

EIA SERIES

1

MONITORING COMPLIANCE WITH EIA RECOMENDATIONS IN UGANDA

Opportunities
for Progress



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Monitoring Compliance with EIA Recommendations in Uganda: Opportunities for Progress

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I. Introduction

Environmental impact management and compliance monitoring are activities that follow the approval of a project's environmental impact assessment¹ (EIA). They are an integral part of the post-EIA process because they provide a measure of an EIA's quality. Therefore, without them the purpose and effectiveness of the EIA process will be undermined.

One of the major flaws of EIA processes in developing countries is their misconceived application as a means to obtain a permit. Therefore, once a permit is issued, the post-EIA process is seldom implemented. This means that impact management and compliance monitoring are often neglected processes.

Impact management and compliance monitoring, as both terms suggest, are undertaken after the approval of an EIA and during the implementation of a project. Impact management refers to the specific efforts employed to carry out mitigation measures of foreseen and unforeseen environmental and social impacts. Compliance monitoring refers to efforts that attempt to determine the effectiveness and enforcement of mitigation measures stated in the environmental impact statement² (EIS). Often, government agencies with the technical capability provide impact management assistance to developers that require it.

This policy brief focuses on the nature and effectiveness of the post-EIA process in Uganda. It considers the legal and institutional strengths and weaknesses for monitoring compliance with EIA mitigation measures and recommends ways in which the monitoring system can be improved.

II. A Review of the EIA Process in Uganda

The EIA legal framework in Uganda is intended to fit into the overall goal of the National Environment Management Policy, which is:

¹ A systematic examination conducted to determine whether or not a project will have any adverse impacts on the environment.

² A report made in a prescribed form and manner after the completion of an environmental impact assessment.

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“Sustainable socio-economic development in a way that maintains and enhances environmental quality and resource productivity to meet the needs of the present generation without compromising the ability of future generations to meet their own needs.”

The general policy of the Government of Uganda with regards to environmental impact assessment is that:

- a) it be conducted for planned activities that are likely to, or will have significant impact on the environment, so that adverse impacts can be foreseen, eliminated or mitigated;
- b) it be inter-disciplinary;
- c) it be fully transparent so that all stakeholder have access to information;
- d) it should serve to provide a balance between environmental, socio-economic and cultural values for sustainable development; and
- e) it should involve full public participation.

EIAs are undertaken by the developer using his/her own expertise or that which they hire from EIA consultants registered by NEMA (NEMA, 1999). EIAs are conducted before a project is licensed for implementation.

The level of EIA conducted for a project varies according to the nature, scale, possible effects of the project, and the characteristics of the site where the project will be located. There are three levels of EIA recognised under *Section 20(5)* of the National Environment Statute.

- I. Where a project may have an impact on the environment such as in the case of service stations and renovation works, an *environmental impact review* (no legal definition) shall be conducted.
- II. Where a project is likely to have an impact on the environment such as in the case of major urban construction work, and *environmental impact evaluation* shall be conducted.
- III. Where a project will have significant impact on the environment such as in the case of mining operations, an *environmental impact study* shall be conducted.

An institutional framework to carry out the EIA regime is still in development. As a result, there has been a general misconception that NEMA is solely responsible for monitoring compliance with EIA recommendations. This misconception, on the part of districts and lead agencies, could be a result of limited awareness of their EIA responsibilities under the National Environment Statute and the EIA Regulations.

However, after five years of EIA operation and awareness in Uganda, this misconception is gradually declining. Most districts in the country have employed District Environment Officers, and some municipalities and government departments and ministries have established environment offices, or are in the processes of doing so. It is expected that, with time, this awareness of responsibility will increase leading to greater efficiency and effectiveness in monitoring compliance with EIA recommendations in Uganda.

III. Stages of the EIA Process in Uganda

The EIA process in Uganda involves several steps. It begins with a developer's submission of a project brief and ends with the decision to approve or reject the project's environmental impact statement.

A. Project Brief

Under *Section 20(1)* of the National Environment Statute of 1995, any developer of a project listed in the third schedule of the Statute, which lists project types to be considered for EIA, is required to submit a project brief to the appropriate sectoral lead agency and to NEMA.

