

A Comparison of Analysis of Challenges Facing Environmental Impact

Assessment Systems in Eastern Africa¹

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Abstract. The paper reviews the challenges of Environmental Impact Assessment (EIA) systems in 11 countries in East Africa. It examines the main elements of EIA procedures like EIA instruments, institutional leadership, public participation, and evaluation of alternatives. The EIA procedures aim to protect the environment from developmental projects through design and operation conditions tailored by regulations. Project developers are responsible for meeting these requirements, enforced by government authorities. However, budget constraints, lack of regular audits, insufficient political will, and limited skills among practitioners hinder effective compliance monitoring. To improve EIA's effectiveness, strengthening environmental policy and regulatory frameworks, and information and disclosure are recommended.

1. Introduction

Eastern African countries (AFE) have adopted the Environmental Impact Assessment (EIA) as an environmental management tool. Each country has enacted national environmental management legislations and designed systems and procedures, which mirror the United States National Environmental Protection Act (U.S NEPA), enacted in 1969. NEPA requires federal agencies to systematically evaluate the environmental effects and related social and economic effects and incorporate them in their plans and making decisions. In most of the Eastern African countries adoption of EIA legislations and procedures have developed gradually over the past two decades. Despite the differences in the procedures in each country, all the EIA systems are geared towards systematic examination of development projects to enable decision makers to make choices that are economically efficient, environmentally sound and socially equitable. The main challenge is to make EIA systems practicable, relevant and effective to guide decision making in managing economic, social and biophysical environmental impacts.

This paper reviews EIA procedures adopted by 11 countries in AFE: Burundi, Eritrea, Ethiopia, Kenya, Malawi, Rwanda, South Sudan, Sudan, Tanzania, Uganda, and Zambia. It discusses the differences and similarities among these systems. Sources for this analysis consisted mainly of EIA policies currently in place in each of these countries² and specialized literature that included case studies. Details of each country have been provided in the accompanying poster, which compares regulatory frameworks for environmental impact assessment and their effectiveness in African countries.

2. Nature of EIA

Countries in AFE have adopted different environmental assessment tools, such as Environmental Impact Assessment or Environmental and Social Impact Assessment, that aim to avoid, minimize or compensate the adverse significant biophysical, social, economic and other relevant effects of development projects. Through EIAs, national authorities often establish design and operation conditions that aim to control the emissions, discharges, and other environmental impacts which are not defined and enforced through specific regulations and standards.

¹ The findings, interpretations, and conclusions herein are those of the authors and do not necessarily reflect the views of the International Bank for Reconstruction and Development/The World Bank and its affiliated organizations, or those of the Executive Directors of The World Bank or the governments they represent.

² The analysis does not consider other policy instruments that, independently of the EIA procedures, regulate areas reviewed in this paper (e.g. specific policies or regulations on access to information). Furthermore, this analysis does not cover the subnational level for those countries having federal administrations.

3. Institutional Leadership in the EIA System

In most of the countries of AFE, the investment project developer is responsible for contracting consultants and supervising the preparation of assessments. With this approach, the environmental authority acts as an evaluator that assesses whether the proposed project mitigates negative impacts for obtaining an environmental license or other type of authorization. The approval of environmental assessment documents is mostly the responsibility of environmental agencies.

4. Screening

The screening process in AFE is mostly based on a fixed list of project types to determine which projects are subject to an EIA, rather than by a tailored analysis of the characteristics of each project and the identification of significant impacts. In several countries, EIAs are also required for a project or activities that are in or near environmentally sensitive areas, which are also listed. Based on the screening report, the competent authority determines whether an environmental assessment is required or not. The main differences across those countries with list-based screening processes center on the flexibility that the leading agency has for expanding, narrowing, or interpreting the list.

The use of lists as screening devices tends to encourage suboptimal screening processes. The rigidity of the lists affects projects in two ways: (i) in some countries, it limits the ability to filter out from the EIA process those projects that would not generate significant environmental effects; or (ii) several types and sizes of projects are exempted from EIA, even if these projects may cause environmental impacts. The weaknesses of lists as screening mechanisms are not necessarily overcome by providing authorities flexibility to decide how and when to use such lists. In fact, the use of discretionary criteria has been found to be more closely associated with increased probability of error, unequal treatment of similar projects, and opportunities for influencing the decisions taken by authorities (Abracosa et al. 1987; Hirji et al. 1989; Shepard et al. 1997; Sanchez-Triana et al. 2001), rather than with better environmental outcomes (Hironaka and Schofer, 2002; Meyer et al, 1997; Frank et al, 2000).

5. EIA Scoping

The EIA's scope and depth are defined by the EIA legislation or other norms issued by the environmental agency, or in specific guidelines or Terms of Reference (TORs). Most of the AFE countries have defined generic TORs that determine the scope of the EIA instruments and, therefore, do not necessarily consider each action's specific characteristics. Some countries, including Burundi, Eritrea, Ethiopia, Rwanda, and Uganda contemplate the incorporation of specific elements based on inputs provided through a stakeholder engagement process.

