 period to 5% during the 1991-1996 period, falling to a mere 3.8% in 1996. In the period 1991-1995 the total FDI that went to Africa was only 2% of the world's total FDI. For sub-Saharan Africa this underscores the paucity of participation in economic globalisation (Stein 1998; 1999). Even as regards this 2%, only two countries in sub-Saharan Africa have been receiving the bulk of the FDI - Nigeria and South Africa. In 1989 Nigeria received as much as two-thirds of all the investment that went to sub-Saharan Africa. Almost all of this went to one area, oil. In comparison, in 1996 Malaysia and Poland alone received more than the total of the entire African continent (ARB June-July, 1997; ARB March-April, 1998).

A look at current statistical data suggests that Ghana has had a mixed experience as regards the inflow of FDI. Between 1989 and 1994, Ghana's inwards FDI flows, as a percentage of gross fixed capital formation, grew at an annual average of 6.1%

³ Globalisation, here, means the increasing integration of the world economies through a combination of information, capital, technology, and trade flows. That is, it is the proliferation of global trade, investment flows, and communication linkages in a world of rapid technological transformation. It is internationalisation, which operates at the global level. It is, therefore, caused by economic actors who perceive their interests as being less tied to the economic spheres of the nation-

(UNCTAD, 2001). This percentage reached its peak in 1996 at 8.4% and there after steadily declined to almost half in 1999 at 4.0% compared to the peak of 8.4% in 1996 (UNCTAD, 2001). However, it is evident that the limited Ghana's inward FDI flows are attributed to the lack of enabling investment environment. TNCs or potential foreign investors are particularly deterred by risks, high levels of external debt, lack of rule of law and of business support services, and the general underfunding of physical, social and administrative infrastructure in Ghana. For example, Ghana's external debt stood at US\$ 4.2 billion by 1991 and US\$ 7.6 billion by 2000 whereas the whole sub-Saharan Africa's external debt stood at US\$ 206 billion by 2000 (UNCTAD, 2001).

This does not imply that the impact of the activities of the few TNCs in sub-Saharan African countries' economies is insignificant for the \$80 billion (Hansen 1996) invested by TNCs in developing countries would increase, among other things, domestic production capacity, thereby increasing LDCs' foreign exchange earnings. For instance, in Ghana, as indicated above, the mining industry, which has been dominated by TNCs, accounts for over 40% of the nation's export earnings and is now the leading foreign exchange earner. Given the importance of the TNCs-dominated mining industry in the country and in most LDCs, I would argue that they play a leading role in LDCs. However, it should also be noted that greater percentage of TNCs' investment in most developing countries, especially in most African countries including Ghana, is highly concentrated in the natural resource sector, but unfortunately it is this sector where the environment is mostly and adversely affected.

The Environmental Regime and Gold Mining Industry in Ghana

In most LDCs, particularly in Ghana, the gold mining industry operates within the general environmental regime. This regime is seen as *environmentally unfriendly* because it puts the protection of the Ghanaian environment on hold, while it encourages the exploitation of the natural resources at an alarming rate. Meanwhile, in principle, the current generation in the country will have to pass a clean

states or international regions, but more tied to global markets and, in particular, to global production and technology network. For details of the concept of globalisation, see Stein, H. 1998 and Hveem, H. 1994.

environment on to the next generation. This means that current problems relating to the country's natural resources exploitation will have to be reduced significantly so that the next generation will not be burdened with solving their problems and those of the past. This requires a comprehensive and an effective environmental management system with the objective of maintaining the environment's carrying capacity on behalf of sustainable development. However, the writer argues that the National Environmental Action Plan (NEAP) and National Environmental Policy (NEP)⁴ are too ambitious with broad sweeping programmes to bring about development in the management and protection of the environment. Thus the existing environmental laws, regulations, policies are not effective to ensure sound environmental stewardship in Ghana. I contend that the environmental regime in Ghana is subordinated to economic development, which is disastrous to the carrying capacity of the environment.

Notwithstanding the nature of the environmental regime in most LDCs, the mining industry plays a significant role in the economies of many developing countries. It contributes substantially to the countries' export earnings and is also one of the major employers of labour. In Ghana, the mining industry accounts for over 40% of the nation's export earnings and has out-performed cocoa, which for many years was the main foreign exchange earner. Given the importance of the mining industry to the nation's economy, the Government of Ghana, in 1983, embarked upon a Structural Adjustment Programme (SAP)⁵, locally known as an Economic Recovery Programme (ERP), to restructure the economy with special emphasis on the revitalisation of the mining sector. One of the significant consequences of this restructuring programme has been the inflow of FDI via TNCs into the country, particularly into the gold mining sector. Between 1983 and 1996 FDI increased by about 12%, out of which 80% went to the gold mining sector.

⁴ The NEAP and NEP are discussed in details later in the thesis.

⁵ In a World Bank monograph published in 1988, SAP was defined as a range of measures intended to reduce internal and external deficit, increase efficiency in the economy and reduce government expenditure (World Bank 1988). Similarly, the International Affairs Department of the United Nations (UNDISA 1988) defines SAP as macroeconomic policies aimed at improving the balance of payments situation by adopting measures to balance external accounts by deflating, stabilising, and restructuring trade and financial flows. However, SAP as implemented in most sub-Saharan Africa, including Ghana, in

Since the launching of Ghana's ERP, there has been an upsurge in mining activity in the country with the establishment of many new mines. In addition, interest in West Africa has gathered momentum since the initial public offering of AGC. Most West African nations are opening up their doors to business and reviewing mining laws in order to step up the level of capital investment in the region. These increased activities have sometimes involved mineral workings in areas not traditionally associated with mining operations. For instance, in Ghana, workable deposits have been found in agricultural land, forest areas and, sometimes, in the midst of human settlements. This has led to a significant negative impact on the environment and people living in and around the mining areas. At the same time, there has been a growing public concern for the protection of the environment. However, there has always been a gross lack of political commitment on the part of the Government to fashion out an effective and integrated mining and environmental protection regime in Ghana. It is clear that strong conflicts of interest inevitably arise and a balance has to be struck to enable the industry to continue to make a major contribution to the economy. To achieve this, there is the need for the adoption of an effective and appropriate environmental policy by the mining companies in Ghana.

This is necessary as all mining activities have potential adverse impact on the physical, socio-economic and political environment in the areas where they are located. Zanu (1992) asserts that all mining activities cause environmental problems. Some of these effects can be positive or negative or both, depending on, among other things, the technology in use, the management strategies and practices adopted and the existing mining policies and laws. It is claimed that mining activities provide employment opportunities for many people, especially the local residents. The presence of mining companies could also lead to the provision of social amenities such as good roads, sufficient supply of safe drinking water, electricity, good communication network, good schools, financial institutions, and other development projects.

the 1980s is used in this thesis to mean a broad economic reform programme aimed at changing the structure of production so that the adjusting economy produces more export goods and services.

Living within the vicinity of Obuasi gives an immediate picture of the extent to which gold mining activities can radically transform the economic fortunes of a community. (Temco 1994). There is an increase in employment opportunities⁶ for the local residents of the area who are directly involved in mining activities. Since 1990 more than 10,000 youth have been working in the mine, as the Company is the largest single employer in the area (AGC 1994). The Company also pays royalties to the Government of Ghana and the traditional authorities⁷ on whose land AGC's mining operations are carried out. In strict economic terms, the Central Government is the greatest benefactor through foreign exchange earnings from royalties, taxes and dividends. From 1993 to 1998, the Company had paid a total amount of US\$58.3 million to the Government of Ghana (AGC 1994).

However, there are potential disastrous environmental effects associated with mining (*open-pit and underground*)⁸ and *mineral processing*⁹ activities. The environmental problems associated with open-pit mining include: deforestation; changes in topography causing visual intrusion; changes in drainage patterns with associated flooding problems and accelerated erosion, culminating in siltation and increased sediment loads in rivers. Others are dust emissions from excavations and transportation of ore/waste, and blast vibrations and noise. Underground mining has very little external environmental impact. This may include dust problems during conveyance of the ore to processing plants and water pollution from pumped mine water if it is not recycled. Health and safety problems of underground mine workers cannot be overemphasised.

⁶ The empirical evidence outlined here is based on my personal observations during a fieldwork at AGC, conducted from January to March 1999, and on some of the documented *scientific* studies that had already been done on AGC.

⁷ The traditional authorities are the local chiefs. They have an extremely important function as community leaders and also in settling disputes and dealing with minor transgressions. It was not possible to ascertain how much royalties that had been paid to these chiefs.

⁸ *Open-pit* or *surface mining* and *underground mining* are the two main types of mining. *Open-pit mining* involves the clearing of vegetation, stripping of topsoil and the creation of pits, waste dumps, ore stockpiles and haul roads, whereas *underground mining* is the process of extracting ore deep beneath the earth through a series of vertical shafts

⁹ The mineralogy of the ore determines the method of processing. However, in general terms mineral processing involves comminution (pulverisation), precious metal winning (may or may not involve chemical addition) and deposition of waste.

Temco (1994) asserts that the gold mining has the potential to under-develop the people at Obuasi in terms of their physical surroundings, and future economic well being. The evidence of the extent of physical environmental degradation, both old and new, at Obuasi and the immediate environs consequential to AGC's mining operations is glaringly visible and obvious in various forms. There is a direct loss of *land*. A report from the EPA (1995), indicates 3000ha (30km²) of degraded land as a result of the operations of AGC. The impact of gold mining on land use is mostly felt by the inhabitants as the mining has taken up most of the land and the whole of Obuasi with its surrounding communities is dominated by mining activities. AGC's surface mining has adversely affected farm land size, as the average farm size per farmer was 12 acres before the surface mining but has dwindled to less than 6 acres per farmer on the average (Nimoh 1992).

Blasting makes residents uneasy since their buildings vibrate and cracks have appeared in walls. During the blasting operations, an undesirable result of detonation is that the surface of the ground in the vicinity of the blast undergoes displacement and this has resulted in the cracking of buildings in and around the concession area. In 1996, a piece of land at Wawase caved in and residents had to be evacuated (Nimoh 1992). The Management of the Company claims that the vibration levels are within the World Bank requirements¹⁰ (see appendix 2), but some officials from the District Assembly denied this claim. Meanwhile, the EPA, the institution mainly responsible for the protection of the environment, has no *locally* based acceptable vibration levels. *Dust* is a major nuisance at Obuasi; both from the dynamite blasting which loosen the ore on the surface mines, and from the roads in the town, which are in a serious state of disrepair. The *water* and *air* quality of the area has also been adversely affected. The Company releases about 12 tons of arsenic trioxide daily into the atmosphere as gaseous pollutants (Manful 1992). This, Manful further asserts, has led to the contamination of air and soils within the environs, rendering the soils unsuitable for any crop to thrive on.

¹⁰ Even if the Company's claim is true, it is significant to note that the World Bank requirements are probably based on the contexts of advanced countries in Europe, U.S. and Australia, where buildings are concrete and are obviously more resilient

Definition of the Research Problem.

It is argued that environmental problems are believed to be created or solved, to a large extent, through policies, strategies, measures and institutions. Again, there are many areas of environmental impact reduction, such as waste minimisation and recycling of materials, in mining operations depending on, among other things, the impact itself, proactive mitigation measures, control technologies, the capital resources available and management. However, in most of the literature on TNCs and host governments in LDCs regarding the formers' environmental behaviour, it is argued that most host governments in LDCs do not have adequate resources, both human and financial, to monitor and control TNCs environmental practices effectively.

Further arguments are raised that host LDCs lack adequate environmental laws, institutions, regulations (Castleman 1978; Manful 1992), and the political will to make TNCs adopt and implement sound and effective environmental control strategies and measures. Moreover, the civil society in most LDCs is not only weak but also incapable in mobilising itself against the negative environmental practices of TNCs because of lack of environmental consciousness and governmental support, (Acquah 1992; Akuffo 1989), among other things. It is, therefore, a challenge to the TNCs in the mineral resources industry to put in place adequate and effective environmental strategies and measures to guide the industry in order to explore, mine the ore and process it in an environmentally acceptable manner in the LDCs.

However, many studies, mostly case studies, have documented that many big TNCs at the national level have established environmental policies with regard to environmental resource conservation, product safety and worker health and safety, and that they broadly undertake corporate impact assessments and auditing, very little is known when it comes to international management practices, particularly in the case of LDCs (Himmelberger 1994; Gladwin 1987). The bulk of the existing

to vibration effect. In the local areas studied, most houses were mud-constructed with little ability to withstand any significant mine vibration.

literature focuses on the potential adverse environmental impact on LDCs of TNCs' foreign direct investments (Hansen and Ruud 1995). It is claimed that most TNCs tend to neglect their environmental obligations in LDCs due to weak environmental regulations in LDCs, thereby engaging in corporate environmental double standards (Castleman 1978). It is also maintained that most TNCs tend to relocate pollution-intensive industries to LDCs due to some factors (Walter 1975; Leanard 1998).

On the other hand, other studies on corporate environmental double standards and on industrial flight hypotheses found little empirical support for those claims. In many cases it turned out that TNC affiliates rather have better environmental records than comparable local companies (ILO 1984; Ruud 1992). Many TNCs have a broad financial base and can afford to hire experts to deal with environmental issues with respect to their operations. They are much more oriented with international environmental issues and are more willing and prepared to transfer clean and sophisticated environmental technology to LDCs than local firms, thereby complying with international environmental regulations. It is however an open question whether TNCs' strong financial base and their apparent international orientation of environmental issues have any bearing for their environmental practices, particularly in LDCs.

The problem is that the TNC's, Lonmin Plc, which is operating at AGC at Obuasi, gold mining industry has had a considerable and visibly negative impact on the region's environment, affecting the vegetation, water bodies, and atmosphere as well as the health of local peoples (Acquah 1992; AGC 1992). It is further asserted that though the TNC is maximising profits at the expense of the environment, the Company has not been taking any concrete and pragmatic measures to address its negative effects on the environment (Acquah 1992; Manful 1992). The environmental institutions of Ghana, it is also alleged, are not strong and effective enough to monitor and control AGC's environmental behaviour at Obuasi satisfactorily (Acquah 1992; Manful 1992). However, it is alleged that AGC has now begun taking concrete environmental measures to mitigate and/or prevent the negative impact associated

with the over a century¹¹ gold mining operations at obuasi (AGC 1992). It is also alleged that AGC was made to conduct an Environmental Impact Assessment (EIA) of its operations with the aim at assessing the environmental impact resulting from its operations and reviewing issues of occupational health and safety. Consequently, an Environmental Action Plan (EAP) was prepared in 1989 to be implemented in order to enable AGC minimise the impact of its operations on the environment and the people (AGC 1992).

The study therefore addresses the following questions: Was the Government of Ghana a significant and an effective causal factor behind AGC's adoption of its EAP in 1989 and its subsequent implementation? To what extent is AGC concerned about its environmental impact at Obuasi?; How and to what extent does AGC comply with the local environmental regulations and standards?; How does AGC adhere to local and international pressures to become environmentally proactive and innovative?; How and to what extent are AGC's mining operations at Obuasi sustainable?; and; What are the political dynamics of the environmental role the Company is playing at Obuasi? Or which actors do influence AGC's environmental behaviour at Obuasi. These questions touch on not only the environmental role of AGC but also on AGC as a political actor in the Ghanaian environment.

The Scope and Unit of Analysis.

In view of inadequate funds and time, the scope of this research is limited to the operations of the TNC (Lonmin) at Ashanti Goldfields Company (AGC-Obuasi). The Obuasi Mines is the biggest and the oldest affiliated unit of AGC in Ghana and in Africa as a whole. It is the leading gold mining company in Ghana and has been in continuous large-scale operation since 1897. The company's largest operation, the Obuasi Mines, produces 850,000 ounces a year, and also hosts the world's biggest bio-oxidation¹² plant as one of the mine's five processing plants. Mining in Ghana, and gold mining at Obuasi in particular, is significant for study because of its

¹¹ Ashanti Goldfields Company began its gold mining activities at Obuasi in 1897.

¹² Bio-oxidation (Biological oxidation-BIOX) is the process of using bacterial action to oxidise the sulphides into a form which can be leached by conventional cyanidation techniques. In other words, BIOX employs bacterial to oxidise the sulphide thereby allowing the gold to be liberated and extracted by conventional means.

importance to the Ghanaian economy. It was among the three sectors (the other two were forestry and cocoa) specifically identified, under the ERP, for sectoral support from the International Financial Institutions to increase production. It is also a sector where relatively reliable documented data may be obtained.

The thesis focuses on the environmental management strategies of Lonmin because TNCs are believed to have more options than local firms do when it comes to environmental control measures. They have a broader financial basis so that they can disperse their costs and they can select between different technological alternatives (Walter 1975). Furthermore, they are larger and are normally believed to be more profitable than local firms. Arguments are also raised that they possess more modern equipment, are better maintained and have the resources to hire skilled personnel to be in charge of environmental issues. Like most developing countries with limited capital and technology to exploit their natural resources, in Ghana, TNCs have dominated the gold mining industry. They operate on a large-scale basis and this may have enormous potential impacts on the environment.

Many studies have been done on the impact of the activities of the mining company on the environment at Obuasi. In most of these studies, the main focus has been on the evil roles or the negative physical effects of AGC's activities on the environment, and the common conclusion has been that AGC is a necessary evil regarding environmental protection and sustainable development¹³. To ascertain whether AGC is a necessary evil or not many factors must be analysed. Important among those factors are the content of the Company's environmental policy and the context in which the Company is implementing the policy, since an effective implementation of any policy is highly dependent on its content and the context within which the policy is being implemented (Grindle 1992). Hence, examining Lonmin's environmental policy and strategies and the contextual factors influencing the policy implementation at Obuasi is worth doing.

¹³ In this study, the concept of *sustainable development* is used as defined by the Brundtland Commission: "development which meets the needs of the present generation without compromising the ability of future generations to meet their own needs" (WCED 1987: 363).

This research seeks to make a modest contribution both at the academic and practical levels, because the writer believes that the present state of knowledge about the environmental implication of gold mining activities in Ghana is inadequate. The Ghanaian public needs to be educated on environmental issues, as a greater public and governmental awareness of the importance of environmental protection may cause many industrial firms to be more careful than they had traditionally been in this regard. Both the people directly concerned and the general public must get information about hazardous work processes so that they can put pressure on the enterprises involved in such production (Castleman 1987). In addition to the above, the study is relevant to political science in one way or the other.

It is significant to note that business and environmental decisions have great political implications or impacts. As a political science student, my interest is in these political implications resulting from Lonmin's business and environmental decision-making at AGC. Specifically, my interest lies in the political dynamics of AGC environmental role. Like most Less Developed Countries (LDCs), Ghana faces developmental problems and as a result is compromising the environment with economic development,¹⁴ so studies of this nature could be of great help to both the Government and the mining companies in terms of their environmental control measures. The findings of this research may go a long way to influence environmental policies formulated by both the Government and AGC and other mining companies in Ghana. The study would also add a voice to the general call on industrialised countries to assist the LDCs in their environmental issues and developmental drive. This is necessary if the global environment is to be managed and maintained in a sustainable way to ensure sustainable development globally.

¹⁴ Ghana's Economic Development and Environmental protection is discussed in detail in chapter three of this thesis.

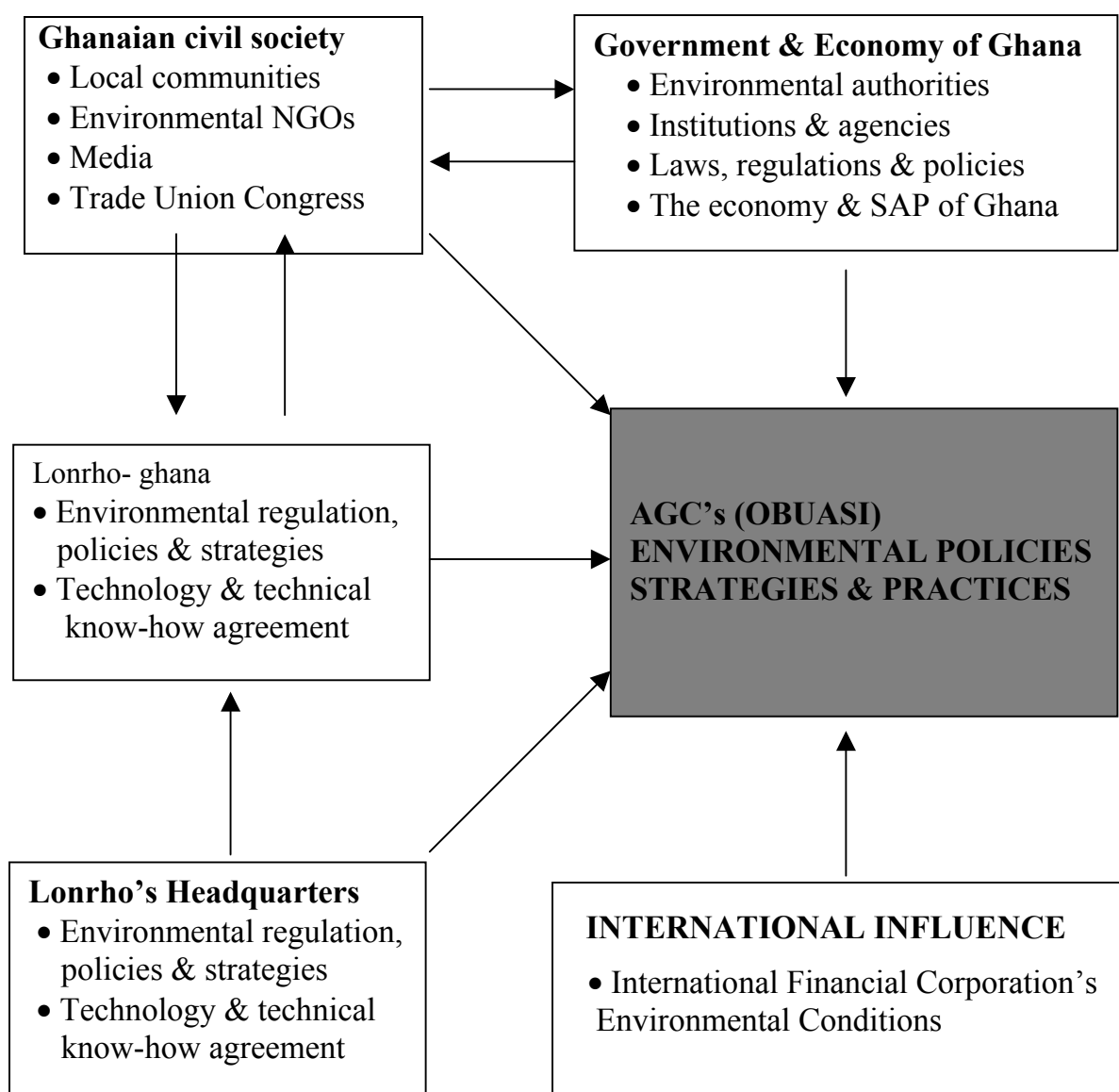
Explanatory model for the thesis.

In this section, an attempt is made to develop an explanatory model for understanding the interaction between the Government of Ghana and Ghanaian civil society, and the Management of AGC's in respect of AGC's environmental management. The aim here is to simplify my research problem in the form of a graphic model which would serve as a guide or point of departure for a systematic analysis of the Company's environmental role and its political dynamics at Obuasi . The model also serves as a hub around which the hypotheses for this thesis are developed.

The arrows in the model show the influence of the independent variables, on one another and, on the dependent variable. The arrows draw attention to the relations between AGC and the political environment in Ghana. The model is based on Charles Hadlock's (1994) General Environmental Management Framework for TNCs. He argues that a lot of factors or actors come into play to influence TNCs' environmental decision-making process. However, as a political science student and for the purpose of this thesis, I limit the actors or factors, which are likely to influence Lonmin's environmental management at AGC-Obuasi, to Government of Ghana, the Ghanaian civil society and the headquarters of Lonmin Plc. These factors are considered the independent variables¹⁵ while Lonmin/AGC's environment management is the dependent variable.¹⁶ By AGC's environmental management, I mean the Company's environmental policies, strategies and practices. The aim here is to examine the causal relationship between the independent variables and the dependent variable.

¹⁵ The Independent Variables are the causal or explanatory variables. They explain any changes in the Dependent Variable.

Figure 3. Explanatory model for understanding the relationship between the independent and dependent variables.



The above causal model shows the variable conditions of regulations, resources, and culture that constitute the framework within which Lonmin (AGC-Obuasi) should operate. The model indicates the complex nature of actors and relationships that shape the environmental management approach being taken by Lonmin. It is significant to note that such corporations function on at least two general management levels: operations in its home country (UK) and its operations in the host country (Ghana). Each of these two components of Lonmin is subject to external

¹⁶ The Dependent Variable, on the other hand, is the effect variable, which is being explained by the Independent Variables.

forces. The above factors are major factors in determining what level of resources will be committed by Lonmin to the environmental functions, as well as the specific form these resources will take. A strong and positive relationship between Lonmin and its headquarters, in terms of environmental issues, may have positive impact on AGC's environmental practices at Obuasi. It is assumed here that the headquarters would transfer appropriate environmental technology and the technical-know-how to AGC to mitigate the impact of AGC's gold mining operations at Obuasi. The model also assumes that there would be some sort of international influence and pressure on AGC to be environmentally proactive and innovative.

Environmental regulation initiated by certain countries' authorities is one of the first driving forces behind corporations' environmental strategies (Rappaport 1991). Hadlock also asserts that different environmental policies in certain countries are some of the main problems that face TNCs in developing environmental strategies for their corporations (Hadlock 1994). In the model, it is assumed that when environmental laws and their associated regulations are adopted and enforced effectively by the Government of Ghana, it is likely that Lonmin may not shirk its environmental responsibilities at Obuasi. Again, if the Government does have any comprehensive and effective environmental regulations and institutions to check the environmental behaviour of TNCs in the country, Lonmin may also feel obliged to be environmentally responsible. For the Government of Ghana to effectively control the environmental behaviour of Lonmin it must have adequate resources and the political will. Lack of these variable conditions on the part of the Government may affect the Company's environmental strategies negatively which, in turn, may cause a considerable damage to the environment at Obuasi.

In the model, it is also assumed that the Ghanaian civil society has a significant role to play when it comes to AGC's environmental practices. Certain international and national media and Non-Governmental organisations (NGOs) have been particularly active in influencing TNCs, especially corporations that may be operating with potential detrimental effect on the global environment. It is evident that NGOs and

government organisations, industry and professional organisations have made substantial contributions to the improvement of environmental management by setting standards and by developing the necessary technology to meet these standards. Lonmin's environmental strategies may also be held in check by some of these NGOs, especially the local NGOs.

Working Hypothesis.

Based on the above arguments, I develop two hypotheses, which are going to be tested in the study.