B. Screening

Once the project brief has been submitted, the lead agency and NEMA screen it to determine how significant its environmental impacts are. Screening helps to determine the level of EIA required of a project. However, screening could also lead to outright approval of a project if NEMA and the lead agency determine that the project brief adequately addresses environmental concerns.

C. Environmental Impact Study

Once screening of the project brief has determined that the project will have significant impact on the environment, an environmental impact study will be carried out. This study involves a sequence of procedures:

(i) Scoping

This initial step determines the scope of work of the environmental impact study. This usually involves the input of relevant stakeholder groups.

(ii) Terms of Reference

The environmental impact study terms of reference are developed and approved by NEMA, and should include:

- an identification of significant environmental issues established during scoping that should be assessed by the study;
- a description of the expertise required to conduct the study;
- a description of the work tasks for the study team members; and
- a workplan for carrying out and completing the study.

(iii) Conducting the Study and Preparation of the EIS

Subsequent to the two previous procedures, an environmental impact study is conducted and its findings and recommendations reflected in an EIS.

D. Decision Making

Based on the review of the EIS, a decision is made to approve or reject the proposed project. The decision making process involves a number of steps:

(i) Review of EIS

NEMA and the appropriate lead agency review the EIS, taking particular note of the environmental impacts identified, the recommended mitigation measures, as well as the extent of stakeholder consultation. The EIS is also subjected to public review.

(ii) Public Hearing

Under *Regulation 21(2)*, the Executive Director of NEMA is required to call for a public hearing “where there is controversy or where the project may have trans-boundary impacts.”

(iii) Approval of the EIS

Once NEMA, the lead agency, other stakeholders and the public have reviewed the EIS, NEMA may approve or reject the EIS. This is the final step of the EIA process in Uganda

IV. The Post-EIA Process in Uganda

Impact management and compliance monitoring constitute the major activities of the post-EIA process in Uganda. Efforts to mitigate predicted environmental impacts and the procedures for monitoring those efforts are supposed to be part of a project’s EIS. The lead agency, with the supervision of NEMA, is required to monitor the developer’s mitigation of environmental impacts. The developer is also required to conduct self-monitoring, self-record keeping and self-reporting on a regular basis, and information gathered as a result of this is to be stored and made available during inspection (NEMA, 1997). Furthermore, the developer is required to mitigate any negative environmental impact not contemplated in the EIS and to report any such effort to the lead agency and NEMA.

NEMA requires the monitoring report submitted to it and the lead agency to include the following:

- ★ Name/title and address of the developer
- ★ Name of project
- ★ Details of environmental parameters monitored
- ★ Results of the monitoring exercise
- ★ In case the monitoring results exceed the negative impacts estimated in the EIS, the developer is required to identify new measures to address this.

The National Environment Statute grants developers, lead agencies, NEMA and its designated inspectors legal authority to monitor compliance with EIA mitigation measures. However, it is within the rights of any citizen or resident of Uganda to report environmental violations to NEMA.

V. The Strengths and Weaknesses of Monitoring Environmental Mitigation in Uganda.

EIA in Uganda has contributed immensely towards raising awareness of environmental issues and incorporating environmental concerns into development projects. Several efforts have been made over the course of its short five-year life span – such as the development of EIA regulations and guidelines, wastewater discharge standards, and the designation of environmental inspectors – all of which give the EIA process both legal and operational form and direction.

However, due to some weaknesses in the EIA process, as well as the overall environmental management system in Uganda, major challenges are being experienced in monitoring compliance with EIA recommendations. It should be noted that the absence of a strong monitoring and enforcement mechanism compromises the entire EIA process and renders it vulnerable to “manufactured data and/or deliberately skewed analysis” (Biswas & Agarwala, 1992).

The following is an identification of the strengths and weaknesses of the post-EIA process in Uganda.

A. Strengths

The strengths of the post-EIA process in Uganda generally derive from the legal flexibility of the provisions of the National Environment Statute (NES) of 1995, the EIA Regulations of 1998 and the National Environment (Designation of Environmental Inspectors) Notice of 2000.

For example, under *Regulation 28(1)(c)* of the EIA Regulations, the Executive Director of NEMA has the authority to revoke the approval of an EIA “where there is substantive undesirable effect not contemplated in the approval.” Therefore, this provision allows some flexibility in the post-EIA process to address any impacts not anticipated in the EIS.

