Review and Quality Control Course on Environmental Impact Assessment in Tanzania: Resource Handbook

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HEKIMA NI UHURU

Foreword

Many changes have taken place in Tanzania during the last decade. Among these changes is the programme of economic reform and liberalisation which is attracting a host of new investments into this country. Some of the major investments to-date and those in the pipeline include:

- The Kilombero Valley Hardwood Project
- Songo Songo Gas Development Project
- The Lower Kihansi Hydropower project
- The Rufiji Delta Prawn Farming Project
- Tourism infrastructure development in protected areas
- Mining projects in Bulyankulu and others.

If Tanzania is to maximise the benefits from such developments, and avoid incurring unforeseen costs, then the careful consideration of their social and environmental implications will be required. Decisions on development activities can only be sound and rational if they are made with full understanding of their environmental impacts, and that any negative impacts are avoided or reduced through mitigation measures. Environmental impact assessment (EIA) of projects and programmes is an important tool to achieve this. Also, in order for decision-makers to make the right and sound socio-economic decisions on proposed projects or programmes, they need guidance and support from regulatory agencies who review and control the quality of EIAs. Reviewers provide the necessary information on the quality and adequacy of EIAs. It is this information that provides the basis for decision-making.

Measures to guide the various development efforts have so far concentrated on the development of policy and legislative frameworks. These include: a National Environmental Policy and Action Plan; the development of a National Conservation Strategy for Sustainable Development; and a new land policy. These and many other environment-related sector policies, institutional and legislative frameworks also emphasise the need and importance of environmental impact assessment.

Whilst EIA is now applied routinely to aid-funded development projects, Tanzania lacks adequate numbers and quality of expertise for its implementation. The need for increased efforts and areas for immediate action in EIA capacity building have been clearly stated in the Communiqué of the 1995 High Level Ministerial meeting on EIA in Africa which was held in Durban with the participation of Tanzania. This was also recently echoed by the stakeholders and participants of the Nairobi workshop who emphasized the need for EIA capacity building to support sustainable economic growth in Sub-Saharan Africa through integration of its principles and practice in development plans and implementation of activities particularly for key socio-economic sectors where current and future development will concentrate.

The rapid changes in national economic policy mentioned above, add urgency to the need for improvements in domestic environmental assessment capability. To be effective, EIA training needs to be tailored specifically to national context in which it is to be delivered. Based on this the Institute of Resource Assessment (IRA) and the International Institute for Environment and Development (IIED) conducted a needs assessment for EIA training in Tanzania and recommended short and medium term training.

After identifying training as an important entry-point for EIA development in Tanzania, it was realised that there was a need for high quality and widely available locally developed training materials. These should include locally based examples, exercises, overheads and case studies which would be more relevant than foreign examples of EIA. Thus, the Government of Tanzania supports and encourages these EIA capacity building initiatives as a basis for providing a strong base for EIA management and practice in the country. Success in this endeavour will depend on the co-operation between the Government and the IRA, as well as other institutions within and outside the country.

It is recognised that development of future strategies for EIA training in Tanzania may be constrained by the current lack of EIA national policy, guidelines and standards. Efforts are being made to ensure that the EIA policy, national guidelines and standards which are currently at different stages of preparation are completed and approved by the Government as soon as possible.

There is also need to recognise that the success of these EIA capacity building initiatives will be dependent upon putting in place current national policies both at macro and sectoral levels, which the Government of Tanzania has been undertaking within the overall framework of the on-going socio-economic and political reforms countrywide. Of more significance, in order to attain the objectives of EIA, we need to create an appropriate institutional and legal framework for environmental management and planning. In this regard, the Office of the Vice President in collaboration with other stakeholders is currently carrying out a study on the institutional and legal framework for environmental management in Tanzania.

I am confident that this review training course and resource handbook will be successful in encouraging a range of approaches to the important task of developing the skills and expertise required to manage the EIA process in this country.

Peter J. Ngumbulu
Principal Secretary
Vice President's Office

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Authorship and Acknowledgements

The authors of this handbook are Raphael B.B. Mwalyosi (Institute of Resource Assessment), Ross Hughes (International Institute for Environment and Development) and David Howlett (Development and Project Planning Centre, University of Bradford).

This project has been undertaken in collaboration with the National Environmental Management Council (NEMC) and the Division of Environment (DoE), Government of Tanzania.

The development of this handbook and course has involved discussions with a wide variety of organisations and individuals within Tanzania. Specific suggestions and contributions to this handbook have come from: Bryan Spooner (Consultant); Hussein Sosovele (IRA); Idris S. Kikula (IRA); Sitna Mohamed (IRA); Clive George (EIAC); Chris Wood (EIAC); and, Barry Dalal-Clayton (IIED). Several publications were also used as general sources for ideas on training materials. The authors and editor have taken care to ensure that acknowledgments to these sources are contained in the text. However, there maybe instances of omissions in such acknowledgments for which the authors bear responsibility, but for which neither credit nor copyright is claimed.

The Danish International Development Agency (DANIDA) kindly provided financial support for this initiative and development of this training handbook and course.

Raphael Mwalyosi ***Ross Hughes*** ***David Howlett***

EIA training courses

BACKGROUND

This handbook is one result of a capacity-building project in EIA undertaken by the Institute of Resource Assessment (IRA), University of Dar es Salaam and the International Institute for Environment and Development (IIED). Based upon a training needs assessment undertaken in 1995 (IRA/IIED, 1995) a series of three courses were developed by IRA and IIED with additional inputs from the Development and Project Planning Centre (DPPC), University of Bradford, and the EIA Centre, University of Manchester.

These courses and handbooks are the first practical guides to EIA designed and developed specifically for Tanzania. Three different courses have been developed:

- an Introductory course;
- an Orientation course; and,
- a Review and Quality Control course.

For each course, a separate training handbook has been prepared. In addition, a briefing note on EIA in Tanzania has also been prepared.

THE THREE COURSES

The Introductory Course

The Introductory Course (duration 1 to 2 days) provides an introduction to EIA and its role in Tanzania. It is designed to improve understanding of the contribution that EIA can make towards sustainable development planning in Tanzania. The accompanying handbook also provides a resource for planners and policy-makers responsible for the development of an institutional and regulatory framework for EIA in Tanzania.

The Orientation Course

The Orientation Course (duration 10 days) provides a “trainer-for-trainers resource” which is also suitable for potential EIA practitioners. Its purpose is to address each main component of the EIA-process in sufficient depth to provide a basic working knowledge for participants. The course builds on the introductory course and includes lectures, and interactive activities, such as group discussions, practical exercises in EIA and role play.

The Review and Quality Control Course

The Review and Quality Control Course (duration 5 days) is targeted at those agencies likely to play an important role in the future management of the Tanzanian EIA process. The user groups will include; government ministries, Office of the vice President, Prime Minister's Office, the Planning Commission, National Environment Management Council (NEMC), and

Division of Environment. The course focuses on developing the skills and expertise required to prepare clear terms of reference for EIA studies and to review the quality of EIA reports and process. The course builds on the introductory course and includes lectures, and interactive activities, such as group discussions, practical review exercises and role play.

THIS HANDBOOK AND REVIEW COURSE

This handbook provides a resource for specialist training for those involved in managing the EIA process, particularly for commissioning and quality control. The course addresses in detail issues related to project screening, scoping, EIA review and performance, decision-making, monitoring and auditing.

How to use this Handbook

General

The handbook provides supporting information for the review course. It is arranged in loose-leaf format to allow for constant revisions, additions and updates. The pages of the handbook are colour coded for ease of use.

White:	Supporting text for each course topic.
Yellow:	Overhead materials
Green:	Resource materials
Blue:	Appendices.

Icons in the margin direct the user to additional relevant material:

 - Indicates a resource note.

 - Indicates recommended further reading.

To the trainer

The handbook has been divided into four topics (Box 1) designed to cover the most important elements of review and quality control of EIA in Tanzania. These are designed to be delivered over a four to five day period, and a typical timetable is included as Appendix I as a guide. This is achieved through a mixture of seminars, lectures, case studies, exercises and group work. Supporting text is provided for each topic with a list of further reading and references, most of which can be consulted on a reference basis at IRA. For each topic a series of overheads have been developed. Trainers are encouraged to use and adapt these for their own training sessions provided that their source is acknowledged. *It should be stressed that trainers are expected to make a selection of the overheads presented in this handbook.*

It is assumed that course participants already have a background in EIA, if not then this course should be combined with the introductory course and/or the orientation course.

Box 1 Review Course Topics

- *Topic 1: Introduction to EIA review and quality control?*
- *Topic 2: Preliminary EIA and quality control*
- *Topic 3: The EIA review process*
- *Topic 4: Decision-making and follow-up*

To the student

Ideally, this manual should be used by a participant on the actual introductory course. It is designed to provide supporting text, copies of the overheads used during the teaching sessions, and other resource notes and papers. However, it does provide sufficient background information for a student to learn more about EIA and its development in Tanzania should it be impossible for the student to attend a course. The handbook includes sections on further reading - most of which can be consulted at IRA - and sources for further information on EIA the average reader may realistically be able to obtain.

RELATED PUBLICATIONS

The following related publications are available from IRA and IIED.

Environmental Assessment in Tanzania: A Needs Assessment for Training. Raphael Mwalyosi, Ross Hughes, Sitna Mohamed and Barry Dalal-Clayton. June 1995.

This document explores the context for EIA in Tanzania, reviews existing and potential institutional roles in relation to EIA, and identifies priority training needs.

A Directory of Impact Assessment Guidelines. Second edition. Annie Donnelly, Ross Hughes and, Barry Dalal-Clayton. September 1998. IIED, London.

This is the second edition of the directory which includes guidelines for environmental, health and social impact assessment, drawing together documents from a wide range of sources including governments, multilateral development banks, donor agencies, international organisations and NGOs.

Environmental Impact Assessment in Tanzania: A Briefing Paper. Raphael Mwalyosi, Ross Hughes, Bryan Spooner, Idris Kikula, Sitna Mohamed, and Hussein Sosovele. February 1996.

This briefing paper explains the role of EIA and summarises the basic procedures involved in its implementation and explores its potential role in contributing to improved decision-making and development planning in Tanzania.

Land Use Planning and Resource Assessment in Tanzania: A Case Study. Athanas Kauzeni, Idris Kikula, Sitna Mohamed, James Lyimo and Barry Dalal-Clayton.

This report examines the status, procedures and shortfalls of various aspects of land use planning in Tanzania. The research for the report was undertaken by IRA and IIED.

The Performance of EIA in Tanzania: an assessment. Raphael Mwalyosi and Ross Hughes. IIED Environmental planning Issues No. 14. IRA Research Paper No. 41. 1998.

This report evaluates the performance of EIA process in Tanzania as planning and environmental management tool. The research was undertaken by the International Institute for Environment and Development (IIED), London and the Institute of Resource Assessment, University of Dar es Salaam.

For further information about the training courses, and training resource materials, please contact:

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Topic 1: Introduction to EIA review and quality control

Course Notes

1. **Why is EIA quality control important?**
2. **When is EIA quality control undertaken?**
3. **Objectives of EIA review.**
4. **Institutional arrangements.**
5. **Approaches to EIA review.**
6. **EIA review in Tanzania.**

WHY IS EIA QUALITY CONTROL IMPORTANT?

The use of procedures and mechanisms to ensure that EIA is undertaken to a high standard is a pre-requisite of effective EIA. EIA quality control ensures that:

- all EIA projects are screened;
- all EIA processes are guided by appropriate terms of reference;
- all critical issues/problems are defined and assessed;
- all relevant stakeholders are involved; and,
- all EIA processes are subjected to appropriate review.

A training needs assessment study (Mwalyosi *et al*., 1995) identified the development of capacity to manage and operate the review and quality control process as a high priority for Tanzania. Similar observations were made by Mwalyosi and Hughes (1998) in a study on EIA performance in Tanzania (see Box 1.1). The study highlighted the frustration among EIA stakeholders, particularly consultants, that there was often little if any feedback of the findings of the EIAs which often represented a costly and time consuming process. Many respondents cited three basic reasons:

- poorly defined responsibilities for undertaking EIA review at government level;
- chronic lack of expertise and resources; and,
- lack of co-ordination.

Box 1.1 Summary of findings from a study on EIA performance in Tanzania

- project proposals were often subjected to inappropriate levels of environmental assessment;
- EIA statements were often inappropriate for decision-making;
- the quality and clarity of many EISs often made them inappropriate for decision-making;
- key components of many EIAs were weak or missing;
- stakeholder involvement was minimal or absent, and,
- EIA processes were not subjected to appropriate levels of review.

Source: Mwalyosi and Hughes, 1998

WHEN IS EIA QUALITY CONTROL UNDERTAKEN?

EIA quality control is usually undertaken at four stages in the EIA process. These stages are diagrammatically presented in Figure 1.1 and described in the text below.

- ***During the screening stage*** to decide on the level of environmental assessment necessary or appropriate for a specific project or proposal.
- ***During scoping*** to define the main problems, likely impacts, data requirements; to provide an opportunity to identify and involve stakeholders; to ensure that alternatives are explored; and to ensure those considerations are addressed in the terms of reference for the 'full' EIA process.
- ***During Review of EIS*** which commences once the draft report has been prepared. It is preferable for the review to be held before the final EIA report is submitted for consideration by the final decision-maker.
- ***During Monitoring*** to assess compliance with the project design and implementation as they reflect the inputs of EIA, and check on the adherence to environmental standards and legislation.

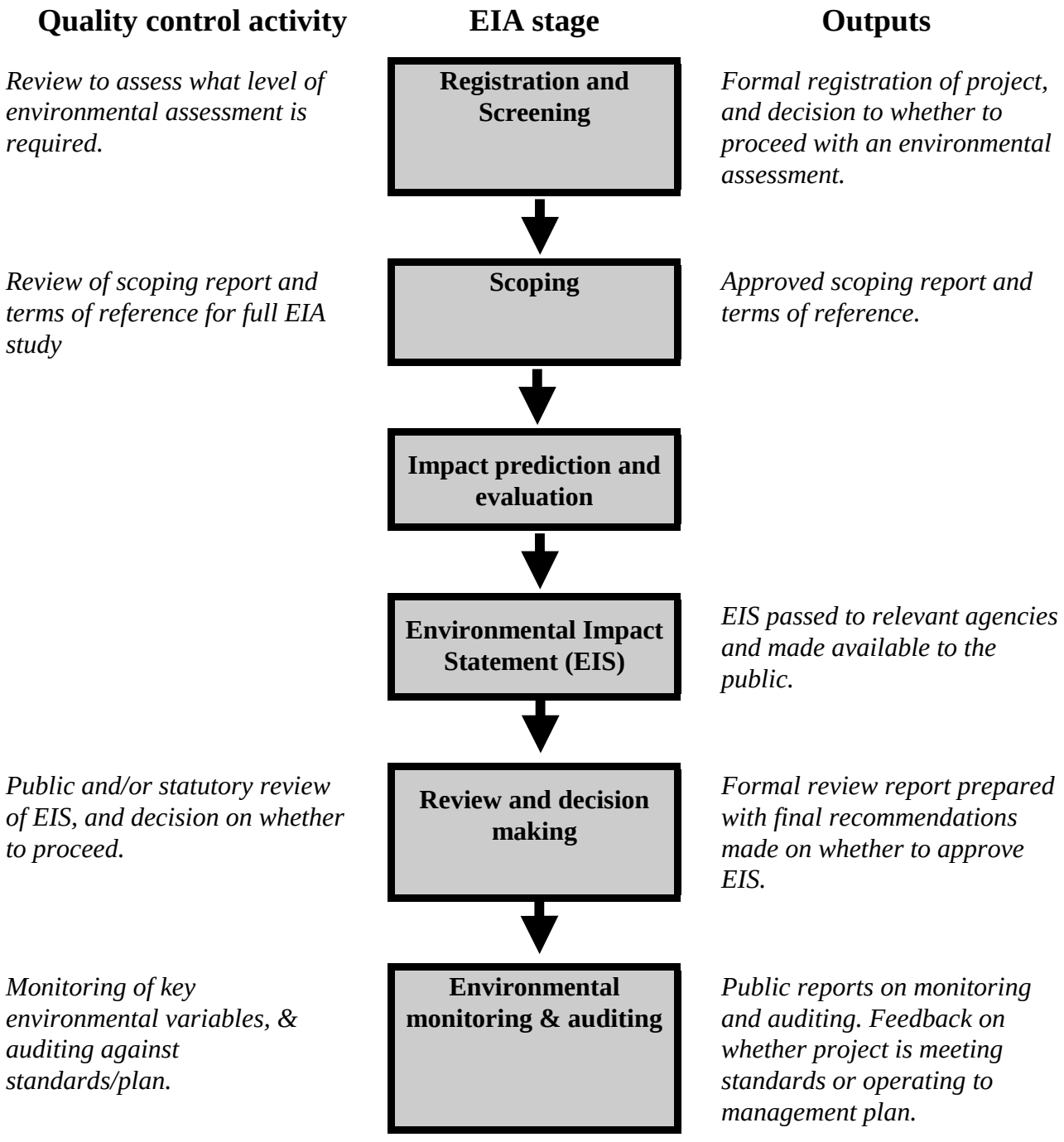
The second of these stages is what is generally termed as EIA review, and is the main formal quality control stage of the EIA process.