• ***AGC's environmental strategies and practices at Obuasi can be explained in relation to the institutional environment within which the Company operates.***

By institutional environment, I mean the context, that is, the prevailing and accepted laws, regulations, rules, and norms, within which AGC operates, and the effective enforcement of these laws and regulations by the Ghanaian Government and the civil society. The institutional environment, here, is the institutional order within which the Company makes its environmental decisions. In addition, it includes the various organisations and the civil society, which directly or indirectly, influence AGC's environmental strategies and practices at Obuasi. As asserted above by Rappaport (1991) and Hadlock (1994), a country's environmental laws and regulations, among others, have considerable impact on corporate environmental strategies and practices. Nations are to exercise formal control over TNCs operations in the form of laws, regulations, sanctions and many others. TNCs must abide by the existing local environmental laws and regulations and even go beyond these, as their continuous existence and operations are highly dependent, among others, on their compliance with these local laws. When there exist comprehensive environmental laws and regulations, coupled with effective enforcement agencies, in a country, there is the likelihood that TNCs may develop high environmental standards in their area of operations. However, in most LDCs the reverse is the prevailing phenomenon, and this leads us to my second hypothesis:

• *AGC's recent enhanced environmental performance and practices at Obuasi is due to a positive influence of IFC's loan conditionalities more than a positive influence of the institutional environment within which the Company operates.*

Methodology

Having given the background and objectives of the study, the writer proceeds to discuss the research strategy. Normally, a good research work is dependent on, among other things, the methodological approach used by the researcher. This methodological approach also depends on a lot of other factors including the phenomenon under consideration, the unit of analysis, the theoretical framework for the study, and the experience of the researcher. Looking at all these factors and others, I decided to use a **case study approach** for this study. That is, Ashanti Goldfields Company (AGC-Obuasi) of Ghana, where the U.K. Transnational Corporation, Lonmin Plc, is operating, was used as a case study.

The Case Study Approach

According to Yin (1994: 13), a case study is “an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident”. He further argues that case studies, in general, are the preferred strategy when *how* and *why* questions are being asked about a contemporary phenomenon over which the researcher has little or no control. The *how*, *why* and *what* questions normally give rise to *explanatory* case studies and these can also be complemented by two other types: *exploratory* and *descriptive* case studies. The Case study approach was preferred to any other research strategy because the phenomenon, factors influencing AGC's environmental strategies and practices, which was studied was beyond my control. Again, given the individual or peculiar nature of the factors that affected the environmental behaviour of AGC's, the case study approach had to be adopted in order to collect, verify, revise or re-evaluate information, knowledge, decisions, policies and attitudes, as well as views on specific issues and situation. Thus, it constituted a unique and suitable method for my research problems.

Furthermore, the case study was the most preferred method because I deliberately wanted to cover contextual conditions with the belief that they might be highly pertinent to the phenomenon under study. This is important because “phenomenon and context are not always distinguishable in real-life situations....” (Yin 1994: 13). Moreover, even though this phenomenon has been in existence for over a century now, it has now become a topical issue in contemporary socio-economic and political discourses; so a case study approach was the best strategy. This approach was again best suited for the study as the case was used to test the various theoretical perspectives used in the study. The empirical analysis of the study was done by a combination of Yin’s three types of case study – explanatory, exploratory, and descriptive.

However, it is important to note that the case study approach is not without drawbacks¹⁷, as the approach poses a great danger in any attempt at generalising the findings. Thus, the risk of using a case study approach is reliability of the results, that is, yielding the same results each time it is applied to the same sample or simply replicated. But significantly, I deemed the technique as the most appropriate in terms of data validity, to wit: ability to collect the needed information based on the problem at hand and the arrival at a reliable and dependable conclusions for that matter.

Data Collection

For the purpose of the case study, data were collected from multiple sources on AGC’s environmental management strategies and practices and the causal factors behind them. This was necessary because Yin asserts that “no single source has a complete advantage over all the others...” and “the various sources are highly complementary, and a good case study will therefore use as many sources as possible” (Yin 1994: 80), as this allows an investigator to address a broader range of historical, attitudinal, and behavioural issues. Yin further argues that the most important advantage presented by using multiple sources of evidence is the development of converging lines of inquiry. Thus any finding or conclusion in a case study is likely to be much more convincing and accurate if it is based on several

¹⁷ Detailed discussion of the drawbacks (reliability and validity) of a case study approach is beyond the scope of this study.

different sources of information, following a corroborative mode. In order to make the empirical analysis of the study as thorough, reliable and accurate as possible, I collected the data from both **primary** and **secondary** sources.

Secondary Sources

A substantial amount of data for the study was obtained from secondary sources. These included, among others, AGC's annual and quarterly reports, AGC's Environmental Impact Assessment (EIA) documents and Environmental Action Plan (EAP), as well as published documents by Lonmin's headquarters in the U.K.. Other sources embraced Ghana's environmental policies and regulations, Local Government environmental bye-laws of particular relevance to the Adansi West District Assembly¹⁸, Ghana Trade Union Congress (TUC) publications on health and safety in the mines. The United Nations and World Bank/IMF publications were also valuable sources. In addition, relevant information was obtained from the newspapers and international magazines.

Primary Sources

I travelled to Obuasi, Ghana, where the Company is located, for a three-month fieldwork between January 1999 and March 1999. I went to Ghana and Obuasi again in November 1999. Even though my second trip was not for any academic reasons, I took that opportunity to seek some clarification on certain controversial data previously collected. During the fieldwork many visits were made to the mining sites where *direct personal observations* of operations of the Company were made. Some of the places visited included the ambient air monitoring stations, sewage treatment plant, water pollution control facilities, the PTP, STP, ARP sites and their laboratories. The Managers at some of the sites, at times, briefed me on monitoring and treatment processes but because of the technicalities involved I did not benefit much from the briefing.

We also visited the surface mining area – silt traps, settling ponds for the control of run-off, waste dumps, and many others. The Environmental Department and the

¹⁸ The Adansi West District Assembly supervises and administers the district where AGC-Obuasi is located.

Forestry Department where the re-vegetation seedlings were being nursed were also visited. I never visited any of the mining shafts because I was scared to do so. Lastly, we visited some of the development projects the Company had provided for the local communities – school buildings, the modern stadium for the Company’s football team at Obuasi, and hand pumped wells. With the purpose of the thesis in mind, I made some notes during those visits.

By means of a *semi-structured questionnaire*, I conducted personal interviews. The respondents included senior officials of the Company, workers as well as some local residents in the mining areas. I had my own means of transport so I was able to reach a lot of local residents and some newspaper reporters for the interviews. Some Government officials from the Environmental Protection Agency (EPA), Ministry of Mines and Energy, Ministry of Environment, Science and Technology, Minerals Commission, Ministry of Local Government, the Adansi West District Assembly and the Environmental Sub-Committee of the Assembly were also interviewed. The purpose of the interviews was to gain an insight into the interaction between the Government of Ghana, the civil society and Management of AGC regarding AGC’s environmental behaviour, and to provide some quantitative evidence to support some of the main arguments made in the thesis. In sum, a total number of 100 people were interviewed (see appendix 1).

The various heads of such departments, as Environmental, Loss Control, Forestry, Community Development, Hospital, Public Relations, and Accounts as well as Union Executives, and Mine Managers of the Company were purposely selected and interviewed. This was done to ascertain the main causal factors behind AGC’s environmental strategies and measures at Obuasi. The Company’s workers interviewed were randomly selected. The officials from the Government Ministries, the Agency and the District Assembly were purposely selected for the interview. Opinion leaders and the rest of the local residents were randomly picked for the interview. In addition to the formal means, informal discussions were held with the Chiefs and Development Committees of two of the villages in the district, and also

with two AGC senior officials who happen to be my schoolmates at the University of Ghana where I had my Bachelor Degree. This informal discussion did help me get a lot of information regarding the problem at stake as the participants devoted enough time to respond to all the numerous questions posed. After the fieldwork I realised that I still needed some clarification so I sent an additional questionnaire by post and e-mail to some Government and Company officials but, unfortunately, none responded.

Data Presentation and Analytical Approach

Since a case study can be based on a mixture of *quantitative* and *qualitative* evidence, a combination of quantitative and qualitative data was used in this research. That is, both quantitative and qualitative techniques were used in analysing the data with the help of the analytical model that was developed for the study. I used both techniques because of the limitations inherent in both of them, which do not make any of them an adequate and effective analytical approach. Whereas the qualitative method gives the investigator, among other things, a close-up and detailed understanding of the natural world or concrete situation, the quantitative method adds, among other things, precision to the investigator's understanding (Yin 1994). In a more simple and interesting way of differentiating between the two terms, Fredrik Engelstad (1988: 9) gives an example that "a qualitative method is used to prove the differences between apples and pears, while quantitative methods are used to count how much there of each fruit". Despite the differences between these two methods, there is a strong and essential common ground between the two. In the analysis of the data, summaries and citations from the fieldwork with minimum inference were also used. The findings were analysed in the light of the theoretical perspectives. The hypotheses (assumptions) of the study were also tested.

It is also important to note that nothing reported in this study reflected a peculiarly unique view of a single informant unless otherwise stated. Instead all views were widely supported. Other critical analytical tools such as *textual* and *discursive* techniques were also used to interpret and make sense out of the information collected through observations, informal discussions, and newspaper discourse on the

subject. It should also be emphasised that due to the general lack of adequate data on environmental impact in the study area, the analyses of some cases of environmental impact were, to a large extent, based on *potentials* with regard to the experience of other countries and in comparison with the trends in Ghana. In sum, the primary sources of the data gathered were significantly supplemented by the secondary or written data.

Problems Encountered in the Fieldwork

In the process of collecting the data, some problems were encountered which could be partly or wholly attributed to the *controversial* nature of the subject of the study. This is because issues about development and the environment continue to be politically sensitive despite the recent rhetoric of the need to be more open about environmental issues. Thus, the importance of the case, AGC, to the Ghanaian economy, coupled with the nature of the stakeholders' interests in the Company's operations vis-à-vis environmental protection makes the case politically sensitive. Consequently, people, particularly government officials and those in the Company, would not be willing to provide much information on the subject. Even when they would, one could expect elements of biases due to possible fear and suspicion of the research purpose. Some officials, at times, would tell me that some documents were confidential and that they could not make them available to me. This problem could be one of the reasons why none of the recipients of the additional questionnaire I sent by post and e-mail ever responded. This problem contributed either partly or wholly to the general lack of data, mentioned above, for the study.

Related to the above problem is a general and practical data collection difficulty in Ghana. Getting appointments for interviews was sometimes almost impossible. The *usual excuse of too busy to be interviewed* on the part of officials, the Government officials especially was encountered. This problem was very frustrating. Interviews with AGC's officials, I must admit, were easier and smoother than all the interviewees. There were instances where some AGC officials granted me instant audience without any prior appointments. However, one AGC's senior official proved difficult and uncooperative throughout my entire attempt to interview him. I managed

to ask him a few questions, in my last attempt, on his way to board his car and drive home. Getting some of the local residents for the interviews was also not easy. One local resident remarked when approached, “gentleman, do not come and bother me with AGC’s environmental behaviour for I am thinking about how to get supper for my family this evening. Just go and tell the Management of AGC, the murderer of our natural environment, that it must behave reasonably towards our environment”¹⁹.

There was also lack of adequate funds and time for the fieldwork. Fieldwork of this kind is generally very expensive and one should be adequately funded and have enough time for the entire activity. However, I did not get enough funding, and more than two-thirds of the total research cost was borne by me. The only financial support that I got, from the foundation “Forvaltningsstiftelsen For Fond og Legater” (UNIFOR), was less than one-third of the total cost. Inadequate funds made me cut short the fieldwork and this put enormous pressure on me to hurry up the data collection exercise to meet my limited time frame. It meant working throughout the weekdays and weekends and sometimes at odd hours. Unfortunately, the targeted volume of data could not be collected due to these problems. All these problems could probably have led to some biases in the study but for some self-interventions. A summary of how these problems were reasonably subdued is provided below.

As regards the so-called confidential documents and the uncompromising attitude of some officials regarding my attempts to interview them, I insisted and persevered in a more *diplomatic* way to get them to change their attitude, which I succeeded in doing. I explained the purpose of the research (academic and non-political) and the possible long-term benefit of the study to them without giving any unnecessary assurance that the research would surely benefit them. I also explained the methods of selecting respondents to them and assured them of the confidentiality of their information. It was a more sincere approach, which helped build trust with the respondents, especially with the local residents. I also cross-checked all the answers provided against my personal observation and other related answers. Whenever there were

¹⁹ Even though this respondent may have had a genuine point, he was too emotional and impatient.

significant inconsistencies in answers received, I went back to the respondents involved for further clarifications.

My position as a person who comes from the Ashanti Region where we all speak the same language, became a great asset regarding the high illiteracy rate in the area, coupled with the general problem of xenophobia. I used this asset to explain things to their understanding. This background provided a relatively easy relationship between me and the local people and led to easy access to some information, which would have probably not be made available to any other persons. However, I do not here suggest that anyone who does not hail from the area or speak the language could not have obtained reasonably good data as I did. In fact, sometimes, being an *outsider* or a foreigner may be an asset especially when the respondent wants to make an impression. Again, such a position has other possible setbacks. As a native, I might have unconsciously exaggerated the short-term benefits of the research results on the lives of local residents. It is also possible that my observation of things in the area and their responses to my questions might have been clouded with emotions and anxiety, even though I was very conscious of such problems. Regarding the limited funds I had, a friend offered me free boarding and lodging²⁰. Also, the fact that I had my own means of transport, though I was responsible for its maintenance and fuelling, facilitated and aided my movements throughout the entire exercise.

Definition of Key Concepts.

Some concepts or terms may have different connotations and meanings but they may sometimes be used interchangeably in different parts of the world, creating ambiguity and misunderstanding in their usage. Lafferty asserts that “unclear concepts lead to unclear communication, and unclear communication is the source of both nonsense and trouble” (Lafferty 1996:186), therefore operationalisation and practicality of concepts is important. This section attempts to put together and explain in the context of this thesis all the concepts that would be of interest to address most of the issues raised in this thesis. Most of these concepts are interrelated and interconnected in one way or the other.

²⁰ This is a clear indication of the much-talked about Ghanaian hospitality.

Transnational Corporation.

The concept *Transnational Corporation* has been diversely defined by many scholars. The United Nations Centre on Transnational Corporations (UNCTAD 1993:158) defines TNCs as “all enterprises which control assets – factories, mines, sales offices and the like – in two or more countries”. According to Walter (1975:121), a TNC “maintains production and sales facilities in two or more countries, either under direct ownership or with some substantial element of managerial control”. These definitions lay much emphasis on TNC ownership of overseas operations, and, more importantly, on control of productive activities which is one of the main distinguishing features of a TNC.

However, the above definitions of TNC are criticised on the grounds that it is unsatisfactory to define TNC in terms of overseas activities (Dicken 1992). He asserts that the most satisfactory and more comprehensive definition of a TNC is the one offered by Cowling and Sugden (1987:60 cited in Dicken 1992) that states that “a transnational corporation is a means of co-ordinating production from one centre of strategic decision making when this co-ordination takes a firm across boundaries.” Notwithstanding the definition given by Cowling and Sugden, a TNC, as we use the concept in this thesis, is a corporation, which controls productive activity in two or more countries.

It is significant to distinguish between a TNC and a Multinational Corporation (MNC). Whereas a TNC is more concerned with extraction and exploitation of natural resources, a MNC is more concerned with the processing and manufacturing of goods and rendering of services. A TNC is also slightly different from a MNC in the sense that the latter is reserved to “joint venture of two or more participating countries established as part of regional integration schemes” (Dicken 1992:159). MNC is more diversified in its operations and the foreign corporation has an independent role. In effect, all MNCs are TNCs but not all TNCs are MNCs. The spread of TNCs world-wide has been on the ascendancy for the past three decades as increasing internationalisation and globalisation of economic activities have given

more impetus and fuelled the growth of *Foreign Direct Investment (FDI)*,²¹ and the major channel of FDI is the TNCs (Ibid. 1992). Some of the leading TNCs with many foreign affiliates include: IBM; Unilever; Philips; Bosch; ABB; Shell; and Lonmin.

Environmental Policy Statement

The concept of *environmental policy statement* does not have any clear-cut definitions. Grindle (1980) refers to a policy as a broad statements of goals, objectives, and means that are translated into action programmes that aim at achieving the ends stated in the policy. A policy is not a self-evident term as many authors have diversely defined it. It refers to “a set of political goals defined by the public institutions, which include statements of intentions and predicted consequences” (Pressman & Wildavsky 1973:74). An environmental policy is a purposeful course of action designed and implemented with the aim of shaping or protecting the environment in ways that would be more desirable than will otherwise be expected. According to Friedman, an environmental policy statement is a brief internal code of conduct conveying the general principles and main objectives underlying the environmental conduct of the company²² and is the bridge between the general attitude of the company toward the environment and its operational levels. A policy statement can serve as an important signal to employees and stakeholders as well as the general public that the company is environmentally conscious.

Hansen and Ruud argue that “often a corporate policy statement will be supported by more specific policies and programmes covering issue-areas that the company assigns particular importance. Thus, the issues covered by corporate policies could be an indication of the company’s policy priorities”²³. Again, the intent of policies and action programmes is to cause a change in the policy environment, a change that can be considered an outcome of the programme. It is significant to note that such a

²¹ Foreign Direct Investment is a transfer of capital from one country to another by a normally central based company, with the purpose of establishing production and/or sales subsidiaries, outside the home country or by gaining control over already existing companies. On the other hand, a Portfolio Investment is the acquisition of securities by individuals or institutions without any associated control over or participation in their management (Dunning 1972)

²² Cited in Hansen and Ruud 1995; 4.

²³ Ibid. 1995; 4.

distinction between a policy and a programme is difficult to maintain in practice, and that the terms are frequently used interchangeably.

In this thesis, AGC's environmental policy statement is presumed adopted to provide the broad framework for the implementation of AGC's environmental action plan. The policy aims at ensuring a sound corporate management of resources (gold) and the environment, and to avoid any exploitation of these resources in a manner that might cause irreparable damage to the environment. Usually, when a corporate management decides on a broad policy it is a political decision, made either by the corporate headquarters and imposed on the affiliated units or by the affiliated units themselves. In the case of the AGC's environmental policy it is assumed that either the policy emanated from internal sources with little external influence or vice versa. In other words, either the policy is both conceived and designed by the corporate management or by the Ghanaian environmental authorities including the civil society.

Environmental Management

The concept *Environmental Management* very much concerns development and the improvement of life quality, both of which continue to be a serious national and global problem. Thus, it concerns the use of available resources to develop and improve life quality but to do it in such a way as to preserve, rather than destroy the resources. The act of caring and controlling the environment such that human actions do not put it in jeopardy can be described as environmental management. The concept of environmental management, as used in the study, means making all interventions which may be deemed appropriate to maintain a high level of environmental quality, and which at the same time enhances sustainable socio-economic development.

Organisation of the Thesis

To achieve the objectives set for this thesis, the thesis is organised into seven chapters. The Chapter Two explores the theoretical framework, where institutions and institutional organisational approaches are reviewed. The neo-classical and global reach perspectives on TNCs, development, and the environment are examined. These theories are chosen because they are appropriate for this study in that AGC operates in an institutional environment, where the societal norms, values and rules have

significant impact on the Company's environmental decision-making. Chapter Three accounts for Ghana's economic reform, examining the Structural Adjustment Programme (SAP) and its implications for the environment. It also looks at Ghana's environmental laws, regulations, institutions and agencies, and policies, which are analysed in the subsequent chapters in relation to AGC's environmental strategies.

Chapter Four takes a look at Ashanti Goldfields Company (Ghana) Limited. The chapter analyses AGC's gold production and its implications for the environment at Obuasi. Furthermore, the chapter examines the Company's environmental strategies which are being implemented at Obuasi. Chapter Five analyses the political dynamics of AGC's environmental role at Obuasi. In other words, it assesses the contextual factors which directly and/or indirectly influence AGC's environmental strategies and practices. As the manager and controller of AGC, this Chapter also analyses Lonmin's relations with AGC in terms of the latter's environmental decision-making processes. Chapter Six discusses the empirical data in the light of the theoretical perspectives reviewed in Chapter Two. The last Chapter, Seven, is the concluding part of the thesis where the major findings are summarised and the writer's final remarks given.

CHAPTER 2: THEORETICAL FRAMEWORK

2.1 Introduction

The focus of this thesis is to examine Lonmin's (AGC-Obuasi) environmental management strategies and practices, and the context within which these strategies are being practised at Obuasi. Thus, the thesis assesses Lonmin's environmental role or behaviour at AGC. Such a research problem, like most research problems, should be investigated and analysed within an appropriate theoretical framework. Since the focus of the thesis is on the environmental behaviour of AGC, there is the need for an institutional approach to the problem. There is also the need for perspectives on TNC and TNC related activities in LDCs. However, it is significant to note that there is neither a fundamental theory on TNC and TNC related activities (Dunning 1992), nor any theory that basically and explicitly focuses on TNC and environmental management. Thus, the literature attempts at making a theoretical affiliation between the economic literature on FDI and the literature on TNCs, development and the environment in LDCs. Relevant to the problem of this study would be the neo-classical and global reach perspectives on TNCs, development and the environment, which take into account both the positive and negative impact of TNCs' activities in LDCs. The purpose of this section is to review or explore the basic tenets of each perspective, which would serve as the framework for analysing the empirical evidence from AGC.

2.2 The Theory of Institutions

How and to what extent do institutions matter, as regards the focus of this study? It cannot be denied that an institutional approach to the problem of the study is a step in the right direction, as the study involves political actors whose behaviour must be regulated and controlled by explicitly and clearly defined institutions. According to the theory of institutions, what actors do or do not do are guided and shaped by formal rules, compliance procedures, and standard operating procedures set by the actors (Peters 1999). Institutions stabilise mutual expectations regarding future behaviour, reduce transaction costs, produce information otherwise not available or available only at high cost, and provide a framework of reference that ensures that the

interaction repeats itself frequently enough (Levy et al 1995). Thus, institutions offer an arena for interaction, where the rules of the game are defined and well-known and must be obeyed by all the actors involved.

The rules defining accepted behaviour creates expectations of the actions of the participants. Such expectations gain a certain normative power, which makes defection from the agreed upon principles and rules of behaviour costly (Underdal 1995). Thus, institutions offer sanctions for any possible defection, as well as certain attractive benefits as tools for joint and collective action. The actors involved must have the required capabilities to fulfil their obligations as demanded by the rules of the game. According to the rational choice institutionalists, most political life occurs within institutions, and that to be able to provide a comprehensive explanation of politics their theories must address the nature and role of political institutions (Peters 1999). For March and Olsen (1989), a political institution is not necessarily a formal structures but rather is better understood as a collections of interrelated rules and routines that define appropriate actions in terms of relations between roles and situations. The process involved determines what the situation is, what role is being fulfilled, and what obligation of that role in that situation is.

In short, institutions are collection of values and rules, largely normative rather than cognitive in the way in which they impact on institutional members, as well as the routines that are developed to implement and enforce those values. It is further argued that institutions have a repertoire of procedures and they use rules to select among them. Again, institutions are viewed by their durability and their capacity to influence behaviour of individuals for generation. Likewise, institutions are argued to possess an almost inherent legitimacy that commits their members to behave in ways that may even violate their own self-interest (Peters 1999). It should be noted that the most significant feature of the March and Olsen conceptualisation is that institutions tend to have a *logic of appropriateness* that influences behaviour more than a *logic of consequentiality* that might shape individual action. This implies that if an institution is effective in influencing the behaviour of its members, those members will think

more about whether an action conforms to the norms of the organisation than about what the consequences will be for himself or herself. In order for this logic of appropriateness to be effective there must be some form of enforcement (Peters 1999) an enforcement which may hold the various actors' behaviour in check.

However, Huntington (1968) asserts that a society with weak political institutions lacks the ability to curb the excesses of personal and parochial desires, as political institutions have moral as well as structural dimensions. Without strong political institutions, society lacks the means to define and realise its common interests. The capacity to create political institutions is the capacity to create public interests. A society with highly institutionalised governing organisations and procedures is more able to articulate and achieve its public interests. Organised or institutionalised political communities, as Friedrich argues, are better adapted to reaching decisions and developing policies than unorganised communities (Cited in Huntington 1968). The public interest, in the context of this study, is not only whatever strengthens governmental institutions but also, and more importantly, is something which exists a priori in natural law or the will of the people. Thus, the communities have inalienable rights to defend and protect themselves and their environment, rights which should be supported by those governmental institutions. However, the problem is that most LDCs do not have the appropriate and effective institutions to defend and protect their environment against wanton dissipation of their natural resources by mining corporations.

2.2.1 The New Institutional Organisation Theory and TNCEM

The institutional organisation theory takes accounts of the relationship between the actor and structure. It is an organisational theory for non-commercial organisations. Even though most of the studies which have used this theory focused on non-commercial organisations, it can still be applied to TNCs which are commercially-oriented in that there is a strong link between their economic activities and the society in which they operate. It is very difficult to differentiate between what is solely social relations and what is solely economic relations in the real world. One of the aspects

of this theory is how societal norms and values reflect themselves in an organisation's decision-making process.

The institutional approach to an organisational analysis suggests that changes in the features of organisations (such as greening) are often introduced to make organisations more aligned with the changing norms and expectations of the institutional environment (Gladwin 1993). Thus, even though TNCs are viewed as rational economic actors, their economic decisions are made within a socio-political context and that they are subject to the changing norms and values of the society. It should be noted that though the new institutional theory is not a competitive theory to the neo-classical economic theories, it adopts a more eclectic approach where it becomes apparently clear the difficulty in making a distinction between what is an economic decision and what is a political decision. Thus, politics and economics are inextricably linked together. This brings to mind the assertion that all environmental decisions are made within both economics and political contexts (Mate 1992).

According to Meyer and Rowans (1991), any organisation finds itself in two environments, *the technical environment* and *the institutional environment*. The technical environment is the day-to-day activities of any organisation which are administered by formal structures. It is influenced by the aim and objectives of the organisation, and focuses on effective and efficient use of resources to produce the products and services, which the environment demands. On the other hand, the institutional environment has a different culture and is not activity-based oriented. It makes sure that activities of any organisations are in line with the accepted norms, values and rules prevalent in the society in which organisations operates. This type of environment can have a direct influence on the organisation's formal structure, which, in turn, administers the day-to-day activities of the organisation. Organisations act according to what one thinks is right in relation to the existing norms and values at the area of operations, but this can create a problem for an environmental decision-making by the organisation. This is because, as regards environmental issues, there is a great uncertainty as to what is the best solution. At times, both national and

international actors are opposed to each other as to how best environmental problems ought to be solved.

The above problem comes about as a result of the difficulty in identifying a clear correlation between the institutional and technical environments. The organisations which are mostly occupied with the institutional environment are less result-oriented and lay much emphasis on legitimating their existence. On the other hand, organisations which are exposed to competition are normally guided by a rational choice in relation to what is economically effective and efficient. Thus, it is difficult to reconcile organisation's response to the demands of the institutional environment and what is viewed as an effective and efficient solutions if one limits oneself to the technical environment. Meanwhile, it is asserted that it is the institutional environment which forms the basis for an organisation to legitimate itself and secures its continuous existence. However, responding to the demands of the institutional environment may reduce organisation's efficiency in going by its day-to-day activities. Meyer and Rowans (1991) attest to this fact when they assert that organisational conformity to the institutional environment simultaneously increases evaluation, resources flows, and therefore survival chances, and reduces efficiency.

The problem is, as rational economic actors, most organisations or corporations find it difficult to reduce efficiency regarding their activities and conform to the institutional environment. Perhaps, the most difficult task for most corporations is how to increase efficiency and conform to the institutional environment concurrently. To achieve this, the writer contends that there should be a harmonious relationship between both the technical environment and the institutional environments in which corporations operate. Thus, the technical environment of corporations should have appropriate and effective environmental management policies and programmes to meet the expectations of the institution environment. The problem then is whether corporations have effective environmental policies and programmes and the basis on which these are assessed or measured.