Section 22(2) of NES and *Regulation 31(1)* of the EIA Regulations require the developer to take all practicable measures to ensure

that the recommendations of the EIS are complied with. The law, therefore, clearly places the primary responsibility for monitoring compliance with EIA mitigation measures on the developer. Obligatory self-monitoring by the developer is progressive in that it compels the developer to consider environmental mitigation measures during operation of the project.

The flexibility of the post-EIA process is enhanced under *Regulation 31(2)*, which requires the developer to undertake an initial environmental audit within a period not less than twelve months and not more than thirty-six months after completion of the project or commencement of its operations – whichever is earlier. *Regulation 31(4)* goes further by authorising the Executive Director of NEMA to require the developer to carry out subsequent environmental audits at such times that the Executive Director considers necessary.

In an effort to improve environmental monitoring in Uganda, NEMA introduced the National Environment (Designation of Environmental Inspectors) Notice, 2000. This notice lists several qualified individuals with expertise in various disciplines and socio-economic sectors as designated environmental inspectors in Uganda.

Designated inspectors can take advantage of existing legislation to enhance the quality of monitoring the compliance with EIA mitigation measures in Uganda. For example, *Section 81* of NES and *Regulation 32(1)* of the EIA Regulations allow a NEMA designated inspector to visit, at all reasonable times and without warrant or appointment, any land, premises or other facility belonging to a project to assess compliance with the Statute and the mitigation measures stated in the project brief or EIS. This ensures that monitoring compliance with EIA mitigation measures is not the sole responsibility of the developer and that government can make independent assessments of a developer's compliance.

Additionally, *Section 81* of NES and *Regulation 33(3)* of the EIA Regulations allow an inspector to issue a developer with an improvement notice and commence with criminal and civil proceedings provided for under the Statute, if the developer fails to comply with the approved mitigation measures.

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Regulation 37(1)(a) of the EIA Regulations gives NEMA the authority to levy fees for EIAs that are conducted, in a manner stipulated by the Third Schedule of the Regulations. *Section 89(2)(c)* of the NES requires any fees levied by NEMA to go towards the National Environment Fund. As sanctioned by *Section 90(2)* and *(3)* of the NES and in conformity with the decentralisation of government, NEMA may offer money from the Fund to lead agencies and local governments for the purposes of assisting them to meet their financial commitments to monitoring compliance with EIA recommendations.

Decentralisation of government in Uganda has meant that environmental monitoring is not the preserve of the central government. Local governments are required to carry out environmental monitoring as part of their environmental management responsibilities. The functions of the District Environment Committee include co-ordinating the activities of the district government relating to the management of the environment and natural resources, as well as co-ordinating with NEMA on all issues relating to environment management.³ The functions of the District Environment Officer (DEO) include gathering and managing information on the environment and on the utilisation of natural resources in the district.⁴ Therefore, monitoring of EIA mitigation measures can now occur over a broader area of the country than was previously the case.

The policy and legal framework, therefore, has created an institutional hierarchy to monitor compliance with EIA recommendations. At the helm of the hierarchy is NEMA with its oversight role and below it are the lead agencies and the DEOs who are supposed to monitor the compliance of individual projects. Finally, developers are required to carry out the day-to-day self-monitoring of their operations' compliance to the EIA recommendations.

Increased public awareness by government of the EIA process has meant that public and private projects are increasingly scrutinised on adherence to their environmental responsibilities. As a result, several public interest groups have emerged to play this role and

³ NES, Section 15(2)(a) & (e)

⁴ NES, Section 16(2)(f)

evidence is mounting of their ability and success in checking the environmental excesses of government and the private sector. These groups serve the purpose of ensuring that public and private sector projects abide by the environmental mitigation recommendations stated in their environmental impact statements.

B. Weaknesses

EIA is one among several environmental management tools required for a comprehensive environmental management system. Monitoring compliance with EIA recommendations is, therefore, unequivocally linked to the greater environmental management framework. The weaknesses of such monitoring derive from a number of factors, all of which need to be adequately functioning in order to achieve optimal compliance monitoring (Justin Ecaat⁵, personal communication). These factors include:

- (i) The developers' commitment to their mitigation and monitoring responsibilities.
- (ii) The performance of monitoring and enforcement agencies.
- (iii) The quality of the EIA, including environmental monitoring plans.
- (iv) The existence and/or adequacy of environmental management tools such as guidelines, standards and regulations.
- (v) The option of legal action in case of non-compliance by the developer.
- (vi) Public awareness of a developer's environmental responsibilities and advocacy by civil society groups.