OBJECTIVES OF EIA REVIEW

The objectives of the formal review of EIA and Environmental Impact Statements (EIS) are summarised below under three headings.

- *Quality of the EIA report*
  - ◊ to determine whether the EIA report provides an adequate assessment of the potential environmental and social implications of a proposed project;
  - ◊ to ensure EIS addresses all key issues, including the consideration of alternative projects and designs; and,
  - ◊ to ensure that the EIS complies with the Terms of Reference (ToR).
- *Adequacy of the report for decision-making*
  - ◊ to ensure that the EIS presents key findings clearly, logically and explicitly; and,
  - ◊ to identify gaps and further information needs required for decision-making.
- *Opportunity for stakeholder and public involvement*
  - ◊ to ensure that stakeholders have not only been consulted, but also participated in the EIA process; and,
  - ◊ to allow stakeholders and public to comment and voice opinions on EIS.

Figure 1.1 Diagrammatic presentation of the stages in the EIA process when review and quality control should occur with expected outputs



INSTITUTIONAL ARRANGEMENTS

In most countries, a particular lead agency is responsible for ensuring that the EIA process meets agreed standards. In some cases, this is the responsibility of a government department, whilst in others, like the Netherlands, an independent commission is given the responsibility. In many countries however, review agencies establish special review panels or inquiry bodies drawing expertise from different organisations and agencies, such as university departments, research institutes, NGOs, consultancy organisations and expertise within other government departments. The system proposed for Tanzania would see NEMC as the responsible agency, supported by a technical panel or specialists.

Proposed Review Process for Tanzania

APPROACHES TO EIA REVIEW

The formal review of EIA reports is handled differently depending on the EIA systems which are in place. In the US model, the draft EIS is used as the basis for consultation and participation. In the Netherlands, Canada and Malaysia, a formalised review process is set in place. In other countries, (e.g. in the United Kingdom), no formal provisions exist for the proponent to respond to public comment.

The differences in EIA systems not withstanding, there are at least three approaches to quality control and review of EIA as described below.

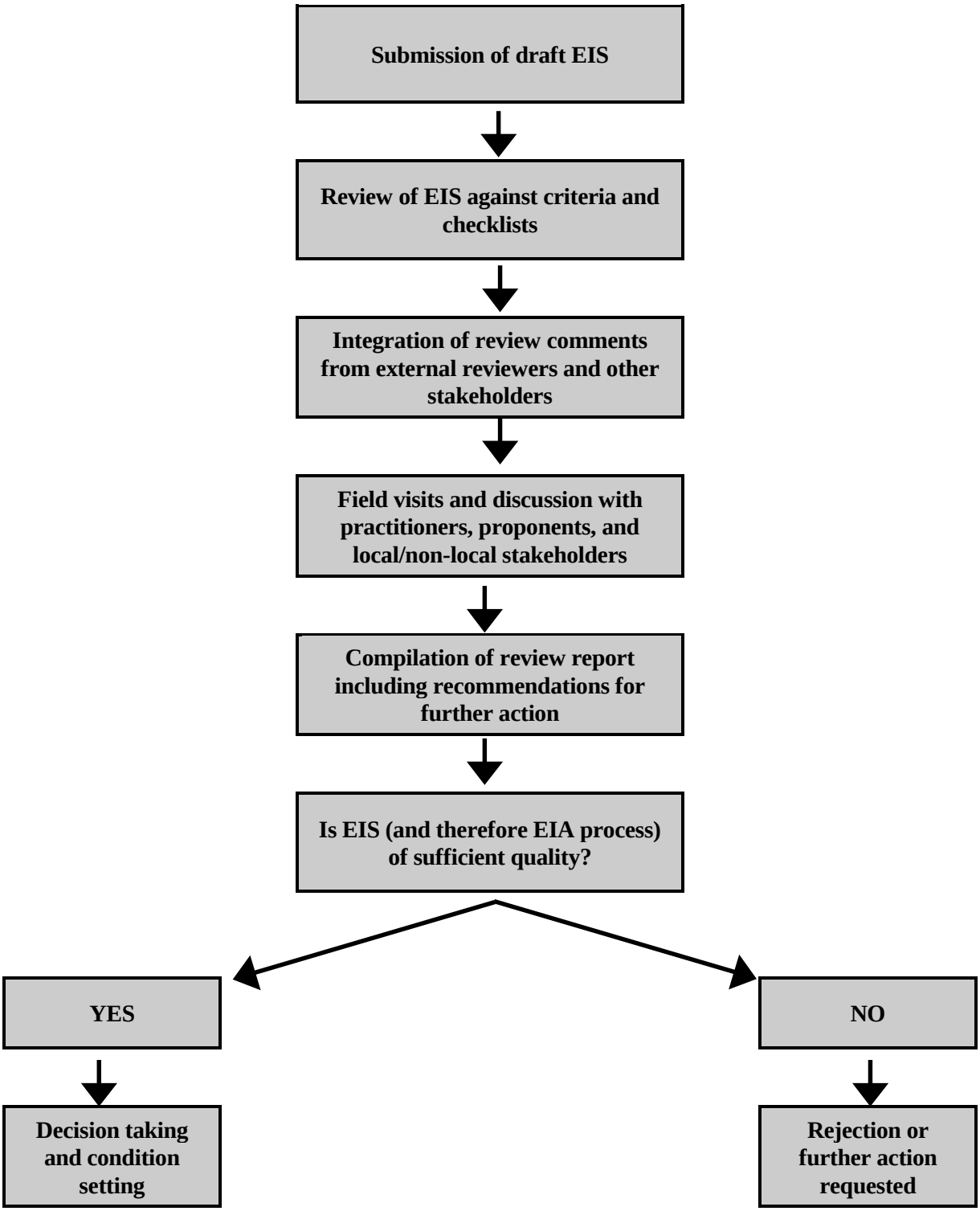
- *Formal Review:* **t**he review may be undertaken by government, independent authorities, independent accredited experts, review panels or a combination of the above mentioned groups. Members of such review groups should not be stakeholders in the proposal. In case there are issues that require further attention, aspects that require modification, or where the report is inadequate, the EIS may be returned to the proponent so that the inadequacies are rectified.
- *Stakeholder Review:* stakeholder groups include: central/local government authorities, local people, NGOs/CBOs and interested parties. This may be part of the formal review process, or different stakeholders may undertake their own review of the EIS, and then make their opinions known through a formal review process.
- *Proponent Review*: review can be undertaken by proponents during the preparation of the EIA report as part of a quality assurance process. In this way, proponents can ensure that their work is of an appropriate standard before it is subject to external review. This can save considerable costs and time.

While the approach, methods and criteria differ from country to country, formal EIS review focuses on a number of common aspects. These include:

- sufficiency of information provided - is it complete and does it conform to study objectives?
- reliability of analysis or interpretation - is it consistent with state of scientific knowledge and methodology? and,
- relevance for decision-making - are there clear descriptions of environmental consequences and, where appropriate, management options?

A typical flowchart for the EIA review process is given in Figure 1.2. It is likely that this will form the basis for the Tanzanian process.

Figure 1.2 Flowchart of the overall EIA review process



One of the most difficult areas in the review of EIA reports is ensuring objectivity since the organisation charged with responsibility for formal review may have a vested interest in the

decision about the proposal. An independent multi-disciplinary review team increases public confidence and reduces bias in the evaluation process. Involvement of, and inputs from the stakeholders, interest groups and most important of all, affected groups, form an integral part of the objectivity and transparency of the review process. The ways of ensuring objectivity in EIA review are summarised in Box 1.2.

Box 1.2 Methods of Ensuring Objectivity in the Review of EIA Reports

- use of review criteria;
- use of terms of reference;
- accreditation of EIA report review consultants;
- setting up of an independent review body;
- publication of the results of the review;
- public and stakeholder involvement; and,
- utilising the services of skilled professionals in the review process whether within the decision-making/environmental authorities, within retained consultancies, or within consultee organisations, including public interest groups.

The trends and principles in best practice review that have emerged in countries that have adopted EIA are given in Box 1.3.

Box 1.3 Some characteristics of best practice of EIA review

- reviewers are free to summon independent witnesses or solicit independent scientific or other opinion;
- review procedures are well structured and well-advertised. The decisions of the review are argued or justified so as to avoid the inconsistency that could undermine the credibility of EIA;
- review agencies issue guidelines outlining the format and contents of EIS's required in a particular jurisdiction;
- review agencies are empowered to reject EIS's on grounds of inadequacy;
- reviewers usually have powers to call for hearings and to solicit comments and criticisms;
- reviewers are usually authorised to issue binding prescriptions concerning mitigation, post-development audits or monitoring; and,
- reviewers have the authority to request additional study, and hence delay approval.

The number of people involved in EIA review can range from one, for a smaller project, to a team where projects are large and where sufficient time and money are available. The

expertise required for the team must be assessed on the basis of the most important environmental, socio-cultural and economic issues and aspects that govern the activity. The team of experts can only operate well if it receives co-ordinating support to arrange a site visit to the project, meetings, background information and secretarial backup.

EIA REVIEW IN TANZANIA

In the absence of EIA policy, a robust review process and an effective institutional framework, EIA quality control in Tanzania is weak. For donor funded projects, quality control has been a responsibility of the donors. However, development assistance agencies fall short of applying their own guidelines to an adequate standard, weakening the quality control process. The effectiveness of local regulatory institutions is hampered by inadequate and unmotivated expertise, conflicting and overlapping mandates and lack of consistency and transparency.

Currently, there is neither systematic project registration arrangement, nor a rigorous EIA screening process. In the absence of a screening process, development proposals are generally subjected to much lower levels of environmental assessment (see Table 1.1).

Table 1.1 Levels of environmental assessment applied to projects in Tanzania, compared with levels expected using World Bank screening criteria

Level of Assessment	*Actual*		*Expected using World Bank screening guidelines*	
	No. of statements	*% of total*	*No. of statements*	*% of total*
No. of 'full' EIA studies	7	27	17	65
No. of preliminary or initial EIA studies	19	73	9	35
Total no. of EIA studies	26	100	26	100

Proposed Review Process for Tanzania

In Tanzania, draft EIA guidelines propose the establishment of a cross sectoral technical review committee (TRC) (Box 1.4) to be composed of members from sectors responsible for environment and resource management, sectors which are currently the focus for investment and relevant research institutions. Depending on the complexity and scope of the project, an independent review panel may be formed. The public is notified of the EIS and requested to present their views and comments and these are collated by the EIA Agency (probably NEMC) for the TRC consideration.

Box 1.4 Proposed Tanzania Technical Review Committee

Members of the TRC will be drawn from key sectors dealing with environment and resource management, those that are currently the focus of investment and relevant research institutions:

- Ministry responsible for environment
- Ministry responsible for natural resources and tourism
- Ministry responsible for urban and rural planning
- Ministry responsible for water
- Ministry responsible for minerals
- Ministry responsible for works
- Ministry responsible for industries and trade
- Institute of Resource Assessment
- NEMC 2 Members (shall be the secretariat)

TRC may coopt specialists in relevant disciplines to assist whatever required.

Depending on the scope and complexity of the activity an independent review panel may be formed.

The importance of the TRC is central in enhancing:

- appropriate technical credibility
- institutional inter-agency co-operation
- accountability and transparency in deciding the fate of a proposal
- minimisation of subjectivity and bias.

NEMC 1998

Topic 2: Preliminary EIA and quality control

Course Notes

1. **Introduction.**
2. **Registration.**
3. **Screening.**
4. **Scoping.**

INTRODUCTION

This topic introduces participants to the first stages of environmental impact assessment: registration; screening; and, scoping. It also identifies the quality control activities which should take place, and the responsibilities of the review or environmental agency.

REGISTRATION

Registration is simply the formal or official notification of a project proponent or developer's intention to develop and implement a project. As such it should be the first stage in any project planning process which is regulated by a planning authority or government agency. This maybe a central planning authority, which is then responsible for ensuring all relevant regulatory agencies - including that for environmental assessment - are informed. Alternatively the project proponent may be required to register the project with several planning agencies including that for environmental assessment.

SCREENING

Screening helps to focus resources on those projects most likely to have significant impacts, those where the impacts are uncertain and those where environmental management input is likely to be required. Experience has shown that it is generally advisable to screen all proposed development proposals. Requirements for screening are normally addressed in EIA legislation and/or official guidelines, and is usually done by an EIA Authority, and is the first step in the quality control or regulation of the EIA process. In Tanzania, there are proposals for the National Environment Management Council (NEMC) to formally undertake this role.