Assessing or measuring the effectiveness a company's environmental management policies and practices or its environmental performance²⁴ is not an easy task. The former can be assessed on the basis of individual firm's annual and other reports and/or with interviews with management. To assess the latter, that is, environmentally induced activities, comprehensive surveys must be conducted. This is a very difficult task and in most cases involve many types of method of investigation (Hesselberg, 1998). There is no one way to measure environmental policies and performance at the firm level (Wiik, 1998). In the literature there are numerous examples of various ways in which to categorise environmental policies and performance (Hesselberg, 1997). Wiik argues that it is not the amount of toxic releases from the firm's or to what degree they destroy nature that is the interesting point of discussion, but rather to what degree firms propose and do anything to prevent their polluting activities.

To assess the effectiveness of a firm's environmental policies, the following guiding questions are of prime importance: Does a firm have stated environmental goals? What is the quantity and quality of the environmental information given by a firm? Does a firm have a system for evaluating its own environmental performance? Does a firm follow the same environmental standards all over the world? To what degree is management committed to solving environmental problems? (Hesselberg 1997; Wiik 1998). The writer also sees the extent of implementation of the stated goals by the firm and the context in which these stated goals are being implemented as also significant for a successful measurement of a firm's environmental performance. In order to measure the environmental policies of a firm effectively, it is necessary to evaluate several of these indicators, weigh these against one another, and place them in certain categories of environmental policies, though there may be problems in weighing different indicators, as noted by Wiik. There are many and diverse categories but I limit myself to Hesselberg's five main categories: *unconcerned, compliance, proactiveness, innovativeness, and sustainability*²⁵.

²⁴ Environmental performance, here, means "how a firm in practice deals with the consequences for nature stemming from the firm's total activities". That is, the concept includes all levels of the environment, from individual health to the global ecological system (Karin Wiik, 1998: 38).

Hesselberg claims that some corporations are concerned about their environmental obligations while others are unconcerned. Corporations which are not concerned about their environmental obligations do not take any pragmatic measures to prevent and/or address any environmental problems consequential to their operations. Some corporations do not have environmental policy, strategies and programmes, and even those who do have do not implement them effectively. Related to the first category is corporate *compliance* with environmental regulations. According to Hesselberg, firms in this category strive to react properly to changing environmental legislation; hence it is often called a reactive strategy. Thus, they strive to abide by the existing environmental laws and regulations in their area of operations. A corporation can be classified as a *proactive* (management pull strategy) corporation if the Management expresses the intention of going beyond mere compliance with the Government's guidelines and being actively involved in preventive rather than curative measures in dealing with its environmental impact.

A Company can be classified as innovative if it introduces changes and new ideas in the way things are done or made. According to Hesselberg, firms are placed in this category if their annual reports and/or other publications explicitly express a comprehensive environmental policy incorporating the view that environmental issues are significant to the firm's image and long-term competitive advantage. The firms, he further argues, actively intend to improve their environmental performance through a policy on both innovation and invention. The last and highest category, the *sustainable* category, demands that a company's environmental policies should have as an ultimate goal zero *pollution* and virtually eliminate waste. This is completely a preventive approach, that is, to act before any damage is caused to the ecological system. These five categorisation of corporate environmental management policies, practices and performance, developed by Hesselberg and others, are used later in the thesis to examine Lonmin's. I now turn to the neo-classical and global reach perspectives on TNCs, development and the environment, which have both positive and negative impact on TNCs' activities in LDCs.

²⁵ For detailed analysis of these categories, see Jan Hesselberg, 1997, 1998; Wiik, 1998, etc.

2.3 The Neo-classical Perspective

The neo-classical perspective consists of a host of economic theories of trade and investment that share a theoretical core. The shared core is that market forces ensure an efficient allocation of resources internationally so as to maximise world welfare (Jenkins 1987; Hansen 1996). This perspective can be divided into two branches. First, macro-economic theories that analyse the distribution of FDI globally in terms of locational advantages and disadvantages of different countries, in terms of variations in capitalisation rates, or in terms of fluctuation in the product cycle. Second, micro-economic theories that are based on theories of internalisation and owner specific advantages, seeking to explain why transnational operations are undertaken. For the purpose of this study, I review the product cycle and the internalisation theories.

The *product cycle theory* was applied to international capital flows by Vernon (1966) in the early 1960s. The product cycle theory takes its point of departure in a description of the life cycle of a new product from its introduction to its maturity. This theory of FDI starts out with the incentives for firms to innovate. As the products mature, as the technology becomes more difficult to protect, and as price elasticity grows, the firm grows from an inward oriented domestic firm to an outward oriented firm investing abroad (Hansen 1996). Hansen further argues that the firm's decision to invest abroad is seen as a strategy to keep technological and managerial advantages before they become diffused in overseas markets. It predicts that LDCs will enjoy a comparable advantage in mature, standardised products. In addition to supplying capital and appropriate technology to LDCs the theory lay emphasis on the importance of TNCs in providing access to overseas markets for LDCs' exports.

In the 1970s a new neo-classical synthesis for analysing trade and investment by TNCs has emerged, the *internalisation theory*²⁶. The main argument of this approach

²⁶ This approach has been variously labelled: *internalisation theory* (Buckley & Casson 1976); *contemporary orthodox approach* (Hood & Young 1979); *electic theory* (Dunning 1981); and *transactional approach* (Caves 1982); see Jenkins 1987: 20. It has become the approach adopted by most pro-TNC writers in recent years.

is that TNCs exist because of market imperfections²⁷ (Jenkins 1987). If all markets operated perfectly, continues Jenkins, there would be no incentives for firms to bother themselves in controlling subsidiaries in different countries and to internalise markets between them, rather than engaging in arm's length transactions with independent firms. Internalisation then is a way of bypassing imperfections in external markets. Imperfections in a lot of areas are seen as being important in explaining the existence of TNCs. For instance, markets for intangible assets such as technology, marketing skills and organisational know-how are notoriously imperfect because of their public good nature, imperfect knowledge and uncertainty. Another crucial assumption of the internalisation theory about TNCs' operations is that market imperfections are exogenous, either natural or government induced, and that TNCs do not themselves create such imperfections (Jenkins 1987; Rugman 1981). Now, the question is, what are the environmental and policy implications of neo-classical theory for LDCs?

2.3.1 On the Environment in Less Developed Countries (LDCs)

Neo-classical theories of FDI are essentially a supplement to the more traditional theories of trade and capital movement. However, in certain respects, particularly in relation to the environment, their predictions differ significantly from the predictions made by international trade theory. According to the neo-classical theory, FDI is a means for TNCs to exploit and protect their ownership specific advantage and to internalise costs and insecurities. Therefore, this approach tend to downplay the significance of the predictions made by international trade economics that TNCs relocate in order to avoid environmental costs. It is market access, protection of proprietary technology, availability of labour, etc. that are the leading locational factors behind FDI, and therefore there is no a priori reason to expect a wholesale industrial flight of polluting industries to LDCs (Hansen 1996; Stafford 1985). The neo-classical theories tend to emphasise that TNCs can play an important role in the transfer and diffusion of clean technologies and environmental management practices

²⁷ By market imperfections, we mean market distortions such as government intervention; trade barriers; restrictions on capital movements; tax or exchange rate policy; risk and uncertainties; etc. Market imperfections exist in imperfect markets. Unlike Global reach, this perspective asserts that market imperfections are government induced and that TNCs do not themselves generate such imperfections.

to LDCs (Ibid. 1996), in addition to the few industries that would relocate to LDCs for environmental reasons (Leanard 1988; UNTCMD 1992).

Hadlock (1994) and Royston (1979) challenge the negative image of TNCs, claiming that TNCs tend to follow the host country's environmental standards or their own standards, whichever is the stricter. Strict environmental regulations in TNCs home countries force them to develop sophisticated environmental management systems and clean technologies in LDCs. This is necessary because high environmental performance may increase the firm's rate of profits, as consumers increasingly prefer products produced under ecologically acceptable conditions. In short, neo-classical theories of FDI argue that there will be a host of positive environmental impacts on LDCs resulting from the inflow of technological, financial, and organisational resources. These positive environmental impacts are largely derived from the workings of market forces as "market forces might compel multinational corporations to operate within sustainable industry configurations toward high quality Third World EH and S performance" (Himmelberger 1994:27, cited in Hansen 1996).

2.4 The Global Reach Perspective

The term *global reach*²⁸ was originally coined by Barnett and Muller (1974) to refer to the highly intrusive and sometimes destructive world-wide presence of TNCs. Its roots can be traced back to industrial organisation theory and the US anti-trust tradition, which essentially focus on the adverse effects of corporate monopolies and oligopolies on national welfare and efficiency. The central argument of this approach is the view that FDI should be seen as part of the strategy of oligopolistic firms and not simply as resource flows. Hymer (1976), an exponent of this approach, identifies two main reasons why firms control subsidiaries in foreign countries: in order to make use of a specific advantage which the firm enjoys over foreign firms; and in order to remove competition between the firms concerned and eliminate conflict (Jenkins 1987).

²⁸ This approach has been given different labels, for example the *critical approach* (Biersteker 1978); *nationalist approach* (Lall 1974); and *industrial organisation approach* (Newfarmer 1985a); the *market-power approach*; see Jenkins 1987: 23.

The main focus of attention of this approach is the market power²⁹ of TNCs, deriving from a number of oligopolistic advantages possessed by TNCs particularly control of technology, marketing through advertising and product differentiation, privileged access to capital and natural resources. These ownership specific advantages enable TNCs to compete successfully in foreign locations. This argument is fully accepted by the neo-classical economists. However, contrary to most of the neo-classical accounts, Hymer argues that TNCs constitute a two-edged sword for society in that “on the one hand, they were likely to be efficient and well managed thus improve welfare. On the other hand, the market power derived from their firm specific advantages could be transformed into political power without accountability” (Hansen 1996:348). However, it should be noted that Hymer’s argument lays much emphasis on the latter aspect of TNCs for they are able to use their firm specific advantages to generate market imperfections, remove competition, and eliminate conflict.

While the internalisation perspective would tend to downplay the importance of TNC monopoly power, the global reach perspective conceives the firm as essentially an agent of market power and collusion. Thus, TNCs tend to exploit their market position to exploit patent protection, avoid taxation through transfer pricing, capture governmental regulations and raise entry barriers for competitors. It is also worthy of notice that the global reach perspective rejects the assertion by neo-classical theorists that TNCs are effective allocate of productive resources among countries or effective means of internalising imperfections in the market place. Rather, the global reach perspective sees TNCs as creators of market imperfections and distortions, thereby seriously questioning the social efficiency of TNCs. In short, the global reach perspective maintains that the global corporations are “the institution with the most direct responsibility for producing malignant growth in modern society” (Barnet & Muller 1974:336)³⁰.

²⁹ One definition of *market power* is that “market power may simply be understood as the ability of particular firms, acting singly or in collusion, to dominate their respective markets (and so earn higher profits), to be more secure, or even, to be less efficient than in a situation with more effective competition” (Lall 1976: 1343, quoted from Hansen 1996: 372).

³⁰ Cited in Hansen M. W., 1996.

2.4.1 On the Environment in Less Developed Countries (LDCs)

As regards the environmental conduct of TNCs in LDCs, the global reach perspective maintains that TNCs seek to minimise environmental costs in LDCs and also their contribution to other social objectives. This assumption brings to mind the prediction that TNCs deliberately operate with environmental double standards (Castleman 1978; 1979), one set of standards, low, in LDCs and another set of standards, high, in OECD countries. In other words, TNCs use their dominant position to engage in a “race to the bottom” in LDCs and “race to the top” in the OECD countries with respect to their environmental performance. These double standards can be implemented because TNCs face more lenient regulations in their LDC operations, because workers and the general public in LDCs are less concerned with environmental issues, and because TNCs, due to their strong bargaining power, can get concessions from LDC governments and regulators. These are the motives, among other things, behind the industrial flight or out-migration³¹ of firms from the industrialised countries to LDCs.

The literature distinguishes between two types of double standards: those associated with export of products and waste, and those associated with production facilities. For the purpose of this thesis, I concentrate on the latter aspect of corporate double standards. The literature on production facilities claims that the management controls, technology-use, and EH and S standards are significantly less developed in TNC LDC operations than in their comparable OECD facilities. This literature has particularly been substantiated by the 1984 Bhopal catastrophe at a subsidiary of the US chemical giant Union Carbide, where a lot of people were killed due to managerial neglect, outdated technology, and lack of financial support for the Indian affiliate. As a consequent of TNCs’ substantial bargaining strength, they can threaten to close down factories if their terms are not met. On the part of LDCs, the *pollution haven hypothesis* states that “developing countries are afraid of tightening environmental standards for fear of disrupting current investment patterns” (Knutsen 1994:22). Leonard also shares this view when he claims that “... less-developed

³¹ The term *out-migration* here refers to industry only. For social scientists, the term usually means out-migration of people.

countries would use lenient environmental regulations to attract multinational industries” (Leonard 1988:2).

2.5 Summary

In this chapter an attempt was made to review the theories on institutions and institutional organisation and TNCs. The chapter also reviewed theories on TNCs, development and the environment in LDCs. According to the theory of institutions, what actors do or do not do are guided and controlled by formal rules, compliance procedures, and standard operating procedures set by the actors. The institutional approach to an organisational analysis suggests that changes in the features of organisations are often introduced to make organisations more aligned with the changing norms and expectations of the institutional environment. Thus, the institutional environment has some impact on the actions of organisations. As regards the neo-classical and global reach perspectives, it was established that the theories do highlight on both the positive and negative aspects of TNCs’ activities in LDCs. Whilst the neo-classical perspective shares an optimistic view on TNCs activities in LDCs, the global reach perspective challenges this optimistic position by emphasising on the adverse impacts of TNCs’ activities on the environment in LDCs. According to Hansen, whereas the global reach perspective predicts environmental double standards due to corporate market power, the neo-classical perspective predicts welfare optimal benefits from TNCs to LDCs.

CHAPTER 3: ECONOMIC REFORMS, FOREIGN DIRECT INVESTMENT (FDI) AND THE ENVIRONMENT IN GHANA

3.1 Introduction

It has been established that the gold mining industry plays a very significant role in the economy of Ghana. This may mean that any economic reforms or policies adopted and implemented by the Government of Ghana may have a significant impact on the gold mining industry and the environment. The purpose of this chapter is to examine the political economy of Ghana, examining the structural adjustment programme (SAP) and its implications for the environment. Thus, an attempt is made at looking at the impact of SAP on FDI and how this, in turn, has affected the gold mining industry and the environment in Ghana.

3.2 The Unstable Political Economy of Ghana

Ghana's political developments since independence, in 1957, have been marked by sharp fluctuations and growing uncertainty (Chazan 1986). By the time Ghanaians celebrated their silver jubilee in 1982, they had lived under eight different political regimes, mostly dictatorial regimes by military juntas. This has really had considerable detrimental effect on the economy. It is significant to note that "in tandem with the state's changing tides, the economy has gone through phases of expansion and contraction, stabilisation and liberalisation, and stagnation and decline" (Chazan 1986:154). In other words, Ghana's political economy has gone through some drastic changes since its attainment of independence from Britain. Soon after independence Ghana had a healthier economy as compared with most LDCs. In 1957, Ghana had external assets of \$450 million (Ibid. 1986). It was the world's leading producer of cocoa and a major producer of gold as well as timber. In terms of world development rankings, Ghana was among the middle-income countries (World Bank 1989).

The economy of Ghana has basically been dualistic in the sense that there is the co-existence of two distinct sub-economies: a small capital intensive modern sector

involved in mining and manufacturing, and a large traditional sector. The national economy depends mainly on this traditional sector, primary production and exports, from the rural areas. The high cocoa and gold prices, coupled with an increase in private investment in the 1950s and 1960s, greatly expanded the foreign exchange base and the overall production of the country. The agriculture sector and GDP grew at a consistent rate of 2 and 2.5 respectively. The GNP per capita was over \$380 in the early 1960s, higher than most LDCs at that time. Ghana maintained its lead in cocoa production with annual average harvests of 0.5m tonnes. Gold production reached a peak of 0.9m ounces produced in the country in 1960 (Barning 1990).

However, factors of internal and external origin have steadily brought the progressive economy of Ghana to a decline since the middle of the 1960s, accounting for Ghana's underdevelopment. By the second half of the 1970s the economy was in shambles and desperately in need of revitalisation. The average annual growth rate of GDP between 1967 and 1983 was -3% while the growth rate per capita GDP was -7% . The rate of inflation increased from 0.9 in 1960 to 122.3 in 1983. Agriculture output also declined at a rate of 0.3% annually. Output of cocoa, the backbone of the nation's economy, had fallen from an annual average output of about 0.5m tonnes in the 1960's to less than 0.2m tonnes between 1975 and 1983. By 1983 mineral production had also fallen drastically. Gold output fell to one-third of its 1960 levels and only four mining companies were in operation. It is also important to note that the general infrastructure, especially roads, in the country were in a deplorable condition.

The economy of Ghana was at the verge of collapse by the end of 1982 (World Bank 1994). This had been the result of several years of political instability, economic mismanagement, and persistent adverse international developments. Internal factors, such as state intervention, shortage of capital and technical know-how, neglect of infrastructural maintenance, decline in efficiency, especially in the public sector, fiscal mismanagement, corruption, and so on "go far toward explaining the

telescoping inequalities, regional imbalances, neglect of one sector in favour of another, and daily suffering endured by Ghana's citizens" (Chazan 1986:165).

These internal factors had fed into an already precarious economy, an economy, like many in the developing countries, that is caught up in the vice of a colonial legacy, underdevelopment, and dependency. The British set up the Ghanaian economy in a manner inappropriate to Ghana's needs; they integrated it into the world capitalist system as a dependent economy³² thereby undercutting its potential for autonomy. Focusing on the export sector, they established a monocrop economy. Even though gold and timber have brought in significant revenue, cocoa has overwhelmed them by its earning power. Moreover, all the three products have been at the mercy of the world market, a market whose prices for raw materials from LDCs are not determined by demand and supply forces but rather by the powers that be.

Even though Ghanaian governments have attempted to break the country's dependence on raw materials, the extent of autonomy possible is limited. Thus Ghana has been a victim of raw material price fluctuations on the world market. As a result of the drop in export earnings (by over 50% in the 1970s), worsening terms of trade, increasing price of oil, and adverse weather conditions, economic growth and development have become more difficult. With FDI not forthcoming due to the factors enumerated above, the leaders resorted to foreign moneylenders, which did not only aggravate the situation but also left the country with a heavy debt burden. In 1979, Ghana's debt stood at \$1,334.8 million and the debt servicing in 1979 amounted to \$54.6 million (Chazan. 1986). The above problems, among other things, accounted for Ghana's persistent economic chaos and decline. The need to rescue the Ghanaian economy from total collapse led to the launching of the Economic Recovery Programme (ERP), commonly known as the Structural Adjustment

³² Some writers, like Rimmer, D. (1992), on the political economy of Ghana argue that the problems of the political economy of Ghana, and Africa in general, are internal or domestic. However, in my view, this thesis is one-sided in that the impact of colonisation, imperialism, and western capitalism, as I have argued above, cannot be ignored entirely in looking at the causes of Africa's economic malaise. These external factors have significantly affected the superstructure of Ghana, and of Africa in general.

Programme (SAP), which ushered in new policies and laws to restructure all sectors of the economy.

3.3 The Structural Adjustment Programme (SAP)

In April 1983, the government of Ghana, the PNDC, launched the SAP, locally called Economic Recovery Programme (ERP), under the financial support of the IMF and World Bank. The SAP envisaged three main phases. The first phase, 1983/84-86, was a stabilisation phase aimed at reducing fiscal deficits, balance of payment deficits and external debt. A framework documents for the SAP states:

The ERP for 1984-86 was designed to rehabilitate the economy and reverse the economic deterioration suffered over the past decade. The policy package of economic reforms associated with rehabilitation aimed at re-aligning relative prices in favour of the productive sectors (particularly cocoa, timber and minerals), improving the financial position of the public sector and encouraging expanded private investment (Republic of Ghana 1985:9).

The 1983-86 phase, referred to as the stabilisation phase, concentrated on measures to arrest and reverse the trend of precipitous decline in all sectors of the economy. It was a preparatory phase intended to stabilise the general macro-economy and to set the stage for a more long-term structural adjustment of the economy. The second phase referred to as the structural adjustment and development phase was extended to cover the period 1986-90. This phase proposed structural reforms to enhance the conditions for growth, improve the structure for incentives through fiscal, monetary, exchange rates, and to reduce the role of the state in economic activities. These phases, thus, aimed at restraining demand and enhancing production and export.

The third phase was designated the liberalisation and growth phase and covered the period 1991-93. It aimed at a minimum GDP growth rate of 5% per annum, increasing domestic investment as a share of GDP from 16% in 1990 to 19.5% in 1993, and raising private investment as a share of GDP from 7.4% to 8.3% over the period. Specific sector policies, such as agricultural and mining sector policies, were targeted for improvements. Again, in pursuing these policy measures, private

investment, both local and foreign, was seen as the leading edge of growth, hence the SAP placed much emphasis on it. Some of the policy measures adopted under the SAP to improve the investment climate and trade, and, thus, create an enabling environment for private investment, are outlined below.

3.3.1 Exchange Rate

Given the huge gap between the official and black market exchange rates, which had developed prior to 1983, reform in this area was seen as a step in the right direction. The SAP made the government change its rigid exchange rates to more realistic and flexible ones. The major exchange rate policy involved a series of devaluation of the cedi and the auctioning of the US dollar. In early 1983 the cedi was devalued from 2.75 to the dollar to 90 cedis to US\$1 in 1986, which represented a devaluation of over 400%. In 1988 the government allowed the establishment of Foreign Exchange Bureaux (FEB) by individuals and institutions licensed by the Bank of Ghana. The buying rate at the FEB is now (December 2000) 7200 cedis to US\$1. Comparing the 1983 with 1999 exchange rates, we can conveniently say that the economy of Ghana has declined abysmally since 1983, though exchange rate is not the only indicator of the health of any economy. The rates at the FEB are freely quoted by each FEB according to market conditions. There are usually slight differences in both buying and selling rates at the various FEB, which serve as their commission. This development was to ensure easy access to foreign exchange and, thus, to facilitate trade and investment.

3.3.2 Import Liberalisation

As mentioned earlier, restrictive policies were relaxed and trade was liberalised so as to boost export for increased foreign exchange revenue³³. Import licences were abolished and replaced by a system of import declaration. In addition, the tariff structure was simplified and tariff rates reduced. Before the advent of SAP, there were four principal levels of import duty rates, 0, 35%, 60%, and 100%. The SAP

³³ On the other hand, trade liberalisation in Ghana, like other LDCs, has had some negative impact on the economy. It has, among other things, stifled small-scale businesses. Domestic manufacturers find it difficult to compete with imported goods which are sold at relatively low prices. It has made the Ghanaian market a dumping ground for imported shoddy goods.

changed these rates to 0 and 25%. The sales tax³⁴ on imported goods was simplified to four rates, exempt, 10% (concessionary), 22.5% (standard), and 35% (luxury). The foreign exchange and trade liberalisation policies have led to a very significant inflow of all types of imported goods such as transport and industrial spare parts, new vehicles, food supplements, medical equipment and drugs.

3.3.3 Promotion of Private Investment

In pursuing the above policy measures, private direct investment, both local and foreign, was seen as the leading edge of growth. Hence, significant steps were taken to provide an attractive and stable macro-economic framework and an enabling environment for private investments to operate. In effect, various laws were enacted to regulate private investments in Ghana³⁵. As reflected in its investment legislation, Ghana's developmental objective is the encouragement and promotion of investments in all sectors of the economy. As could be gleaned from its title, the Ghana Investments Promotion Centre 1994 (Act 478) seeks to encourage and promote investments in all areas of the Ghanaian economy by offering certain incentives to investors who satisfy the requisite conditions for direct investment in Ghana.

This does not, however, apply to mining and petroleum investments in Ghana³⁶. Those enterprises to which Act 478 applies are entitled to benefit from the relevant benefits and incentives irrespective of their size, once the eligibility criteria are met. Further investment policy measures include a review of the tax structure as it relates to private investment. For example, there was a reduction in the corporate tax rate from 60% to 45% as maximum in 1988. A further reduction to 35% was made in 1991. There was also a review of the customs procedures at air- and seaports to streamline imports of machinery and raw materials, and exports of products, and many others. Undoubtedly, the implementation of the SAP had resulted in significant

³⁴ The sales tax on imported goods has now been replaced by a 10% value added tax (VAT) on all imported goods. It took effect from January 1999.

³⁵ Notable among these are the Ghana Investment Promotion Centre Act, 1994 (Act 148), which governs investments in the areas of manufacturing, export trade, construction, and agriculture; the Minerals and Mining Law, 1986 (PNDCL 153), which harmonises all laws relating to investments in mining activities; and the Petroleum Exploration and Production Law, 1984 (PNDCL 84), which governs all investment activities in the area. For the purpose of this study only PNDC Law 153 and its related regulations would be highlighted.

³⁶ Act 478 section 17. Mining and Petroleum operations are governed by PNDCL 153 and PNDCL 84 respectively.

changes in Ghana's investment policy measures, which, in turn, have increased private investment, particularly FDI in the gold mining industry, and in Ghana as a whole, as established in Chapter One. These developments have had some physical, socio-economic and political implications for the environment.

3.4 Implications of SAP on the Environment

Both the World Bank/IMF and individuals³⁷ have extensively made analytical views of the socio-economic impact of SAP in Ghana. In terms of general macro-economic stability, there is little doubt that SAP has made significant impact on the economy. Ghana experienced a remarkable macro-economic turn-around after almost two decades of stagnation. Real GDP has grown at a consistent average rate of about 5% between 1984 and 1995, compared with the decline of 3% per annum during the preceding period of 1976-1983.

3.4.1 Nature of Growth, Structural Change and the Environment

According to Ayres and Simonis (1995), the impact of growth on the environment will depend, to a greater extent, on the structure of the economy. The point here is whether and to what extent the economy moves from extraction to value-added manufacturing. The SAP did not lead to any substantial improvement of the manufacturing base of the Ghanaian economy. It rather increased the exploitation of the natural resources of the country. In 1995, timber, cocoa, and minerals accounted for about 85% of the export earnings. This was more due to the expansion and improvements in the terms of trade (ISSER 1992 & 1996). The major components of GDP has remained agriculture, industry (mainly mining) and forestry. The key exception was the service sector, particularly tourism, which has maintained an impressive 7% annual growth rate. Thus, the implementation of the SAP since 1983 has not brought any significant structural change in terms of the main elements that constitute GDP growth in Ghana. One interpretation of structure of growth is that little value has been added to the increasing extraction of raw materials.

³⁷ For detailed evaluation or assessment of the socio-economic and political impact of the SAP, see Ewusi 1987; Green 1987; Jonah 1989).