Unfortunately, none of these factors are functioning adequately in Uganda. Hence, the current challenges in monitoring and enforcing developers' compliance with EIA mitigation measures.

(i) The Developers' Commitment to Environmental Mitigation and Monitoring

Over the five-year history of EIA in Uganda, there has been a general

⁵ Environmental Impact Assessment Specialist, NEMA.

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failure and reluctance on the part of the business community to make environmental considerations part of their activities. The general attitude of the business community towards EIAs appears to be that of a legal and bureaucratic formality undertaken for the purposes of gaining approval for a project's implementation. It is a direct result of this attitude that the developer's modus operandi is to hire consultants to carry out the entire pre-approval stage of the EIA.

Unfortunately, one of the weaknesses of monitoring compliance with EIA recommendations is the inevitable discontinuity in the transition from the EIA pre-approval to the post-approval processes caused by the use of consultants to carry out environmental impact studies and prepare environmental impact statements on behalf of developers. Since consultants are almost entirely responsible for the EIA pre-approval activities and their function expires upon submission of the EIS, it is unrealistic to expect a smooth transition from the EIA pre-approval to the post-approval processes (Campbell, 1993).

The use of consultants was initially designed to be a temporary measure to address the large number of developers seeking EIA assistance from NEMA. Indeed, had it not been for consultants, EIAs may not have become the pervasive phenomenon they currently are in the socio-economy of Uganda. Consultants, however, have now developed a life of their own; aggressively seeking contracts from prospective developers who now no longer seek EIA advice from NEMA in their initial consultations. The use of consultants has also detracted from NEMA's recommendation that developers incorporate EIA in their project planning process, which rarely occurs.

Monitoring compliance with EIA mitigation measures is often difficult in situations where a developer has a monopoly in the economy. Unfortunately, monopolies are common in many developing countries and, by their imposing nature, often make the monitoring and enforcement of EIA mitigation measures difficult. Monopolies usually enjoy high political support and are cognisant of their value to the economy, attributes that they often use as leverage to disregard environmental standards and renege on environmental commitments.

(ii) *The Performance of Monitoring and Enforcement Authorities*

The coordination between NEMA, lead agencies and DEOs represents another weakness in monitoring compliance with EIA mitigation measures. For example, the majority of lead agencies are unaware of their responsibilities in monitoring compliance with EIA mitigation measures, and yet the EIA Guidelines clearly indicate that:

“The responsible Lead Agencies, shall monitor compliance and implementation of activities to ensure that the design criteria, mitigation measures, and monitoring requirements are implemented.”

Additionally, *Section 24(1)(b)* of NES states that NEMA:

“shall, in consultation with lead agency, monitor the operation of any industry, project or activity, with a view to determining its immediate and long-term effects on the environment.”

This is clarified by the EIA Guidelines, which specify NEMA’s role as one of oversight to ensure that monitoring is conducted and that the developer implement recommendations arising out of lead agency monitoring activities. This relationship between NEMA and lead agencies with regards to monitoring compliance with EIA mitigation measures, *inter alia*, is also stated earlier in NES under *Section 7(3)*:

“In the exercise by the Authority of its co-ordinating, monitoring and supervisory function in the field of the environment, a lead agency shall not be released from performing its duties as prescribed by law.”

Lead agencies, however, are beset with the proverbial issues of inadequate financial resources and personnel to carry out their monitoring of compliance with EIA mitigation measures. Money contributed to the National Environment Fund by EIA fees paid by developers, which could be used to monitor compliance with EIA mitigation measures, is seldom shared by NEMA with local governments and lead agencies. Additionally, information gathered and obtained by NEMA and lead agencies as a result of monitoring

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compliance with EIA mitigation measures is often not communicated to DEOs. For example, results of surface and groundwater monitoring conducted by the Directorate of Water Development at the Kasese Cobalt Company Limited (KCCL) site are not shared with the Kasese DEO. Therefore, the institutional hierarchy that is supposed to carry out and supervise the monitoring of compliance with EIA mitigation measures is not functioning as intended.