The generic content of TORs demands an equal treatment of environmental variables whose relative importance varies depending on the specific action. These challenges are not necessarily solved by granting discretion to the authority during the elaboration of specific TORs. As one or several public servants are responsible for determining the contents of the TORs – based on the information provided by the action's proponent and, in some instances, a field visit –, the content of the TORs depends on the education, expertise, experience, and degree of discretion of the individuals involved.

In the AFE countries, project developers or the governmental agency responsible for undertaking the EIA are responsible for hiring the consultant who prepares the EIA, resulting in an apparent conflict of interest. Developers may therefore have incentives to hire a consultant who will do the bare minimum to meet the legal requirements for the environmental license and instead focus on overcoming any potential objections to the project. Some countries (e.g. Uganda and Tanzania) have adopted legal provisions stating the qualifications and/or expertise that the consultant must have to ensure adequate preparation of EIA documents or requiring that the consultant be enrolled in a formal registry. While these requirements do not modify the developers' incentives, they provide a level of quality assurance regarding the consultant.

6. Public Participation, Access to Information, and Dissemination

Most countries (with exceptions such as Sudan) legally require one or more public participation mechanisms, prior to and following the EIA report publication. There is significant variation, however, in how well these mechanisms are regulated and the extent to which the input collected through them may influence the authority's decision. Public participation has been one of the assets for improving the region's EIA processes. Participation has been a topic permanently claimed by civil society. In addition, participation has also helped to make visible the constraints, opportunities, and challenges that tended to be hidden by limited screening, scoping, and TOR-preparation stages. Recent improvements have been translated into concrete actions such as requiring developers or environmental authorities to publish notifications and disseminate information in local media and languages (e.g. Kenya)

Developing public hearings to discuss the project is required in several countries (e.g., Burundi, Kenya, Malawi, Rwanda, and Zambia). Public hearings can have a more significant effect in building consensus or incorporating communities' concerns into the EIA than the exchange of written information. However, these events are often resource-intensive and, if not properly organized, can easily turn into a community's opportunity to voice demands for issues with little or no relationship to the project.

However, public participation commonly takes place at a stage where many crucial decisions have already been made, so participants are only notified about project-related decisions. Thus, public participation becomes largely informative in nature, rather than providing a mechanism whereby public comment and input can enter the decision-making process and affect the outcome of approval decisions.

Legal provisions regarding access to information also vary significantly across countries. Uganda has no explicit disclosure requirement. All other countries require the disclosure of the EIA reports.

7. Evaluation of Alternatives

The evaluation of alternatives allows public access to information on the impacts that different alternatives would have. The evaluation of alternatives for proposed projects is mandatory for EIA process in AFE countries, with different requirements in terms of the aspects that should be included (e.g., technology, location, and whether a "no project" alternative should be considered). Notwithstanding, alternatives are often evaluated to justify the proposed project's selected site or approach.

8. Evaluators and Evaluation Criteria

Under the model adopted by AFE countries, the competent authority evaluates the EIA prepared by the developer and determines whether the assessment meets all legal requirements. With this approach, the authority has limited involvement in the elaboration of the necessary studies and in ensuring that public input is duly incorporated in the EIA process. In addition, the decision-maker has significant discretionary powers to decide whether the EIA is valid or not, and the decision to approve the EIA is based on the official's own interpretations or views. This does not guarantee that the EIA process will result in a better decision being made, as it is not necessarily associated with received public input, systematized environmental information, or the existence of clearly defined criteria to comply with environmental regulations.

9. Environmental Management and Follow-Up Mechanisms

EIA policies in all AFE countries include reduction, prevention, mitigation, and compensation measures as environmental management plans (EMP). The main challenges relate to developers' responsibilities to apply mitigation measures. More important is supervision—by the relevant agency issuing the EIA license—to confirm appropriate application of the measures. Most countries (with exceptions such as Burundi) include some type of monitoring instrument such as periodic reports, inspections, third-party audits, or audits conducted by the environmental agency.

Independently of the number of EMPs or follow-up plans or programs that are required, these plans are often used as remedies for the lack of legally established environmental standards or formal governmental programs. For instance, mitigation measures may not necessarily relate to the impacts that the project is expected to generate, but to activities, such as reforestation or education, that are socially desirable but that the authority is unable to carry out because of its constrained resources.

One of the greatest paradoxes of EIA systems in AFE is that, although EIA seems to be used as an environmental management tool through which the authority aims to ensure that many projects or activities operate within specific environmental parameters, the countries face several constraints to monitor the action's impacts after the corresponding license or permit has been issued. This is due mainly to lack of budgetary and human resources for supervising the project's compliance with environmental and social management plans, particularly for effective compliance monitoring in the field.