3.4.2 Debt and the Environment

The SAP has led to huge borrowing from donor agencies and creditors including the IMF, World Bank and the International Development Association (IDA). Ghana's external debt, which was less than US\$1.1 billion in 1981, had, by 1997, reached US\$5 billion, a figure almost the same as the total debt of all sub-Saharan African countries in 1962. "The total debt stock of Ghana stood at 41.10 trillion cedis (US\$7.50 billion) at the end of December 2000. Out of this amount, 31.70 trillion cedis (US\$5.80 billion) was external and 9.40 trillion cedis (US\$1.7 billion) was domestic" (Ghana Budget 2001:9). The huge amount of financial resources committed into the SAP has put Ghana in a high debt burden category and the country is now labelled as a *heavily indebted* country by the World Bank. It came as no surprise when the new Government of Ghana,³⁸ upon assumption in office this year, decided to adopt the *Heavily Indebted Poor Countries (HIPC)*³⁹ initiative to be given debt payment relief and cancellation.

It is significant to note that the impact of debt and debt servicing on the environment depends on the purpose for which the loans were contracted and the means employed to achieve the purpose. A substantial amount of the loans contracted by Ghana under the SAP was meant for the rehabilitation of agriculture (mainly the cocoa sector), mining, and forestry as well as for the construction and rehabilitation of roads and highways to improve production. By 1989, Ghana's total external debt had reached a significant level of 61% of its GNP and 68% of its exports. Debt repayment has therefore become an enormous burden on export earnings. More than US\$700 million of the debt is owed to the IMF which cannot be rescheduled. Between 1987 and 1994 nearly half of Ghana's exports earnings went into external debt servicing.

The argument is that considering the unfavourable terms of trade for export commodities, the volume of exports had to be increased substantially to meet any

³⁸ There has been a change of Government in Ghana. The people of Ghana, in the December 2000 general elections, voted massively for the New Patriotic Party (NPP) under the leadership of John Agyekum Kuffour to end the 8-year rule by J.J. Rawlings' National Democratic Party (NDC). Together Rawlings ruled Ghana for 19 years, 11 years being a military rule.

³⁹ HIPC initiative is a World Bank initiative, which gives relief for debt servicing, payment and cancellation to its members who have been categorised as heavily indebted countries, and Ghana is among those countries.

meaningful debt servicing effort (World bank 1989; Onimode 1992). Consequently, there has been enormous increase in extraction and exploitation of resources like timber and minerals, especially gold, for export. It cannot be denied that Ghana's SAP-debt repayment and servicing obligations have put greater strain on the environment. This is so because the Government of Ghana has sought to increase the foreign exchange earnings of the country through the export of minerals, especially gold, to meet her debt servicing obligations. This has resulted in the expansion and increase in the gold mining industry by Lonmin at AGC, as will be seen later. It should be reiterated that the SAP aimed at economic development for Ghana but this was partially achieved at the expense of the environment.

3.5 Mining Sector Policy, FDI and Mineral Production

As I indicated earlier, Ghana is endowed with a lot of natural resources, which may mean a lot to the economy if appropriately and efficiently exploited. Given the enormous economic potential of the mining sector, the government took measures under SAP, to resuscitate the sector. It provided finances for the purchase of spare parts and materials, and for the rehabilitation of infrastructure such as roads and railways. The government also promulgated new mining laws, Mineral and Mining Law, PNDCL 153 in 1986, and introduced generous investment incentives, including a 35% and 45% retention programme for mining companies⁴⁰. Taxes levied on gross revenue have been greatly reduced, from a minimum of 12% to a minimum of 3%, removing the disincentive to mining low-grade ore. Mining Company tax has also been decreased from 50% to 45%. In addition, import duties on mining plants, equipment and machinery parts have been removed. Consequently, these policy measures, coupled with favourable world market prices for some minerals, particularly for gold, in the 1980s attracted a lot of FDI into the mining sector. The mining industry, especially the gold mining, has since received considerable investments as shown in table 1 below.

Table 1: Investment by Mining Companies (including loans/equity), 1985-1990

⁴⁰ Under this programme, mining companies could retain between 35% and 45% of their profits anywhere and in any currency. In the past, companies operating in Ghana were required to, by law, to keep nearly 80% of their profits in the country.

Company	US\$millions
Ashanti Goldfields Company	253.0
State Gold Mining Corporation	55.0
Billiton Bogoso Gold	90.0
Other Gold mining companies	58.2
Ghana Bauxite Company	3.0
Ghana National Manganese Corporation	4.0
Total	463.2

Source: Ghana Minerals Commission.

By the end of 1990, there were over 60 companies engaged in gold exploration in Ghana, including 20 foreign companies, and over US\$463m had been invested in the gold mining sector (Ibid. 1990). According to the Ministry of Mines and Energy, by 1996, the mining sector had received over US\$900m for exploration and for the establishment of new mines, as well as the expansion and rehabilitation of already-existing ones. The effect of the increase in investment in the mining sector has been a tremendous growth, which the sector has experienced from 1983 to 1995, as indicated in table 2 below.

Between 1986 and 1996, the share of minerals to the total foreign exchange earnings of Ghana increased from 17% to nearly 45% and, by 1993, had outpaced cocoa as the country's leading foreign exchange earner (ISSER 1996). In volume terms, all minerals, with the exception of manganese, had at least doubled their 1983 output. From Table 4 above, by 1996, gold output had increased more than 500% from its immediate pre-SAP output. Production of almost all the minerals had registered growth since the adoption of SAP, the most dramatic one being gold. Six new mines had been opened in addition to the existing five mines between 1983 and 1988. The increase in investment in the mining sector and the dramatic growth in minerals production, particularly gold production, can be explained by the investment policies and incentives, which were put in place by the Ghana government following the

implementation of the SAP. The implementation of the SAP has, undoubtedly, contributed immensely to the inflow of FDI via TNCs into Ghana's mining sector.

Table 2: Mineral Production in Ghana, 1983-1995

Year	Gold (oz)	Diamond (ct)	Manganese (mt)	Bauxite (mt)
1983	283,593	338,769	169,840	70,2351
1984	282,299	345,675	263,864	27,453
1985	299,615	634,933	303,334	180,286
1986	287,124	558,915	334,314	204,074
1987	327,960	440,345	295,061	196,255
1988	372,868	259,431	282,337	284,524
1989	428,936	285,631	333,743	374,065
1990	541,408	636,503	246,869	368,659
1991	844,674	687,736	319,777	324,313
1992	998,194	694,029	276,019	399,155
1993	1,214,442	590,821	309,122	364,642
1994	1,426,379	739,969	238,429	451,802
1995*	1,689,470	645,100	193,096	526,335

Source: Ghana Minerals Commission; *ISSER 1996.

However, the question that needs to be addressed by future researchers is why the inflow and concentration of the FDIs in the gold mining sector but not any other sectors of the country⁴¹? In view of Ghana's precarious position in the world political economy, it is contended that it is only by following better economic policies and, above all, providing a secure or an enabling investment environment that it can attract the much-needed FDI into other sectors of the economy for economic development. It must provide a much more propitious socio-economic and politico-administrative context for investment. Ghana must show a commitment and willingness to submit disputes⁴² arising in respect of FDI to an independent tribunal. In this regard, clear

⁴¹ This crucial question, which is beyond the scope of this study, needs a thorough research by future researchers .

⁴² Investment disputes that may be above the jurisdiction of the Ghanaian judicial system.

procedures for settlement of investment disputes should be set under the law which will give the investor the option to choose various international fora for settlement of investment disputes. This would create trust, confidence and, above all, security and justice in the Ghanaian investment environment and the political system as a whole.

3.5.1 The SAP and the Environmental Regulations

It is significant to note that while the SAP did prioritise the mining sector by making the Government of Ghana develop favourable investment policies to attract FDI, it did not fashion out any pragmatic measures as to how the impact of the expected increase in the operations of the mining corporations would be addressed. As stated above, the SAP attracted many TNCs into the mining sector and some of the existing mining corporations, particularly AGC, Obuasi, embarked on expansion of their operations, exerting significant impact on the environment in and around their areas of operations. The implementation of the SAP began in 1983 but not until in 1994/5 did AGC begin taking environmental issues seriously at Obuasi. What is more, even this positive action by AGC was not in any way influenced by any SAP policies on the environment, as will be seen later in the thesis. The writer argues that under normal circumstances either the SAP or the Ghana Government or both should have come up with strict and comprehensive environmental regulations to address the environmental problems associated with the increased mining operations in the country but this was not done. In the following section I look at the various Ghanaian environmental laws, regulations, policies and institutions in charge of the management and protection of the environment.

3.6 Ghana's Institutions and Laws

“There ought to be a law” was a public outcry frequently heard from people outraged at some real or potential environmental misconduct in Ghana. It was a cry that went up loud and clear as environmental problems, mishaps, and hazards came to public notice, particularly those in the mining areas, after the launching of the mining rehabilitation projects in the mid-1980s as part of the SAP. However, until June 1999, “the Ghana Government had no comprehensive legislation in place regarding Mining Environmental Regulations” (AMEP, 1992: 3-1). Most of the laws that have regulated the mining industry in Ghana have never had provisions protecting the

environment with the exception of the Minerals and Mining Law, 1986 (PNDCL 153), which has a few general provisions on environmental protection. Thus, the control of the environment was exercised through the articles of the Minerals and Mining Laws, (PNDCL 153), namely Article 72, which states that:

The holder of a mineral right shall in the exercise of his right under the licence or lease have due regard to the effect of the mineral operations on the environment and shall take such steps as may be necessary to prevent pollution of the environment as a result of such mineral operations.

This provision imposes a legal obligation on a licensee to have due regard on the effect his activities might have on the environment and take steps to prevent any adverse effects of such activities on the environment. This presupposes that the licensee is required to know in advance the likely consequences of his activities, which will adversely affect the environment. Such knowledge can only come about if an Environmental Impact Assessment (EIA) of the activity is done. If no such assessment is made in advance it is difficult to see how the licensee can foresee the likely consequences of his actions and take steps to forestall any adverse effects that may occur. The absence of a requirement in the existing regulations for filling an EIA before the commencement of mining operations is an obvious gap, which has been rectified by the NEAP. The EIA legislation is to include when an EIA is necessary; what it must contain; a section providing for different institutions for an EIA review and dispute settlement; and an indication of the penalties or sanctions to be imposed.

3.6.1 National Environmental Action Plan (NEAP) ⁴³

The magnitude and pervasiveness of the ecological damage, consequential to mining expansion programmes and other environmental practices, triggered the need for an effective action to *reduce*⁴⁴ their impacts, via a National Environmental Action Plan (NEAP) prepared in 1991. The exercise was initiated by the EPA and assisted by the World bank, the United States Agency for International Development (USAID), and

⁴³ NEAP, as a comprehensive policy paper contains six main working documents, namely, mining, industry and hazardous chemicals, marine and coastal ecosystems, human settlements, forestry and wildlife, land management, and water management.

⁴⁴ The language of NEAP indicates that it is not aimed at *prevention* of environmental degradation but its *reduction*.

the British Overseas Development Assistance (ODA). The objective of the NEAP is, therefore, to define a set of policy actions, related investments and institutional strengthening activities to make Ghana's strategy more environmentally sustainable. The NEAP, in a nutshell, seeks to neutralise or reverse these incentives. Specifically, the NEAP provides for:

- Maintenance of ecosystems and ecological processes essential for the functioning of the biosphere;
- Sound management of natural resources and the environment;
- Protection of humans, animals and plants and their habitats;
- Guidance for healthy environmental practices in national development efforts;
- Integration of environmental considerations in sectoral structure and socio-economic planning at all levels; and
- Common approaches to regional and global environmental issues⁴⁵.

In the context of the NEAP, *environment* is understood as comprising the whole set of natural or biophysical and man-made or socio-cultural systems in which man and other organism live, work and interact. And by *environmental protection* is meant all the interventions that may be deemed necessary to maintain a high level of environmental quality, and which at the same time enhances sustainable socio-economic development. The NEAP proposes the adoption of a National Environmental Policy (NEP) to provide the broad framework for the implementation of the Action Plan. The Policy aims at ensuring a sound management of resources and the environment, and to avoid any exploitation of these resources in a manner that might cause irreparable damage to the environment. One of the stated policy actions to be taken is the preparation and adoption of regulations for environmental control of mining operations. In evaluating the existing Legislation, Regulation and Standard, the NEP recognises the inadequacies of the existing laws and regulations⁴⁶

⁴⁵ For details, see Ghana National Environmental Action Plan (NEAP), Volume 1 & 2.

⁴⁶ Detailed discussion of the mining laws in Ghana is beyond the scope of this thesis.

regulating the mining industry, as “key areas like air pollution and land reclamation resulting from mining operations have not been provided for” (NEAP 1994:47).

The Policy proposes a provision of incentives and sanctions to ensure compliance with its provisions as well as harmonising and enforcing relevant laws and treaties on the environment. It proposes the addition of provisions relating to “solid, atmospheric and liquid reclamation of mined-out lands” (Ibid. 1994:50). The Policy, in addition, advocates a clear policy or legislation, the need for co-ordination between agencies and ministries like the Environmental Protection Agency, Ministry of Environment, Science and Technology, Ministry of Mines and Energy, and many others, in order to ensure sound environmental management in the country. The NEAP, theoretically, provides a coherent framework for interventions deemed necessary to safeguard the environment. The NEAP is to be implemented over a ten-year period from 1991-2000. The NEAP is the general framework within which the environmental regime in Ghana operates. Even though the policy paper promised to put in place the necessary policy instruments and structures during the start-up phase, it was not until 1994 that the Agency responsible for its implementation was established⁴⁷. Thus, the implementation of the NEAP has not been effective since its inception and the reasons are discussed in Chapter Five. According to officials at EPA, Ghana’s adoption of the NEAP was highly influenced by international environmental regulations, agreements, organisations, and by its involvement in some international conferences on development and the environment.

3.6.2 The Environmental Protection Agency (EPA)

In 1973, following the Stockholm Conference on the Human Environment, the Ghana Government established an Environmental Protection Council (EPC)⁴⁸ as an advisory institution to propose policy guidelines on issues concerning the environment. The legislation which gave legal effect to the establishment of the EPC is the Environmental Protection Council Decree, 1974 (NRCD 239), and was subsequently amended by the EPC (Amendment) Decree, 1976 (SMCD 58). The Environmental

⁴⁷ See Environmental Protection Act, 1994 (Act 490).

⁴⁸ The EPC was transformed and changed to EPA in 1994 (Act 490).

Protection Agency (EPA) Act, 1994 (Act 490) transformed the EPC into an Agency having, among others, regulatory and enforcement roles. That is, the EPA was formally established in 1994 and given the responsibility of regulating the environment and ensuring the implementation of Government policies on the environment⁴⁹.

The policy proposals developed by the EPA anticipated to a large extent the essential linkages between development and the environment. This was one of the first environmental agencies established in Africa to address problems relating to development and the environment. In order that a National Environmental Policy could be formulated, the EPA in collaboration with some Ministries and Organisations was mandated to prepare the National Environmental Action Plan (NEAP) for the country. The EPA has also prepared a set of District Environmental Guidelines to assist Environmental Committees of the 110 District Assemblies with management of their local environment. As regards mining operations, of which AGC's activities are part, the EPA in collaboration with the Minerals Commission of Ghana prepared Mining and Environmental Guidelines (MEG)⁵⁰ for mining activities in 1994. This document, based on the NEAP, was not given any legal backing until June 1999 when the Environmental Assessment Regulations, 1999 (L.I. 1652) were passed. The L.I. 1652 gives the EPA the legal authority to ensure compliance enforcement of the guidelines in the mining industry. The preparation of the MEG was mandated by the Ministry of Mines and Energy to "pre-empt permanent environmental damage by mining companies and promote sound environment stewardship" (MEGs 1994:1). This document is divided into three parts and consists of:

- General guidelines for exploration, mining, processing, and decommissioning;

⁴⁹ The mission of the EPA of Ghana is to co-manage, protect and enhance the country's environment, in particular, as well as seek common solutions to global environmental problems.

⁵⁰ These environmental guidelines cover exploration, exploitation, de-commissioning, environmental impact assessments, and environmental action plans.

- Detailed guidelines for the preparation of an Environmental Impact Assessment (EIA) for a new mining project; and
- Detailed guidelines for the preparation of an Environmental Action Plan (EAP) for existing mines.

These guidelines form the basis for Environmental Regulations under the Minerals and Mining Law (PNDCL 153), 1986. The MEGs are based on the conviction that the most successful and cost-effective environmental controls are those which are integrated into project planning from inception. Consequently, for new mines, emphasis has been given in the MEGs for the preparation of EIA⁵¹ to ensure that modern, pre-emptive environmental controls are built into the design of new mining projects during the planning phase. It is significant to note that during the AGC's mine expansion project (AMEP) discussed earlier, AGC was made to undertake an EIA by IFC, to which the Company complied. Both the Agency and the IFC approved the EIA, prepared by AGC under the supervision of EPA, and copies submitted to the IFC, Minerals Commission and the Mines Department of the Ministry of Mines and Energy. According to the MEGs, all commitments made under the EIA should be honoured by AGC and, if changes to the EIA become unavoidable, prior approval has to be obtained for any changes through a supplementary EIA. The Company made available the EIA to the public as required by the MEGs.

However, for the existing and recently constructed mines, there is no longer an opportunity to minimise environmental impact by design and an alternative strategy is proposed by the MEGs, based on: self assessment, preparation and implementation of an Environmental Action Plan (EAP), Annual Environmental Report (AER), Monitoring and Feedback. Existing mining companies, like AGC, are required to submit an EAP for approval by EPA every two years. The Plan should cover a five-year period and consist of a two-year EAP and a three-year rolling plan for

⁵¹ The main purpose of an EIA is to demonstrate that a project has been planned in an environmentally sensitive manner and that appropriate pre-emptive or mitigative measures and safeguards have been integrated into the project design, which, if satisfactory, would enable the EPA to issue a Certificate of Clearance. Every new mine is required to present an EAP as a component of its EIA.

subsequent years. Once an EAP has been approved, copies are sent to the Minerals Commission as well as the Mines Department. Like an EIA, an EAP is also made available to the public.

3.6.3 The Minerals Commission

Established under the Minerals Commission Law, 1986 (PNDCL 154), Ghana's Minerals Commission is responsible for monitoring mining operations to ensure that the companies comply with the requirements of the law. The Minerals Commission Law brought under one umbrella all activities relating to mineral sector investments in Ghana. The Commission is a corporate body charged with the formulation of national policy with respect to the exploration of mineral resources; advising the government on issues affecting the mining sector; and studying and promoting development of the mining sector of Ghana⁵². Being in charge of the day-to-day administration and policy making for the mining sector, the Commission liaises with the investor, both local and foreign, and the Government, thereby fostering a relationship of co-operation and collaboration between the two parties. In this way both the Government and the investor can achieve maximum benefits from gold development in Ghana.

However, it is interesting to note that the Commission has no mandate to affect in any way, the pricing, and investment and marketing policies of the companies. These are left solely to the discretion of the TNCs. The Commission also has little or no influence on environmental policies of the mining companies. According to one senior official interviewed, formulation of environmental policies and their implementation in the mining sector are the responsibilities of the Ministry of Environment, Science and Technology, Ministry of Mines and Energy, and the EPA.

3.6.4 The Ministry of Mines and Energy – The Mines Department

The Ministry of Mines and Energy⁵³ is the supervising Ministry for mining activities in the country. The Mines Department⁵⁴, which is under the Ministry, is responsible

⁵² See, section 1 (2), PNDCL 154.

⁵³ This Ministry was formerly called the Ministry of Lands and Natural Resources.

for monitoring safety in the mines. Officials of the Mines Department, the Minerals Commission, as well as the Ghana Mines Workers' Union agreed, in 1996, that the old Mining Regulations (1970) were enacted when mining activities in the country were mostly underground. Now that surface mining was being undertaken, the old Regulations had become inadequate. New draft Mining Regulations were therefore formulated and agreed to by the above-mentioned institutions, and were submitted to the Government to initiate action for its enactment into law. Unfortunately, the Government did not initiate any action for its enactment into law until last June when the new Legislative Instrument mentioned above gave legal backing to the document. Under the 1986 Minerals and Mining law (PNDCL 153), the Minister of Mines and Energy is empowered to make regulations to "restrict prospecting near any water body, prevent pollution of water, ensure public safety and the safety and welfare of workers, prevent injury to persons or property by chemicals and set penalties for offences against the regulations" (NEAP. 1994:2). Under this authority, the Minister of Mines and Energy mandated the EPA and the Minerals Commission to prepare the MEGs to which all mining companies should comply.

AGC complies with the MEG, according to officials from both the Agency and the Management of AGC. It is also worth mentioning that this Ministry in collaboration with the EPA is supposed to pay visits to AGC twice a year as required by the law. The Chief Mines Inspector periodically visits AGC for inspection. As indicated earlier, weekly inspections are supposed to be conducted in the mines by a five-member team, comprising two Inspectors from the Government's Mines Department, AGC's Mines manager, and a Safety Engineer and safety Assistant. However, these inspections are not conducted regularly and, in practice, the Department supervises mainly the production activities of mining companies including AGC. The Department monitors the health and safety of the mines' workers but not the entire environment. The monitoring of the entire environment in the mining vicinity is the

⁵⁴ The mission of the Mines Department is to monitor the operations of mining companies as well as other related activities to help reduce the incidence of death, injuries, illness and hazards in those operations and to safeguard the safety and health of the workforce and the general public against environmental pollution from the operations of these companies and to ensure the judicious exploitation of the mineral resources of Ghana.

responsibility of the EPA, according to an official interviewed at the Mines Department.

3.6.5 The Ministry of Environment, Science and Technology

Another ministry that is supposed to have influence on the environmental management strategies and practices of the mining companies, including AGC, in Ghana is the Ministry of Environment, Science and Technology. One of the main objectives of this Ministry is the formulation and co-ordination of environmental policy. In theory the Ministry does not involve itself in monitoring the environmental practices of mining companies. However, the Ministry in collaboration with the Parliamentary Sub-Committee responsible for environmental issues visits AGC twice a year for general inspection. Also, under its auspices, the EPA organises periodic workshops on environmental awareness. For instance, the above-mentioned workshop organised at AGC was under the auspices of the Ministry.

3.6.6 The Adansi West District Assembly⁵⁵

In the 1992 Constitution of Ghana, the District Assembly forms the highest Political Authority in each of the 110 Administrative Districts in the country. The Assemblies have various committees, one of which is the Environmental Committee, through which the District is managed. The Environmental Committee of the Adansi West District Assembly does have some influence on AGC's environmental practices since AGC's concession falls within the jurisdiction of the Assembly. Even though the Environmental Committee does not monitor the operations of the Company directly, it does forward complaints from any communities resulting from the Company's operations to the EPA for investigation and the necessary action. For instance, the Committee brought to the notice of the Agency the ineffective pollution control facility at PTP, which used to let off emission of particulate and gaseous atmospheric pollutants from its chimney –stack. The Agency took the matter up and the Company addressed the problem. The Committee in collaboration with the District Community, Environmental/Health Departments organises environmental education periodically

⁵⁵ The District Assembly was formerly called the District Administration. The name was changed by the 1992 Constitution of Ghana. Members of the Assemblies are elected on non-partisan basis and members' tenure of office is for four years. For the sake of co-ordination, the District Assemblies work closely with the Ministry of Local Government.

for the local communities in the mining areas aimed at creating environmental awareness and consciousness in the local residents.

3.7 Summary

Since the mining industry, particularly the gold mining industry, plays a very important role in the economy of Ghana, Chapter Three looked at the political economy of the country, examining the SAP and its implications for the inflow of FDI via TNCs, and how this, in turn, has affected the gold mining industry and the environment in Ghana. The economy of Ghana has gone through phases of expansion and contraction, stabilisation and liberalisation, and stagnation and decline. The SAP was an attempt to address the country's unstable political economy but whether it succeeded in achieving its ultimate aim is an issue beyond the scope of this thesis. Particular attention was given to the mining sector policy after the SAP and its implications for mineral production from 1983 to 1995. Investment from 1985 to 1990, including loans and equity, by mining companies was examined.

It was also established that the SAP did prioritise the mining sector by making the Government of Ghana develop favourable investment policies to attract FDI, but did not fashion out any pragmatic measures as to how the impact of the expected increase in the operations of the mining corporations would be addressed. Finally, the chapter looked at Ghana's environmental laws, regulations, policies, agencies and institutions responsible for the management and protection of the Ghanaian environment. Why the Ghanaian environmental authorities and institutions, NGOs, media and the civil society, at large, are able or unable to make AGC environmentally responsible is discussed in Chapters Five and Six of this study.

CHAPTER 4: ASHANTI GOLDFIELDS COMPANY'S GOLD MINING INDUSTRY, ENVIRONMENTAL MANAGEMENT STRATEGIES AND PRACTICES AT OBUASI

4.1 Introduction

Ashanti Goldfields Company Limited (AGC) is a rapidly growing African gold mining and exploration group with six producing gold mines – four in Ghana, the Obuasi, Bibiani Ayanfuri, and Iduapriem mines – the Siguiri mine in Guinea and the Freda Rebecca mine in Zimbabwe. Construction of the seventh mine began in 1999 in Geita in Tanzania. The largest and oldest of its operations, the over 100 – year – old Obuasi mine in Ghana, is one of the top five producing gold mines in the world, and is currently undergoing further expansion and mechanisation. The company has exploration programmes in most of the significant gold belts of sub-Saharan Africa. It has 35 million ounces of measured and indicated resources and 23 million reserves as at the end of 1997. Out of these 23 million gold reserves, the Obuasi Mine alone accounts for 18.1 million ounces, about 79% of the total group's gold reserves⁵⁶. The AGC mine is listed on the London, New York, Toronto, Australia, Zimbabwe, and Ghana Stock Exchanges (AGC 1994; 1997). This chapter looks at Lonmin's gold mining industry and its environmental management strategies at Obuasi.

4.2 Ashanti Goldfields Company (Obuasi) – An Overview

The AGC mine, located at Obuasi in the Ashanti region of the Republic of Ghana, has been in continuous operation since 1897. The initial and original undertaking of the Obuasi mine was the work of three *Fante*⁵⁷ entrepreneurs, Messrs Biney, Brown, and Ellis, from Cape Coast (Anin, 1994). In March 1890 they obtained from the *Bekwaihene*⁵⁸, Nana Osei Kwabena, a lease of over 100 square miles of land in the

⁵⁶ The Obuasi Mine accounts for over and above two-thirds of AGC's total gold reserves. One of AGC's officials remarked in an interview, that "we always refer to Obuasi Mine as AGC and AGC as Obuasi Mine because of the size and weight of the Obuasi Mine on AGC. We always say AGC, *the group*, when we include the other 'insignificant' subsidiaries of AGC".

⁵⁷ Fante is the next largest tribe, after Asante, within the Akan ethnic group.

⁵⁸ Bekwaihene means the chief or king of Bekwai. The Akan word *hene* means chief or king, and Bekwai is a town.

Obuasi District⁵⁹. The three indigenous miners made a remarkable breakthrough with the traditional backbreaking alluvial mining methods by importing from the United Kingdom stamp mills fitted with amalgamation plates for crushing the ore. Regrettably, the indigenous miners had no access to either equity or loan capital and were compelled to assign the interest in their concessions to a British firm owned by Cade and Smith (Anin 1994)⁶⁰. The need to strengthen the capital base of their operations compelled Cade and his associates to form a new company registered in the City of London and known as The Ashanti Goldfields Corporation Limited (AGC). The AGC mine was formed in 1897 with a nominal share capital of 250,000 British Pounds. AGC was taken over by Lonrho Plc, now Lonmin Plc, in 1968.