Environmental management, which includes the EIA process, is inextricably linked to the Government's policy of decentralisation. As part of decentralisation, districts and municipalities are required to recruit environment officers whose responsibilities include monitoring compliance with EIA recommendations. In a decentralisation process fraught with challenges, the requirement to create an additional function that did not previously exist has been difficult for local governments. As a result, few municipalities have recruited environment officers, and although most districts have recruited individuals for the position, their operational capacity is seriously limited due to the lack of funds, training and other requirements.

Section (89)(1) of the NES calls for the establishment of a National Environment Fund. The Fund may be used to provide funding for any government department involved in environmental conservation and natural resource management.⁶ It may also be used to fund the implementation of objects of the NES, subject to any Policy Committee guidelines.⁷ However, the Fund has yet to be operationalised, and yet it could be an essential financial resource for monitoring environmental compliance.

(iii) The Quality of the EIA

Another weakness in monitoring compliance with EIA mitigation measures is the lack of a legal requirement for developers to produce an environmental monitoring plan (EMP) as part of the EIA pre-approval activities. Currently, procedures for monitoring environmental performance are supposed to be incorporated in the EIS. However, with the general exception of a few written by external consultants, environmental impact statements lack monitoring

⁶ NES, Section 90(2)

⁷ NES, Section 90(3)

plans for mitigation compliance. Without EMPs to provide a systematic approach to monitoring, assessment of the implementation of mitigation measures stated in the EIS and prescribed in permits is likely to be disorganised and difficult to supervise. Especially since the consultants that write the environmental impact statements do not participate in project implementation. Creation of an EMP by the developer, in cooperation with NEMA and the lead agency, would add value to the developer's self-monitoring efforts and improve lead agencies' capacity to monitor compliance with EIA mitigation measures and NEMA's capacity to fulfill its supervisory role.

Although self-monitoring by the developer is ideal; it has its potential weaknesses arising from the capacity of local monitoring and enforcement agencies to verify its reliability. Self-monitoring by the developer is as reliable as the institutional structures in place to supervise it.

Between 1996 and 1998, a handful of EIA officials at NEMA were responsible for evaluating about 124 projects. Over the subsequent two years (1999 and 2000), the same number of officials were required to evaluate more than 350 projects (Justin Ecaat, personal communication). Therefore, self-monitoring by developers in Uganda appears to be a necessity arising primarily from the limited human resources at NEMA and lead agencies, as opposed to an option selected on its intrinsic merits. Furthermore, NEMA's limited human resources equally puts into question its capacity to conduct its mandated co-ordinating and supervisory roles in monitoring compliance with EIA recommendations.

(iv) Environmental Management Tools

The non-existence and/or inadequacy of environmental management tools such as EIA sectoral guidelines and emission standards is another weakness in monitoring compliance with EIA mitigation measures. Although there has been an effort to develop EIA guidelines and wastewater discharge standards, EIA sectoral guidelines and additional emission standards (such as those for air) have yet to be developed. Therefore, the EIA guidelines for practitioners do not address the specific considerations of different sectors, neither can environmental monitoring take place in the absence of required environmental standards.

Currently, the only sectoral guidelines in use are those for road construction. Additionally, although environmental audit guidelines exist, their application is generally limited to industries that were in existence prior to the adoption of EIA in Uganda.

(v) Legal Action

Application of the legal option in cases of environmental non-compliance is still in its rudimentary stages in Uganda. Part of the reason for this is the absence of environmental and emission standards. For example, emission standards for air have yet to be established and, therefore, there is no opportunity for legal prosecution in cases of air pollution. However, NEMA has issued environment restoration orders in cases of air pollution caused by Sterling Construction Company and Hima Cement Company.

Another reason is that monitoring and enforcement agencies, with the exception of those in the water sector, have yet to develop adequate environmental monitoring capacity and, therefore, are not in a position to identify cases of non-compliance for legal action. Inadequate monitoring capacity in these agencies may include lack of financial and skilled human resources, as well as the technical ability to measure compliance.