Different approaches to screening have been adopted by different agencies and governments in the world. Screening criteria can be derived from one or a combination of the following methods:

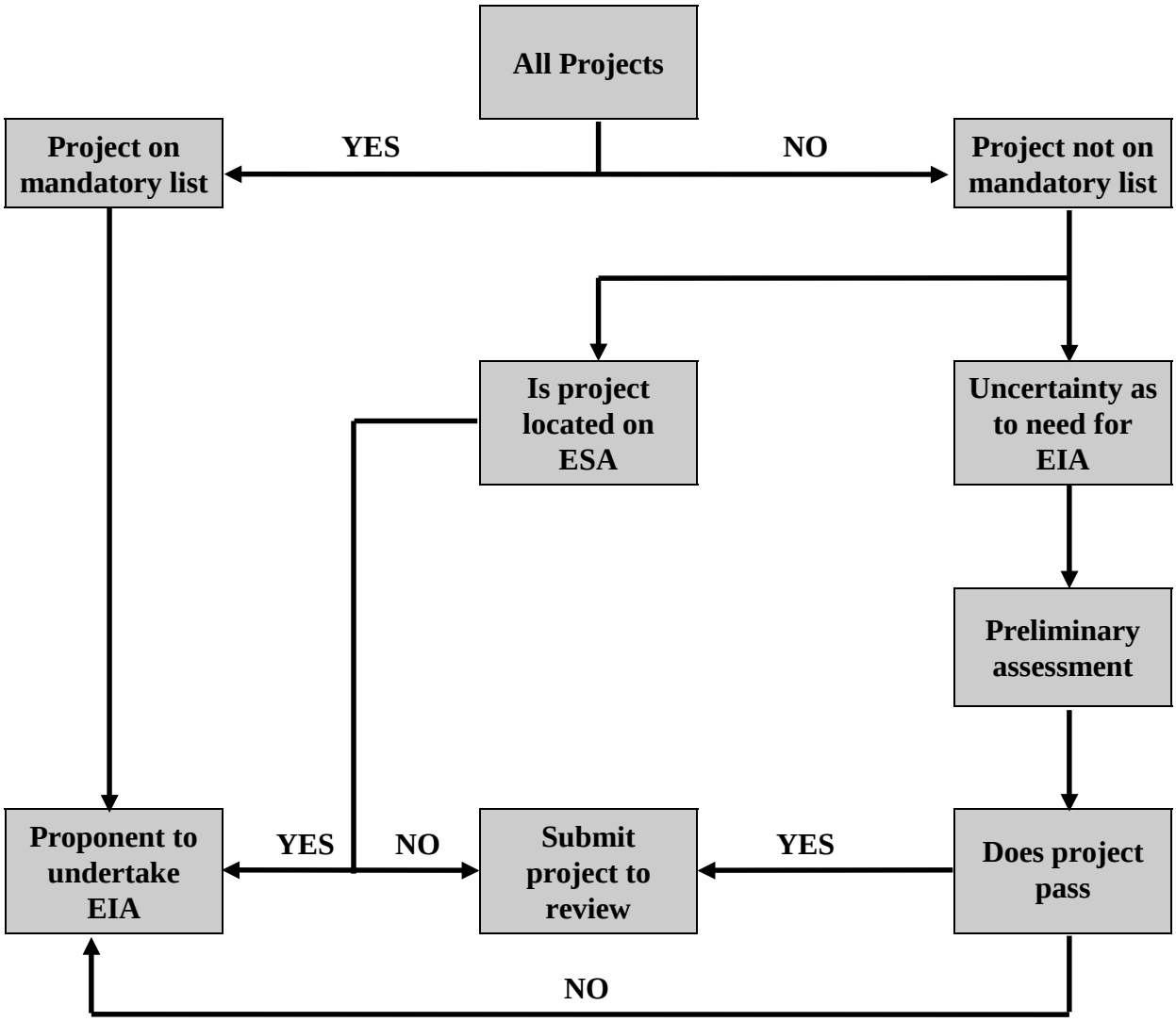
World Bank and EU screening guidelines

- ***Checklists*** are lists of project types that must be subjected to different levels of environmental assessment. Checklists tend to be the most widely used and effective screening method. Countries and organisations that use such checklist-type approaches, include: the World Bank; the European Union and the African Development Bank. Tanzania proposes to adopt the checklist type of approach.
- ***Sensitive area criteria*** focus on areas that are environmentally sensitive e.g. wetlands, protected areas, game parks, or areas of particular cultural sensitivity.
- ***Preliminary Assessments*** are undertaken when more information is required to determine a screening decision (NB this is usually undertaken at the scoping stage.). Preliminary assessments are low-cost environmental evaluations that make use of information that is already available.
- ***Exclusion lists*** according to these all proposals are subject to EIA unless it can be shown that they should not be. Usually, a number of small insignificant projects are given exemption from EIA based on project type or size.

Screening procedures for Tanzania

The requirements for screening are normally addressed specifically in EIA legislation and/or official guidelines. These usually give the responsibility for screening to the environmental regulatory agency or authority of the country concerned. Proposals for Tanzania would give this responsibility to the National Environment Management Council (NEMC), in undertaking screening it is envisaged that a cross-sectoral Technical Review Committee (TRC) will support NEMC. A flowchart of the proposed Tanzanian process is given in Figure 2.1.

Figure 2.1 Proposed screening process for Tanzania (NEMC, 1998)



Screening categories

After the screening of a project the decision will fall into one of the following four categories:

1. Full EIA required.
2. Preliminary assessment required.
3. EIA not required.
4. Project proposal rejected.

However, it is rare for a project to be rejected outright at the screening stage. Usually it is unlikely that a developer would have proposed a project with such a significant negative impact(s). Different agencies and countries have variations on the four categories. Those for Ghana and the World Bank are shown in Box 2.1.

Box 2.1 Different Categories of Screening

Ghana uses checklists to determine one of four options:

1. Objection lodged and undertaking must not proceed
2. No objection, and undertaking may proceed subject to all relevant Acts, Bye Laws and/or Government Regulations
3. Environmental Preview Report required
4. Environmental Impact Assessment required

The ***World Bank*** applies a tiered approach to screening:

A. Major impacts - EIA mandatory

B. Initial Environmental Evaluation (IEE) needed first

C. Benign - no EIA needed

Usually screening is undertaken based on the information provided by the project proponent or developed in their project proposal or concept. This should contain basic information about the project and must include, in addition to other information, details on the following:

- description of the type of project, its objectives and expected activities and outputs;
- the location and extent of the project - spatial and temporal;
- a description of the project's social and biophysical environment; and,

- an outline of the development of the project including its different phases (construction, operation and decommissioning).

SCOPING

After screening and when a decision has made for the further environmental assessment of a project the next stage is to determine the scope of the EIA study. This is termed scoping, which is an early and open process that ensures relevant and focused EIAs by defining:

- the main problems and issues surrounding the project;
- the likely positive and negative impacts of the project;
- the spatial, temporal and institutional boundaries of the project and its impacts, and;
- the likely data requirements for undertaking a full EIA.

Scoping also provides a number of other important benefits. For example, it provides an opportunity to ensure that the EIA study explores reasonable alternatives such as different project locations, designs or routings, including the option of doing nothing - the without project situation.

Importantly, scoping also provides a key opportunity to identify and involve all stakeholder groups affected by the project. Good lines of communication and (often) proactive and innovative approaches to stimulating participation are usually required to facilitate this effectively. Experience in Tanzania (Mwalyosi and Hughes, 1998) and elsewhere (Sadler, 1996) shows that in the absence of appropriate scoping, the following problems occur:

- EIA reports and impacts statements become voluminous, detailed, and exhaustive documents with unnecessarily comprehensive data;
- significant or important issues are not identified during the EIA, in other cases, issues are identified late in the review process, resulting in the need for costly revisions;
- time and money is wasted in assessing irrelevant and/or insignificant issues; and
- content and presentation of reports may follow a sectoral or professional bias reflected the background of those undertaking the EIA study.

Responsibilities and timing

In most cases the responsibility is placed on the project proponent and developer, rather than on the EIA authority which is often responsible for regulating or checking the process. Proponents will normally only undertake scoping themselves if they have a high level of environmental expertise - otherwise they will commission a consultant to do. In most cases there will be some reliance on previous experience, represented in part by existing scoping documentation for a similar proposal, sectoral guidelines and checklists. However, of great importance is the inspection of the site and involvement of stakeholders.

Tanzania's draft EIA guidelines propose that scoping is the responsibility of the proponent in consultation with the Environmental Regulatory Body (NEMC). Scoping guidelines have been proposed and include methodologies for stakeholder involvement and participation.

Draft scoping guidelines for Tanzania

Scoping is usually undertaken towards the beginning of the EIA process and is used to define the terms of reference for the "full" EIA process in case of government projects. Ideally, however, scoping should be an ongoing process which should be flexible enough to continue to address new alternatives and issues throughout the EIA process. For large projects, initial scoping will coincide with outline planning or pre-feasibility studies. For small projects, scoping can take place as part of the registration and initial screening exercises.

Results of scoping

The end result of scoping may either be a formal document, such as terms of reference, or an informal document such as the proponents scoping report. These should normally be submitted to the Environmental Regulatory Body as part of the quality control process. The report should contain sections on the following:

- how scoping was undertaken;
- identification of key issues and problems;
- synthesis of scoping exercises - details on potential negative and positive impacts of project;
- identification of all stakeholder groups with an interest in the project, and how these groups were involved in scoping stage;
- details on the spatial and temporal boundaries of the project;
- identification of project alternatives; and,
- terms of reference for undertaking the main (full) EIA study.

The results of scoping must be presented in a clear and logical way so that the significance of potential impacts can be understood clearly. The means of presentation should also provide opportunities for feedback and dialogue. It is also important that alternative or supplementary techniques to 'written' communication are considered. Techniques such as video, role play, village meetings and discussion groups may be especially appropriate in Tanzania as these can make information more accessible to local people, particularly in rural areas where literacy rates are low.

Contents of terms of reference

It is important that the terms of reference (ToR) prepared from a scoping exercise are systematic, clear and tailored to the specific context of each project. There is no single, standard format for ToR. Importantly, ToR for an EIA study must be finalised before a proponent solicits proposals to carry out the work. Once the ToR have been prepared, they may need to be submitted to the relevant environmental authority for approval. This is usually undertaken by the proponent in collaboration with the team responsible for the initial scoping. In some countries, such as the Netherlands, a separate commission is responsible for overseeing scoping and determining the ToR. The basic contents for a ToR for an EIA study are given in Box 2.2.

Box 2.2 Format of terms of reference for further EIA studies

- **An introduction**: This should introduce the proponent, the project proposal, and the purpose and objectives of the study.
- **Project-related information:** The project proposal and project alternatives should be described here, and in sufficient detail to guide the development of a study proposal. Relevant (existing) background studies can be summarised to provide an indication of the kinds of information available to the study.
- **Specific EIA requirements:** Environmental issues likely to be of particular relevance to the project should be outlined here. These are normally identified by the scoping study. The need for the EIA to address measures for avoiding, mitigating and managing impacts must be clearly stated.
- **Field versus desk work**: Expectations regarding the level of field work, such as ground truthing and updating existing information sources, or requirements for new surveys etc. should be indicated.
- **Working relationships**: The nature of the relationship between the EIA team, the proponent, the government and the public, must be discussed. If the EIA is to be effective in influencing project planning, the ToR must specify that the EIA team work in close collaboration with other project design components, such as engineering and economic appraisal. Importantly, the ToR should indicate the range of stakeholder groups who should be involved in the EIA process (these should be identified during the scoping phase).
- **Time**: The duration and schedule for undertaking and reporting on the EIA process should be specified.
- **Reporting requirements**: ToR should specify the format and main headings for the EIA study report.

Topic 3: The EIA review process

Course Notes

1. **Introduction.**
2. **Steps involved in reviewing EIA reports.**
3. **EIS review tools and methods.**
4. **EIS review criteria.**
5. **Review topics.**
6. **Review decisions and outcome.**

INTRODUCTION

The quality of environmental impact statements (EIS) is a subject of increasing concern. Review of EISs provides an important mechanism for checking the quality of documentation and, by extension, the effectiveness of the approach taken in the impact. Topic 1 introduced the concept of the full EIA review process. This Topic looks in detail at the EIA review process, and the tools and steps to achieve an unbiased review of an EIS.

STEPS INVOLVED IN REVIEWING EIA REPORTS

Whatever approach is taken to EIA review (see Topic 1), the following steps have been identified as common for EIA review (Sadler, 1996):

- *set the boundaries/scale/depth of the review:* depending on the nature of the proposal, it can range from a quick overview by one person to an in-depth review by a team of experts assembled to do the job;
- *select reviewer(s)*: the number of people involved in a review can range from one, for a small project, to a team for large projects. The mix of expertise in the review team will depend on the issues being addressed;
- *use input from public stakeholders:* organising public review and hearings can provide significant stakeholder inputs;

Lee and Colley, & IEA review criteria

- *identify review criteria:* different review criteria now exist from which to select. Additional consideration should be given to the requirements of the ToR and scoping guidelines and available documentation of past review of comparable EIS's;
- *carry out the review***:** by identifying the deficiencies and strengths in the EIS, focusing on crucial shortcomings observed in the report;
- *determine the required remedial measures*: either the need for a supplement to he EIS (or a new EIS) in case of significant shortcomings; attaching conditions for implementation in case of easily rectifiable shortcomings; or need for clarification in case of minor shortcomings;
- *publish the review report:* this is essential to ensure the objectivity and transparency of the whole process.
- *recommendations*: this is optional depending on the jurisdiction - it is a report on the environmental acceptability of a project, recommendations on "go" or "no go", terms and conditions, best practicable environmental alternative, and environmental standards.

EIS REVIEW TOOLS AND METHODS

To assist in EIS review, guidelines and checklists are used. Although there are no strict requirements on the use of these tools, their usefulness has been well established (Sadler, 1996; Glasson *et al*.,1995;). Box 3.1 summarises the key tools that are available.

Box 3.1 Tools used in EIA review

- **Guidelines for screening:** This is a guide used for the classification of the development projects requiring or not requiring EIA. The list also alerts the reviewer if particularly sensitive or vulnerable areas are involved.
- **Guidelines for scoping:** These are guiding principles on the procedures to be used in the identification of key issues in the EIA process. These guidelines help reviewers to assess whether an adequate scoping process has been carried out. The scoping process should be documented in the EIA report. This provides an important indication for the reviewer of the adequacy of the procedure taken.
- **Guidelines for reporting:** This gives guidance on the format of reports, as well as the aspects to be covered. These guidelines also provide an adequacy check in themselves and ensure that the statements are in a form that enables authorities to make well-informed decisions.
- **Checklist of environmental characteristics:** This is a list of environmental characteristics that may be used by the reviewer to identify environmental factors which may potentially be affected by development actions, or which might place significant constraints on a proposed development. Such a list may not be exhaustive, the reviewer should judge whether to seek the assistance of an expert.
- **List of activities:** This list enumerates development actions which, based on expert judgement and past experience, are likely to result in significant environmental impacts.
- **Checklist of compliance with ToR:** This is a list of issues/requirements pointed out for consideration by the ToR..
- **Checklist for data management:** The reviewer will checklist on how data was acquired, analysed, used and stored.
- **Checklist for data/expertise diversions:** Sometimes, changes are made in the composition and type of expertise and data collected during the execution of the EIA contrary to the agreement. Such changes may affect the adequacy and quality of the EIS. The reviewer will have to check for such events.

EIS REVIEW CRITERIA

The review of the adequacy of EIS should be governed by Environmental Assessment Review Criteria. A number of criteria are available. Effective review criteria should allow a competent authority to:

- ensure that all relevant information has been analysed and presented;
- assess the validity and accuracy of information contained in the EIS;

- quickly become familiar with the proposed project and consider whether additional information is needed;
- assess the significance of the project's environmental effects;
- evaluate the need for mitigation and monitoring of environmental impacts; and
- advise on whether or not a project should be allowed to proceed.

There are many types of review criteria. The two commonly used ones are both hierarchical: Lee & Colley, 1990; and, the Institute of Environmental Assessment (IEA), 1990. In both cases, EISs are graded according to the completeness with which four broad issues (review topics) are addressed. An overall grade is assigned to the review topic, and subsequently to the EIS as follows:

A Excellent, no tasks left incomplete

B Good, only minor omissions and inadequacies

C Satisfactory despite omissions and inadequacies

D Parts well attempted, but must as a whole be considered unsatisfactory because of omissions and/or inadequacies

E Poor, significant omissions or inadequacies

F Very poor, most tasks left incomplete

The final grade awarded to an EIS will represent a subjective average of the grades awarded against the various review topics. The four commonly used broad review topics and sub-topics are the following:

Description of the Development, Local Environment and Baseline Conditions

- Description of the development
- Site description
- Residuals
- Baseline conditions

Identification, Analysis and Evaluation of Impacts

- Identification of impacts
- Analysis of impact severity
- Assessment of impact significance

Alternatives and Mitigation of Impacts

- Alternatives
- Scope and effectiveness of mitigation measures
- Commitment to mitigation

Communication of results

- Public involvement

- Layout
- Presentation
- Balance
- Non-technical summary

The difference between the IEA and the Lee & Colley Criteria is that whereas the latter are more detailed and less flexible, the IEA Criteria are more subjective and require more experience in the subject. Also, whereas the Lee and Colley Criteria treat the government and public involvement as separate sub-topics, the IEA Criteria treat the two under the 'public involvement' sub-topic. The IEA Criteria have also been proposed for adaptation by Tanzania.

REVIEW TOPICS

Description of development

The purpose and objectives of the development should be explained. The description of the development should include the physical characteristics, scale and design as well as quantities of material needed during construction and operation. Project descriptions in most of the EIA reports reviewed in Tanzania was of acceptable standard (Mwalyosi and Hughes, 1998).

Site description

The area of the land affected by the development should be clearly shown on a map and the different land uses of this area clearly demarcated. The affected site should be defined broadly enough to include any potential effects occurring away from the construction site.

