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EA follow-up in the Ghanaian mining sector: Challenges and opportunities

Seth Appiah-Opoku [a,*], Hobson C. Bryan [b]

[a] Geography Department, University of Alabama, 230 Farrah Hall, Tuscaloosa, AL 35487, USA
[b] Geography Department, University of Alabama, 330 Farrah Hall, Tuscaloosa, AL 35487, USA

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ABSTRACT

Environmental assessment (EA) follow-up provides a means for monitoring and evaluating the implementation of environmental impact studies. It is integral to the success or failure of a project or program. In spite of its importance, very little attention is given to the need for follow-up programs in most jurisdictions in Africa. Using a case study in the Ghanaian mining sector, this paper explores the challenges and opportunities within the country's EA process for an effective follow-up program. The paper is based on informal interviews, content analysis of relevant publications, official EA documents, and internet searches. The authors suggest a standard EA follow-up program to be formalized as an integral part of Ghana's environmental assessment policy. They also propose a follow-up process that harnesses existing opportunities within the country's EA system. This approach can be replicated in other African countries.

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1. Introduction

Environmental assessment (EA) is a vehicle for incorporating environmental concerns along with conventional technical, financial, and political considerations in decision-making. It involves a systematic analysis of the potential impacts of major policies, programs and projects, and the ways in which adverse impacts could be minimized (Gibson, 1993). Thus, EA is essentially a comprehensive approach to decision making in which analysis, synthesis, and management of predicted impacts of development proposals play a major role. The overall purpose of environmental assessment is to enhance biophysical and socioeconomic benefits of projects and programs while mitigating potential damage through enlightened decision-making.

The almost four decades of global environmental assessment practice has resulted in recognition of universally accepted design principles. One of the principles is that as project proposals and approvals proceed, an EA process should provide avenues for improvement. EA follow-up emerged from this recognition. It is concerned with events that occur once a consent decision has been granted (Arts et al., 2001). The need for follow-up in environmental assessment is well documented (Arts, 1998; Arts et al., 2001; Bisset, 1980; Culhane et al., 1987; Hunsberger et al., 2005; Sadler, 1987). The goal is to help improve project implementation and provide feedback on EA processes. By incorporating feedback into the EA process, follow-up enables learning from experience to occur (Morrison-Saunders et al., 2003). It also helps EA practitioners and implementing agencies determine the efficiency of mitigation measures, shortcomings of prediction methods, outcome of project implementation, and how to improve EA practice (Noble and Storey, 2005; Ramos et al., 2004).

According to Arts et al. (2001) and Morrison-Saunders et al. (2007), EA follow-up covers four distinct activities: (a) *Monitoring* — the collection of data and comparison with project standards, predictions or expectations; (b) *Evaluation* — appraisal of conformity with standards, predictions or expectations, as well as the environmental performance of a given project; (c) *Management* — making decisions or taking appropriate actions in response to issues arising from monitoring and evaluation of a project; and (d) *Communication* — providing feedback on project implementation processes to stakeholders and the general public. Three types of monitoring are distinguished: (a) baseline monitoring, which involves a survey of the environmental parameters within the surroundings of a proposed undertaking before implementation begins; (b) effects monitoring, which focuses on measuring the difference between baseline parameters and changes resulting from the implementation of an undertaking; and (c) post-audit impact monitoring, which focuses on compliance with recommended assessment standards (Glasson et al., 1999; Marshall et al., 2005; Nadeem and Hameed, 2010; Noble and Storey, 2005).

Morrison-Saunders et al. (2003, 2007) identify three groups of stakeholders involved in EA follow-up: (a) proponents or first party follow-up; (b) regulators or second party follow-up; and (c) community or third party follow-up (Fig. 1). The first involves voluntary, self-regulatory or industry-led initiatives that stem from environmental awareness or peer pressure. The second type of follow-up is carried out by regulators to ensure that proponents comply with EA approval conditions. Finally, third party follow-up involves the general community, including informal or formal agencies that monitor project impacts. These may include village vigilante groups or committees and independent

* Corresponding author. Tel.: +1 205 348 2731.
E-mail address: sappiah@bama.ua.edu (S. Appiah-Opoku).

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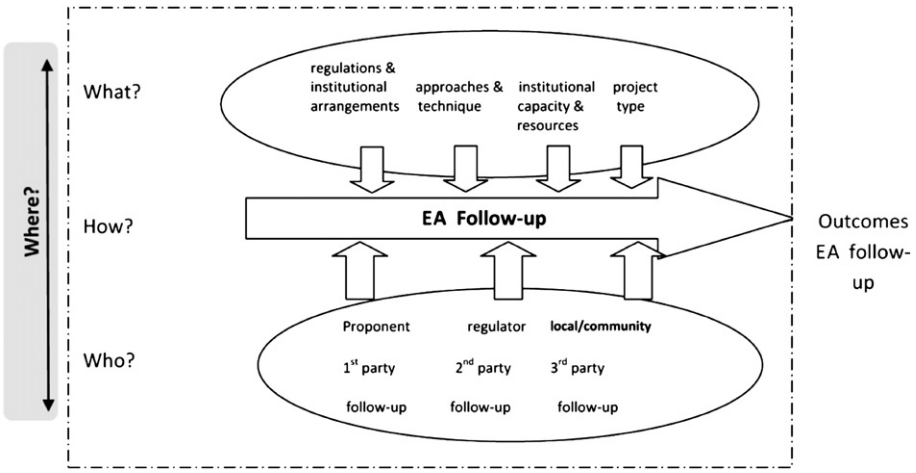


Fig. 1. Contextual factors for developing best practice for EA follow-up.
Adapted from Jha-thakur (2011) and Morrison-Saunders et al. (2003).

actions by community members concerned about a project's impacts in their community.