(vi) Public Awareness and Civil Society Advocacy

Public awareness in Uganda of the value and necessity of EIAs, and environmental management in general, is still low. There is a general perception in some sections of the public that EIAs are an obstruction to private sector investment in the economy. Without a clear understanding and knowledge of the value of EIAs to sustainable economic development, the public will not have an incentive to participate in monitoring environmental compliance. Therefore, additional effort and resources need to be invested in public awareness on environmental issues so as to harness the public's fundamental role in monitoring environmental compliance.

Environmental advocacy by civil society groups is in its nascent stages in Uganda. However, it is increasingly assuming its role as one of the safeguards against the government's disregard of environmental policies and on the environmental excesses of the

private sector. Therefore, civil society groups have a vital role to play in monitoring government and private sector environmental compliance that they have yet to fully exploit.

Unfortunately, civil society groups often face superfluous hurdles in their efforts to obtain information from lead agencies, and yet their ability to gather such information is of critical importance to their advocacy work. For example, one of the common impediments employed by government officials in their efforts to deny public information to civil society groups is the requirement that letters seeking authorisation for the release of that information be written to either the Permanent Secretary or the Commissioner. This requirement is imposed with the full knowledge that it is often impossible to obtain such authorisation, especially within the time constraints in which the information is sought.

VI. Conclusions and Recommendations

EIA compliance monitoring is an effort to ensure that environmental mitigation measures stated in an approved EIS and conditions prescribed in permits issued subsequent to a project's approval are implemented and functioning as intended. It is important that EIA compliance monitoring function effectively (i.e. it should provide relevant information about project impacts and their mitigation, linked to the pre-approval stages of the EIA process) and efficiently (i.e. that needless monitoring is not undertaken) (Wood, 1995). On this basis, monitoring compliance with EIA recommendations in Uganda has a lot of room for improvement.

A major weakness of the post-EIA process is that it often lacks a systematic program to guide it. One effective way to address this weakness would be to encourage developers to create and follow, in cooperation with NEMA and the lead agency, a detailed environmental monitoring plan (EMP). The current expectation is that such a plan be incorporated into the EIS. However, environmental impact statements in Uganda seldom include EMPs (Justin Ecaat, personal communication). When they do include EMPs, as is the case with the KCCL processing plant and limestone quarry EIS, they are limited in scope compared to the environmental impacts they identify and mitigation measures they prescribe.

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The value of an EMP is that it fosters self-regulation and enhances the prospect for a project to monitor compliance with EIA mitigation measures in a more organised, systematic and effective way. An EMP should, therefore, be an agreed upon course of action between the developer, NEMA and the lead agency that incorporates the following basic considerations.

- I. The environmental parameters and their conditions that will be monitored after their identification in the EIS and subsequent permits.
- II. The frequency and methods in which these parameters will be monitored.
- III. The responsibilities of the developer, NEMA and the lead agency in monitoring the environmental aspects of the project.
- IV. Its flexibility, in case modification is required, as a result of issues that may arise during its implementation.

Therefore, EMPs could be one way to achieve greater value in Uganda's institutional hierarchy for monitoring compliance with EIA recommendations.

The aforementioned discontinuity that is evident in the transition from the EIA pre-approval to the post-approval processes is a major weakness in monitoring compliance with EIA mitigation measures in Uganda. Since the developer usually creates a project's business plan for which an EIA will be carried out, it is the developer that would be best placed to identify the environmental impacts of the business plan and to suggest measures to mitigate the negative ones and enhance those that are positive.

Therefore, developers should be encouraged to have greater involvement in the environmental impact study and preparation of the EIS. This would advance self-monitoring and enhance the effectiveness of efforts to monitor compliance with EIA mitigation measures since it would be the developer implementing and examining the efficacy of self-recommended mitigation measures. Strengthening the capacity of monitoring and enforcement agencies to carry out legal action for environmental non-compliance would be another way of ensuring that developers acquire a culture of environmental awareness and responsibility.

In the interim, consultants hired to conduct EIAs should be strictly regulated to ensure that they conform to the spirit and letter of NES and the EIA Regulations. Current efforts underway to develop an EIA Practitioners' Code of Conduct could be a way to achieve this. Another way to achieve this would be for NEMA to set minimum verifiable qualifications for consultants by offering consultants regular training opportunities to meet that standard.