Residual impacts

The impacts which will remain after mitigation are called 'residual impacts'. These should be assessed using the appropriate national and international quality standards where available. Where no such standards exist, the assumptions and value systems used to assess significance should be justified. There should be a clear statement of what the residual impacts are likely to be and how significant they are likely to be. This is essential for decision-making since these reflect the 'cost' of the proposal in social and environmental terms. To-date, the assessment of residual impacts in Tanzania has been rather weak or non-existent.

Cumulative impacts

Cumulative impacts occur when impacts on the environment take place so frequently in time or so densely in space that the effects cannot be assimilated by the environment. Cumulative impacts may also occur when impacts from one activity combine with those of another to produce a greater impact or a different impact (also referred to as synergistic effects). For example, small individual mineral extraction operations may have individually no significant impact, but the total impact of several of these projects may well be significant. An example of the costs of not_considering cumulative effects is provided by the EIA for the re-

development of the Pangani Falls Hydropower project in north-eastern Tanzania. In this example, the EIA was poorly scoped, and, although a substantial amount of EIA work was undertaken for the project, this focused in and around the projects 'impact' area - i.e. around the proposed dam site. Unfortunately, the EIA omitted to consider the cumulative impact of water extraction and diversion activities in the upper catchment. The cumulative impact of these activities (including the Nyumba ya Mungu reservoir upstream) has meant that dry season water flows have diminished at the dam site and significantly reduced the performance of the Pangani falls reservoir.

Baseline conditions

A description of the environment as it is currently and as it could be expected to develop if the project were not to proceed is very important. Some baseline data can be gathered from existing data sources, but some will need gathering and the methods used to obtain the information should be clearly identified. Baseline data should be gathered in such a way that the importance of the particular area to be affected can be placed into the context of the region or surroundings and that the effect of the proposed changes can be predicted. Description of baseline environment conditions in the EISs reviewed in Tanzania was generally of adequate quality (Mwalyosi and Hughes, 1998).

Identification of impacts

The methodology used to define the project specifications should be clearly outlined, including details of consultation with expert bodies and the public, and reference to panels of experts, guidelines, checklists, matrices, previous best practice examples of environmental assessments on similar projects. Consideration should be given to impacts which may be positive or negative, cumulative, short or long term, permanent or temporary, direct or indirect. The logic used to identify the key impacts for investigation and for the rejection of others should be clearly explained. The impacts of the development on human beings, flora and fauna, soil, water, air, climate, landscape, material assets, cultural heritage, or their interaction, should be considered. Encouragingly, over 90% of the EISs reviewed in Tanzania appeared to identify impacts satisfactorily (Mwalyosi and Hughes, 1998).

Prediction of impact magnitude

The size of each impact should be determined as the predicted deviation from the baseline conditions, during the construction phase and during normal operating conditions and in the event of an accident when the proposed development involves materials that could be harmful to the environment. The data used to estimate the magnitude of the main impacts should be clearly described and any gaps in the required data identified. The methods used to predict impact magnitude should be described and should be appropriate to the size and importance of the projected disturbance. Where possible, estimates of impacts should be recorded in measurable quantities with ranges and/or confidence limits as appropriate. Quantitative descriptions where necessary should be as fully defined as possible.

Defining significance

The expected significance that the projected impact will have for the human and physical/biological environment should be adequately assessed. There is bound to be subjectivity in judging significance of impacts because there are no objective measures to judge significance. For this reason, the EIS should outline the rationale adopted for determining significance, e.g. at local, national or international level.

There are several types of criteria which can help determine significance and acceptability of environmental impacts:

- comparison with laws, regulations or accepted standards;
- standards developed in consultation with relevant decision-makers;
- reference to pre-set criteria such as protected areas, features or species;
- consistency with government policy objectives;
- acceptability to the local community or general public
- economic valuation of environmental damage.

In the absence of local environmental standards, international standards established in other countries provide guidance on impact significance (e.g. EU Directives or World Bank and WHO recommended standards). Although most (over 90%) EIAs in Tanzania appeared to identify impacts satisfactorily, the analysis of issues and impacts identified was often very weak. For example, only 40% determined clearly how significant these issues were (Mwalyosi and Hughes, 1998).

A common form of presenting impact significance is the matrix, an example of this is given in Table 3.1.

Table 3.1 Matrix Showing Significant Impacts of the Stiegler's Gorge Hydropower Project (Modified from RUBADA, 1980)

ACTIONS / *TOPIC*	**Primary Development**	**Reservoir Operation**	**Operation of Construction Camp**	**Road & Power Transmission in Game Reserve**
Energy Production	+3	+2	0	0
Tourism	-3	-1	-3	+3
Floodplain Agriculture	-3	+1	-3	0
Floodplain Fisheries	-3	-2	-3	0
Delta Fisheries	-2	-2	-2	0
Reservoir Fisheries	+2	+2	+2	0
Health	-1	-1	0	0
Image of Project	+2	0	+2	0

Legend:

+3	Very significant positive impact	-3	Very significant negative impact
+2	Significant Positive impact	-2	Significant negative impact
+1	Lightly positive impact	-1	Slightly negative impact
		0	No impact

Consideration of alternatives

'Alternatives' refers to the ways in which the same objective can be achieved through different approaches to design, location, process or operating conditions. Box 3.2 provides an example of the possible options for the shrimp farming project in Tanzania. Other examples of alternative designs include: large scale irrigation infrastructure versus investment into small-holder production; commercial plantation development versus development of outgrower scheme; building a new rural road versus upgrading an existing road. The main environmental advantages and disadvantages of these should be discussed and the reasons for the final choice given.

Box 3.2 Alternatives: The Case of Shrimp Farming in the Rufiji Delta

1. *No Project Alternative* (no shrimp farm)	· No negative impacts on coastal shrimp stocks · Shrimps continue to be trawled from coastal waters around the delta
2. Alternative farm design	
a). Intensive	· high inputs (energy, feeds, antibiotics) · low land loss (less loss of livelihood) · no impacts on bycatch · less likelihood of soil acidification
b). Semi-intensive	· lower inputs · greater land loss (livelihoods, mangroves, intertidal areas) · impacts on bycatch (and therefore coastal fisheries) · possibility of soil acidification
c). Extensive	· very low inputs (just fertiliser) · large land loss (thus loss of mangroves and livelihoods) · impacts on bycatch (and therefore coastal fisheries) · possibility of soil acidification
3. *Smaller project option*	· start small · learn from mistakes

Note the actual assessment of the project did not consider alternatives.

Mitigation of impacts

All significant adverse impacts should be considered for mitigation and specific mitigation measures put forward where practicable. Mitigation methods considered should include modification of the project, compensation and the provision of alternative facilities as well as pollution control. A typical simple matrix showing impacts and mitigation measures is shown in Table 3.2.

It should be made clear to what extent the mitigation methods will be effective. Where the effectiveness is uncertain or depends on assumptions about operating procedures, climatic conditions etc, data should be introduced to justify the acceptance of these assumptions. Environmental management plans (EMPs) should be included thus, 'bringing together' mitigation and monitoring measures, and help to ensure that these are properly costed and integrated into project designs and implementation measures. The EMP may be incorporated into the EIS or submitted as a separate document provision for which should be integrated into the overall cost of the project. It is also important that the costs of mitigation should also be presented, Table 3.3 shows an example of costs for mitigation of a project in Tanzania.

Table 3.2 Example of Impacts and Mitigative Measures of the Songo Songo Gas Development (MWEM, 1994)

Development Activity	Potential Impacts	Mitigative Measures
Clearing before construction	· Surface erosion · Sedimentation in water bodies	· Dry season construction · Drainage and erosion control measures, reclamation
Pipeline ditching, grading and backfilling	· Interruption of surface and subsurface drainage, · Sedimentation, · Prevention of fish movement	· Dry season construction, · Drainage and erosion control measures
Construction machinery	· Fuel spills could damage aquatic habitats	· Careful handling of fuel, · Spill contingency plan
Surface run-off from gas and power plants during operation	· Liquid hydrocarbons (both plants) or fuel spills (gas plant only)	· All surface run-off directed toward a retention pond, · Water testing and treatment before release, · Employee awareness, · Spill contingency plan

Commitment to mitigation

The EIA report must be accompanied by a statement by the proponent on the extent of his agreement with the conclusions of the report, and of his commitment to implementing the identified impact management measures. In Tanzania, Mwalyosi and Hughes (1998) observed that EISs did not indicate whether the proponent had actually agreed to its findings. Thus, it was generally easy for proponents to avoid complying with the recommendations for environmental management. Another issue of critical importance to quality control is that less than 40% of the EIA reports included the original terms of reference for the EIA, thus making it impossible to determine practitioner compliance. One way of ensuring practitioner compliance is through the inclusion of a stakeholder compliance contract (see Box 3.3)

Table 3.3 Estimate costs of mitigation measures for the Makuyuni-Oldeani and Ngorongoro Access Roads Upgrading Project

Actions/components	*Estimated costs (US$)*
Environmental Management Unit:	
· Vehicles (1 unit 4x4)	22,500
· Office equipment	3,500
· Operation funds (2 years)	200,000
Structures	
· Stock route bridge reconstruction	80,000
· Livestock/wildlife underpasses	
· Road furniture	
Rehabilitation	
· Quarry, pit, by-pass grading	Financed under the
· Revegetation (including tree nursery	construction contract
· Erosion control measures	
Special Funds	
· Survey of historic sites/collection	18,000
· Clinic and medical supplies	50,000
· Land rights of indigenous people	20,000
· Compensation	25,000
Financial Assistance	
· Water master plan	80,000
· Land use zoning	45,000
· Community mobilisation training	20,000
· Construction technology (bricks)	8,000

Presentation of EIS

EIA reports are designed to assist :

- the proponent to minimise the negative effect on the biophysical and socio-economic environment and maximise the benefits;
- the government or responsible authority to decide whether a proposal should be approved and the terms and conditions that should be applied;
- the public to understand the potential impacts on the community and environment.

Typical contents of an EIS

Experience in Tanzania (Mwalyosi and Hughes, 1998) showed that in over 60% of the EISs reviewed, recommendations were not clearly presented for proponents to be expected to use. Box 3.4 gives some considerations for EIA documentation, while Box 3.5 is a summary of the basic contents of an EIS, the details of which are provided in the resource notes. The broad outline and content of the EIA report is usually specified in the legislation or guidelines of the country in question, but will be more specific in accordance to the terms of reference

Box 3.3 Example of Stakeholder Compliance Contract

STATEMENT OF COMPLIANCE

I.....commit my institution.....(name it) to undertaking the responsibilities assigned to it as per the EIS recommendations on.....……..
.....……...as follows:

.....
.....
.....
.....
.....
.....

SIGNATURE OF STAKEHOLDER REPRESENTATIVE*.....

SIGNATURE OF PROJECT PROPONENT.....

SIGNATURE OF REGULATORY AUTHORITY**.....

***** *These stakeholders are those identified during the scoping study, who command resources for implementation of mitigation measures and monitoring plans and who are accountable to the central/local government*

*** This can be the National Environmental Agency, the Local or Sector Environmental Agencies.*

Source: Mwalyosi and Hughes, 1998

Box 3.4 Considerations for EIA Documentation

- focus on the issues most relevant to decision-making;
- minimise the use of technical jargon;
- include a non-technical summary of the EIS;
- ensure the statement is clearly structured, well-written and clearly presented;
- ensure the statement is balanced, honest and unbiased;
- clearly state assumptions made;
- be specific and quantify impacts where possible;
- explain why some impacts are not addressed (this can be included in an appendix);
- list each consultant/expert, with evidence of their expertise; and,
- list the names of the developer, relevant local planning authorities and consultees.

Box 3.5 Typical Contents of an EIS

- Non-technical summary
- Introduction
- Project description
- Environmental planning and design
- Description of existing environment
- Assessment of environmental impacts
- Impact management
- Resource evaluation
- Summary and conclusions
- Appendices

Balance

Bias can be caused by restrictions imposed by the Terms of Reference, e.g. the omission of the assessment of the social implications of a development. Also, bias can be introduced through the reluctance to involve interested/affected parties on grounds of doubting their

meaningful contribution to the project (see Box 3.6). Ideally, the EIS should be an independent objective assessment of environmental impacts. Negative impacts should be given equal prominence with positive impacts. Adverse impacts should not be disguised by euphemisms or platitude. Prominence should be given to predicting large negative or positive impacts.

Box 3.6: Bias or Balance? The Case of an EIS Prepared for a Prawn-Farming Project in the Rufiji Delta

Following opposition to a proposal to develop a large-scale shrimp farm in the Rufiji Delta, the proponent commissioned the preparation of an EIS from a US-based aquaculture consultant (Boyd, 1996).

The statement produced by this study was an (all too common) example of an EIS which appeared to *justify*, rather than *assess*, the issues associated with the development proposal. The document's sub-title referred to 'An *Ecologically-Responsible* Shrimp Farming Project', hence pre-determining the findings of the presentation from the outset.

The executive summary concluded by recommending that the project be '*...developed as planned*', hence suggesting that there was no need to implement mitigation or monitoring activities. More subtle techniques were also used throughout. For example, impact issues were referred to as *'allegations', 'assertions' or 'exaggerated claims'*. In most cases, these were presented as arguments forwarded by *'environmentalists'*, rather than by the local people and national experts who had actually presented these views. This created the impression that environmental and social concerns were driven by hidden agendas and were, for (unspecified) reasons, 'anti-development'.

The selection of photographs in the report included an unusual proportion of 'degraded' or 'denuded' mangrove. No photographs were included of healthy stands of mangrove, which cover much of the delta, or of people using these resources.

Quality of non-technical summary

The non-technical summary should be comprehensive, containing at least a brief description of the project and the environment, an account of the main mitigating measures to be undertaken by the developer, and a description of any remaining or residual impacts. A brief explanation of the methods by which these data were obtained and an indication of the confidence which can be placed in them should be included. The summary should include the main conclusions and how they were reached. Copies should be available in the local language. Preferably, the summary should be available separately from the main EIS. Research findings in Tanzania (Mwalyosi and Hughes, 1998) showed that less than half of the EISs contained clear and comprehensive executive summaries that provided suitable information for decision-making. Only two statements out of 26 included translation of the executive summaries, hence limiting use of the documents to English readers only.

Stakeholder involvement

The concerns and perceptions of a broad and representative range of stakeholders should be stated clearly in the EIS. In the case of preliminary EIAs, clear recommendations should be made for involvement of the public in any subsequent stages of project design and EIA, and the influence of these concerns and the issues raised on the final contents of the EIS should be clearly indicated.

The EIS should clearly indicate, if relevant, government authorities - from village to national level were involved in the EIA process and how. There should be a clear statement of the level of involvement of other stakeholder groups in the EIA process, and the methods used to solicit their involvement. Ideally, the public will have been made aware of the EIA in advance and will be well informed of the key issues to be addressed. The techniques used to achieve this should be outlined in the EIS. The EIS should outline the opportunities given to the public to participate in the different stages of the EIA process, particularly scoping and the identification and definition of mitigation measures.

Expertise

The EIS should demonstrate that appropriate expertise was harnessed for the EIA study. Ideally, it should be demonstrated that national expertise provided a significant component of the EIA team, or that national expertise was employed as a component of ongoing capacity-building. The names and expertise of all members of the EIA team should appear in the EIS. Each team member should have signed the EIS to indicate their agreement with the findings of the completed statement.

Technical quality

The EIA should provide a description of how both beneficial/adverse impacts and direct/indirect, are expected to occur. This is required for each feature of the environment identified as important during scoping. Possible cumulative or synergistic effects will be highlighted. In each case, the following issues should be considered:

- the source(s) or cause(s) of the impact(s);
- the severity of impact (e.g. magnitude, direction, etc.) as well as the likelihood of its occurring;
- a clear statement of residual impacts, i.e. those which cannot be avoided or minimised, and recommendation for how these shall be managed;
- a description of methods used to forecast impacts, of how environmental data was gathered, and the methods and criteria used to judge impact significance;
- the assessed significance of the impacts; and,
- possible measures for avoiding or mitigating the impact.