4.2.1 The Lonmin Plc Take-Over of AGC

In 1967, after nearly 70 years of profitable and uninterrupted operations, the AGC Management started negotiations for a new mining lease. Within a year of the commencement of these negotiations, in 1968, the AGC was taken over by Lonmin Plc, a UK dynamic TNC which operates throughout Africa (Anin 1994). Its chairman, R.W. Rowland, evolved a policy of co-operating with post-independence Black African Governments. While the traditional overseas investors had reduced, and in some cases closed down, their operations in African states upon their achieving independence, the Lonmin Plc management *bucked the trend* and offered a participatory development approach to the new states.

4.2.2 Ownership and Corporate Structure of AGC

In an astute move, the Lonmin Board coupled their take-over proposals with an invitation to the post-Nkrumah⁶¹ Administration to participate in the equity of the Obuasi Mine. As part of the new agreement, Lonmin re-negotiated a new 50-year lease with the Ghana Government. In appreciation of the grant of the lease, the government was offered 20% of the equity together with an option to acquire another 20% of the equity at a fixed price of £1 per share. The Government was henceforth,

⁵⁹ Although the Obuasi area was, juridically, under the suzerainty of the Adansihene, the district was then being administered by the Bekwaihene – after the defeat of the Adansihene, Nana Kwaku Nkansah who, in 1886, had attempted to break away from the Asante Confederacy and had sought refuge in Cape Coast when his attempt failed.

⁶⁰ Some historians have tended to dismiss the efforts of these indigenous gold miners as speculation. This is incorrect.

⁶¹ Kwame Nkrumah was the first president of Ghana after Ghana's independence on 6th March 1957.

to be represented on the Board. This new agreement with Lonmin was unpopular with radical intellectual opinion and provoked a good deal of debate in Ghana. Consequently, after the overthrow of the democratically elected Government of Kofi Busia, the military leader, Colonel Acheampong, published a Decree known as the Mining Operations (Government Participation) Decree, 1972 (NRCD 132), under which 55% of the equity of all mining companies was to be acquired by the Government of Ghana. The Lonmin Management duly complied with the provisions of NRCD 132, changing the AGC's ownership to: Government of Ghana 55% and Lonmin 45% (AGC, 1994, Anin, 1994).

In March 1992, the Government mandated the International Finance Corporation (IFC) to conduct a valuation of the company and to assist the Government in selling a substantial portion, 25%, of its shares in the company. This divestment was to be carried out through an international public offering or through a private sale. In March 1994, the share structure of the company was re-organised in preparation for the offers and the Company became a public company. After the re-organisation of the share structure and the sale of part of the Ghana Government's shares, the ownership and corporate structure of AGC then stood (and still stands) as follows: Government of Ghana 20%; Lonmin Plc 33%; and the public 47%. The Company is, therefore, a Partnership Company or joint venture owned by the Government of Ghana, Lonmin Plc, and the General Public⁶². Now, based on the above facts and figures, we can conveniently conclude that the Government's 20% of AGC's share is just 36.4% of the shares previously held, meaning that it has reduced its interests or stake in the company drastically by 63.6%. Again, out of the 47% publicly owned shares, foreigners own 33% of the shares⁶³, which gives foreign interests in the company a total of 66%. The 66% foreign interest of AGC could be increased to 76% as serious negotiations are currently going on between the Government of Ghana and Lonmin Plc to sell half of the Government's 20% shares to Lonmin.

⁶² This was ascertained in an interview with the Management of the Company. Also, see *The Ghanaian Chronicle* Vol. 8, No 20 – Tuesday, October 26, 1999.

⁶³ This was made known to me by the Management of AGC in an interview during my field work at Obuasi.

At present, the Company produces over 850,000 ounces annually, and also hosts the world's biggest bio-oxidation plant as one of the mine's five processing plants. The Company has been the most productive of all the mines in Ghana since the commencement of its operations. The mine is the largest single contributor to Ghana's foreign exchange earnings, with 19% and 27% of the totals in 1990 and 1998 respectively. The AGC mine at Obuasi is currently responsible for over 80% of Ghana's gold output. It was (and still is) one of the richest and most profitable gold mines on the African continent and in the world as a whole.

4.2.3 The Management of AGC

As stated earlier, the management of the Company is in the hands of Lonmin Plc. The Company's annual report states that:

With effect from 1972, Lonrho Plc entered into a management agreement, under which it continued to have responsibility for the operation of the mine" (AGC, 1994: 12).

It is also stated in the Ashanti Mine Expansion Project Environmental Impact Assessment Report that:

The Company has a management and technical services agreement with Lonrho signed in 1974 and terminable by 12 months notice on either side. In May 1985 this was extended to cover the duration of IFC loans currently in place, final repayment of which is scheduled for 1999⁶⁴.

Ashanti Goldfields Company's Board of Directors consists of 27 members. A majority of the members are appointed by Lonmin Plc, including the Managing Director. Ghana's Ministers of Finance and Mines and Energy automatically represent the Government on the Board. The Board is responsible for approving all major investments and for declaring dividends. The company has traditionally maintained a conservative dividend policy, reinvesting the major part of its earnings.

⁶⁴ See Ashanti Mine Expansion Project Environmental Impact Assessment Report, 1992: 2-1.

Although the Government's stake in AGC was considered appropriate as a matter of national interest, given the company's strategic importance in the Ghanaian economy, the Government has never intervened in the management of the company. Instead, the Government has always treated its stake in the company as a portfolio shareholding, to be divested at a point when the value of investment could be realised. The success of the company is attributed to the professionalism and dedication of its workforce of almost 10,000 people, of which 640 are senior staff. The senior staff includes 76 expatriates.

However, the company has been hard hit by the recent fall in gold prices on the world market, reducing its normal operations because the cost of production has become high. Consequently, the Management of AGC has decided to cut down the workforce by more than 2,000 permanent employees. According to the General-Secretary of the Ghana Mine Workers Union, the Company has already laid off about 500 casual workers. The effects of this unprecedented action on the environment cannot be over-emphasised as the loss of jobs would affect the upkeep of the families and some relatives whose breadwinners would be affected by this labour cut. Most of them, particularly the unskilled ones, are likely to resort to farming with traditional and unsophisticated farming tools, which are known to be environmentally inappropriate. The environment is also at risk if laid-off workers resort to illegal artisanal mining. On the other hand, it is also possible that some of the laid-off workers would use their compensation⁶⁵ to invest in some productive ventures, which could help improve the well being of their dependants.

It is significant to note that under the various agreements and legislation the environmental responsibilities and issues regarding Lonmin's operations at Obuasi was not given any special attention (AGC 1994). The two parties, the Ghana Government and Lonmin Plc, downplayed the importance of including environmental issues in the various agreements and legislation (Ibid. 1994). This omission whether

⁶⁵ The Company is obliged to compensate the laid-off workers as provides by the Workmen's Compensation Law, PNDCL 187.

intentional or otherwise left the AGC with a grey ground in terms of its environmental responsibility at Obuasi mines.

4.3 AGC Capital Investment and Gold Production: 1969 – 1993

Difficulties were experienced in the early 1970s in obtaining the foreign currency required to purchase services and capital equipment for the development of the Mine. Combined with the high burden of taxation imposed on mining companies, the Company was forced to target the extraction of high grade reserves if it was to at least break even. In 1971/72 the mine produced what was then a record 530,000 ounces of gold but production declined after that year because the known high-grade reserves, which could be mined without significant capital expenditure had been largely depleted. Furthermore, an increasing proportion of the ore contained sulphide material from which there was a lower rate of gold recovery under the metallurgical treatment process then used at the Mine. As indicated in figure 4 below, by 1977/78, despite an increase in the quantity of ore mined, gold production from the Mine had fallen to 265,700 ounces as the rate of gold extraction decreased.

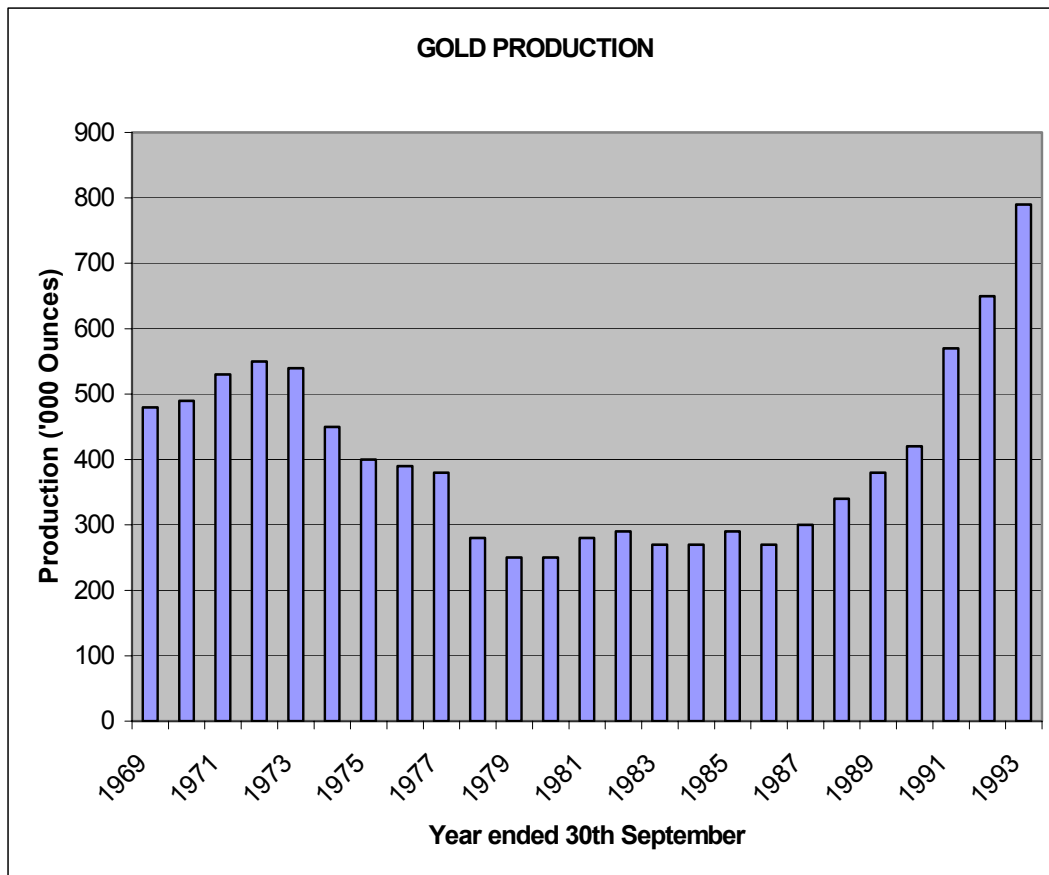
Despite the constraints imposed by the lack of foreign currency, annual gold production was maintained at a level of approximately 250,000 ounces from 1977/78 to 1985/86. The AGC's prospects improved significantly with the launching of the Government's Economic Recovery Programme in 1983 and the subsequent passing of the Mining Law in 1986⁶⁶. These led to a relaxation in the fiscal regime and improved the AGC's access to foreign exchange. The resulting improvement in the credit worthiness of both AGC and Ghana enabled the Company to raise, from the IFC and other lenders, the loan finance required to renew and expand the Mine.

These factors and the subsequent capital expenditure, in 1985, allowed AGC to develop and implement plans to realise the potential of the Mine's large, high-grade ore-body and have made the processing of lower grade ores economical. The rehabilitation and expansion programme has not only succeeded in meeting the

⁶⁶ Ghana's ERP, commonly known as SAP, and the Mining Law, PNDC 153, in 1986 were discussed in Chapter Three.

targets set for the expansion, but also in exceeding them, increasing production from under 300,000 ounces in 1985 to 569,480 ounces in 1991, a record in the company's history. This accounted for 70% of Ghana's annual gold exports. As shown in figure 4 below, AGC's gold production has increased significantly since 1985/86 as the Company has benefited from the capital investment⁶⁷.

Figure 4. AGC – Obuasi Annual Gold Production Over the Past 25 Years



Source: AGC Annual Report 1994

In 1990, there was another breakthrough when the IFC supported a project to diversify AGC into surface mining, as indicated above, as well as expanding re-treatment of tailings. Although the project was originally designed with a US\$93

⁶⁷ For the major investment programmes, see AGC 1994.

million budget to achieve additional gold production of 180,000 ounces annually, it was expanded in 1991 with a budget of US\$107 million, with the increase funded through AGC's cash flows. The project, which was completed in 1991, achieved additional gold production of 230,000 ounces in 1991, 50,000 ounces more than originally planned. The Company is now embarking on a further expansion.

4.4 Ashanti Mine Expansion Project (AMEP)

Since 1992 AGC has been embarking on a new 10-year investment programme, the Ashanti Mine Expansion Project (AMEP), designed to increase both the life and production of the existing mine at Obuasi. The AMEP is the third phase of expansion over the past decade. The project aims at mining extensive underground resources of lower grade and remnant ore by mechanised methods and includes an extension of existing surface operations to mine sulphide ore reserves. This new source of gold production would, in the long run, constitute a significant proportion of AGC total output, as well as equipping the Company further through transfer of new technology, which would eventually be adopted throughout the Company's operations. Some senior officials, in an interview, were of the view that this project would transform the Company's status to that of one of the world's top five producers of gold, with its highly mechanised operations.

As one of the conditions of the AMEP, AGC was requested by the co-financier, the IFC to conduct EIA and prepare EAP, and monitoring programmes. The EIA describes the main parameters of the project, contains a baseline study of the project area, assesses the environmental impacts, both negative and positive, which will arise from the project, discusses the need for ongoing monitoring during the life of the project, and, finally, reviews issues of occupational health and safety.

The Company would be investing a total of US\$555 million over the 10-year period. Expenditure on AMEP, including related working capital, would account for 75% of the investment during 1993-94, and for 55% of the total investment over the 10-year period. In the first two years of the project, the AMEP was financed by a combination

of a US\$140 million syndicated loan from the IFC⁶⁸, with the remaining coming from the cash-flow generated from the Company's existing operations. The remaining eight years of the investment programme would be solely financed by internally generated funds. The development of the AMEP scheme would have a direct positive impact on the Ghanaian economy, as over the period substantial investment are planned to upgrade and expand AGC's well-established infrastructure.

As a result of the AMEP, improved underground productivity, and higher plant recoveries, AGC gold production increased from 858,00 ounces in 1997 to 885,342 ounces in 1998. The increased gold production would also increase the taxes and royalties paid to the Government. However, the already precarious situation of the environment at the mining areas would also be aggravated, as the increase in the Company's operations would have potential adverse impacts on the environment. This is because in any mining and mineral processing activity, it is inevitable that the surrounding environment will be affected. However, the impact can be mitigated or even eliminated by adopting appropriate techniques and methods. Therefore, in order to deal effectively with the Company's actual and potential environmental impact, AGC has put in place an environmental policy statement, supported by effective strategies, programmes and measures.

4.5 AGC's Environmental Management Policy

The AGC's first Environmental Action Plan (EAP) was prepared in 1989, after Lonmin's take-over in 1968, by an external consultant, Jay Mineral Services Limited (JMS). The second EAP, an update of the first, was finalised in-house in 1991 by AGC's Environmental Department. The third and current EAP is an update of the second and addresses the major outstanding environmental issues concerning air, water, land and community relations. The aim of the EAP is to enable the Company minimise the impact of its operations upon the environment and people, and covers the period March 1994 to December 1995. Thus, the EAP lays much emphasis on water environment, atmospheric environment, dust, reclamation, community

⁶⁸ IFC has been providing greater part of investment capital for most mining companies, including AGC, in Ghana.

relations, de-commissioning and many others. The EAP also provides for periodic health and safety monitoring in the mine.

4.5.1 AGC's Environmental Policy Statements

As a practical demonstration of the Company's commitment to the protection of the environment, the management has come out with a policy to guide its operations. Conscious of the fact that mining and associated activities affect the environment to a greater or lesser degree, the management undertakes:

- To ensure that within economic limits and the need to be internationally competitive the Company's activities are carried out with due regard to ecological and environmental factors through the implementation of international practice;
- To operate in compliance with the spirit and letter of the Government of Ghana's environmental legislation;
- Employ the highest occupational health and safety standards;
- To maintain good communication with persons and communities affected by the Company's operations; and
- To make employees aware of the need to protect the environment and motivate them on taking proper care of it.

4.5.2 Institutional Framework

In pursuit of the Company's environmental policy, an Environmental Department was established in 1990 with the key responsibility to develop measures to mitigate the impact of the Company's operations on the environment both within the operational areas and the external environment. The Department is now part of the Loss Control Division, which incorporates the Environmental, Safety and Fire Departments, and the Road Traffic Unit. The Loss Control Manager reports directly to the General Manager – Corporate Services. The job specifications of the Senior Environmental Officer (SEO) in charge of the Department include the following:

- To review and update environmental action plans;

- To review and prepare environmental impact reports for proposed new developments;
- To liaise with local, national and international organisations on environmental matters and advise management on environmental requirements and legislation;
- To prepare regular monitoring reports on the implementation of the EAP;
- To prepare annual budgets for the implementation of the EAP.

4.5.3 Policy Strategies and Programmes

There is always the need for strategies and programmes to support a policy statement. As asserted by Hansen and Ruud (1995: 9), “often corporate policy statement will be supported by more specific policies and programmes covering issue-areas that the company assigns particular importance”. The Company has adopted a 4-tier approach for its environmental management. This includes waste minimisation, recycling and re-use, cleaner disposal, and proactive mitigation measures.

- Priority is given to waste minimisation because the Company believes that the best policy is to prevent the creation of pollution or nuisance at source. In all new projects, environmental issues are taken into account from the outset. For instance, in an expansion project, the Biox plant was chosen after the evaluation of various metallurgical options for a new treatment plant because it is environmentally friendly.
- Recycle or re-use is another environmental policy adopted by AGC where it is not possible to prevent waste generation. This is employed at the Company’s mineral processing facilities. For example, the designs for the Heap Leach and Oxide Treatment Plant are based on the principle of self-containment so that under normal operating and weather conditions there should be no discharge of effluent into the environment.
- Cleaner disposal is a fallback option. This involves treatment of the wastes that emanate from the operations to levels acceptable for discharge into the environment.

In older plants, pollution control facilities have been retro-fitted to conform to environment, safety and health guidelines. A typical example is at the Pompora Treatment Plant where an Arsenic Recovery Plant has been installed at a cost of \$7 million to capture arsenic trioxide and particulates from the PTP stack emissions.

- The Company also undertakes proactive mitigation measures to protect health, ensure safety and also to enhance the quality of life of the local population. Under the Company Corporate Water Policy, for example, new alternative water supplies to communities whose traditional sources of drinking water could potentially be affected by the Company's operations are provided. As of now, AGC has provided over 70 boreholes and 13 hand-dug wells to more than 39 villages and towns in and around its area of operations at a total cost of US\$586,000.

4.6 Water Environment

The water environment at Obuasi is considerably affected by liquid discharges from the mining activities. Liquid discharges from the Company's operations which are addressed in the EAP include liquid effluents from the treatment plants, seepage and discharges from tailings dams, run-off from open-pits and exploration activities, effluents from the sand washing bay and the aggregate plant, and disposal of sewage. According to AGC's Management, the Company is committed to complying with World Bank guidelines on effluent discharges in the absence of Government of Ghana guidelines (see appendix 1). Currently, the Company has 5 separate mineral processing plants namely, the Pompora Treatment Plant (PTP), Tailings⁶⁹ Treatment Plant (TTP), Oxide Treatment Plant (OTP), Heap Leach Plant(HLP)⁷⁰ and the Sulphide Treatment Plant (STP). According to some officials at the AGC's Environmental Department, under normal operating conditions, there would be no liquid effluent discharge from the OTP, STP and the HL into the environment, as the plants were designed to be self-contained. The Company has put in place measures to

⁶⁹ *Tailings* are waste generated from gold mining processing plant or milling operation.

⁷⁰ *Heap leach* is a process whereby broken or crushed minerals are stacked as heaps on impervious pads for purposes of dissolving the valuable mineral content through spraying the heaps with solvent and, subsequently removing the valuable mineral from the solution.

contain all liquid effluent discharge within the PTP and TTP, the two main treatment plants which were not designed to be self-contained.

4.7 Atmospheric Environment

The main source of atmospheric pollution in AGC's concession area remains the PTP roaster stack. The PTP gives off particulate and gaseous pollutants (arsenic trioxide and sulphur dioxide) into the atmosphere. Other sources include fugitive emissions from the roaster process within PTP and emissions from PTP's gold house extractor systems. There are also significant dust emissions due to vehicular movements and general wind pick-up from exposed surfaces of tailings dams, open-pit, waste dumps and haul roads. In addition, airborne dust from mineral-processing plants' crushing circuits cannot be over looked.

4.7.1 Dust

The principal sources of airborne dust include dust-blow from haul roads, open-pit waste dumps, excavated areas, tailings dams, vehicular "fugitive" dust and dust from the crushing circuits at mineral processing plants. Airborne dust problems are the severest during the main dry season from November to February. However, AGC has undertaken dust control measures which include: inclusion of dust extractors and water spray systems at the crushing circuits of mineral processing plants; regular spraying of roads by pressurised water bowsers; and re-vegetation of initial embankments at Kokoteasua East Tailings dams. There is also a programme to reduce traffic dust emissions by removing accumulated dust from roads in severely affected areas by the Resident Engineer Unit.

However, it was admitted by some officials of the Company that the above dust control measures were not always effective. Consequently, a new programme for the control of dusts involving physical and chemical methods on all residential roads and mine hauls have been designed but remains unimplemented. Moreover, according to some workers as well as some residents at Obuasi, the spraying of roads at the Obuasi town by AGC's pressurised water bowsers was not a regular exercise and that the Company had to do it on a regular basis. This assertion was confirmed by the Minister of Mines and Energy in 1998 when he said, in a speech, that AGC was not

taking dust control measures seriously as the Management would spray the roads at Obuasi when Government officials or foreign dignitaries were visiting the Company⁷¹. Air pollution blamed mainly on the PTP stack is still seen as a problem, despite the installation of the arsenic scrubber. The FOE-Ghana report asserts that an environmental survey carried out by consultants before the installation of the arsenic scrubber warned that this would probably not solve the problem completely. The Company claims that sulphur dioxide emissions are within World Bank guidelines but there is no independent monitoring to back up their claims.

4.8 Reclamation

The Company is committed to the eventual re-vegetation of areas affected by both past and on-going mining operations. These areas include tailings dams, open-pits waste dumps, heap leach pads and ponds, infrastructure sites, exposed sub-soils after re-processing of tailings at Obuasi and denuded hills in and around the PTP valley. On this note, a reclamation plan was developed to provide the Company with the necessary information to determine the required staff and labour, budget and material requirements for implementation on short, medium, and long-term basis. It would also enable the Company conform to local, national, and international requirements regarding reclamation planning.

4.8.1 Action Plans

The reclamation plans, among others, include:

- The Company's Forestry Department has been given the responsibility of planning and managing nurseries at both Sansu and Obuasi Mines. The sites have already been selected and approved by AGC's Land Use Committee and preparations to get the necessary facilities and supplies have also been completed. The nurseries at both Sansu and Obuasi have the capacity of raising 2 million container-grown seedlings annually for the re-vegetation exercise.
- A 5-year rolling reclamation plan with detailed planning for 1996 and 1997 was developed and completed in 1995. The plan provides details of proposed reclamation

⁷¹ The Minister made this statement at a conference organised by the Ministry on Mining and the Environment in August, 1998.

technologies and procedures to be implemented by the Company before, during and after completion on mineral extraction phases. Re-vegetation of embankments of tailings dams, and open-pit waste dumps were included in the plan.

- An Environmental and Community Development Plan was prepared describing reclamation and community development activities to date and general plans for the next 10 years. AGC's Land Use Committee, mine exploration and Mine Planning Departments were involved in the preparation of the document. The document was completed in 1995. AGC's re-vegetation programme, now in its fourth year, has received a major boost with over 400,000 trees of various species planted under its land reclamation programme (see appendix 4).

The reclamation plan is a step in the right direction, looking at the vast area of land that has been rendered derelict as a result of the Company's operations at Obuasi. The plan also depicts how the Company recognises the need to integrate the land reclamation programme with local resources needs and land use requirements. Despite the high economic value of certain exotic species, the management is more concerned with planting ecologically more recommendable species, meaning that it is committed not only in reclaiming but also restoring the loss of bio-diversity in the mined out areas. It is good that necessary provisions have been made by AGC to regularly contribute towards the future reclamation of degraded land. This is important because it spreads the cost over time and makes it easier for the Company to fulfil, rather than on the spot fines. In a way, the benefits of such economic activities do not go to the Company alone. This exercise, if effectively implemented, may improve the environment in and around Obuasi.

The problem, however, is that it may be very difficult for AGC to effectively reclaim over century-old mined out areas to re-establish a bio-diversity equivalent to the one prior to the mining operations. According to the Mining Regulations, all mined out areas should be reclaimed, but the Management was not sure whether the Company could reclaim all the vast land degraded, looking at the difficult nature of the work

and the cost involved. The writer believes that the Company could have taken these reclamation measures earlier than now but for its insensitive attitude towards its impact on the environment. Another problem is that the local communities seem to be uncooperative in this exercise, as they are less interested in the bio-diversity and more interested in vegetation as a source of firewood and commercial exploitation of the forest. On this note, what AGC could do is to initiate proper and comprehensive reclamation programmes, involving the local communities, to improve the quality of the present reclamation efforts.

4.9 Community Relations

Following the adoption of a corporate water policy, AGC has taken measures to protect the health and safety of the local population. The Company has adopted a Corporate Water policy on drinking water resources in the Mining Concession Area, which gives an undertaking that the Company will improve existing facilities or provide new alternative supplies of water where traditional sources of water are adversely affected by mining and mineral processing operations. In line with the policy, the Company has so far provided potable water to 39 communities in the Obuasi area at a total cost of US\$586,000. In addition to this, AGC funded the activities of Adansi West Water and Sanitation Health Team (WASHT) for a 2-year period, from August 1992 to July 1994. The key objective of the Team was to carry out health education in the communities in the District on the proper use and maintenance of installed water supply and sanitation facilities. By 1994, WASHT had facilitated the formation of Village Health Committees in 58 communities in the District.

Moreover, the Company has so far relocated one village, Bidiem, destroyed as a result of its operations at a total cost of US\$800,000. The construction of a new Bidiem Township and allocation of new houses were completed in 1996. As part of the comprehensive community development programme established in 1994, compensation payments are made to those whose farm lands are destroyed by the Company's operations. The Company incurred a compensation cost of US\$3.5 million in 1997 alone for the destruction of small-scale subsistence farms and tree

crop plantations owned by the local residents in its area of operations. However, the Management of AGC complains about an unfortunate practice by some local farmers, *Speculative Farming*, regarding the compensation payment. Speculative farming ahead of mining operations by local communities makes it difficult to differentiate between genuine and frivolous complaints.

4.10 Environmental Impact Assessment (EIA))

As regards the EIA, the Company is to undertake EIA for all new developments. The EIA's are prepared by external consultants and copies forwarded to relevant Government and International Agencies. As part of the process, public consultations are held with local communities to highlight the impact of the project and to provide a forum for local concerns to be raised and discussed. With the help of JMS, AGC conducted EIA prior to the AMEP discussed in previous chapter (see appendix 5). As indicated above, the Company has prepared an EAP to address issues identified in the EIA. The EAP is to be updated regularly to take account of changing environmental problems. Again, as requires by law, the Company is to commission environmental audit of its operations and prepare annual reports. The audit and reports should guide the Company in its environmental stewardship and normally form the basis for the EAP.