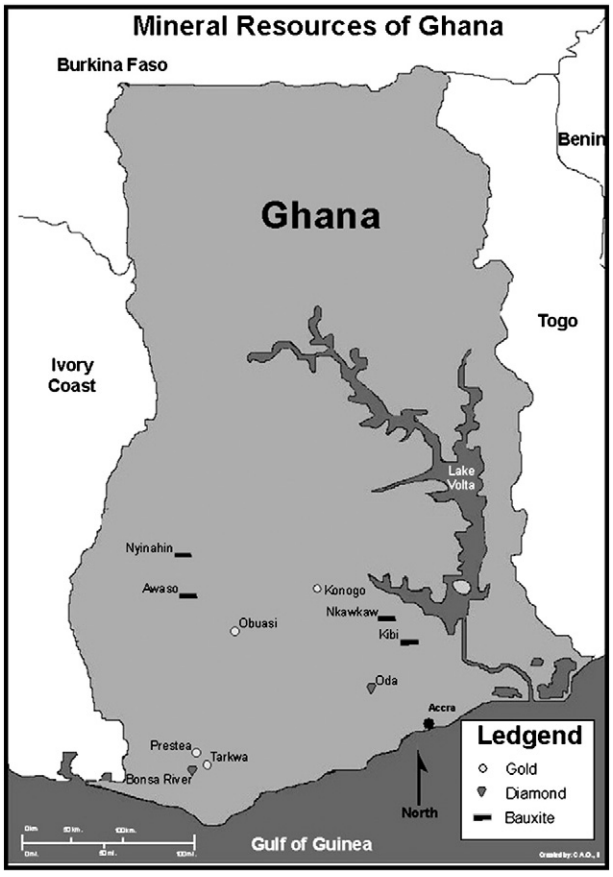
Although many African countries have gained valuable experience in the application of EA and have attained reasonable degrees of success, implementation of EA follow-up programs remains either absent or fairly undeveloped and presents a huge challenge. Without a systematic EA follow-up, the effectiveness of mitigation measures and management plans often remains largely unverified (Gallardo and Sanchez, 2004; Hunsberger et al., 2005). In most jurisdictions, EA approvals have become just a paper chase to secure development permits, rather than a meaningful exercise in the quest for informed environmental decision making. As increasing amounts of resources are being devoted to EA practice in African countries, there is a need to safeguard the returns through systematic follow-up programs (Ramjeawon and Beedassy, 2004). It is in this context that the authors discuss the challenges and opportunities of EA follow-up in the Ghanaian mining sector. Contextual factors that influence EA follow-up include: (a) institutional arrangements and regulations; (b) institutional capacity and resources; (c) approaches and techniques used; and (d) type of project involved. For these reasons, follow-up outcomes differ, even within similar jurisdictions in both developed and developing countries (Jha-Thakur, 2011).

2. The context of EA follow-up in Ghana

Located on the Atlantic coast of West Africa, Ghana is bordered by the Ivory Coast to the west, Togo to the east and Burkina Faso to the north. Geographical conditions in Ghana contribute greatly to the country's status as a primary agricultural and mineral exporter. Its proximity to the equator results in high temperatures throughout the year. Annual mean temperature ranges from 26.1° to 28.9° Celsius. Closed forests are confined primarily to the southwest, savanna vegetation to the north, and coastal woodland and grassland to the southeast. It is the world's second largest exporter of cocoa, which is mostly produced in the forest belt. A majority of the people are directly or indirectly employed in agriculture, mining, lumbering or the tourism sector of the country (Benneh and Dickson, 2001). The country's key mineral resources include gold, diamond and bauxite. Gold is widespread around Tarkwa, Prestea, Obuasi, and Konongo (Map 1). Diamond has been found at the Birim terrace gravels near Oda and along the Bonsa River near Tarkwa. Bauxite is found near Awaso, Nyinahin, Kibi and Nkawkaw.

Environmental problems in the country are associated with land management, forestry and mineral exploitation, waste generation, urban pollution, watershed and coastal ecosystem degradation. Ghana has no coordinated and comprehensive land management policy. Instead, a multiplicity of government agencies is responsible for various aspects of land management. For instance, the Town and Country Planning Department, which was modeled on the British planning system, is not the only government agency in charge of land use planning and management in Ghana. Other government agencies in charge of land use management include the Districts and Municipal Assemblies, Lands Department, Forestry and Wildlife Commission, and the Chieftaincy Institution which consists of traditional leaders.

It is estimated that only about 40% of Ghana's original forest cover remains (Environmental Protection Council, 1991). This situation has arisen largely as a result of a progressive conversion of forest lands to other uses, particularly agriculture and human settlements. Logging



Map 1. Location of major minerals in Ghana.