REVIEW DECISIONS AND OUTCOME

On completion of the review process, decisions can be made public on whether or not the EIS is adequate for decision-making purposes. Once the EIS is considered to be of satisfactory standard, decision-makers can use the EIS to assist in deciding if the proposed activity should:

- proceed without modifications;
- proceed with minor modifications;
- be re-designed; or
- await further investigation and public enquiry;
- be rejected.

When an EIA report fails to meet the standards required, three remedial options are available depending on the nature and extent of the inadequacies. These are:

- The shortcomings of the EIA report may be so serious that they require immediate remedy in the form of a supplement to the EIA report or a new EIA report. Under such circumstances, those responsible for preparing the report should be given the opportunity to rectify the deficiencies, or else a new team may be appointed to do the job. Usually the review report will provide guidance on how the additional information will be collected.
- The shortcomings can be rectified fairly easily by means of a set of explanations and conditions attached to the decision or environmental approval.
- The shortcomings cannot be remedied immediately, either by providing additional information to the EIA, or in the form of explanations and conditions attached to the decision, because they require too much time and effort to collect. In this case, the review may recommend monitoring the shortcomings and uncertainties during the implementation and operation of the activity with possible corrective measures if impacts turn out to be worse than expected.

The next topic explores decision making in more detail.

Topic 4: Decision-making and follow-up

Course Notes

1. **Decision-making.**
2. **Follow-up.**
3. **Environmental monitoring.**
4. **Environmental auditing.**
5. **EIA performance assessment.**

DECISION-MAKING

Decision-making takes place throughout the EIA process, Figure 4.1. Many decisions are made by the proponent (e.g. choices between various alternatives and project designs). Other decisions may be made jointly by the proponent and the decision-making/environmental authorities (e.g. screening and scoping decisions). However, the main decision in the EIA process, whether or not to allow the proposal to proceed lies with a government agency, following consultation and public participation (Figure 4.2). The typical decision taken at this stage in the EIA process is not usually a choice between alternatives, but a seemingly simpler choice between authorisation or conditional authorisation and refusal. The range of potential decisions is given in Box 4.1.

Figure 4.1 Main decision-making points in the EIA process

Decision-maker	*Action(s)*	*Outcome(s)*
Proponent	**Selection of project design or alternatives to be considered**	**Preferred project alternative or design**
EIA agency/ regulator	**Screening of project proposal**	**No EIA required; or, preliminary EIA; or, Full EIA required**
Proponent and/or EIA agency/regulator	**Approval of scoping report or ToR.**	**Approval of report and/or ToR**
EIA agency/ regulator	**Review and acceptance of EIS**	**Approval; or, approval with conditions; or, rejection of EIS**
Planning authority and/or relevant Ministry	**Consideration of EIS, review report, and other planning issues.**	**Approval of project (with conditions); or, rejection of project.**

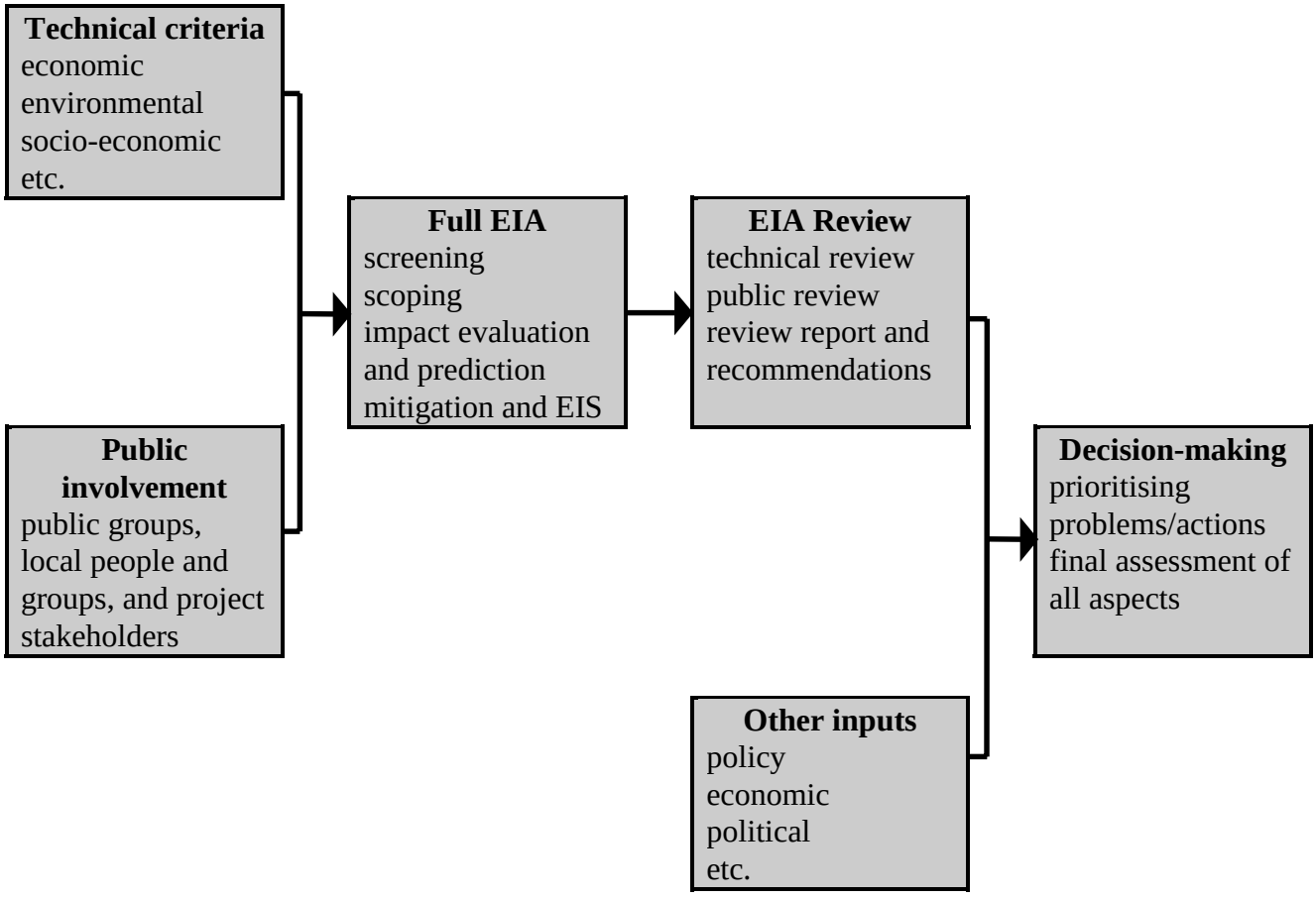
When the EIA report is drafted, the proponent consults with the EIA agency to ensure that the report is of an acceptable standard. Final decisions on EIAs usually involve a broad range of trade-offs by the Authorising Agency. In certain cases, EIA review bodies have decision-making powers. Whether or not a proposal is approved, there is usually a record of decision and a documentation of how environmental considerations were taken into account and weighed against other considerations i.e. environmental approval of the project. Usually, this

information is announced publicly, such as at meeting places near the project site and in national and local media and press. The decision is communicated to all stakeholders. Box 4.2 shows some inputs for decision-making.

Box 4.1 The possible decisions as a result of EIA are:

- APPROVAL, without modifications;
- approval with minor modifications;
- approval subject to ongoing investigation;
- further investigation prior to consideration;
- request for a supplementary EIA report;
- REJECTION.

Figure 7.3 Flowchart to final decision in EIA and project planning process (adapted from UNEP, 1996)



The EIA agency makes recommendations to the project approving authority about the implementation of the project and, in particular, on any conditions that should be attached to project approval. It should also make recommendations on environmental monitoring and

post-audit requirements. Specifically, the aspects to be covered in the monitoring programme should include verification of impact prediction, evaluation of mitigation measures, adherence to approved plans, and general compliance with the environmental requirements. This should include conditions on the periodic environmental auditing to check on the various aspect of environmental management, and provide feedback on the adequacy of planning or implementation of the development. The responsibility of ensuring that appropriate monitoring takes place lies with the EIA Agency or approving authority, while the proponent shall be responsible for meeting the costs.

Box 4.2 The information for decision-makers should include:

- background;
- context;
- alternatives;
- institutional and public involvement;
- analysis of positive impacts;
- analysis of negative impacts;
- mitigation and monitoring plans;
- conditions and recommendations.

The EIA Agency and/or the approving authority must provide an opportunity for appeal to a higher body, including to the court of law if malpractice is suspected. Deadlines and time limits should be clearly stated for the EIS review. The review results of the EIS of projects which have been subsequently decided upon should be held on file and be open to public scrutiny. Box 4.3 gives a summary of the checks and balances for impartial decision-making. To ensure appropriate implementation of the decision the following can be used:

- performance conditions should be placed into legal contracts;
- approval should be made conditional upon the production of environmental management plans; and
- there should be independent monitoring for compliance.

Box 4.3 The checks and balances for impartial decision-making

- decision is determined by EIA report and review,
- no decision until EIA report received and reviewed,
- permission can be refused,
- conditions can be imposed,
- modifications can be demanded,
- the proponent is not the decision-maker,
- a summary evaluation is made available to public,
- decision reasons and conditions are made public,
- there has been public consultation,
- there is a right of appeal against the decision,
- the final review results are held on open file by the Authorising Agency.

FOLLOW-UP

Following the preparation of the EIS and, if approved, the implementation of the project it is essential that there is adequate follow up. The objectives of the follow-up of the EIA process are (Sadler, 1996):

- ensure terms and conditions of project approval are implemented;
- verify environmental compliance and performance;
- cope with unanticipated changes and circumstances;
- adjust mitigation and management plans accordingly; and
- learn from and disseminate experience with the view to improving the EIA process and project planning development.

The two main process to achieve the above objectives are environmental monitoring and auditing. These are described in the following sections.

ENVIRONMENTAL MONITORING

Purpose

Mitigation measures are of little or no value unless they are implemented. Hence there is a clear link between mitigation and monitoring of outcomes, if and when a project is approved and moves to the construction and operation stage. Monitoring must include the effectiveness or otherwise of mitigation measures. Therefore, mitigation measures must be devised with monitoring in mind; they must be clear enough to allow checking of effectiveness. Uncertainties

in EIA may arise due to continual refinement and modification of project design during and after the preparation of the EIS. A system of monitoring and feedback can help identify these changes and therefore manage these uncertainties.

The role of monitoring in EIA process

Monitoring is a general term referring to the systematic collection of data through a series of repetitive measurements over a long period to provide information on characteristics and functioning of environmental and social variables in space and time. It is among the best means of converting EIA from a static to an interactive process, characterised by feedback and adjustments. Ideally, the aims of monitoring should be formulated clearly and explicitly and set out in explicit guidelines to ensure that no deviation from the required monitoring programme occurs, because changes in sampling procedures may invalidate comparison of monitoring data. A summary of what monitoring means for EIA is given in Box 4.4.

Box 4.4 What does monitoring do?

- systematically compiles data through a series of repetitive measurements over a long period to provide information on characteristics and functioning of environmental and social variables in space and time;
- involves the measuring and recording of physical, social and economic variables associated with development impacts;
- provides information on the characteristics and functioning of variables in time and space;
- involves assessment of compliance with the project design and implementation as they reflect the inputs of environment impact assessment (such as sitting, design or formulation alternatives, scheduling, mitigation and compensation);
- checks on the adherence to environmental standards;
- establishes the effectiveness of the prescribed mitigation measures and the occurrence and magnitudes of impacts;
- tracks down impacts of development and provides an `early warning 'system to identify harmful trends before it is too late to take remedial action; and,
- helps to identify and correct unanticipated impacts.

Types of Monitoring

The design of an effective monitoring programme involves a range of considerations:

- defining scope and aspects of coverage (e.g. water, air, terrestrial systems);
- establishing objectives and data requirements to meet them;
- setting boundaries and comparison sites for observation and sampling;

- identifying group and institutional responsibilities (including public involvement);
- selecting key indicators to be measured; and
- deciding how the data gathered will be interpreted and applied, e.g., with regard to feedback to environmental management and to future improvements to EIA process and project planning, and draft monitoring proposals so that all parties are aware of requirements and responsibilities.

The types of monitoring related to EIA are summarised in Box 4.5.

Box 4.5 Common Types of Monitoring

- ***Base-line monitoring*:** the measurement of environmental parameters during a representative pre-project period in an attempt to determine the nature and ranges of natural variation and where possible to establish the process of change.
- ***Impact/effect monitoring*:** involves the measurement of parameters (performance indicators) during project construction and implementation in order to detect and quantify environmental change which may have occurred as a result of the project. The importance of feedback and continuity in the EIA process cannot be overemphasised. Effect monitoring provides experience for future projects with a consequent improvement in accuracy and efficient use of resources, which can be better targeted, through a more appropriate selection of methods and techniques.
- ***Compliance monitoring*:** not directed at environmental parameters, but takes the form of periodic sampling and/or continuous measurements of levels of waste discharge, noise or similar emission or introduction to ensure that specific conditions are observed and standards met. Compliance monitoring does not require baseline monitoring to which impacts can be compared or reference or control sites.
- ***Mitigation monitoring***: aims to determine the suitability and effectiveness of mitigation programmes, designed to diminish or compensate for adverse effects of projects.

Source: Modified from Sadler and Davies (1988)

ENVIRONMENTAL AUDITING

Definition

An audit is an "independent and objective examination of whether practice complies with expected standards" (Sadler, 1988). Broadly, environmental audit means a check on some aspect of environmental management, and implies some kind of testing and verification. In EIA, this term refers to:

- the organisation of monitoring data to establish the record of change associated with a project; and,
- the comparison of actual and predicted impacts for the purpose of assessing the accuracy of predictions and the effectiveness of impact management practices and procedures.

The Rationale for Audit

In the absence of follow-up, EIA is a linear process without scope for incorporating experience generated by one project into the assessment and management of another. Auditing helps to avoid duplication of research and generation of unnecessary information for each new project. The development of an effective feed back mechanism - as a "back-end" to the process of EIA - can lead improvements in the way project impacts are identified and assessed, and how assessment and management processes operates. Monitoring, auditing and subsequent feed back, therefore, builds continuity into the process, between the pre- and post-decision phases of the project cycle.

Types of Audit

Basically, there are three types of audit (Modified from Bingham, 1995):

- *Implementation/enforcement audit:* this is undertaken by a regulatory agency to verify that mitigation measures and levels of emissions are within limits. This can be done by analysing their design. Such audits include: activity audits, corporate audits and associate audits.
- *Performance/regulatory audit:* this is a means of identifying compliance status of facilities and is a tool employed by corporate or management agencies, i.e. checking whether a particular operation, process, site, company or project comply with relevant legislation (e.g. health safety).
- *Impact prediction audits:* these have the primary purpose of examining the accuracy and efficacy of impact predictions in the EIS, i.e. testing how accurate the predicting in environmental impact statements are by comparing them with actual monitored impacts once the project is underway.

Audit Procedure

In conducting an environmental audit the following questions have to be considered:

- What environmental impacts were predicted for the project concerned?
- When and where were the predictions stated?
- What actual impacts have been monitored?
- Where are the results recorded?
- How do actual impacts compare with predicted impacts?

These questions need to be addressed for every relevant social and biophysical environmental parameter. In practice, auditing involves several steps as shown in Box 4.6.