4.11 De-Commissioning

Normally, when mining does cease the Company carries out a de-commissioning programme of its operations to leave a safe and stable post mining condition of land that has been utilised for mining, processing, and maintenance operations. Against this background, AGC commissioned a study to establish the future cost of de-commissioning its operations at Obuasi to leave a safe and stable post mining condition of land, which has been utilised for mining, processing and maintenance operations. The cost of de-commissioning is put at US\$18 million and in preparation for this future cost, AGC has put in place a financial provision of US\$5.2 million to date for the de-commissioning exercise.

4.12 Resources to Finance the Environmental Action Plan

The Company provides the resources necessary to implement the EAP. That is, the resources are authorised by AGC Executive Management and/or Board of Directors.

There are always provisions of fund for the implementation of the EAP in the Company's income and expenditure accounts. It has been established that all the environmental technology, the Environmental Department and the Laboratory with its equipment were provided at the expense of the Company. Moreover, the Company has set aside US\$5.2 million as a Contingency Fund⁷² against any unforeseen circumstances such as unexpected disasters. This fund has not been used or altered since its inception in 1997, indicating that no serious disaster has ever cropped up.

4.13 Environmental Monitoring and Evaluation

The monitoring and evaluation functions required for the effective implementation of the Company's environmental programmes are undertaken by a well-built and a well-equipped environmental laboratory. The AGC's laboratory, which became fully operational in 1991, has so far cost over US\$8 million. Activities at the laboratory include water quality monitoring, air quality monitoring, ground vibrations and air blast monitoring, occupational health monitoring, and investigations into environmental related complaints. Additional equipment has been installed at the laboratory to monitor the quality of drinking water in the communities.

4.13.1 The AGC's Loss Control Department

It has been established that for over 100 years the AGC has been engaged in full mining operations at Obuasi. The gold mining activities have had a significant and visibly negative effect on the environment, affecting the vegetation, water bodies, the atmosphere as well as the health of the local people. This has been realised by AGC, which has taken steps to address the damage by establishing a Loss Control Department (LCD) in 1992. The main objective of this Department is to raise the safety, health and environmental consciousness of the workers as a way of reducing accidents and loss of man-hours to the Company (see appendix 3). At the same time, AGC is concerned with the degradation of the physical environment of the Obuasi area in terms of the loss and destruction of vegetation, water and air pollution, as well as the health situation of workers and residents.

⁷² See the Company's 1997, 1998 and 1999 Financial Reports.

The Department is a merger of the former Environmental Department described above and the Health and Safety Department. This step was taken to ensure effective co-ordination between health and safety, and environmental awareness. According to an AGC official, by merging the two departments, greater worker consciousness has been achieved, as workers have now become more conscious not only of the work related hazards that they are exposed to at the workplace, but also of the environment in which they work and live. The LCD's activities cover the operational areas of the mine as well as the affected areas of the township of Obuasi and the surrounding communities. The LCD 's programme is intended to be part of a general routine of operations at the mine and the Company as a whole, and is to last for the duration of the gold mining operations at AGC. In pursuit of its entire activities, the LCD is guided by the Company's Environmental Policy Statements.

4.13.2 Accident Frequency Rate and Lost Time Injury Rate

Records available indicate that the establishment of the LCD at AGC has led to an improvement in Health and Safety Standards, as well as an increased awareness among workers. Thus, accident frequency rate has gone down (see appendix 3). For example, man shift loss due to accidents fell from 9,391 in 1993 to 867 in 1995. The lost time injury rate was 8.5 in 1996, 7.1 in 1997 and 3.6 in 1998 injuries per million man-hours. Again, between 1994 and 1995 no fatal accidents were recorded in the Company. Consequently, the Company gained 15 million man-hours fatality-free operations. There were also no fatal accidents between 1996 and 1998. Vehicular damage was also reduced from 31 cases in 1994 to 11 cases in 1995. Speed ramps have been built on major roads within the mine and drivers are now under obligation. Comparatively, there has been a considerable improvement in Accident Frequency Rate at AGC. This "is a world class performance for an underground mine with a large labour force. High level executive support, regular workshops, rigorous training in safety practices and regular safety audits and awards throughout... were the key factors contributing to the improved safety performance" (AGC, 1997, 1998,).

4.13.3 Health and Safety Monitoring in the Mine

There are periodic inspections at AGC conducted by a five-member team, comprising two Inspectors from the Government's Mines Department; AGC's Mine Manager, and a Safety Engineer and Safety Assistant. During the inspection, the team finds out at first hand, through interviews with workers, if there are any health problems at the various points of work. Frequent courses in health and safety are organised by Safety Engineers and Assistants for rank and file workers and supervisors. Safety Assistants make daily visits to the shafts to ensure their safety. Moreover, in order to achieve a high degree of safety in underground mining, Safety Committees have been formed in all shafts and are headed by underground managers. There is the use of personal protective equipment by the underground miners and they are obliged to wear them. There are also effective communication facilities available at AGC and they are accessible to every underground miner. Nine interconnected exit points are provided, which allow workers to move from one shaft to another underground in case of an emergency and to increase the ventilation system.

The Company ensures that the ratio of shop level safety officers to rank and file workers is 1:50. The workers voluntarily elect these Safety Officers. Once a month, the Safety Officers meet underground Managers to discuss pertinent issues related to health and safety. At present, 1,000 workers have so far been trained in the provision of first aid, out of a total workforce of 10,000. By implication, this means that every trained first aid worker is responsible for 10 workers, which, by international corporate standards, is a remarkable achievement. To get workers actively involved in health and safety activities, AGC has in place a safety award which is given to deserving workers and departments quarterly. Workers are mostly local people and immigrants from northern Ghana.

As a rule, AGC requires every employee to undergo a medical test and all employees are required to take:

- Pre-placement (Pre-employment) Medical Examination;
- Periodic Medical Examination (Quarterly);

- Special Examination (Conducted after an accident or prolonged illness to ascertain that the worker is fit to resume his work without any risk to him or to others;
- Exit examination (For expatriate workers only but no local workers).

Once a month, workers exposed to arsenic hazards are made to undergo laboratory examinations to ensure that bodily arsenic levels do not exceed the standards set by the World Health Organisation (WHO). All these examinations are done at the expense of the Company. Every employee is provided with protective equipment and is obliged to wear it.

4.14 Summary

The purpose of this chapter has been to present an overview of the AGC as a mining company, and to describe its environmental strategies and programmes, as these descriptions will help us examine Lonmin's environmental role at Obuasi effectively. The ownership and corporate structure of AGC were analysed, where it was ascertained that Ghana Government owned 20%; Lonmin Plc 33%; and the Public 47%. By implication, the Company was seen as a partnership or joint venture company owned by the Ghana Government, Lonmin and the General Public. However, it is significant to note that the management of the Company was in the hands of the TNC, Lonmin Plc, as it was explicitly stated in the Company's 1994 annual report and also admitted by the management of AGC.

The Company's capital investment and gold production from 1969 to 1993 were also examined. Since 1992 the Company has been embarking on a new 10-year investment programme, the Ashanti Mine Expansion Project (AMEP), designed to increase both the life and production of the existing mine at Obuasi. This was briefly analysed with respect to its implication for the environment at Obuasi. In order to deal effectively with the Company's actual and potential environmental impact, AGC has put in place an environmental policy statement, supported by comprehensive strategies, programmes and measures. These were contained in the Company's EAP of 1992, as mentioned in the previous chapter. As indicated above, EAP lays much emphasis on water environment, atmospheric environment, dust, reclamation,

community relations, de-commissioning and many others. The EAP has also made provision for periodic health and safety monitoring in the mine.

In sum, I would argue that the Company's environmental strategies and programmes are relatively adequate but the crucial question is whether the Company is playing an effective role to live by the tenets of the EAP or not. This issue is discussed later in the study. I contend that an effective or ineffective environmental role by the Company at Obuasi could partially or wholly be explained by the socio-economic and political environment within which the Company is operating. The political dynamics of AGC's environmental role at Obuasi is discussed in the following chapter.

CHAPTER 5: THE POLITICAL DYNAMICS OF ASHANTI GOLDFIELD COMPANY'S ENVIRONMENTAL ROLE AT OBUASI

5.1 Introduction

The Company's environmental role could well be examined in terms of the explanatory model, which was developed in Chapter Two. The model indicated the relationship between the independent variables (the context) and the dependent variable (AGC's environmental policies, strategies and programmes - the content). Here, the focus is on who influences who and to what extent when it comes to Lonmin's environmental role at Obuasi. Undoubtedly, there are a lot of causal factors that come into play with respect to AGC's environmental role at Obuasi. Some of those factors influence the Management of AGC either positively or negatively or both in addressing the environmental problems associated with its operations. This chapter attempts at examining the political dynamics of Lonmin's environmental role at Obuasi.

5.2 The Government of Ghana

When it comes to interaction between TNCs and host governments in LDCs regarding the environment, it is expected that the host LDCs governments have the capability to monitor and control, to some extent, the environmental practices of the TNCs. By capability, I mean the host LDCs governments should have adequate environmental laws, regulations, resources and effective institutions with which to carry out their monitoring and controlling responsibilities. In the case of Ghana, the Government of Ghana can only succeed in monitoring and controlling the environmental behaviour of AGC if it has not only comprehensive environmental laws and regulations but also, and more important, effective institutions and agencies which can enforce those laws and regulations. So, how and to what extent can we say that the Government is capable and effective in monitoring, controlling and influencing AGC's environmental strategies and practices at Obuasi?

5.2.1 Environmental Laws, Regulations, Policies and the Limitations

In the explanatory model developed in Chapter One for the analysis of the thesis, there was a correlation between the Ghana's environmental laws, regulations, policies and the environmental control of AGC. The laws and regulations were seen to have

either a considerable or inconsiderable impact on the Company's environmental behaviour at Obuasi. In Chapter Three, a cursory attempt was made to review the existing laws, regulations and policies meant to protect the environment. It has been established that, in Ghana, environmental problems have been on the ascendancy, particularly in the mining areas, since the implementation of the SAP, as mining activities have gone up due to the inflow of FDI into the sector. However, in evaluating the existing legislation, regulation and standard, it was realised that there were inadequacies in the laws and regulations regulating the mining industry since significant areas such as air pollution and land reclamation were not addressed. Thus there were no comprehensive legislation in place regarding mining environmental regulations. Consequently, the NEAP was prepared by the Government of Ghana to rectify the inadequacies in the existing laws.

As indicated in Chapter Three, the ultimate aim of the NEAP and subsequently the NEP is to improve the surroundings, living conditions and the quality of life of the entire citizenry, both present and future. They seek to ensure reconciliation between economic development and natural resource conservation, and to make a high quality environment a key element supporting Ghana's economic and social development. As stated earlier, the NEP is to provide the broad framework for the implementation of NEAP. In evaluating the NEAP, one can conclude that it is intended to provide a coherent framework for the various interventions necessary to safeguard Ghana's environment, particularly the mining environment. Notwithstanding this, one serious omission in the NEAP is that it has not made any provision for its own environmental standards on pollution and emissions based on local conditions. I see this omission as unfortunate as it could have detrimental effects on the environment, particularly on the environment in the mining areas. The study observed that the mining guidelines proposed by the NEAP lack specificity. Furthermore, though the NEAP and NEP were prepared in 1991, the Agency, EPA, responsible for its implementation was not established until 1994.

5.2.2 Environmental Institutions/Agency and Control of AGC

It was established in Chapter Three that, in Ghana, there are environmental agency and institutions such as the Mines Department of the Ministry of Mines and Energy, the Ministry of Environment, Science and Technology, the Minerals Commission responsible for monitoring mining operations to ensure that mining companies comply with the requirements of the law. However, the EPA was seen as the main agency or actor charged with the implementation of the NEAP and with the enforcement of the environmental laws and regulations in the country.

The NEAP specifically states that the EPA would be strengthened technically, administratively and legally for the purpose of facilitating its tasks as regards the protection and management of the Ghanaian environment. However, the study observed that in practice the EPA could not discharge its duty satisfactorily due to lack of resources, both human and financial. According to one official interviewed at EPA, “this has undoubtedly led to ineffective monitoring and controlling of the mining companies operating in the country”.

The AGC was not observing any particular environmental policies before the adoption and implementation of its EAP in 1992 and 1995 respectively. An official of AGC remarked in an interview that “the implementation of the EAP became effective from 1995 onwards and since then there has not been any turning back to the old environmental practices, which actually did have serious consequences”. Prior to this period, AGC was not under any serious pressure and control from the Ghanaian environmental authorities. This was ascertained in an interview with both the Management of AGC and officials of the Agency. One would ask why AGC was allowed by the EPA to behave irresponsibly toward its impacts on the environment. This could be attributed to the fact that environmental issues were not so important in Ghana and the various environmental institutions did not have the capacity to act beyond certain limits, they simply lacked the legal mandate and the political will to discharge their duties effectively and regularly as discussed below. It is also significant to note that, as stated above, the Agency responsible for the enforcement

of the mining-environmental laws and regulations was established in 1994 after AGC had adopted its EPA in 1992.

The Peoples Daily Graphic reports that “the Environmental Protection Agency (EPA) was in the past, rendered somewhat a toothless bulldog, which could bark but not bite. Thankfully, that is now a thing of the past and the EPA is now strengthened and empowered to enforce its regulations to protect the environment”⁷³. The new Legislative Instrument, L.I. 1652 (1999), which became operational since June 1999 has given the Agency the power to effectively carry out its mandate of ensuring that companies and people undertake activities in environmentally sustainable manner. Has the L.I. 1652 (1999) improved EPA’s position and equipped it legally to enforce the environmental regulations, particularly the mining regulations?

My research indicates that, theoretically, AGC has met all the environmental obligations⁷⁴ except that the Company does not prepare and submit its EAP for approval by the EPA on regular basis. The Company’s last EAP was prepared in 1994 and has since not been updated or revised. The Agency is not doing anything to make the Company update its EAP because it is incapable of enforcing that requirement as discussed below.

However, according to EPA officials, the Agency monitors the gold mining operations of AGC at Obuasi in varied and diverse ways. The Agency’s general monitoring exercise, which is done at least once a year, is based on AGC’s EIA that has been submitted to the Agency. Within the EPA there is a co-ordination among the Mining and Industry, the Environmental Assessment and Audit, the Environmental Education, and the Environmental Quality Departments of EPA in monitoring the operations of AGC at Obuasi.

⁷³ See the editorial column of *The Peoples Daily Graphic* August 16, 1999.

⁷⁴ See Chapter Three for the environmental requirements set by the Agency.

According to EPA officials and the Management of AGC, the Company prepares and submits its Annual Environmental Report (AER) annually to the Agency. The Agency sends environmental auditors to the Company at least once a year to audit the Company environmentally. The Agency visits AGC, at least once a year, to undertake sample analysis of water drawn from the mining environs to check for arsenic and heavy metal contamination. Recently, there was a case where wildlife in the Company's concession area became a victim of a polluted river. According to an official at the EPA interviewed, some animals, particularly antelopes, drank the polluted water from the Kwabrafo River at Obuasi and died. The communities reported the matter to the EPA and the Agency brought AGC to its toes, by making the Company provide immediate water services to the affected communities. The AGC was also asked to provide alternative sources of water supply to the affected communities. As part of its responsibilities, the Agency educates the communities in and around AGC's area of operations to create environmental awareness. Thus, workshops on environmental issues are organised periodically by the Agency.

5.2.3 Human/Financial Resources and Capacity of EPA

Resources, both human and financial, are indispensable to effective operations of all institutions or organisations world-wide. As a result, performance is negatively affected when resources are non-existent or inadequate. Highlighting the importance of resources to effective implementation of policies, it is asserted by Van Meter and Van Horn that "the ability to implement policies may be hindered by such factors as overworked and poorly trained staffs, insufficient information and financial resources or impossible time constraints" (Van Meter and Van Horn 1975: 480). However, it should be emphasised that the impact of the Agency on the AGC's environmental strategies and practices has not been adequate to ensure effective and sound environmental performance and practices at Obuasi due to lack of adequate resources. In other words, the main problem facing the Agency is lack of adequate resources, equipment and manpower. Regarding the absence of Ghana's environmental standards on pollution and emissions, it is expected that, at least, the Government be able to verify the truth in the Company's claims above but it lacks the necessary equipment and experts to do the job.

Some officials at the EPA lamented, in an interview, that despite the efforts being made by EPA to monitor the activities of AGC, there have been genuine complaints by some communities in the mining vicinity of AGC's environmental negligence and misconduct. As one EPA official put it "the Agency could have done better in ensuring sound environmental practices at AGC but is crippled by lack of adequate resources and logistics. Just one trip to Obuasi to monitor extensively AGC's operations costs more than US\$3,500 and the Agency does not get adequate funds from the Central Government". The FOE-Ghana research report also attests to this problem. The report maintains that:

The Environmental Protection Agency (EPA) lacks the resources and manpower to carry out its monitoring work properly. An EPA inspector visits the mine once a year but is unable to do independent tests due to lack of equipment – he simply takes AGC's word as the truth. The Adansi West District Assembly at Obuasi has asked for a member of staff to be posted permanently at Obuasi to monitor pollution but so far this request has not been met.

The Agency's lack of enough resources has also led to a number of other problems. It has only one-laboratory facility at the national level. In effect, the few Agency's experts are centralised at its national headquarters. The Agency has so far not been able to decentralise its activities completely as it has only regional but not district offices. Out of the 110 District Assemblies in Ghana, the Agency has so far been able to establish a district office at Tarkwa in the Wassa West District⁷⁵. It is rather negotiating and urging the Ministry of Local Government to appoint many environmental officers with the requisite expertise to the District Assemblies to monitor environmental activities in the districts. It is disheartening to note that even at the regional offices of the EPA no official is an environmental expert. This was ascertained in an interview with one official at the regional office of the Ashanti Region where AGC is located. With all these limitations, among others, I would argue that EPA has not been capable, even after it has been given the legal backing,

⁷⁵ Wassa West District is in the Western Region in Ghana and is a mining area. Tarkwa is the district capital.

to monitor and control AGC effectively. From the above discussion, I would argue that the Ghana Government, particularly the EPA, did not significantly influence the Company's preparation and adoption of the EAP. I contend that even though Ghana Government may have had some influence on the Company, there were other more influential factors that came into play in making the Company adopt and implement the EAP.

5.3 The Civil Society

A critical look at both the EPA Act, Act 490, and the NEAP reveals that a standard environmental assessment for mining companies has not been prescribed for the public good. As it is, it seems everything is left to the opinions of the Agency and mining companies. This uncertainty is unfair to both the mining companies and the civil society, particularly the local communities and environmental activists. As companies are unaware beforehand of the standard requirements of an EIA, the other stakeholders are at a loss as to whether an activity of a company complained of is in compliance with the EIA submitted and accepted by the Agency. Thus, there is stakeholder⁷⁶ alienation in the entire operation of the environmental regime in Ghana. In the explanatory model developed in Chapter One, the civil society, as commonly understood today throughout the world and as defined earlier which consists of the local communities, the media, the NGOs, and the Trade Union Congress (TUC) of Ghana, could have some impact or influence on the environmental strategies of AGC. This section attempts at examining how and to what extent the civil society interacts with the Government of Ghana and the Management of the Company to ensure good environmental strategies and practices at Obuasi.

5.3.1 The Local Communities

There is no provision in the Act requiring the Agency to consult local communities or the affected stakeholders in forming their "likelihood of hazard" opinion, nor are there procedures to accommodate community participation in debating whether EIAs submitted fully to the Agency satisfy the affected communities and their habitats. By its failure to provide for stakeholder participation in the EIA process, it can be argued

⁷⁶ "Stakeholder" is used here restrictively to refer more particularly to the public, especially the local communities usually affected by the operations of mining companies.

that the process lacks transparency and information sharing and any EIA process could be doomed to failure. According to the local communities in the mining vicinity of AGC, they were not consulted during the Company's EIA done in 1991. As indicated above, the EIA relates to the Ashanti Mine Expansion Project (AMEP), which is designed to increase both the life and production of the existing mine at Obuasi.

However, despite the alienation of the local communities in the AGC's EIA, the local communities, to some extent, are now up and doing when it comes to exercising their civic rights regarding AGC's environmental malpractice and irresponsibility. Contrary to the general perception of local communities' relaxed attitude, held by some writers on LDCs' environment protection, several newspaper reports have indicated an increasing spate of clashes between the Company and the local residents living in and around the Company's area of operations⁷⁷. The FOE-Ghana reports that:

The people of Akrofuom had had enough. After 30 years of battling with AGC for a decent water supply they realised that polite negotiations were not driving the message home. AGC needed a swift, sharp shock. And that is precisely what they got. On 9th February this year 200 angry men and women from this small town, waving rifles and pistols over their heads, descended on the Gyambusu open pit to disrupt mining operations. A few hours later the rioters returned to their town triumphant, having seized four of the Company's vehicles, and forcing AGC's arm into serious negotiations (FOELINE, No. 4 April-June, 1996)

The people were desperate and fed up with AGC's delaying tactics and irresponsible behaviour and, consequently, had to resort to their civic rights by confronting and halting the operations of the Company, according to one Adansi West District Assemblyman⁷⁸. Having seized the vehicles⁷⁹, they demanded pipe-borne water for their town, but AGC refused. Instead, AGC agreed to repair the borehole pump,

⁷⁷ For details of some such clashes, see West Africa 10-16 June, 1996; Ghana Review 8-21 April, 1996; Public Agenda 19-25 February, 1996; and Washington Post 16 July, 1996.

⁷⁸ This Assemblyman was a member of the Adansi West District Environmental Committee resident at Akrofuom.

⁷⁹ Even though the people did exercise their civic right, they went to extremes in arming themselves with those rifles and pistols, and also in seizing AGC's vehicles. At least a peaceful demonstration would have been a more appropriate form of exercising their civic right.

which the Government had installed for the people in the 1970s and provide fuel to run it. The water is now flowing from the taps and peace and stability have returned to the town⁸⁰. One official from the Adansi West District assembly remarked that “the people have now become enlightened and they are thinking differently and positively towards the environment in which they live”.

However, the underlying dissatisfaction with their lot still rumbles under the surface, as “the borehole water is often discoloured, especially after heavy rain, and tastes salty”⁸¹. It was discovered that the local communities have actually become environmentally enlightened and conscious compared to their attitude toward environmental issues some years back. Notwithstanding this, it can be argued that the degree of the awareness is not high enough to make any considerable impact on the Company’s environmental strategies. The study observed that environmental preferences among the local residents were lower, as over half of the local residents interviewed on their perception of environmental protection were of the view that their economic survival should take precedence over environmental preservation. It then came as no surprise when one opinion leader remarked “we need to survive even if it takes AGC to destroy our forest and give us the necessary compensation, as some of us will use the money to cater for the need of our families.”

5.3.2 The Trade Union Congress (TUC) of Ghana

The TUC of Ghana with its national affiliated unions⁸² plays an active role in AGC’s operations and environmental management in the country as a whole. Occupational Health and Safety has been an important area of concern to the TUC in Ghana. Data on occupational accidents, in the formal and informal sectors, is inadequate. However, it is believed that occupational accidents are quite frequent in mines. These occupational hazards in the mines and the injuries and deaths they cause are largely due to the negligence on the part of employers and Government. Employers take

⁸⁰ However, water is not the only source of bitterness for the residents of Akrofuom. In this town of 15,000 people there is no health centre, no electricity, and no tarmac road out of the town.

⁸¹ This remarked was made during an interview with some officials of the Adansi West District Assembly.

⁸² Some of the affiliated unions are the Ghana Mine Workers’ Union, the Timber and Wood Workers’ Union, and the General Agricultural Workers’ Union.

advantage of the lapses in the existing laws and regulations on health and safety at the workplace and refuse to make the necessary provision to ensure a safe workplace.

In view of this problem, the TUC has adopted a policy⁸³ based on the International Labour Organisation (ILO) Conventions, on Health and safety at workplaces, which basically seeks to involve workers in decisions that affect their health and safety at all workplaces. However, because the Government of Ghana has not ratified any of the ILO Conventions on health and safety and the existing laws and regulations are not properly enforced, it has been difficult for the TUC to achieve the goals set in the Health and Safety Policy. This is because it does not have any legal authority to back the implementation of the policy. Notwithstanding this, the TUC has not relented in its efforts in preventing any disastrous situation in mines. This has been demonstrated through the importance attached to the subject in training programmes, seminars, and workshops organised by the Union periodically and, more importantly, in Collective Bargaining Agreements. The TUC and its affiliates believe that the only way to prevent occupational accidents is to remove all hazards at source.

However, some officials of the Ghana Mine Workers' Union (GMWU) admitted that AGC's effective safety and health measures discussed above were put in place partly because of the influence of the Unions. They also admitted that so far the Union had not encountered any fierce resistance from AGC in their attempt to educate AGC and its workers on health and safety matters. The Union had distributed health and safety manuals not only to AGC and its workers, but also to all mine companies and workers. Consequently, as indicated earlier, there has been a remarkable improvement in Accident Frequency Rates as compared to other mining companies in Ghana. However, they were of the view that the Union could have done better if the ILO Conventions had been ratified by the Government to give it legal authority in the discharge of their duties. In addition, the Union representatives pointed out that the periodic medical examinations outlined above did exist at AGC but in a relaxed manner. The Union further explained that most workers do not present themselves for

⁸³ Detailed discussion of this policy is beyond the scope of this thesis.

these examinations because AGC's Management at times uses some of these medical examination reports to terminate the appointments of workers instead of treating them. Whereas some of the ex-workers contacted confirmed this allegation, the Company's Management denied it.

5.3.3 Non-Governmental Organisations (NGOs)

A wide range of environmental NGOs is represented in Ghana. Many of these are associated with the Ghana National Union of Environmental Non-Governmental Organisations (NUENGO), which was established in 1994 with the purpose of co-ordinating the activities of environmental NGOs in Ghana. All NGOs have been grouped under one umbrella organisation known as the Ghana Association of Private Voluntary Organisations in Development (GAPVOD). Established in 1989 by eight organisations, GAPVOD currently has a membership of 120 organisations. Through its Committee on Water and Sanitation, Environmental and Disaster Relief, Health and Safety, GAPVOD organises public fora to raise consciousness at workplaces.

Two of the leading environmental NGOs in Ghana are the Green Earth Organisation (GEO) and Friends of the Earth (FOE-Ghana) whose activities include environmental education, afforestation, water conservation, waste management, women and peace issues, bio-diversity and pollution monitoring. Established in 1989, GEO has made some influence on AGC's workforce on safety and health education, as it believes that a strong and healthy labour force contributes most effectively towards increased productivity, as well as enhancing the dignity of humanity. In the light of this, it has published articles in its journal, *Green Dove*, on various topics of health and safety measures at the workplaces in Ghana and the journal is available for public use.

FOE-Ghana also has its own journal, FOELINE. Published quarterly, FOELINE at times does investigate and report on the environmental practices of the mining industry. As stated above, in 1996, FOE-Ghana came out with a very comprehensive report on the socio-economic and political, as well as the physical impacts of AGC activities on the environment. In spite of the inability of many people in Ghana to read and understand the report and other related accounts, it is clear that, by their

activities, these environmental NGOs are trying to sensitise AGC and other mining companies on responsible environmental behaviour in Ghana. However, the Company almost always obstructs their efforts. According to FOE-Ghana, despite numerous attempts through letters and telephone calls to schedule interviews with AGC officials on the Company's environmental practices, the attempts proved unsuccessful. Such behaviour does not augur well for transparency and information sharing. The Company should not only grant the NGOs audience but also access to its environmental strategies and practices. It is only when this is done that there will be a strong and regular interaction between the NGOs and the Management of the Company with respect to good environmental stewardship at Obuasi and other mining areas in the country.