10. Approaches to tackle mercury pollution from Artisanal and Small-scale Gold Mining (ASGM) in EIA

Most of the countries have made progress in regulating mercury use in mining, yet some still lack targeted laws or action plans, highlighting opportunities for future policy development and regional cooperation. Burundi signed the Minamata Convention in 2014 and created a National Action Plan (NAP) in 2017 to phase out mercury in artisanal gold mining. Eritrea adopted a NAP in 2020 but hasn't joined the Convention; it relies on domestic controls. Ethiopia's 2019 mining strategy coordinates environment, health, and safety laws for chemical regulation. Kenya's Mining Act bans mercury and cyanide, enforced by NEMA. Malawi regulates gold mining but lacks specific mercury management and an action plan, presenting room for improvement. Rwanda ratified the Convention in 2017, has broader mercury regulations, and conducted a Minamata Assessment in 2023. South Sudan has no mercury-specific legal framework, while Sudan signed the Convention in 2014 but lacks targeted mercury legislation. Tanzania and Uganda manage mercury through environmental acts and hazardous waste regulations. Zambia enforces mercury controls through its Environmental Management Act and promotes mercury-free artisanal mining.

11. Using EIA to Address Emerging Challenges

EIA is the main tool for environmental management across AFE. However, current EIA legislation and practice are inadequate to address emerging priority environmental challenges in AFE, including plastic pollution, e-waste, and mercury pollution from Artisanal and Small-scale Mining (ASGM).

The severity of these challenges is underscored by the significant costs they impose on society. For instance, children in Sub-Saharan Africa experience the largest total and per-child IQ losses from exposure to lead (a key pollutant released by improper e-waste management) and mercury across all world regions. The economic costs of these IQ losses are equivalent to 5.7 percent of the region's Purchase Power Parity-adjusted Gross Domestic Product (GDP) for lead, and 1.1 percent for mercury—exceeding those observed in any other region. Analysis conducted in AFE found that children living near e-waste dumpsites face a 70 percent higher risk of contracting Acute Respiratory Infections, a leading cause of children mortality, compared to those living farther away.

EIA legislation and practice in AFE are an inadequate regulatory tool to address these challenges. EIA has been designed for formal, proponent-led development projects, while mercury pollution from ASGM, e-waste, and plastic waste is generated by diffuse, informal (and sometimes illegal), livelihood-driven activities operating below the threshold of conventional EIA triggers. Additionally, many of these activities take place in geographical areas without the presence of formal enforcement authorities, or involve illegal cross-border flows of plastics, e-waste, and mercury.

Bridging this gap requires strengthening existing EIA frameworks to include strategic environmental assessment, developing simplified instruments, and cooperating to adopt consistent legislation and conduct transboundary EIA.

Countries in AFE have started to advance in this direction. Tanzania has been a leader in attempting to move the informal ASGM sector into the EIA framework. By recognizing that a full-scale EIA is financially impossible for a small mining team, Tanzania has introduced Environmental Management Plans (EMPs). Under this instrument, miners must prove they have a plan for mercury containment (retorts) and tailings management before a license is issued. Countries like Kenya are moving toward the use of SEAs for entire sectors. Instead of assessing individual mines or dumps, SEA creates opportunities to manage mercury from ASGM using a comprehensive approach within a geographic region. Transboundary EIAs are becoming increasingly importance because e-waste and mercury-contaminated rivers cross borders (e.g., the Volta River basin).

13. Results

The application of EIAs as tools for evaluating and mitigating environmental impacts is widespread across countries in AFE. According to specialized literature, while EIAs themselves do not directly result in environmental outcomes, they serve as powerful informational instruments that can enhance public participation and environmental awareness (Hironaka and Schofer, 2002; Meyer et al., 1997; Frank et al., 2000). However, in practice, EIAs often prioritize meeting legal requirements over implementing concrete actions to improve a project's environmental performance. Although EIAs have contributed significantly to the sustainability of specific projects, evidence indicates that these assessments generally lack effective public participation in project development and tend to produce generic recommendations that are rarely monitored or enforced.

Due to their nature, EIA instruments in AFE are designed to manage the environmental impacts of specific projects rather than functioning as planning tools that incorporate participatory efforts to address the environmental and social concerns of various stakeholders in governmental decision-making. In some countries, the absence of legally established environmental standards has led authorities to use EIAs in lieu of specific environmental regulations and standards (e.g., biodiversity conservation and pollution control) and effective land-use planning, tailored specifically to investment projects to avoid and mitigate negative environmental effects. Challenges such as e-waste, plastic pollution, and mercury pollution highlight the need to strengthen EIA legislation and practice to better address emerging environmental priorities.

14. Conclusions

The trends analyzed in this paper suggest that the EIA approach in most AFE countries predominantly focuses on managing the negative environmental impacts of specific investment projects and preventing harm to third parties, rather than opening decision-making processes to public scrutiny. By positioning EIA as the primary environmental management tool, many AFE countries have placed a significant burden on it, often without fully leveraging its potential roles in policy development and implementation. Enhancing the effectiveness of EIAs in improving decision-making requires countries to develop an economically efficient environmental policy and regulatory framework where various command-and-control regulations, market-based instruments, and information and disclosure tools complement each other. For most AFE countries, developing such a framework should be based on identifying their environmental priorities, particularly those related to poverty alleviation.

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