Box 4.6 Steps to be followed in an audit

- Identify the projects under consideration, and determine whether any environmental impact assessment was carried out for these projects, whether as a formal EIA or as part of project planning, approval or funding documents.
- Determine whether the project(s) were expected to produce major quantifiable impacts on specific components of the physical, biological or human environment. Some projects are not expected to produce any further significant impacts: e.g. building development in an already urbanised area.
- Determine whether the project(s) went ahead substantially as planned: some projects are modified considerably between planning and execution, and impact predictions may no longer apply.
- Determine whether routine monitoring has been carried out for these project(s), and whether and where the results are available.
- List all individual impact predictions which are specific enough to be testable. If possible, express those predictions in quantitative form, including a measure of error. This is often difficult: predictions are often vague, and use unquantified terms such as "likely", "unlikely", "significant", "negligible", etc.
- Determine whether the monitoring programme for the project(s) concerned actually measured the parameters required to test these predictions; and if so, whether the sampling design (e.g. location, frequency and precision of measurements) was statistically adequate to perform such a test.
- Adjust impact predictions, if necessary, to take account of any modifications to the design of the project(s) made after EIA. Any such adjustments should be made before testing the adjusted predictions against monitoring results.
- Compare impact predictions and monitoring results, to determine the accuracy of each prediction.

EIA PERFORMANCE ASSESSMENT

In many cases, review approaches focus on assessing the adequacy of environmental impact statements (EIS). This has been found to be inadequate, especially where resources and institutional capacity are limited, like in Tanzania (Mwalyosi and Hughes, 1998). However, the EIS is only one document produced at one stage in the EIA process. Important as this is, a "good quality" EIS is not a guarantee that the EIA process as a whole is working effectively. Therefore, it is important to broaden EIA evaluation to cover the performance of the entire process. This is achieved through performance assessment.

Performance assessment is a more pragmatic and rigorous methodology for assessing the EIA process as a whole, as well as for assessing the quality and acceptability of the individual EIS. It involves the evaluation of the effect of EIA on decision-making and planning process, and an evaluation of the quality of the environmental assessment process To understand the effect of EIA on decision making and planning, it is important to assess the environment in which EIA

performs in a country. Performance assessment is achieved by supplementing the EIS review with discussions with those involved in the EIA and by field visits to "ground-truth" the findings of the EIS review process. Performance assessment also provides an opportunity for more detailed project-specific follow-up with relevant stakeholders.

Mwalyosi & Hughes 1998

A recent performance assessment of EIA in Tanzania has been undertaken by Mwalyosi and Hughes, 1998. An edited version of the summary of this report is given in Box 4.7.

Box 4.7 Summary of findings of Tanzania EIA performance study

People's perception of EIA

- Although EIA is sometimes perceived as impeding development, there is a widespread desire among Tanzanians to adapt EIA to the national context. In the absence of national policy on EIA, donor guidelines are used. These are perceived as inappropriate to national needs.

The EIA process

- Generally, EIA processes are initiated too late in the project cycle to influence project design. In almost all cases, EIAs are undertaken as 'stand alone' processes. There is almost no integration between EIA and project design in Tanzania.
- Generally, little attention is given to involving all stakeholder groups, especially the local people. Inadequate scoping and terms of reference constrain subsequent stakeholder involvement.
- In the absence of national guidelines, EIAs are often under-assessed and the expertise employed is frequently inappropriate, while EIA review is *ad hoc* or non-existent. Foreign expertise dominates the EA industry with little use of nationals (Tanzanians), which in the long term impedes EA national capacity building.

The quality of EIS for decision-making

- In general, EISs are descriptively strong, but analytically weak. Key components of many EIAs are weak or missing; EIAs do not consider cumulative impacts; and relatively few assess alternatives in a comprehensive manner. Compliance issues are often unclear in the EISs and to a large degree, the quality of EIAs is not of good standard. The quality of EIAs appear to be constrained by resources, time limitations, and lack of political commitment.

Policy Implications

- The Tanzania government should introduce robust legislation and supporting guidelines to 'set the rules' for EIA; establish quality control mechanisms; promote stakeholder involvement in EIA process; and create an enabling environment for high quality EAs.
- Donor agencies should review the application and performance of their EA guidelines and assist developing countries in the development of robust and high quality national EIA guidelines. Also, they should plan for long-term support of EA, including during implementation and post-completion phases of the project cycle, and promote and encourage the use of local expertise in EIA practice.

Source: Mwalyosi and Hughes, 1998

References and further reading

For more detailed information on the EIA process and EIA in Tanzania please see copies of the Orientation and Introduction Handbooks. Other useful references are:

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OVERHEADS

Topic 1: Introduction to EIA review and quality control

Topic 2: Preliminary EIA and quality control

Topic 3: EIA Review Process

Topic 4: Decision-making and follow up

INTRO/1 *IRA/IIED*

REVIEW COURSE
Objectives

Objectives:

- **To explore the role of EIA review and quality control and its role in decision in Tanzania.**
- **To develop an understanding of the EIA review process.**
- **To enable participants to review Environmental Impact Statements.**

Review Course Outline:

1. **Introduction to EIA review and quality control?**
2. **Preliminary EIA and quality control.**
3. **The EIA review process.**
4. **Decision-making and follow-up.**

Topic 1: Introduction to EIA review and quality control

Slide 1: Topic objectives and outline

Slide 2: Advantages of EIA quality control.

Slide 3: Reasons for EIA quality control in Tanzania.

Slide 4: Quality control and stages of EIA process.

Slide 5: Objectives of EIA review.

Slide 6: Types of EIA review.

Slide 7: Institutional arrangements Worldwide.

Slide 8: Institutional arrangements in Tanzania.

1/1 *IRA/IIED*

INTRODUCTION TO REVIEW & QUALITY CONTROL
Topic objectives

Objectives:

- **To develop an understanding of the importance of quality control and review in the EIA process.**
- **To learn from experience of EIA in Tanzania.**

Outline:

- **Advantages and reasons for quality control.**
- **When does quality control take place?**
- **Objectives of EIA review.**
- **Institutional arrangements for EIA review.**

1/2 *IRA/IIED*

INTRODUCTION TO REVIEW & QUALITY CONTROL
Advantages of EIA quality control

EIA quality control ensures that:

- **all EIA projects are screened;**
- **all EIA processes are guided by appropriate terms of reference (ToR);**
- **all critical issues/problems are defined and assessed;**
- **all relevant stakeholders are involved;**
- **all EIA processes are subjected to appropriate review.**

1/3 *IRA/IIED*

INTRODUCTION TO REVIEW & QUALITY CONTROL
Reasons for EIA quality control in Tanzania

Experience in Tanzania has shown:

- **Project proposals were often subjected to inappropriate levels of environmental assessment.**
- **The poor quality and clarity of many EISs reduced their value for decision-making;**
- **Key components of many EIAs were weak or missing;**
- **Stakeholder involvement was minimal or absent;**
- **EIA processes were not subjected to appropriate levels of review; and,**
- **In the absence of an effective review process there has been a failure to learn from experience.**

Source: Mwalyosi and Hughes, 1998

1/4 *IRA/IIED*

INTRODUCTION TO REVIEW & QUALITY CONTROL
Quality control and stages of EIA process

Quality control activity	EIA stage	Outputs
Review to assess what level of environmental assessment is required.	**Registration and Screening**	**Registration of project, and decision on level of assessment required.**
Review of scoping report and ToR for full EIA study	**Scoping**	**Approved scoping report and terms of reference.**
	Impact prediction and evaluation	
	Environmental Impact Statement (EIS)	**EIS passed to relevant agencies and made available to the public.**
Public and/or statutory review of EIS, and decision on whether to proceed.	**Review and decision making**	**Review report and final recommendations on whether to approve EIS.**
Monitoring of key environmental variables, & auditing.	**Environmental monitoring & auditing**	**Public reports on monitoring and auditing. Feedback to project.**

1/5 *IRA/IIED*

INTRODUCTION TO REVIEW & QUALITY CONTROL
Objectives of EIA review

- ***Quality of the EIS – to ensure that the EIS:***

◊ **provides an adequate assessment of the potential impacts of a project.**

◊ **addresses key issues and considers alternative options and designs.**

◊ **complies with the Terms of Reference (ToR).**

- ***Adequacy of the report for decision-making***

◊ **Clear, logical and explicit presentation of findings.**

◊ **Identification of gaps and further information needs.**

- ***Opportunity for stakeholder and public involvement***

◊ **To ensure that stakeholders have not only been consulted, but also participated in the EIA process.**

◊ **To allow stakeholders and public to comment and voice opinions on EIS.**

1/6 *IRA/IIED*

INTRODUCTION TO REVIEW & QUALITY CONTROL
Types of EIA review

- ***Proponent Review***: **undertaken by proponents during EIS preparation to ensure that their work is of an appropriate standard before it is subject to external review.**
- ***Stakeholder Review:*** **undertaken by stakeholder and public groups as part of the formal review process, or as an independent review by stakeholders.**
- ***Formal Review:*** **undertaken by government, independent authorities, experts, and review panels to make formal recommendations on EIS and future of project.**

1/7 *IRA/IIED*

INTRODUCTION TO REVIEW & QUALITY CONTROL
Institutional arrangements worldwide

EIA quality control is the responsibility of either of the following:

- **Government Department; or**
- **EIA Review Agency; or**
- **An Independent Commission;**

AND

- **Expert contribution.**

1/8 *IRA/IIED*

INTRODUCTION TO REVIEW & QUALITY CONTROL
Proposed institutional arrangements in Tanzania

The draft EIA guidelines propose the establishment of a *cross sectoral technical review committee* (TRC) to be composed of:

- **members from sectors responsible for environment and resource management;**
- **members from sectors which are currently the focus for investment; and**
- **relevant research institutions.**

For complex and sensitive projects, an independent *review panel* would be formed and a public hearing arranged.

Topic 2: Preliminary EIA and quality control

Slide 1: Topic objectives and outline.

Slide 2: Registration.

Slide 3: The purpose and role of screening in EIA.

Slide 4: Results of screening.

Slide 5: Screening practice.

Slide 6: Commonly used screening criteria.

Slide 7: Proposed criteria for Tanzania.

Slide 8: Examples of screening decisions.

Slide 9: Proposed screening process for Tanzania.

Slide 10: Proposed screening decisions for Tanzania.

Slide 11: Past screening experience in Tanzania.

Slide 12: Role of scoping in the EIA process.

Slide 13: The Who and how of scoping.

Slide 14: Quality control and scoping.

Slide 15: Definition of boundaries for EIA study.

Slide 16: Considering alternatives in the EIA process.

Slide 17: Example of alternatives.

Slide 18: Typical contents of a scoping report.

Slide 19: Role and importance of terms of reference.

Slide 20: Best practice for terms of reference.

Slide 21: Format of terms of reference for full EIA.

2/1 *IRA/IIED*

PRELIMINARY EIA & QUALITY CONTROL
Topic objectives

Objectives:

- **To develop an understanding of the role of quality control in EIA registration, screening and scoping.**

Outline:

- **Purpose and role of screening.**
- **Screening practice and criteria.**
- **Scoping and quality control.**
- **Boundaries and project alternatives.**
- **Terms of reference for a full EIA.**

COMMISSIONING OF EIA & QUALITY CONTROL
Registration

Registration is:

- **the first step in any project planning process.**
- **when a project proponent registers a project with the planning authority(ies).**
- **part of the standard process for obtaining official permission for a project to proceed.**
- **often the responsibility of the planning authority to refer the project to other regulatory authorities.**
- **this should include the authority responsible for environment assessment regulation and review**
- **the environment assessment regulator will then screen the project.**

2/3 IRA/IIED

PRELIMINARY EIA & QUALITY CONTROL
The purpose and role of screening in EIA

***Screening is**:*

- **The first step in the quality control of the EIA process.**
- **The initial review of projects to determine if an EIA is required.**
- **To determine the appropriate level of environmental assessment so as:**
  - ◊ **to ensure all projects with potentially significant impacts are subject to an EIA;**
  - ◊ **to focus resources on projects most likely to have significant impacts; and,**
  - ◊ **to avoid the unnecessary expense of a full EIA for a project that does not need it.**

PRELIMINARY EIA & QUALITY CONTROL
Results of screening

Three decisions are possible.

1. **Project can proceed without an EIA.**
2. **Further studies are needed before a decision on whether an EIA is needed can be taken.**
3. **The project requires an EIA, or it is a mandatory requirement**

NB - A fourth decision to reject the project may be made for completely inappropriate projects, e.g. a multi-storey hotel in a national park. This is usually very rare.

2/5 *IRA/IIED*

PRELIMINARY EIA & QUALITY CONTROL
Screening practice

Screening decisions are based on:

1. **The type of project (health, energy, forestry etc.)**
2. **The size and extent of the project.**
3. **The location of the project (urban, rural, sensitive area, etc.)**

Screening in practice is undertaken by using:

1. **Project description provided by proponent.**
2. **Screening lists prepared by regulatory authorities or others (e.g. donors).**
3. **Preliminary environment assessments by regulator and/or consultant.**

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PRELIMINARY EIA & QUALITY CONTROL
Commonly used screening criteria

- ***Checklists criteria:*** **pre-defined lists of projects that must be subjected to EIAs.**

- ***Sensitive area criteria:*** **areas that are environmentally sensitive e.g. wetlands and protected areas.**

- ***Exclusion lists criteria:*** **list of projects NOT subject to EIA.**

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PRELIMINARY EIA & QUALITY CONTROL
Proposed criteria for Tanzania

i) ***Key project parameters.*** **Type, size, sitting of project, resource demand, technical production processes, infrastructure needs, expected effluents/emissions etc.**

ii) ***Affected Area:*** **Ecological importance, people, land use, value, fragility and dynamics of development.**

iii) ***Importance and scale of potential environmental impacts e.g.:***

- **area of influence;**
- **duration of disturbance;**
- **effluent/emission quality;**
- **resettlement requirements;**
- **cumulative effects and reversibility; and,**
- **infringement of any laws, regulations or directives.**

iv) ***Public opposition/concern.*** **Controversial issues which raise public concern.**

PRELIMINARY EIA & QUALITY CONTROL
Examples of screening decisions

Ghana uses checklists to determine one of four options:

1. **Objection lodged and undertaking must not proceed.**

2. **No objection, and undertaking may proceed subject to all relevant Acts, Bye Laws and/or Government Regulations.**

3. **Environmental Preview Report required.**

4. **Environmental Impact Assessment required.**

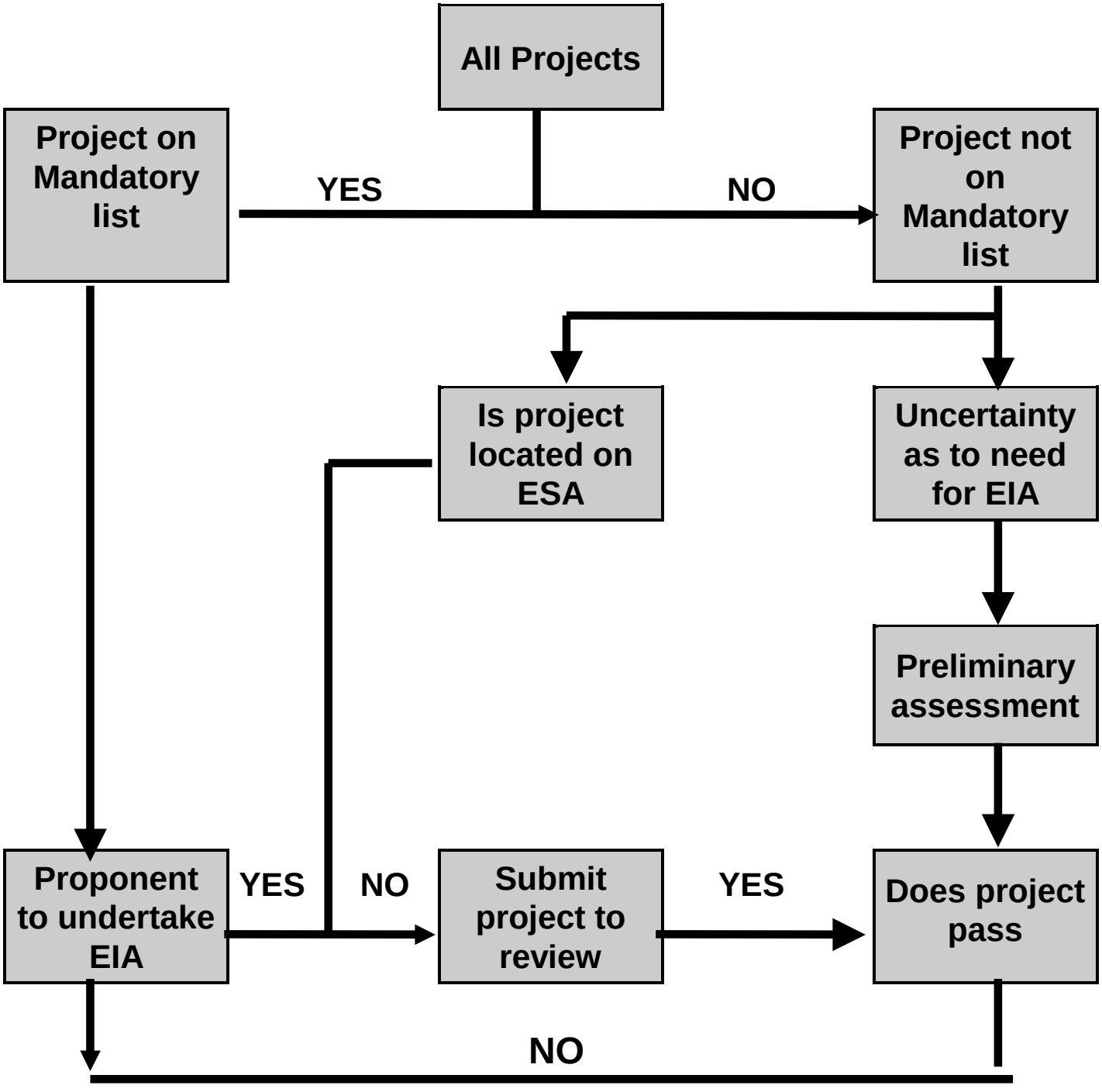
The World Bank applies a tiered approach to screening:

A. **Major impacts - EIA mandatory.**

B. **Initial Environmental Evaluation (IEE) needed first.**

C. **Benign - no EIA needed.**

PRELIMINARY EIA & QUALITY CONTROL
Proposed screening process for Tanzania



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PRELIMINARY EIA & QUALITY CONTROL
Proposed screening decisions for Tanzania

- ***No EIA required*** **- the screening report is submitted to TRC for review.**
- ***Preliminary EIA*** **is required before a decision can be made.**
- ***Full EIA*** **required – scoping undertaken, Terms of Reference defined, and EIA study commissioned.**

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PRELIMINARY EIA & QUALITY CONTROL
Past screening experience in Tanzania

Level of Assessment	Actual		Expected using World Bank screening guidelines	
	No. of statements	*% of total*	*No. of statements*	*% of total*
Number of 'full' EIA statements	**7**	**27**	**17**	**65**
No. of IEEs or pEIAs	**19**	**73**	**9**	**35**
Total	**26**		**26**	

Source: Mwalyosi & Hughes, 1998

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PRELIMINARY EIA & QUALITY CONTROL
Role of scoping in the EIA process

- **Scoping is an early and open process in EIA.**
- **Focuses the EIA on issues relevant to decision-making.**
- **Important opportunity to identify and involve stakeholders.**
- **Identifies information needs.**
- **Identifies assessment methods.**
- **Identifies project alternatives.**
- **Determines spatial, temporal and institutional boundaries of the EIA study.**
- **Defines the ToR for the EIA study.**

PRELIMINARY EIA & QUALITY CONTROL
The who and how of scoping

Responsibilities:

- **Scoping is usually the responsibility of the proponent, and is often undertaken by consultants.**
- **But sometimes the relevant environmental authority undertakes it.**
- **Environmental authority is responsible to check scoping reports and terms of reference.**

Which impacts should be considered?

- **Impacts during construction, operation, and decommissioning.**
- **On-site and off site impacts.**
- **All types - social, economic, biological, and physical.**

Scoping is often undertaken using:

- **Checklists.**
- **Cause and effect diagrams and networks.**
- **Models.**
- **Past experience.**

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PRELIMINARY EIA & QUALITY CONTROL
Quality control and scoping

The role regulatory agency is usually is to:

- **Prepare scoping guidelines to be used by proponent or consultants.**
- **Review scoping reports to ensure they are of acceptable quality.**
- **Sometimes approval of terms of reference for full EIA study.**

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PRELIMINARY EIA & QUALITY CONTROL
Definition of boundaries for EIA study

- ***Spatial boundaries:***

These indicate whether impacts are likely to occur at a local, regional, national or international level.

- ***Temporal boundaries:***

These refer to project lifespan (construction, operation and decommissioning) and the reversibility of impacts.

- ***Institutional boundaries:***

These refer to political boundaries, acts and regulations, and ministerial or departmental mandates.

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PRELIMINARY EIA & QUALITY CONTROL
Considering alternatives in the EIA process

- **Considers the no project alternative**
- **Helps to identify whether there are reasonable alternatives to the proposed activity with fewer environmental consequences.**
- **May provide the developer with a cost-cutting alternative to his or her initiative.**
- **The alternative utilising the best technical means and causing the least impacts to the environment can be identified and compared with the preferred alternative.**

PRELIMINARY EIA & QUALITY CONTROL
Example of alternatives

Project proposed	*Alternative*	*Category*
A. Coal fired power station near a major city.	**1. Hydropower station in highlands.**	**Input/location**
	2. Located away from city near river	**Location**
	3. Energy efficiency programme.	**Demand**
B. Upgrading of a road to a dual carriageway.	**1. Investment in public transport.**	**Activity**
	2. Construction of relief road	**Location**
	3. Phased construction of road.	**Scheduling**
C. 5000 ha irrigation scheme to increase food production.	**1. Rehabilitation of existing small-scale irrigation schemes**	**Activity/location**
	2. Improved rainfed agricultural systems.	**Process/location**

2/18 *IRA/IIED*

PRELIMINARY EIA & QUALITY CONTROL
Typical contents of a scoping report

- **Outline of how the scoping process was undertaken.**
- **Inclusion of a stakeholder analysis (*who* should be involved, *why* and *how*).**
- **Description of key issues.**
- **Assessment of alternatives - including the 'no project' option.**
- **Recommended terms of reference for the EIA study.**

2/19 *IRA/IIED*

PRELIMINARY EIA & QUALITY CONTROL
Role and importance of ToR

Terms of reference clarify:

- **the study purpose;**
- **the breadth of study;**
- **the depth and length of study;**
- **the expertise required;**
- **the format of the output expected;**
- **the division of responsibilities for EIA and other planning outputs;**
- **the users of the study output.**

ToR also provide 'benchmarks' against which the EIA process (as a whole) and the EIS (in particular) can be evaluated.

2/20 *IRA/IIED*

PRELIMINARY EIA & QUALITY CONTROL
Best practice for terms of reference (ToR)

- **Prepared by the developer, an agency and/or consultant.**
- **ToR are systematic, clear and tailored to the specific context of each project.**
- **Responsibility for technical aspects and overall quality control rests with the EIA agency.**
- **ToR are usually a product of a scoping exercise.**

2/21 *IRA/IIED*

PRELIMINARY EIA & QUALITY CONTROL
Format of terms of reference for further EIA studies

- **Introduction**
- **Project information**
- **Specific EIA requirements**
- **Field versus desk work**
- **Working relationships**
- **Stakeholders**
- **Time and schedule**
- **Reporting requirements**

Topic 3: EIA review process

Slide 1: Topic objectives and outline

Slide 2: Flowchart of the EIA review process.

Slide 3: Good practice for EIA Review.

Slide 4: Methods of ensuring objectivity in EIA review.

Slide 5: EIA review and quality control tools.

Slide 6: EIS review criteria and their role.

Slide 7: Types of EIS review criteria.

Slide 8: Commonly used EIS review topics.

Slide 9: Steps of the actual review.

Slide 10: Criteria for determining impact significance.

Slide 11: Considerations for EIA documentation.

Slide 12: Typical contents of an EIS.

Slide 13: Review in Tanzania.

3/1 *IRA/IIED*

EIS REVIEW PROCESS
Objectivesand outline

Objectives:

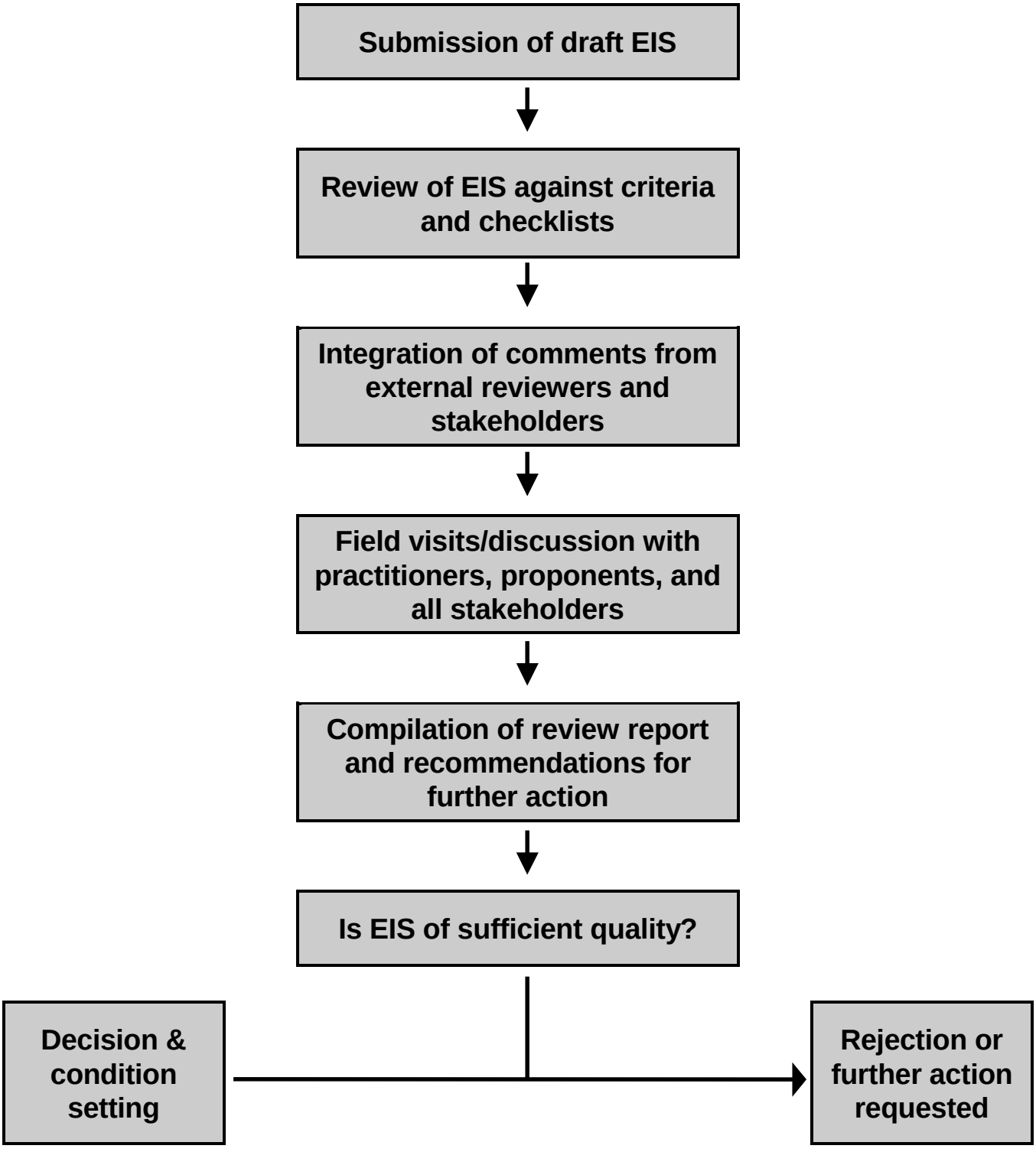
- **To provide participants with a detailed understanding of the EIS review and quality control process.**

Outline:

- **Overview of the EIS review process.**
- **Good practice and objectivity in EIA review.**
- **EIS review tools.**
- **EIS review criteria.**
- **EIS review steps.**
- **Experience of review in Tanzania.**

3/2 IRA/IIED

EIS REVIEW PROCESS
Flowchart of the EIS review process



3/3 *IRA/IIED*

EIS REVIEW PROCESS
Good practice for EIS Review

- **Use of independent opinion.**
- **Procedures are well structured and advertised.**
- **Guidelines outlining the required format and contents of an EIS.**
- **Public hearings and opportunities for public comments and criticisms.**
- **Binding conditions on mitigation, audits and monitoring measures.**
- **Authority to request additional study, and hence delay approval.**
- **Potential to reject EIS's on grounds of inadequacy.**
- **Review reports and decisions are published and open to the public.**

3/4 *IRA/IIED*

EIS REVIEW PROCESS
Methods of ensuring objectivity in EIS review

- **Use of review criteria.**
- **Use of terms of reference.**
- **Accreditation of EIS report review consultants.**
- **Setting up of an independent review body.**
- **Publication of the results of the review.**
- **Public and stakeholder involvement.**
- **Utilising the services of skilled professionals in the review process.**

3/5 *IRA/IIED*

EIS REVIEW PROCESS
EIS review and quality control tools

- **Guidelines for screening.**
- **Guidelines for scoping.**
- **Guidelines for reporting.**
- **Checklist of environmental characteristics.**
- **List of activities.**
- **Checklist of compliance with terms of reference.**
- **Checklist for data management.**

3/6 *IRA/IIED*

EIA REVIEW PROCESS
EIS review criteria and their role

EIS review criteria allow a competent authority to:

- **ensure that all relevant information has been analysed and presented;**
- **assess the validity and accuracy of information contained in the EIS;**
- **quickly become familiar with the proposed project and consider whether additional information is needed;**
- **assess the significance of the project's environmental effects;**
- **evaluate the need for mitigation and monitoring of environmental impacts; and**
- **advise on whether or not a project should be allowed to proceed.**

3/7 *IRA/IIED*

EIS REVIEW PROCESS
Types of EIS review criteria

The two commonly USED sets of criteria are:

- ***Lee & Colley Review Criteria;*** **and**
- ***the Institute of Environmental Assessment Review Criteria.***

In both EISs are graded according to the completeness with which different review topics are addressed.

An overall grade is assigned to the review topic and subsequently to the EIS. IEA grades are:

A) Excellent, no tasks left incomplete.

B) Good, only minor omissions and inadequacies.

C) Satisfactory despite omissions and inadequacies.

D) Parts well attempted, but as a whole unsatisfactory because of omissions and/or inadequacies.

E) Poor, significant omissions or inadequacies.

F) Very poor, most tasks left incomplete.