In keeping with the government's policy of decentralisation, an attempt should be made to improve the capacity of DEOs to participate in environmental management in general and monitoring compliance with EIA mitigation measures in particular. Districts may want to increase the involvement of DEOs in monitoring compliance with EIA mitigation measures through by-laws. The participation of DEOs in monitoring compliance with EIA mitigation measures can also be achieved by going beyond the establishment of the office of the DEO; by providing operational capacity such as transport, improved funding, periodic environmental management training, and provision of equipment to carry out simple environmental monitoring tests within the district.

Over the coming years, there will be increased awareness on the part of government of the crucial role that civil society organisations can play in strengthening the EIA process by participating in monitoring compliance with EIA recommendations. However, a major impediment faced by civil society groups involved in environmental advocacy and monitoring is access to information. One way to address this would be for NEMA and lead agencies to allow greater accessibility to public information on projects' performance in implementing EIA recommendations. However, a lasting solution to this impediment would be the formulation of an Information Act that would support public access to information and, thereby, civil society's environmental advocacy efforts.

Since NEMA has registered success in increasing EIA awareness in the public and private sectors over the last five years, greater effort should now be directed towards improving the effectiveness of certain stages of the post-EIA process, such as the monitoring stage, and informing the public of their value. This will require an increase in the number of staff working on EIA at NEMA. This is

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evidenced by the fact that whereas EIA staff at NEMA evaluated 124 projects between 1996 and 1998, the same number of staff were required to evaluate and monitor over 350 projects between 1999 and 2000. A recent institutional review of NEMA recommended increasing the number of staff in the EIA section. It is hoped that this will improve the monitoring of compliance with EIA recommendations and allow the EIA process to achieve its intended purpose.

Another issue of direct importance to monitoring compliance with EIA mitigation measures is the review of national effluent standards that were introduced by NEMA. As recommended by the Expert Working Group on effluents, standards limiting effluent discharges require regular review to meet the current and prospective nature of industrial development and investment in Uganda. This review should consider, for example, experiences from current mining operations in Uganda and plan for those that are imminent in oil and gemstone mining.

In order to prepare standards for future effluent discharging industries, standards from other countries may be used in developing Uganda's own. While it is important to recognise that effluent standards in other jurisdictions have institutional and technical specifications, it is their technical specifications that can be adopted or used to develop Uganda's own, with their incorporation into Uganda's unique institutional framework coming thereafter.

NEMA is in the process of evaluating the inputs, production processes and emissions of regulated industries, as well as the cumulative capacity of effluent-receiving media, with the intention of establishing compliance agreements with these industries. These agreements will include a schedule for emission reductions, which is hoped will culminate in these industries meeting the current effluent standards. Therefore, officials at NEMA believe that the current effluent standards are achievable if regulated industries are encouraged to lower their emissions. However, in the absence of punitive measures such as regular emissions fees to encourage these reductions, the likelihood that they will be achieved is debatable.

As an alternative to the legal option and in the effort to encourage compliance with EIA mitigation measures and permit conditions, Uganda may wish to expand its use of market-based approaches (taxes, fees, subsidies, etc.) to complement the command and control approaches (effluent parameter limits, effluent discharge rates, etc.) currently in place. Statistical studies have found significant correlations between fee levels and emissions reductions (Anderson, 1994). These approaches are punitive and meant to provide a sufficient deterrent to encourage compliance, usually through modifications in industrial manufacturing processes that lead to reductions in wastes. Revenue from taxes and fees can also be returned to industries, in the form of subsidies, for investment in pollution abatement technology.

Wastewater discharge permit fees are among the current market-based approaches being applied in Uganda. The introduction of annual effluent discharge fees on industries currently discharging effluents into water bodies may also be considered. Since market-based approaches to environmental management are also in line with Uganda's chosen course for economic development, their secondary benefit could be as a source of funding for NEMA and lead agencies' environmental management efforts.

Other innovative options to enforce EIA compliance and promote self-monitoring, such as environmental awards and supplementary environment projects (SEPs), can be introduced to complement the market-based mechanisms described above. SEPs are environmentally beneficial projects that a violator agrees to undertake at his/her cost, for which a reduction in the cash penalty of the enforcement action is awarded. SEPs may include an industry's change to less toxic inputs or alterations to its manufacturing process that result in a reduction in wastes generated.

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