

Multiple scales of diamond mining in Akwatia, Ghana: addressing environmental and human development impact

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Received 20 November 2004; received in revised form 19 July 2005; accepted 10 August 2005

Abstract

Ghana is the second largest producer of gold in sub-Saharan Africa, and has experienced a significant increase in national mining production over the last two decades. Between 1983 and 1998, the mining industry brought approximately US \$4 billion in foreign direct investment to Ghana. While large-scale gold mining has seen a significant increase, artisanal gold and diamond mining product have grown exponentially. While much research has been conducted on gold mining in Ghana, there is relatively little research on the environmental and human development consequences of diamond mining in the country. Unlike other West African countries such as Sierra Leone and Liberia, small-scale diamond mining in Ghana has not been linked to conflict but its role in development has also been relatively modest. This paper examines large and small-scale mining in Ghana's largest diamond mining town, Akwatia, and their relative impact on environmental degradation, health, and the livelihood of artisanal miners. We conclude that while an increase in artisanal diamond mining has been a means of employment and income-generation for small-scale miners, there are some human development challenges, related to environmental burden from land degradation and health. GCD is an ailing mining company in Ghana, in desperate need of an injection of capital to keep the mine alive, but botched bidding has slowed the process of de-regulating the company. We also conclude that the de-regulation of GCD may lead to a relatively reduced environmental burden in Akwatia and more revenue for the GCD to invest in the human development needs of communities in the town.

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Keywords: Artisanal and large-scale mining; Diamonds; Ghana; Environmental burden; Environment and health

Introduction

The mining sector in Africa has been a source of intense controversy regarding development trajectories for mineral-rich countries. While development institutions and macro-economists have argued for harnessing natural resources as an entry point for development (Davis and Tilton, 2003),

social and environmental activists have often pointed to the potential linkages between mineral endowments and conflict and consequential underdevelopment (Ross, 2001). The negative impact of mining activities on the environment and health is well documented (Heath, 1993; Veiga, M.M. and Beinhoff, C., 1997; Warhurst, 1999; Warhurst, A., 1994). Particular attention has been given to the effect of small-scale gold mining activities on environmental contamination. While the land degradation caused by the gold mining is significant, chemical contamination from the gold extraction process imposes a double burden on the environment, with harmful health outcomes for mining communities and persons residing in close proximity to such activities. However, relatively less attention has been paid to environmental degradation in diamond mining towns, primarily because diamond-mining

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production does not entail the same degree of chemical processing.

This paper discusses the environmental and human development impact of mining activities in Ghana's largest diamond production town, Akwatia. Indeed, while the environmental impact of diamond mining in Akwatia is not linked to environmental contamination from mercury (as is found in artisanal gold mining), the town provides a unique example of the negative impact of large-scale and artisanal diamond mining on environmental degradation and sustainable development. At the same time there is potential for mitigating the negative impacts and accruing benefits from appropriate schemes that could help build capital and provide a means of catalyzing sustainable livelihoods for communities.

Methodology

Data for this paper was collected via a combination of bibliographic research in the United States and Ghana, and field research in the case-study town, Akwatia. Qualitative and research techniques were employed to collect primary data on the mining industry in Ghana, mining practices in Akwatia, mining-related sickness, and information from the major diamond mining company in Akwatia. This process included structured interviews with miners, mining officials, government officials, and local community members. Interviews were recorded as text either during or immediately after being conducted. Recording devices were not used during the interviews given the sensitivity of the topic to the region and the possibility of getting erroneous or misleading responses from respondents. Some secondary quantitative economic data was obtained from sources in the Ghanaian government, but verified for accuracy by conferring with other stakeholders.

An overview of mining in Ghana

The geological setting

Ghana, a West African nation located on the Gulf of Guinea, is well endowed with many natural resources. The country covers an area of 238,555 square kilometers, about the size of Great Britain or the state of Oregon. Ghana's population is approximately twenty million, and Cote D'Ivoire, Burkina Faso, and Togo border the country. It was formerly a British colony, at which time the territory was known as the Gold Coast for its abundance of gold reserves.¹

¹ The Portuguese were the first Europeans to occupy the territory that is now known as Ghana in the late 15th century. The Dutch also had a short stay in the territory, but it is the British that colonized the Gold Coast for the longest period of time, from 1844 until March 6, 1957, Ghana's independence day.

Small-scale mining activities in Ghana date back more than 2000 years. There is evidence citing gold mining going as far back as the seventh and eight centuries AD (Hilson, 2001). Ghana is presently the second largest producer of gold in sub-Saharan Africa, only behind South Africa, and a leading exporter of bauxite, diamonds, and timber. Ghana's geologic setting is the primary reason for its wealth of mineral resources. The country falls within the Precambrian Shield of West Africa. The major Precambrian rock units in Ghana are the primary source of the country's major mineral products: gold, bauxite, diamonds, and manganese (Grubaugh, 2002). They are associated with Proterozoic, Birimian, and Tarkwaian rocks, and the majority of gold produced in Ghana comes from Birimian rocks, which constitute approximately one-third of the country (Grubaugh, 2002).

Mineral laws and policies in Ghana since 1986

Ghana gained independence from British colonial rule on March 7, 1957, and became a republic on July 1, 1960 (Austin, 1964; Apter, 1955). At that time, Ghana was one of the strongest economies in sub-Saharan Africa, with a per capita income that was comparable to South Korea, and was one of the world's largest producers of cocoa. President Kwame Nkrumah, the country's first president and leader of the nation's independence movement, adopted socialist planning techniques, with a public sector that was primarily buttressed by cocoa revenues (Agbodeka, 1992).²

On February 24, 1966, there was a political coup in Ghana that led to the ousting and exile of President Kwame Nkrumah. For almost two decades following this coup d'état, Ghanaian political development was plagued by coups, failed coup attempts, and general socio-political turmoil. This harsh political environment had negative impacts on socio-economic development, and contributed to economic decline and a decrease in living standards in Ghana (Chazan, 1983; Frimpong-Ansah, 1992). In 1983, Ghana adopted a World Bank Economic Recovery Program (ERP), with the general objectives of short-term economic stabilization and long-term economic structural adjustment. These aims included improving government finances, stabilizing Ghana's currency (the cedi), improving the domestic production of goods and services, and strengthening the social and economic infrastructure of the country (Nyanteng, 1997).

Despite the economic potential of the mining industry in Ghana, mining output had decreased significantly since the late 1950s, with gold experiencing the most dramatic decline in production. As Aryee (2001) puts it:

² The cornerstone of President Nkrumah's industrial development strategy was the construction of the Akosombo Dam, a hydroelectric dam on the Volta River that would electrify Ghana, while providing linkages to an aluminum industry fuelled by Ghana's bauxite reserves (Hart, 1981).

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