5.3.4 The Media

The media⁸⁴ are seen by most societies as sources of influence regarding the creation of environmental awareness and consciousness, and environmental management as a whole. In Ghana, particularly in the mining areas, the situation is not different, as the media, both local and international, have made some efforts in sensitising the mining companies on responsible environmental practices. Their influence on both the Government and the civil society in Ghana has slightly been felt. As a result of some media reports, the media have laid bare not only the negative environmental practices of the mining companies but also their positive contributions to the entire society of Ghana. As indicated earlier, it is seen that mostly it is the private local and international media that do report on some of the environmental activities of the mining companies in the country.

My research indicates that in terms of environmental awareness among the local communities in and around AGC's concession, the media have attempted in raising some awareness, an awareness that could be translated into attitudinal change. The problem is whether the local communities would translate the environmental awareness being created by the media into behavioural change, as majority of the

local residents is illiterates. One of the major reasons why the media, especially the newspapers and magazines, have not been successful in creating high environmental awareness is illiteracy on the part of the local communities. More than 60% of the local residents cannot write, read and understand, meaning that they cannot make any significant use of what the media⁸⁵ report on the Company's operations. What is more, even among the literate, not all can afford to buy newspapers regularly.

The investigations also reveal that the media virtually have no impact on the environmental practices of AGC, as Ghana's political environment is inimical to the few environmental newspapers and journalists in the country. AGC is messing up the environment, but because of the Government's interest, the private local media are a bit scared to report such negative practices by AGC on the environment. In Ghana, the state-owned media are the most dominant and pervasive, yet they hardly report on the environmental lapses of AGC, and mining companies operating in Ghana in general. The reason is that it will bring the blame back to the Government for not playing a proper and effective supervisory and monitoring role.

5.4 Lonmin's Plc Headquarters - UK

In the explanatory model made in Chapter One and under normal circumstances, the headquarters of TNCs should have some influences on the environmental strategies and practices of their affiliates. In fact, Corporate headquarters' influences on affiliates environmental management cannot be over-emphasised, as Hadlock (1994: 159) asserts "the dominant influences appear to be the policies, procedures, and directives received from corporate headquarters or from the headquarters of any principal operating division that supervises the subsidiary". Thus corporate headquarters should have hands in the decision making of the affiliate especially in the environmental decision making, where, it is believed, corporate headquarters transfer well-developed environmental technology and expertise throughout their

⁸⁴ The *media* as commonly understood today throughout the world and as employed here applies to all those forms of mass communication, such as newspapers, sometimes referred to as the Print Media or the Press; radio, which is referred to as the Sound Media; and television, which is described as the Visual Media, even though it also involves the use of sound.

⁸⁵ Reports via local television and radio stations would have been the best but the state-owned television and radio stations scarcely report on negative environmental practices by mining companies. The few private Television and radio stations hardly report on such issues.

domains of operations. It was established in chapter four that the Management of AGC is in the hands of Lonrho, the U.K.-based TNC.

However, it was observed that Lonmin does not have any formal arrangements for the allocation of environmental responsibilities with its controlled affiliate at AGC, Obuasi (AGC 1994)⁸⁶. Thus Lonmin headquarters does not significantly influence AGC's environmental policies and practices by setting environmental standards for AGC or assisting in addressing environmental problems. What the study could not establish clearly was why there was no formal arrangements for allocation of responsibilities on environmental management between corporate headquarters and the controlled affiliate at AGC, Obuasi. This problem needs to be researched into by future researchers, as answers to this problem could be very vital for the protection of the environment locally and internationally.

5.5 International Financial Corporation (IFC)

It was established in Chapter Four that as one of the conditions of the AMEP, AGC was requested by the co-financier, the International Financial Corporation (IFC) to conduct EIA and prepare EAP, and monitoring programmes. The EIA report prior to the AMEP, EAP and the monitoring programmes were conditions set by the IFC which had to be met before the IFC would grant the loan requested by AGC for the AMEP at Obuasi discussed in Chapter Four. The Management of Lonmin both at the headquarters and at the AGC put their heads together and solicited the services of an international environmental consultancy firm, Jay Minerals Services (JMS), which conducted EIA and drew EAP for the Company. It was admitted by some officials at AGC that both Management made sure that JMS prepared the EAP to meet the World Bank, WHO and the IFC's standards. In order to deal with the environmental problems associated with its gold mining operations effectively and to meet international environmental standards, the IFC requested Lonmin to transfer new and appropriate technology to AGC, which the Company did.

⁸⁶ The Management of AGC also confirmed this issue in an interview held at Obuasi during my field work.

5.5.1 Technology Transferred to AGC

It was indicated in Chapter Four that Lonmin has purchased or transferred new technology with the necessary facilities to the affiliate to enable the Company execute the EAP effectively. For instance, currently, AGC has five separate minerals processing plants, PTP, TTP, OTP, STP, and the HLP. The Management claims that, apart from the PTP and TTP which discharge effluent into the environment directly, the OTP, STP and the HLP's designs are based on the principle of self-containment. In other words, under normal operating and weather conditions, there is no direct liquid effluent and emissions into the environment. Efforts are also being made to reduce the direct discharges of the PTP and TTP.

Monitoring of the quality of water in streams and rivers around open-pit mining after heavy rains showed high levels of suspended solids in the streams and rivers. However, Lonmin hired a consultant with practical experience in dealing with such problems in tropical climates to study mitigation strategies to control run-off from the open-pit activities. In addition, most of the workers at the Environmental Department are environmental experts with the requisite technical-know-how and some of them were trained by the Company. This was ascertained in an interview with the officer in charge of the Department. The Department has a well equipped laboratory, according to the head of the Department.

Notwithstanding the above developments, among others, some of the technologies are not appropriate enough to address the AGC's environmental problems at Obuasi, as it was also established that the Company still pollutes and discharges liquid effluent into the environment. It was established in chapter four that Lonmin took over AGC in 1968 but it was not until 1995 that Lonmin began taking concrete measures to address its impact on the environment. The Company's first EAP was prepared in 1989 after it has been conditioned by the IFC to do so. Meanwhile Lonmin took over the management of the corporation as far back in 1972. Would it, therefore, be wrong to accuse Lonmin of using double standards since it could not have behaved the way it did in UK or any developed countries where environmental standards were high? In

the literature on TNCs and environmental protection, TNCs are accused of using double standards; unlike in their home countries where there are strict environmental standards, they operate with low environmental standards in their subsidiaries in LDCs (Castleman 1978). Weak host countries' control of TNCs would make them decide their own action by setting their own environmental standards. According to the *pollution haven hypotheses*, under such situations corporations would take advantage of weak background institutions in host countries to shirk their environmental responsibilities since LDCs are afraid of tightening environmental standards for fear of disrupting current investment patterns (Leonard & Duerksen 1980 cited in Knutsen 1994).

Since Ghana does not have strict and effective environmental regulations and institutions to check the environmental practices of AGC, it is expected that Lonmin's headquarters would make the affiliate take some concrete measures to deal effectively with its impact at Obuasi. For example, it could have made the affiliate develop detailed systems for monitoring its effluents, handling its hazardous wastes, evaluating its personnel with respect to environmental performance, auditing its operations, and carrying out many additional environmental functions, as done in the U.K. It can be argued that the failure of Lonmin to fashion out and implement adequate environmental strategies and programmes at AGC, until 1995, could be greatly attributed to the lack of strict environmental laws and regulations in Ghana. Ghana's environmental laws do not make any explicit provision for environmentally sophisticated and appropriate technology to be used in mining operations. From the above arguments, the writer contends that Lonmin would not have become environmentally conscious and responsive but for the IFC's loan conditionalities.

5.6 Summary

In this chapter, an attempt was made at examining the political dynamics of AGC's environmental role at Obuasi by looking at some of the influential factors. In examining the factors, it has been established that the Company, until 1995, had turned deaf ears and blind eyes to its negative impacts on the environment for almost a century. Ghana Government did not have any strict environmental regulations

backed by a legislative instrument. The various environmental institutions and the Agency responsible for the protection of the environment did not only have inadequate resources, both human and financial, but also lacked the political will to monitor AGC's environmental practices. They did not have the political will not only because of the lack of mandate, but also because of the Government's vested interest in the Company, looking at the significant role the Company plays in the nation's economy. The Ghanaian civil society, particularly the local communities in and around the mining vicinity, could not exert much influence on the Company because there was a notable lack of scientific information and a disturbingly low level of public awareness about many aspects of the environment in Ghana.

The problem of ignorance could have been arrested partially by an active environmental reporting by the media, which not only could have increased awareness, but also established an informed and active participation on the part of the individuals. Government officials did not see the few environmental newspapers and journalists in the country as partners in development whose constructive criticisms in these newspapers should be taken in good faith. Surprisingly and contrary to the general belief that foreign affiliates are much influenced by the parent corporations to be environmentally proactive and responsible, Lonmin's headquarters did not have any significant impact on AGC recent environmental consciousness. AGC started taking concrete measures to mitigate its impacts after it had been *forced* by IFC's loan requirements, among others, to be environmentally proactive and conscious.

However, it should be emphasised that causal analysis or discussion of why events occur in social science is a very difficult task (Elster, 1989, Hellivik, 1988). Thus, to observe that two things often happen together does not tell us anything about *why* they do happen, or that one of the events is the cause of the other (Hellivik 1998). It is further argued that no single factor in an open system operates alone, it is always influencing and being influenced by other factors. This limits the degree to which one can make generalisation from a causal analysis. Thus, there are other factors such as the fear of accidents and liabilities, economic incentives and international

competitiveness, and the international environmental regulations, which may have significant influence on AGC's environmental strategies and practices at Obuasi but were not examined.

For example, Hadlock (1994) asserts that corporate economic incentives and international competitiveness require that resources committed to environmental management be consistent with corporate financial well being and other factors of competitions. He further argues that while these variables might generally limit the environmental management function there are significant instances where it just has the opposite effect. Similarly, in cases of accidents at TNCs' facilities the magnitude of the liability may be so huge that some of the corporations involved may be forced to wind up or to be placed on divestiture. A case in point is the 1984 accident in Bhopal, India, which led to a general weakening of Union Carbide's financial strength, making it vulnerable to a take-over attempt that further weakened it. The result was divestiture of several major operating divisions⁸⁷. Thus fear of accidents and liabilities and other internal factors are potential influential factors on corporate environmental decision-making. These variables, among others, are possible explanatory factors.

My inability to take these factors, among others, into consideration could affect the findings of the study, which, in turn, could affect the reliability, and validity of the conclusion. However, the examination was restricted to the civil society and Government of Ghana, and Lonmin's headquarters as indicated in the explanatory model, because of limited time, resources at my disposal as well as the space requirement of the study by the Department of Political science. Notwithstanding this and other problems in causal analysis, I contend that, based on the empirical findings discussed above, though the Government of Ghana and Ghanaian civil society do have some influence on AGC's environmental strategies, their influence on the Company's improved environmental performance and practices at Obuasi is

⁸⁷ James R. Norman, *Business Week*, April 18, 1988 cited in Hadlock 1994: 150.

insignificant. In the following chapter the empirical evidence of the thesis is further analysed in the light of the theoretical perspectives reviewed in Chapter Two.

CHAPTER 6: DISCUSSION

6.1 Introduction

The theoretical arguments, which were developed in chapter two, characterised TNCs as necessary evils in the internationalisation and globalisation of economic activities. Hymer (1979) argues that TNCs constitute a two-edged sword for society. Thus, TNCs are *necessary* because they are the major forces behind global capitalism, bringing advanced and environmentally sound technology, and management know-how, to LDCs, and increasing the domestic production capacity of the LDCs. On the other hand, they are *evil* because they are bullies, using their heft to exploit workers and natural resources with no regard for the economic well being of the host countries and their environment. However, their environmental practices in the host countries, especially in the LDCs, should always be analysed not only from an economic perspective but also from a political perspective, as they are both economic and political actors in the Ghanaian institutional environment, and in the world economy. The institutional arguments would view Lonmin as operating in both technical and institutional environments. In this chapter, I discuss the empirical evidence in the light of the theoretical perspectives, neo-classical, global reach, and the institutional organisation theories, reviewed in chapter two. This chapter also attends to the questions and two main hypotheses formulated in Chapter One for the thesis.

6.2 Assessment of AGC's Environmental Role at Obuasi

To assess or measure the effectiveness of a company's environmental management policies and practices or its environmental performance is not an easy task, as indicated in Chapter Two. The former can be assessed on the basis of the individual firm's annual and other reports and/or with interviews with management. To assess the latter comprehensive surveys must be conducted. This is a very difficult task and in most cases involves many types of methods of investigation (Hesselberg, 1998), hence I limit the assessment to the Lonmin's policies or strategies outlined in Chapter Four in relation to Hesselberg's categorisation of firms' environmental strategies, practices and performance reviewed in Chapter Two.

6.2.1 To What Extent is AGC Concerned About its Environmental Impact?

The Company is doing relatively better. It has been established that Lonmin now sees environmental issues as important, as the company has adopted environmental policies and programmes in specific, but important, issue-areas such as air, water, soil pollution. The Company has also put in place an organisational structure to implement the policies. Thus some measures have been put in place to mitigate its impacts on the environment. AGC cannot, therefore, be classified as an *environmentally unconcerned* Company since it has been environmentally concerned lately. As indicated above, the Company has, to some extent, played an important role in the transfer and diffusion of clean technologies and environmental management practices to the mine at Obuasi. For instance, as stated above, Lonmin has purchased five separate mineral processing plants, PTP, TTP, OTP, STP, and the HLP to address the discharge of effluent into the environment.

The establishment of the Environmental and the Health and Safety Departments with the aim of ensuring good health, safety and creating environmental awareness among the mine workers is a clear indication of Lonmin's concern about its environmental responsibilities. For example, man shift loss due to accidents fell from 9,391 in 1993 to 867 in 1995. The lost time injury rate was 8.5 in 1996, 7.1 in 1997, 3.6 in 1998, and 2.8 in 1999 per million man-hours. Again, from 1995 to 1998 no fatal accidents were recorded in the Company. As a result, the Company gained over 40 million man-hours fatality-free operations. Comparatively, there has been a considerable improvement in accident Frequency and lost Time Injury Rates at AGC (see app. 3).

It is significant to note that the above data confirms the main tenets of the neo-classical perspective on the positive environmental behaviour and practices by TNCs in LDCs, which state that TNCs transfer clean technology and sophisticated environmental management systems to their affiliates in LDCs (Hansen 1996). This positive environmental impact, the theory further states, is largely derived from the workings of market forces, as market forces may compel TNCs to operate within sustainable industry configurations toward high quality environmental, health and

safety performance in LDCs (Himmelberger 1994 cited in Hansen 1996). This is necessary because high environmental performance may increase the corporation's rate of profits, as accidents and liabilities would be reduced and the consumers would also increasingly prefer products produced under ecologically acceptable conditions.

However, it was also established that AGC's environmental concern was mainly about the health and safety of its workers but not the external environment. In other words, the Company had no concern for the local environment. This assertion was confirmed by as high a percentage as 85% of the people, both local residents and AGC workers, interviewed during the fieldwork. Only 10% of the respondents refuted the assertion, and 5% remained indifferent on the issue. It has also been established earlier that despite the Company's efforts to address the problem of pollution, the mineral processing plants still pollute and discharge liquid effluent into the environment. About 88% of the people interviewed, including the Member of Parliament (MP) for the area and some members of the environmental department of the Adansi West District assembly, were of the opinion that AGC has not been able to address the problem of pollution effectively and satisfactorily.

In addition, available statistics from the Ministry of Health indicate that 90% of reported cases of tuberculoses, respiratory infections, lung problems and other environmentally-related health problems in the country as at 1998, came from the mining areas, particularly from the AGC's area of operations (Ministry of Health 1998). While about 68% of the local residents interviewed were of the view that AGC was *evil* 32% of the respondents saw AGC as a *necessary evil* since it has impacted the environment both negatively and positively. According to one Assemblyman interviewed, "even though AGC has employed some local residents and provided some social amenities for some local communities, its negative impact on us outweighs the benefits we get from its activities"⁸⁸. Despite the negative side of the Company's environmental impact, at least, it has shown some concern and commitment to solving its environmental problems.

⁸⁸ An opinion expressed by one Assemblyman for one of the local communities.

6.2.2 To What Extent does AGC Comply with Local Regulations?

Related to the first category is corporate *compliance* with environmental regulations. According to Hesselberg's assertion in Chapter Two, firms in this category strive to react properly to changing environmental legislation; hence it is often called a reactive strategy. Unfortunately, Ghana has neither explicit nor strict environmental legislation, though there are various policies and guidelines regarding the operations of certain activities. What is more, these policies and guidelines are not enforced. However, most mining companies in Ghana, including AGC, had relatively complied with certain environmental regulations, such as EIA and subsequent EAP with monitoring programmes (see appendix 5).

It is, however, worth noting that the Government of Ghana did not engineer the compliance with these requirements but rather the IFC, as a fulfilment of IFC loan requirements. AGC undertook an EIA and the subsequent EAP prior to the AMEP as a fulfilment of IFC loan requirement. This was a step in the right direction, as it has made AGC, and other mining companies, environmentally responsible, a responsibility that has been neglected for almost a century now. I would, therefore, argue that the Company's compliance with those environmental requirements was due to IFC loan *conditionality push* strategy but not Ghana's *legislation push* strategy. Referring to the explanatory model in Chapter One, AGC had actually responded to an international influence, an influence which was master-minded by the IFC.

The Management of AGC, some Government officials, environmental NGOs and local residents admitted in an interview that the Company had complied with some environmental regulations. However, most of the environmental NGOs, the Environmental Department of the District Assembly and local residents admitted that preparing EIA, EAP and the EMP was not the most important issue. What was most important, they further contended, was the AGC's commitment to carry out these policies and programmes effectively. From my own observation, I would argue that, at the moment, AGC is, to some extent, concerned about environmental issues. For

instance, the establishment of the Loss Control and Environmental Departments as well as the effective health and safety monitoring in the mine, among others, underscore the Company's recent environmental consciousness. Again, the company's purchase of the five mineral treatment plants, reclamation, decommissioning, compensation payment, and resettlement programmes, and many others underscore AGC's attempt to be environmental responsive, a responsiveness that is in line with some of the assumptions made by the neo-classical theorists.

Notwithstanding the above, the AGC needs to do more when it comes to environmental issues as the study also observed that the improvement in the AGC's environmental practices is more confined to the health and safety of its workers than the external environs as established in Chapter Four. The study observed that the Company has complied with certain environmental regulations but the Company's level of compliance has been minimal. I contend that the AGC's compliance with environmental regulations would have been much improved but for the Government of Ghana's inability to monitor and control it regularly and effectively. The Ghanaian institutional environment is weak and ineffective, and weak institutions are not likely to check the environmental behaviour of companies, like the AGC, effectively. This view is shared by Huntington (1968) when he states that a society with weak political institutions lacks the ability to curb the excesses of personal and parochial desires, as institutions have moral as well as structural dimensions. Effective control in this respect is likely to be achieved if the Government's environmental agencies and institutions are well equipped with adequate human and financial resources to discharge their duties as regular monitors and supervisors of AGC's operations. Again, effective control requires that the Government possesses some political power and will with which to monitor and check the Company's environmental behaviour at obuasi.

In the explanatory model developed in chapter one for this study, it was indicated that environmental regulations initiated by Ghana's environmental authorities were some of the first driving forces behind corporations' environmental strategies and practices.

It was also assumed that when environmental laws and their associated regulations were adopted and enforced effectively by the Government of Ghana, it was likely that Lonmin would not shirk its environmental obligations at Obuasi. However, as discussed in the previous chapter, apparent lack of explicit environmental regulations, coupled with ineffectiveness in enforcement of environmental laws in Ghana, has made AGC less responsive and conscious of its environmental obligations. Echoing the global reach perspective on TNCs as operating with environmental double standards, low standards in LDCs and high standards in OECD countries, Lonmin has taken undue advantage of Ghana's lack of explicit environmental regulations and its ineffective enforcement institutions to shirk its environmental responsibilities at Obuasi.

As it has been established earlier, the company did not take any measures to prevent or deal with its adverse environmental impact at Obuasi since it took over the Company in 1968 until it was conditioned by IFC. Unlike the neo-classical theorists, the global reach theorists would argue that AGC succeeded in behaving the way it did because of lack of stricter environmental regulations and enforcement agencies in Ghana, thereby minimising its environmental cost. Furthermore, according to the theory of institutions, in order for institutions to be effective, there must be some form of effective enforcement (Peters 1999), an enforcement which may hold the various actors' behaviour in check.

6.2.3 To What Extent does AGC Cope with International Influence?

According to Hansen and Ruud (1995: 12), "a clear indication of the international orientation of corporate environmental management can be found in the scope and content of policies and programmes tailored to the specific problems of developing countries." Such activities, they further argue, would indicate that the corporation assumes a responsibility for the environment in LDCs beyond what is required by environmental regulations. In support of the above assertion, the empirical data showed that AGC has provided some environmental infrastructure for its workforce at Obuasi. For example, the Company has made provision for sewage-treatment

facilities and clean water for its employees and their families, activities that would not seem directly linked to the corporate mission.

As established in the previous chapter, the IFC was very instrumental in AGC's sudden and positive change of its environmental behaviour because of the loan conditions set by IFC when AGC requested for loan for its AMEP at Obuasi. When AGC approached the IFC, the latter required the former to conduct an EIA, prepare EAP and, subsequently, an EMP, which the former did, before the approval and disbursement of the loan. These conditions were very necessary as they put AGC on some environmental surveillance at Obuasi, making Lonmin rethink and reverse its old lackadaisical approach to its environmental problems at AGC. It should be emphasised that the Government of Ghana came into the picture after the ball had been set rolling by IFC. It was not clear whether it was also IFC, which made the Government of Ghana start *monitoring* and *controlling* the activities of AGC and other mining companies in Ghana.

In spite of the fact that AGC had complied with IFC's loan requirements (EIA, EAP, and EMP), I would not argue that the company responds very much to international influence. As some of the people interviewed admitted during the fieldwork, the preparation of these documents is not as significant as getting them off the ground completely. It is unfortunate to note that the study observed that, contrary to the provisions of the Company's environmental policy, AGC had not (and does not) prepared any annual budgets and regular monitoring reports on the implementation of the EAP. Meanwhile, the IFC wanted these policies and programmes to be carried out to the letter and this had not been fulfilled by the Company. AGC does not have programmes related to renewable energy sources and protection of endangered species. Again, the provision in the EAP, which demands that AGC reviews and updates the EAP at the end of every second year, has not been met by the Company. Some of the programmes in the EAP still remain unimplemented. This is in contrast with the provision in the Company's EAP, which states that AGC will "ensure that within economic limits and the need to be internationally competitive the Company's

activities are carried out with due regard to ecological and environmental factors through the implementation of international practice” (EAP 1994:1).

The Company still pollutes and discharges liquid effluent into the environment. As a result of the Company’s activities, about 84% of the local residents are living without good drinking water because their traditional sources of drinking water have been polluted by AGC (Adansi West District Assembly 1998). About 72% of the local residents and some local opinion leaders, the Environmental Department of the Adansi West District assembly interviewed maintained that the Company does not comply very much with environmental regulations be them local or international.

Furthermore, some of the IFC’s loan requirements should be seen as relatively too lenient. For instance, the World Bank/IFC’s requirement for acceptable arsenic level in water is 10mg/1 (see appendix 2) whereas arsenic level in water acceptable by the WHO is 0.05mg/1 (AGC 1992). Thus, the IFC’s guidelines permit arsenic level of about 200 times higher than the WHO requirement. I would argue that the IFC’s level is not only too generous to polluters, including AGC, but also unrealistic. It was also not clear how the IFC would be able to monitor the AGC to ensure compliance and effective implementation of AGC’s EAP. Clouded with these uncertainties, coupled with the absence of environmental standards and weak control mechanisms in Ghana, the Government of Ghana is compelled to rely on the good conscience of the Company for the protection of the environment at Obuasi. This may not arguer well for much enhanced environmental performance by the Company. Against this background, I argue that even though the Company adheres to international pressure, the degree is minimal.

6.2.4 To What Extent is AGC Proactive in Environmental Issues?

It has been established that Ghana Government did not have any specific environmental standards for pollution and emissions, as the mining guidelines are silent about these standards. In the absence of these standards for pollution and emissions, it was expected that AGC would use part of its resources, both human and financial, to tackle its environmental obligations proactively but this was not the case.

This is not implying that AGC is not concerned about environmental issues at all. As indicated above, the Management has incorporated environmental issues into the decision-making process⁸⁹ regardless of what the Government may or may not do. For example, as stated in Chapter Four, AGC has put in place a financial provision of US\$5.2 million for the de-commissioning exercise. Moreover, it has set aside US\$ 5.2 million as a contingency fund against any unforeseen circumstances such as unexpected disasters and this fund has since not been used, meaning that there has not been any serious disaster. AGC's re-vegetation programme has received a major boost with over 1,000,000 trees of various species planted under its land reclamation programme. Again, AGC has so far relocated one village, Bidiem, destroyed as a result of its operations at a total cost of US\$800,000. This was part of its community relation programme in its EAP.

The writer sees these initiatives as necessary and laudable but not sufficient to be classified as proactive in environmental issues. For instance, there is a problem of blasting and water quality which are required to be at *acceptable limits or standards* but which the mining guidelines are silent about how much is acceptable and by whose standards, local or international. The Company, therefore, goes by the WHO, and World Bank/IFC standards some of which are either irrelevant to the local conditions or contradictory. A case in point is the World Bank/IFC's requirement for acceptable arsenic levels in water which is 10gm/l while the WHO's acceptable arsenic levels in water is 0.05gm/l, as indicated above. Even there was a denial of AGC's claim that it meets those standards by the Ghanaian civil society, particularly by the private media and the environmental NGOs in an interview held with them.

In an interview held with some of the environmental journalists and NGOs, chiefs and other opinion leaders living around AGC area of operations, as high as 86% of the respondents expressed dissatisfaction with the high degree at which the Company was polluting and discharging liquid effluent into the environment. One of the cases they cited to buttress their dissatisfaction with the Company's environmental

⁸⁹ See Chapter Four for AGC's environmental policy, strategies and programmes adopted and being implemented.

behaviour was the case in which a number of antelopes and other animals drank from a river, which had been highly contaminated by AGC, and died. They maintained that AGC's minerals processing plants and other facilities designed to deal with the Company's pollution and emissions were not effective enough and that AGC was not doing anything pragmatically to address the problem. The MP for the area even claimed that the Company complied with the IFC's loan requirements just to be granted the loan but not because of any perceived risks or fears of any environmental accidents and liabilities.

Against this background, it could be argued that the AGC cannot be classified as a proactive company. A Company can be classified as a *proactive* (management pull strategy) one if the Management expresses the intention of going beyond mere compliance with the Government's guidelines and being actively involved in preventive rather than curative measures in dealing with its environmental impact (Hesselberg 1998). Using this indicator or yardstick, the writer argues that AGC cannot, to a large extent, be classified as a proactive company. This is in contrast with a provision in the EAP that states that "the Company will undertake proactive mitigation measures to protect health, ensure safety and also to enhance the quality of life of the local population" (EAP 1994:1).

Majority of the people interviewed during the fieldwork, about 68% presented a gloomy picture about TNC's, particularly about Lonrho, and their environmental-related activities in Ghana. They maintained that the Company was engaged in a wanton dissipation and depletion of the non-renewable mineral resource with little concern about its attended environmental impact. One Assemblyman remarked in an interview that the Company "is only concern about the economic gains it is getting from the gold mining operations but not the well being of the local communities and the development of the environment as a whole"⁹⁰. The perception of these respondents about AGC underscores, to some extent, the global reach perspective that

⁹⁰ This was the Assemblyman's own opinion.

TNCs tend to perpetuate underdevelopment rather than development in LDCs, including Ghana.

6.2.5 To What Extent is AGC Innovative in Environmental Issues?

The study indicates that AGC has adequate EAP to address the environmental problems associated with its operations. The Company has sought to deal with its environmental problems by reducing waste and minimising emissions and effluents through adoption of new technology transferred to AGC. The implementation of the Company's reclamation programme described in Chapter Four and the bio-oxidation method serve as examples of its innovative activities. The monitoring system in the Company is effective, especially in the processing units and the underground operations. Thus, an appreciably high awareness of health and safety has been created in the Company. The Company's environmental policy is incorporated into the whole organisation, covering all levels of employees in environmental improvement awareness building. The Loss Control Department and the Environmental Department have set in motion a process of ensuring the continuous health and safety of its employees and, to some extent, the people living at the Obuasi area.

The programme was initiated by the Management of AGC, but is understood and accepted by employees, as they are completely involved in its implementation. The system (the loss control measures) is seen as an effective activity because there is a hierarchical mechanism from the lowest employee to the General Manager to trace the cause of every accident and to ensure that appropriate measures are put in place to prevent recurrence. Thus health and safety related policies and programmes are seriously adopted and are being implemented effectively by AGC. Based on the above data, among others, Lonmin can be seen, to some extent, as pursuing *internationally integrated environmental management*⁹¹. The above developments by AGC, which are positive, can be said to be in line with the neo-classical claim that TNCs try to work towards high quality environmental, health and safety performance in LDCs under the influence of market forces.

⁹¹ This typology is one of the four levels of TNCEM developed by Hansen and Ruud (1995) based on international integration of environmental management system.

However, critics and some environmental NGOs and journalists see the above developments by AGC as positive but argue that the Company is doing so because of the fear of accidents and liabilities, since the Bhopal catastrophe and its legal aftermath depicts that liability is not confined to within national borders. In addition, sight must not be lost of the fact that having a comprehensive policy (rhetorical level) is one thing and getting the policy off the ground (activity level) is another thing. Some of the Company's strategies still remain unimplemented and when it comes to the local residents and their surroundings not much has been done by the Company to protect them. Again, when the system of environmental monitoring, particularly the loss control measures, is critically examined, it can be seen that the Company is more concerned about the health and safety of its workers than the local people living in and around the mining area. This is not to say that the effective health and safety measures at the workplace is bad, but what the writer is putting across is that the surrounding environment should also be given equal attention.

The Company has not undertaken any *radical* innovations to improve the environment, especially the external environment. The Company still pollutes, does not prepare regular monitoring reports on and annual budgets for the implementation of the EAP. AGC cannot be classified as innovative, a *green front runner* or a company with a *green image* for the environment does not constitute a strategic issue. This is because, according to Hesselberg (1998), firms are classified as innovative if their annual reports and/or other publications explicitly express a comprehensive environmental policy, incorporating the view that environmental issues are significant to the firm's image and long-term competitive advantage. The firms, he further argues, actively aim at improving their environmental performance through a policy on both innovation and invention. The writer is of the view that if the main driving force behind AGC's concentration on workers' health and safety at the workplace, is profit maximisation, then the Company should not forget that damage to the external environment could cost it dearly if the environment is neglected. Effective implementation of the Company's policy should not only be limited to the internal

environment but also to the surrounding environs, and so the policy should be linked to the AGC's economic interests.

6.2.6 To What Extent are AGC's Gold Mining Operations Sustainable?

As indicated above, the Company has put some measures in place to address its environmental impact at Obuasi. However, these measures are not effective enough to address the impact effectively. For example, environmental auditing and reporting by AGC were found to be unsatisfactory, as they were not done on a regular and comprehensive bases. The Company's EAP is not very much concerned at preventive measures but rather a minimisation of the impact of its operations, as stated in the EAP. The company still pollutes irrespective of the so-called advanced technology transferred to AGC to prevent emissions from the Company's treatment plants. AGC does not take dust control measures seriously as the Management would only spray the dusty roads at Obuasi when Government officials or foreign dignitaries are visiting the Company, as indicated earlier.

Meanwhile, the last and highest category, the *sustainable* category, demands that a company's environmental policies should have as an ultimate goal zero *pollution* and virtually eliminate waste (Hesselberg 1998). This is totally a preventive approach, that is, to act before any damage is caused to the ecological system. This classification can be linked to Hansen and Ruud's last typology of TNCEM strategies, *global environmental leaders*, which sees companies that acknowledge responsibilities for the global environment in LDCs. The writer sees this category as idealistic for mining companies, as mining companies could strive but not reach that level, looking at the nature of mining activities. I contend that mining activities could never be sustainable even if pollution consequential to mining and minerals processing is highly mitigated. The thesis is that minerals are non-renewable or non-regenerative, once exploited can never be replaced. However, companies in the extractive sector can behave in a way that may meet some of the principles of sustainable development but not make them become global environmental leaders.

Such companies' environmental policies and programmes must be comprehensive, focusing on all environmental related issues, research and development, climate

change, bio diversity, reclamation and resettlement and many others. The policies and programmes should clearly define the establishment of an organisational structure to implement the policies effectively. There should be proper and regular environmental accounting, auditing and reporting, and support for environmental and community groups. Any corporations' operations that fail to meet these requirements, among other things, cannot be classified as sustainable.

6.3 The Political Dynamics of AGC's Environmental Role at Obuasi

As it was established in Chapter Five, the contextual factors have a significant impact on AGC's environment role at Obuasi. Thus, the effectiveness or ineffectiveness of AGC's environmental role is very much dependent on the political environment within which the Company carries out its environmental obligations. All things being equal, comprehensive and strict environmental laws, regulations and institutions in Ghana, coupled with a regular and effective interaction among the Government, the Ghanaian civil society and the Management of AGC, could lead to an effective and sound environmental role by the Company at Obuasi. The reverse is true.

However, it was observed that the Ghana Government did not have any specific and strict environmental regulations and effective institutions with which to monitor and control AGC's environmental behaviour at Obuasi. As regards the Ghanaian civil society, it was not only weak but also incapable of making any positive influence on AGC's environmental role. When asked whether there was an ineffective governmental and societal control over AGC, about 88% of the officials from the Adansi West District Assembly and some local residents, including the MP for the area and local chiefs, responded affirmatively. The head of the Environmental Department of the Adansi West District assembly admitted in an interview that the "apparent lack of such governmental and societal control over AGC is a major determining factor that has actually contributed immensely to the Company's ineffective environmental role at Obuasi".

It is however interesting to note that whereas over half the number of the workers interviewed confirmed the above assertion, the management of the Company was a bit reluctant to comment on the issue. All what they would say was that the

Government of Ghana would not sit down unconcerned for AGC to shirk its environmental duties. Meanwhile, some Government officials, mainly from the District Assembly and the EPA, maintained that inadequate resources, both human and financial, have made it extremely difficult for the Agency to monitor AGC's operations regularly and effectively at Obuasi. They even added that owing to its scanty resources, the Agency was not able to visit the Company for inspection and monitoring more than once a year. Moreover, during such inspections, they further asserted, the Agency would take whatever environmental report the Company has prepared as true because it does not have the means and capability to conduct an independent study on the Company's operations. It is reiterated that the above situation can be blamed on the ineffective institutional environment prevalent in the Ghanaian society. Thus, the institutional environment rather has negative impact on AGC's environmental performance and practices at Obuasi.

With such unfavourable contextual factors, it was expected, as the model explained, that Lonmin headquarters had significant influence on AGC's environmental policies and practices by setting environmental standards for AGC and/or assisting in addressing environmental problems at Obuasi. However, this was absent as the study observed. Meanwhile, in most of the literature it is argued that formal arrangements for allocation of responsibilities on environmental management between corporate headquarters and affiliates is one of the prerequisites for effective environmental role by TNCs in LDCs (Hansen & Ruud 1995). The study, however, observed that the headquarters neither monitor disposal of hazardous waste nor air emissions at Obuasi. Again, it neither checks whether AGC has plants close to drinking water supplies nor whether AGC holds safety zones around plant sites at Obuasi. It is also significant to note that though there is annual checking or assessment by local plant managers, the implementation of AGC's EAP is not monitored by any formal compliance reviews or audits carried out at regular intervals in each plant by corporate headquarters. My conclusion is that there is no central support from Lonmin's headquarters and that control of AGC seems to be rather decentralised, and responsibility for taking initiatives lies in the hands of the Management of AGC. Meanwhile, the study

established that the Company does not have any effective system of evaluating its own environmental performance.

Another point that needs to be emphasised is the role IFC played in bringing AGC to its toes with respect to its environmental obligations at Obuasi. It was established in Chapter Four that as one of the conditions of the AMEP, AGC was requested by the IFC to conduct EIA and prepare EAP, and monitoring programmes. The EIA report prior to the AMEP, EAP and the monitoring programmes were conditions set by the IFC which had to be met before the IFC would grant the loan requested by AGC for the AMEP at Obuasi discussed in Chapter Four. Looking at AGC's environmental neglect since Lonmin took over in 1968, it suffices to say that the Company would not have changed its irresponsible environmental behaviour but for IFC's loan conditionalities.

My argument is that, given the Government vested interest in AGC and its present desire to ensure economic growth by attracting more FDI into the country, there is clearly the absence of any political will on the part of the Government to enforce stringent environmental laws and regulations. This could be the reason why the Government encouraged investment in the mining sector without making any strict environmental regulations to regulate the activities of the mining companies. Again, ineffective societal control of AGC would affect the Company's environmental role at Obuasi negatively. This ineffective societal control of AGC is greatly blamed on the fact that environmental preferences among the local residents are lower as indicated in Chapter five. I contend that such political atmosphere would create a fertile ground for ineffective environmental role by AGC, hence AGC's environmental double standards at Obuasi, attesting to Castleman's theoretical assumptions outlined in Chapter Two.

6.4 AGC's High Profits and Ineffective Environmental Performance

The Company is one of the biggest and one of the most profitable companies in the world, as AGC is providing huge financial pickings for its investors⁹². In spite of this

⁹² See AGC's annual reports, 1995, 1996 1997, 1998 and 1999. See also Daily Graphic, February 1, 1999: 23. No. 147518.

however, its activities have had negative impact on the environment, which has become a source of concern. While AGC pays large dividends to its shareholders, it turns blind eye to its environmental obligations because it is operating in a country where environmental laws, institutions and surveillance are patchy and ineffective. The need for state control of AGC is necessary for AGC's economic power is scarcely harnessed to achieve the ends of socio-economic and environmental developments in the mining vicinity. The Chief Executive of AGC, Sam Jonah, wrote in the Wall Street Transcript, a document written to encourage FDI from the US, that "mining in USA is difficult because of a decline in ore reserves, *quite onerous environmental regulations*⁹³, and of course high labour cost". He went on to say, "for us at Ashanti, however, the outlook for gold mining in Africa could not be brighter"⁹⁴.

By implication, it is clear that whereas industrialised countries impose strict environmental laws, Africa, especially Ghana imposes less strict environmental laws. Consequently, the opportunity for AGC and other mining companies in Ghana to ignore their environmental responsibilities in favour of larger profits is not impossible. For a chief executive of a big gold mining company like AGC to come out with such *unfortunate* utterances is a clear indication of the fact that the Company is not very much proactive in environmental obligations at Obuasi. I have argued that the Company has comprehensive environmental strategies (rhetorical level) but having adequate strategies is one thing and getting the strategies off the ground (activity level) is another thing. As indicated earlier, some of the Company's strategies still remain unimplemented.

For instance, AGC claims that it has cleaned up the polluted Kwabrafo River – the biggest river in the vicinity, but FOE-Ghana research⁹⁵ has found out that it is still highly polluted with arsenic. Laboratory tests have shown that arsenic levels are 38 times greater than WHO permissible levels to which AGC claims to be complying

⁹³ The emphasis is mine.

⁹⁴ This is cited in FOELINE, April-June, 1996: 4. No. 4

with. The report also maintains that many surrounding villages also have polluted rivers. An expert on water quality has said that “the waters are too polluted even for the preservation of aquatic life or agricultural purposes and are definitely unfit for drinking” the report added. According to the Ministry of Health and FOE-Ghana, over 80% of the people living around AGC’s area of operations do not have potable drinking water, as most of their traditional sources of drinking water have been seriously polluted by the Company’s activities.

Furthermore, as regards AGC’s strategies to address the problem of emissions into the atmospheric environment, not much has been done. For example, there are policy proposals to modify the operational procedures at PTP to reduce impact of stack emissions but have not been implemented. A platform and sampling ports have been installed 20 metres above ground on the PTP main stack to enable in-stack monitoring of arsenic, particulate and sulphur dioxide at monthly intervals. The equipment for this exercise should have been ready by the end of 1994 but was not. Again, a monitoring programme to assess the impact of sulphur dioxide emissions in the environs of PTP and de-vegetated areas in the Obuasi area was to be initiated and completed by March 1995 but it fell through. These examples, among others, underscore my argument that even though the Company is now environmentally conscious, it is not performing effectively enough to mitigate the negative impact consequential to its operations at Obuasi. As high a percentage as 72% of the people interviewed alluded to the fact that AGC exists or operate to make profit with little or no concern about the local communities and the environment as a whole.

6.5 The SAP, FDI and the Environmental Role of AGC

In Chapter Three, it was established that the implementation of SAP in Ghana has led to some improvement in the national economy, which had declined abysmally before the adjustment in 1983. The SAP has, to a large extent, stabilised the Ghanaian economy and reversed the negative growth in the 1970s and in the early part of the 1980s. It resulted in a consistent 5% average annual GDP growth rate and a

⁹⁵ This research was conducted by the NGO, Friends of Earth, FOE-Ghana in 1996. The findings were compiled in a report, *Gold Mining Profits and Weak Pollution Laws*, that was published in its journal, *FOELINE* No. 4 April-June, 1996.

considerable increase in FDI and output in the mining sector. Given the resource-based economy of Ghana, the SAP mainly focused on the mining sector and the Government of Ghana was made to make favourable and lenient investment policies, including environmental policies, just to make the mining sector more attractive to FDI. Even though the Government did encourage investment in the mining sector, she did not come out with any strict environmental regulations to monitor and control the operations of the TNCs, as indicated above. In effect, the sector received much of the inflow of the FDI into the country. This action by the Government of Ghana confirms the pollution haven hypothesis, which states that LDCs would use lenient environmental regulations to attract multinational industries (Knutsen 1994; Leonard 1988).

The SAP engineered the AGC's AMEP whose main aim was to increase the Company's gold production through surface mining. As indicated in table four in Chapter Three, the gold mining sector received considerable investment since the implementation of the SAP. Out of the total of US\$463 million invested in the sector from 1985 to 1990, AGC's share alone was more than half as the Company invested US\$253 million. What is more, the Company would be investing a total of US\$555 million over the 10-year period of its expansion project. However, the GDP growth and the investment patterns should be considered within the extent to which they serve to improve or worsen the quality of the environment, particularly the environment at Obuasi. Admittedly, even though it is difficult to make an assessment of any direct negative effects of the SAP on the environment due to the complexity of the links between the policies of SAP and the outcomes in the environment, SAP has affected the environment enormously. Even though the SAP mainly targeted the natural resource sector where environmental degradation and destruction is more pronounced, there were no provisions in the SAP as to how the environmental problems consequential to SAP would be tackled.

By implementing market-oriented policies such as the removal of trade barriers, trade liberalisation, devaluation of the cedi, the introduction of the exchange rates, as well

as a host of other sector specific policies and incentives to attract FDI, a new political economy had developed. This new, but pervasive, political economy situation is considerably distinct from the past state-centric economic regimes. This neo-liberal, SAP induced political economy regime, it can be argued, has led to a new incentive dynamics that have affected the production, utilisation and conservation of the environment, particularly natural resources such as gold. The study has also established that the implementation of SAP has resulted in huge borrowings which have to be repaid. The process of repayment has created a burden on the natural resources in the country, as the IMF-World Bank imposed policies of the SAP did not encourage the improvement of the manufacturing sector of the Ghanaian economy. The SAP has promoted export-oriented strategy which is based on raw natural resources, particularly minerals. Since the adoption of the SAP nearly half of Ghana's exports, mainly unprocessed materials, has gone into debt servicing.

Even though the SAP mainly focused on the expansion of the mining sector, it did not prescribe any appropriate measures as to how to deal with the adverse environmental impact that would come about as a result of the increase in productivity and production in the mining sector. However, in order to secure the capital for its expansion project, the AMEP, AGC had to succumb to IFC loan conditions, among them was good and sound environmental stewardship at Obuasi. Before the AMEP, the Company was not playing any meaningful environmental role at Obuasi. At present, it cannot be denied that the Company has reversed its old lackadaisical attitude to its environmental obligations at Obuasi. As the study observed, the Company has incorporated the environmental issues into its management plan.

6.6 Challenges Facing the Company

The study also observed that AGC was battling with two main challenges. First, from a historical perspective, mining has been seen as destructive to the environment. Thus, inspite of all the efforts the Company has been making to mitigate the impact of mining on the environment, a lot of people still hold that stereotyped view. The challenge to the Company is how to debunk this view and to assure the general public and other stakeholders that mining activities can be carried out in conformity, to some

extent, with the principle of sustainable development. Second, how the Company can satisfy the high expectations of the local communities in which mining activities are carried out was another challenge. Even though AGC may be paying all the taxes, royalties and fulfil all other obligations as required by law, the local communities expect the Company to go beyond these to provide facilities such as schools, hospital, electricity, water supply, palaces, tarring of roads, and many others.

In many cases one finds that some of the facilities being requested for are the responsibilities of the central and local governments, but the communities demand them as a matter of right. As high as 92% of the local residents interviewed were of this view, and this has put the Company in an awkward position as to how to draw the line between benevolence and responsibility. The third problem facing AGC is the practice of speculative farming and uncompromising attitude of some of the local communities with respect to compensation payments. According to one official of AGC interviewed “speculative farming ahead of mining operations by some local communities makes it difficult to differentiate between genuine and frivolous complaints,” making the compensation payments difficult and problematic for AGC.

CHAPTER 7: CONCLUSION

The thesis assessed the role the TNC, Lonmin Plc, was playing as regards its environmental impact resulting from its gold mining operations at AGC, Obuasi. By description and examination, the thesis specifically focused on the written policies, strategies, programmes and procedures, which form Lonmin's Environmental Action Plan (EAP) for AGC, as well as the actors that influenced the preparation and implementation of the EAP. In other words, the thesis attempted to examine the content of Lonmin's EAP at AGC, Obuasi, and the context within which the EAP was prepared and was being implemented.

A theoretical framework was developed in Chapter Two, where the theory of institutions and institutional organisation theory, and the neo-classical and global reach perspectives on TNCs, development and the environment were reviewed to serve as an analytical tool for the thesis. To analyse the questions outlined for the study effectively, the study examined Ghana's economic reform, the SAP, and its impact on FDI and the environment. The aim here was to look at the political economy of Ghana, examining the SAP and its impact on the environment and the existing Ghanaian environmental laws, regulations and institutions responsible for the protection of the environment. Particular attention was given to the mining sector policies engineered by the SAP and its implications for the environment. The study came up with the following findings:

- AGC did not have any EAP and was not environmentally responsible until 1989 and 1994/5 respectively. The Company began taking measures with regard to its environmental responsibility after it had been told to conduct EIA, prepare EAP and EMP as loan conditions by IFC. Thus, the IFC was the brain behind AGC's adoption and the subsequent implementation of the EAP and that IFC played an instrumental role in Lonmin's relatively enhanced environmental performance at AGC. However, the implementation of the EAP did not actually take off the ground until 1994/5. It was also evident that AGC has relatively comprehensive EAP but not every aspect of

the EAP had taken off the ground. Again, AGC's relatively enhanced environmental strategies and practices at Obuasi were more confined to the health and safety of its workers than the external environs. The Company had reversed its old lackadaisical attitude towards its environmental obligations at Obuasi. Undoubtedly, Lonmin was, to a greater extent, concerned about environmental issues and had put in place some measures to address its environmental problems at AGC, Obuasi. Lonmin, however, cannot be described as a corporation which is very much proactive and innovative in environmental issues. Its operations at AGC cannot be seen as sustainable.

- There was no formal arrangement for allocation of responsibilities on environmental management between the corporate headquarters and affiliate, Lonmin. Thus, there was no central support from the headquarters and that control of AGC seemed to be rather decentralised, and responsibility for taking the initiative lay in the hands of the Management of AGC. This was seen as unfortunate as it contradicted the general perception that Lonmin functions on at least two general management levels: operations in its home country (UK) and operations in the host country (Ghana). Meanwhile, the study established that Lonmin did not have any effective system of evaluating its own environmental performance.

- The Government of Ghana (institutional environment) did not play any significant role in AGC's adoption and implementation of the EAP at Obuasi. Contrary to expectation, the Government still did not have any considerable influence on the Company's environmental strategies and practices even after the Company's sudden *positive* change of behaviour. The main factors that militate against the Government's ability to effectively monitor and control AGC's environmental strategies and practices include the lack of effective environmental laws, regulations and institutions. The absence of political will to enforce stringent environmental regulations was another problem. Another serious problem facing the Government of Ghana was inadequate human and financial resources. As regards the Ghanaian civil society (the institutional environment), it did not have any significant influence on AGC's environmental strategies and practices at Obuasi. The civil society was not

only weak but also incapable of putting considerable pressure on the Management of the Company in order to make the Company environmentally responsive.

- The SAP had altered and reinforced the incentive structures in favour of extraction and exploitation of Ghana's natural resources, particularly gold, rather than conservation and preservation of the environment in Ghana, and at Obuasi in particular. This was because the SAP led to the expansion of the Obuasi mine and an increased in gold production at Obuasi at the expense of the environment.

- This research did confirm, to some extent, the global reach assumption that TNCs seek to minimise environmental costs in LDCs by not taking environmental issues seriously. It was established that the Company neglected the negative environmental effects consequential to its operations. It became concerned about the environment in 1989 after it had been *coerced* by the IFC's loan conditions. The Company succeeded in shirking its environmental responsibilities because of not only lenient environmental regulations but also incapable and ineffective environmental institutions in Ghana. In effect, the institutional environment in which Lonmin operates could not bring Lonmin's technical environment on its toes as regards the latter's inadequate environmental performance, as expected by the institutional theorists. This lenient environmental regulations in Ghana also confirms the pollution haven hypothesis. On the other hand, after 1995, Lonmin transferred sophisticated technology and technical-know-how to AGC so as to help address the environmental problems associated with its operations at Obuasi. Despite the fact that Lonmin waited until it was forced to be environmentally responsive, it had played an important role in the transfer and diffusion of technology and environmental management practices at AGC, a role that is in consonance with the main tenet of the neo-classical assumptions on TNCs, development and the environment.

The empirical findings above confirm the main hypotheses of the study:

- ***AGC's environmental strategies and practices at Obuasi can be explained in relation to the institutional environment within which the Company operates.***

• AGC's recent enhanced environmental performance and practices at Obuasi is due to a positive influence of IFC's loan conditionalities more than a positive influence of the institutional environment within which the Company operates.

However, the conclusion cannot be used to make any generalisation about TNCEM due to the problems, among other things, encountered during the fieldwork as discussed in Chapter One. Though, as a good case study demands, multiple sources of evidence were collected, reviewed and analysed, gathering data from multiple sources is a necessary process but not a sufficient and an automatic means to adequate data. Thus for any further research on this theme a methodological diversity is needed to crosscheck the authenticity, reliability, and the validity of the data.

As regards causal analysis, no single factor in an open system operates alone, it is always influencing and being influenced by other factors. This points to the general problem of multivariate analysis. According to Hellevik (1988), we can never be certain that we have controlled for all relevant variables, or know for sure what the consequences of possible omissions are for the results or conclusions we have reached. No matter how reasonable my causal model for the independent and dependent variables may have seemed, there may still be variables that have been overlooked. For instance, Lonmin's economic interest in AGC's gold mining operations was not included in the model. Thus, a possibility exists that a variable for which I lacked data or did not at all think about or did deliberately exclude from the model may have had significant influence on AGC's environmental behaviour at Obuasi. These problems, among other things, could limit the validity and reliability of my conclusion.

All said and done, it is my fervent hope that the Ghanaian environmental institutions, the Ghanaian civil society and the Ashanti Goldfields Company (AGC), in particular, would rise up and ensure that AGC becomes much more environmentally conscious and responsive. This, if done effectively, will make AGC/Lonmin become one of the global environmental leaders.

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APPENDIX 1

A Table Showing Number of People Interviewed, Dec. 1998-March 1999

Type of groups	Basis of Selection		Total
	Random	Selected	
AGC: Officials		15	15
Workers	20		20
Government Officials		15	15
Local Communities: Chiefs	5		5
Opinion Leaders		10	10
Other Local Residents	15		15
Environmental NGOs		10	10
Environmental Journalists	10		10
Total	50	50	100

Source: Field Interview Data

APPENDIX 2

World Bank/IFC Guidelines: Atmospheric Environment

“In line with the AGC’s policy to observe good international practice and in the absence of Government of Ghana standards, the AGC is committed to complying with the current World Bank guidelines namely” (AGC Environmental Action Plan 1994: 2);

Atmospheric Environment

Arsenic (As):

Inside Plant Fence	24-hour average	6 $\mu\text{g}/\text{m}_3$
Outside Plant Fence	24-hour average	3 $\mu\text{g}/\text{m}_3$

Particulates:

Maximum 24-hour peak	500 $\mu\text{g}/\text{m}_3$
Annual Geometric Mean	100 $\mu\text{g}/\text{m}_3$

Sulphur Dioxide (SO₂):

Inside Plant Fence	Maximum 24-hour peak	1000 $\mu\text{g}/\text{m}_3$
	Annual Arithmetic Mean	100 $\mu\text{g}/\text{m}_3$
Outside Plant Fence (Location not specified)	Maximum 24-hour peak	500 $\mu\text{g}/\text{m}_3$
	Annual Arithmetic Mean	100 $\mu\text{g}/\text{m}_3$

Ambient Dust:

Annual Geometric Mean of 24-hour Concentrations	100 $\mu\text{g}/\text{m}_3$
Maximum 24-hour Concentrations	100 $\mu\text{g}/\text{m}_3$

Water Environment

Parameter	Maximum 24-hour peak	Consecutive 30 days average
PH	6-9	6-9
Total Suspended Solids	50mg/l	25 mg/l
Oil and Grease	20mg/l	10 mg/l
Arsenic level in water	20mg/l	10 mg/l
Cyanide (total)	3 mg/l	1.5 mg/l

Source: AGC Environmental Action Plan 1994