3/8 IRA/IIED

EIS REVIEW PROCESS
IEA topics adapted for Tanzania

- **Description of the development**
- **Site description**
- **Residuals**
- **Baseline conditions**
- **Identification of impacts**
- **Analysis of impact severity**
- **Assessment of impact significance**
- **Alternatives**
- **Scope and effectiveness of mitigation measures**
- **Commitment to mitigation**
- **Stakeholder involvement**
- **Layout**
- **Presentation**
- **Balance**
- **Non-technical summary**

Source:Mwalyosi and Hughes,1998

3/9 *IRA/IIED*

EIS REVIEW PROCESS
Steps of the actual review

- **Set the boundaries/scale/depth of the review.**
- **Select reviewer(s).**
- **Use input from public stakeholders.**
- **Identify review criteria.**
- **Carry out the review.**
- **Determine the required remedial measures.**
- **Publish the review report.**

3/10 *IRA/IIED*

EIS REVIEW PROCESS
Criteria for determining impact significance

Criteria for determining impact significance and acceptability:

- **comparison with laws, regulations and standards;**
- **criteria such as protected areas, important features or species;**
- **consistency with government policy objectives;**
- **acceptability to the local community or general public**
- **economic valuation of environmental damage.**

3/11 *IRA/IIED*

EIS REVIEW PROCESS
Considerations for EIA documentation

Good Practice' EIA documentation should:

- **focus on the issues most relevant to decision-making;**
- **minimise the use of technical jargon;**
- **include a non-technical summary of the EIS;**
- **ensure the statement is clearly structured, well-written and clearly presented;**
- **ensure the statement is balanced, honest and unbiased;**
- **clearly state assumptions made;**
- **be specific and quantify impacts where possible;**
- **explain why some impacts are not addressed;**
- **list each consultant/expert and outline their expertise/experience;**
- **list the names of the developer, relevant local planning authorities and consultees;**
- **include a stakeholder compliance statement.**

3/12 *IRA/IIED*

EIS REVIEW PROCESS
Typical contents of an EIS

- **Non-technical summary**
- **Introduction**
- **Project description**
- **Environmental planning and design**
- **Description of existing environment**
- **Assessment of environmental impacts**
- **Impact management**
- **Resource evaluation**
- **Summary and conclusions**
- **Appendices**

3/13 *IRA/IIED*

EIS REVIEW PROCESS
Review in Tanzania

In the past:

- **No clear review and decision-making procedure.**
- **EIA auditing was non-existent.**
- **Project proponents seldom received feedback from government regulatory or donor agencies.**
- **Poorly defined responsibilities for undertaking EIA review at government level.**
- **Chronic lack of expertise and resources.**
- **Lack of co-ordination.**

Today, problems are being addressed:

- **EIA system proposed.**
- **Draft guidelines published.**
- **Institutional study to finalise arrangements.**
- **Review system formalise and operating soon (?).**

Topic 4: Decision-making and follow-up

Slide 1: Topic objectives and outline.
Slide 2: Overview.
Slide 3: Decision points in the EIA process.
Slide 4: Flowchart to final decision.
Slide 5: Final decision-making in the EIA process.
Slide 6: Information required for decision-making.
Slide 7: Review decisions.
Slide 8: Checks and balances for impartial decisions.
Slide 9: Measures to ensure implementation of decision.
Slide 10: Monitoring and its role in the EIA process.
Slide 11: Considerations for an effective monitoring.
Slide 12: Types of monitoring relevant to EIA.
Slide 13: Performance assessment and its role in EIA.
Slide 14: Objectives of environmental audits
Slide 15: Types of environmental audits.
Slide 16: Questions for an environmental audit.
Slide 17: Steps for an environmental audit

4/1 *IRA/IIED*

DECISION-MAKING AND FOLLOW UP
Topic objectives and outline

Objectives:

- **To develop an understanding of decision making in the EIA process.**
- **To understand the role of the EIA review in deciding whether or not a proposal should proceed.**
- **To understand the role of environmental monitoring and auditing.**

Outline:

- **Decision making.**
- **Environmental monitoring.**
- **EIA performance assessment.**
- **Environmental auditing.**

4/2 IRA/IIED

DECISION-MAKING AND FOLLOW UP
Overview

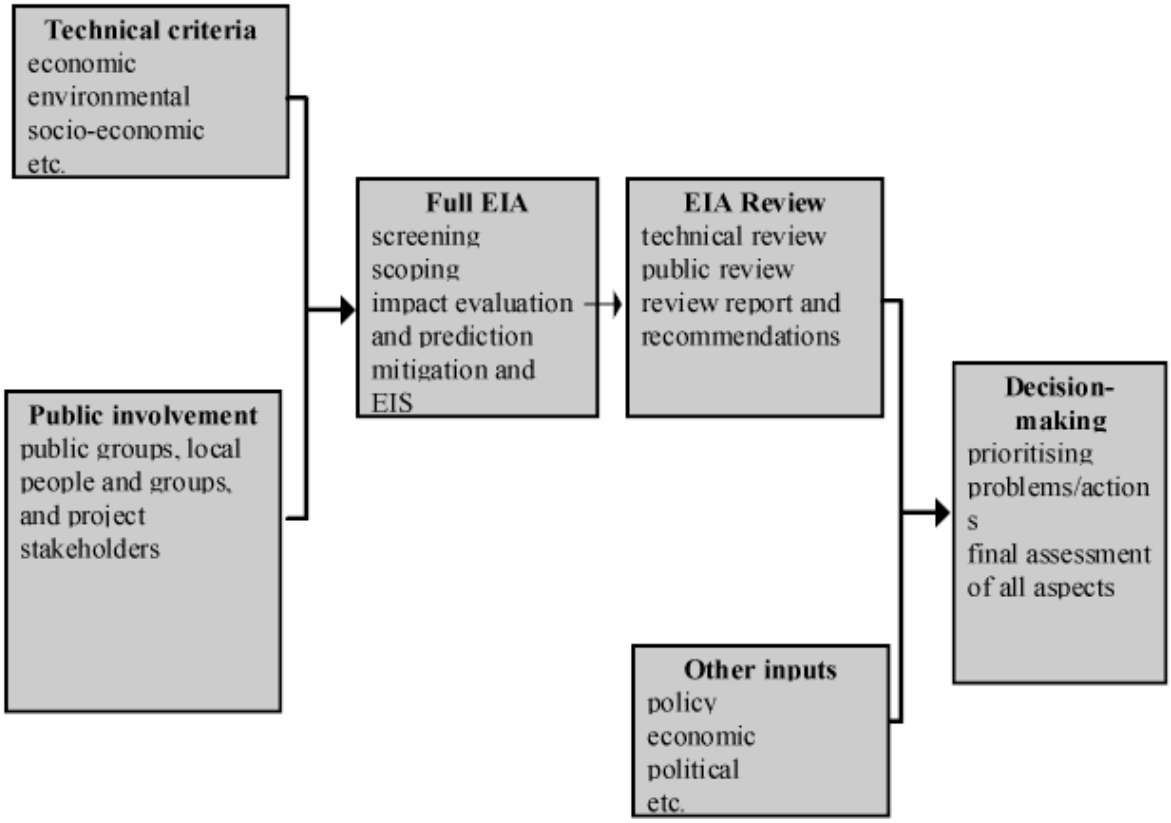
- **Decision-making takes place throughout the EIA process.**
- **Many decisions are made by the proponent (e.g. choices between various project alternatives).**
- **Some decisions may be made jointly by the proponent and the government (e.g. screening and scoping decisions).**
- **The main decision whether or not to allow a project is made by a government agency**

4/3 *IRA/IIED*

DECISION-MAKING AND FOLLOW UP
Decision points in the EIA process

Action	*Decision-maker*	*Outcome(s)*
Selection of project alternatives to be considered	**Proponent**	**Preferred project alternative**
Screening of project proposal	**EIA agency/ regulator**	**No EIA; preliminary EIA; or, Full EIA required**
Approval of scoping report or ToR.	**Proponent and/or EIA agency/regulator**	**Approval of report and/or ToR**
Review and acceptance of EIS	**EIA agency/ regulator**	**Approval; approval with conditions; or, rejection of EIS**
Consideration of EIS, review report, and other planning issues.	**Planning authority and/or relevant Ministry**	**Approval of project (with conditions); or, rejection of project.**

DECISION-MAKING AND FOLLOW UP
Flowchart to final decision-in the project process



4/5 *IRA/IIED*

DECISION-MAKING AND FOLLOW UP
Final decision-making in the EIA process

- **EIA agency submits review report and recommendations to planning authority.**
- **Planning/authorising agency determines decision on project.**
- **Decision taken at this stage is usually a choice between authorisation, authorisation with conditions, or refusal.**
- **This final decision is usually political and can involve a broad range of trade-offs.**
- **Decisions on large or controversial projects are often taken by Ministers or by Cabinet.**

DECISION-MAKING AND FOLLOW UP
Information required for decision-making

Once the EIS has been completed to a satisfactory standard, decision-makers can then use the EIS (and the review report) to assist in decision making.

The information expected from the EIS and the review report include:

- **background to the proposal;**
- **the context of the development;**
- **alternatives considered;**
- **institutional and public involvement;**
- **analysis of positive impacts;**
- **analysis of negative impacts;**
- **mitigation and monitoring plans;**
- **conditions for approval of proposal;**
- **environmental monitoring and post-audit requirements;**
- **aspects to be covered under monitoring; and,**
- **institutional responsibilities**

4/7 *IRA/IIED*

DECISION-MAKING AND FOLLOW UP
Review decisions

***Possible decisions from an EIA review are*:**

- **APPROVAL**
- **Approval with conditions.**
- **Approval subject to ongoing investigation.**
- **Further investigation prior to consideration.**
- **Request for a supplementary EIA report.**
- **REJECTION**

4/8 *IRA/IIED*

DECISION-MAKING AND FOLLOW UP
Checks and balances for impartial decision-making

- **Decision is determined by EIA report and review;**
- **No decision until EIA report received and reviewed;**
- **Permission can be refused;**
- **Conditions can be imposed;**
- **Modifications can be demanded;**
- **The proponent is not the decision-maker;**
- **A summary evaluation is made available to public;**
- **Decision reasons and conditions are made public;**
- **There has been public consultation;**
- **There is a right of appeal against the decision; and**
- **The final review results are held on open file by the Authorising Agency.**

4/9 *IRA/IIED*

DECISION-MAKING AND FOLLOW UP
Measures to ensure implementation of decision

To ensure appropriate implementation of the decision:

- **performance conditions should be placed into legal contracts;**
- **approval should be made conditional upon the production of environmental management plans; and**
- **there should be independent monitoring for compliance.**

4/10 *IRA/IIED*

DECISION-MAKING AND FOLLOW UP
Monitoring and its role in the EIA process

- **Systematically compiles data over a period of time.**
- **measuring and recording physical, social and economic variables associated with the project.**
- **Assessment of compliance with the EIS and checks on the adherence to environmental standards.**
- **Establishes effectiveness of mitigation measures, and the occurrence and magnitudes of any impacts.**
- **Identifies impacts of development and helps to identify and correct unanticipated impacts.**

4/11 *IRA/IIED*

DECISION-MAKING AND FOLLOW UP
Considerations for effective monitoring

- **Define scope and aspects of coverage (e.g. water, air, and terrestrial systems).**
- **Establish objectives and data requirements.**
- **Set boundaries and comparison sites for observation and sampling.**
- **Identifying group and institutional responsibilities (including any public involvement).**
- **Select key indicators to be measured.**
- **Decide on how the data gathered will be analysed, interpreted and applied.**

4/12 *IRA/IIED*

DECISION-MAKING AND FOLLOW UP
Types of monitoring relevant to EIA

- **Base-line monitoring**
- **Impact/effect monitoring**
- **Compliance monitoring**
- **Mitigation monitoring**

4/13 *IRA/IIED*

DECISION-MAKING AND FOLLOW UP
Performance assessment and its role in EIA

- **Assesses the EIA process AND EIS;**
- **Evaluation of the effect of EIA on decision-making and planning process.**
- **Ground-truthing of EIS recommendations.**
- **Provides an opportunity to learn from experience.**
- **Provides guidance for EIA policy makers.**
- **Includes elements of auditing.**

4/14 *IRA/IIED*

DECISION-MAKING AND FOLLOW UP
Definition and objectives of environmental audits

Definition:

"independent and objective examination of whether practice complies with expected standards" Sadler, 1988

Objectives

- **To establish the record of change associated with a project.**
- **To compare actual and predicted impacts of the project to assess the effectiveness of impact mitigation measures and procedures.**
- **To check that the project is meeting agreed standards.**
- **To act as a tool to ensure changes are made to project where impact mitigation is not working and/or standards are not being met.**

4/15 *IRA/IIED*

DECISION-MAKING AND FOLLOW UP
Types of environmental audits

Three basic types.

- **Implementation/enforcement audit.**
- **Performance/regulatory audit.**
- **Impact prediction audits.**

Audits can also be internal or external.

- **Internal - those undertaken by the proponent often as part of the management of a project.**
- **External - those undertaken by an independent or government authority as part of project monitoring and enforcement.**

4/16 *IRA/IIED*

DECISION-MAKING AND FOLLOW UP
Questions for an environmental audit

- **What environmental impacts were predicted for the project concerned?**
- **When and where were the predictions stated?**
- **What actual impacts have been monitored?**
- **Where are the results recorded?**
- **How do actual impacts compare with predicted impacts?**

DECISION-MAKING AND FOLLOW UP
Steps for an environmental audit

- **Identify the projects under consideration, and determine whether any EIA was carried out for these projects.**
- **Determine whether the project(s) were expected to produce major quantifiable impacts.**
- **Determine whether the project(s) went ahead substantially as planned.**
- **Determine whether routine monitoring has been carried out for the project(s), and obtain the results.**
- **List all individual impact predictions that are specific enough to be tested.**
- **Determine whether the monitoring programme for the project(s) concerned actually measured the parameters required to test these predictions.**
- **Adjust impact predictions, if necessary, to take account of any modifications to the design of the project(s) made after EIA.**
- **Compare impact predictions and monitoring results, to determine the accuracy of each prediction.**

Exercises

1. **Screening of different projects.**
2. **Considering alternatives of a case study project.**
3. **Scoping of a case study project.**

SCREENING OF DIFFERENT PROJECTS

Aim

To give participants practical experience in screening a range of different types of project, and to understand the decisions which need to be made in screening, and the criteria upon these decisions are made.

Resources Required

1. Note with descriptions of different projects.
2. Screening guidelines from different agencies (World Bank, EU and NEMC).
3. Forms for recording decisions.

Description of exercise

- Break up into different groups (4 to 6 participants per group).
- You will be given brief summaries of different projects*. You are asked to screen these projects and decide which of the three options is appropriate:
    1. Project can proceed without an EIA.
    2. Further studies are needed before a decision on whether an EIA is needed can be taken.
    3. The project definitely requires an EIA.
- Use your own judgement to decide upon each project. Record your decisions on form A.
- Now use the criteria from the different agencies (e.g. World Bank. EU, NEMC) to screen the projects again. Record your decisions on form B. Groups should also make assessments on the ease of use of the different guidelines.
- Each group will then nominate a spokesperson who will present and discuss their findings in plenary.

* You will be given 4 projects to screen from the attached list of project summaries.

A. DECISION USING YOUR OWN CRITIERA

Project	*Decision*	*Justification for decision*

Codes for decision: ✓ - full EIA required; ? - further information or preliminary study needed; and, X - no EIA required

B. OUR DECISION USING OUR THE CRITIERA FOR SCREENING OF _____

Project	*Decision*	*Comment*

Codes for decision: ✓ - full EIA required; ? - further information or preliminary study needed; and, X - no EIA required

Description of case study projects for screening exercise

These are brief descriptions of real and hypothetical projects which should be used in the screening exercise. Depending upon time available course participants should be asked to screen all projects. If time is limited then different groups should be asked to screen different sets of projects.

Case study 1: Mine Development Project , Merelani Block "C", Kiteto, Arusha

The project area is located 14 km SSW of Kilimanjaro International Airport on the Lelatema Hills. The climate is semi-arid with a mean annual rainfall of 538 mm and maximum temperatures up to 34 degrees Centigrade. Prevailing winds are from the NE and SE. The area is within a Game Controlled Area. The vegetation consists of wild sisal, thorn bush, low scrub and scattered acacia trees. Three villages (<1,000 population) and one town (>20,000) are situated within a 10 km radius of the mine site. Also, the mine site is occupied by several thousand artisanal miners.

Between 1967 and 1990 the semi-precious stone Tanzanite was mined in the area, formerly by private companies and later by up to 25,000 illegal small scale miners. These activities resulted in an environmentally-degraded landscape, due to the extremely high population density, lack of sanitation facilities and unplanned mining methods. In January 1991 the area was divided into four mining blocks (known as Block A, B C and D) and allocated to four companies by the Government of Tanzania.

A commercial mine operator was allocated Block C and has evaluated the potential for commercial scale flake graphite (and tanzanite) mining. The amount of graphite has been proved to be substantial and of commercial value. The commercial operator will develop an open pit mine (240,000 tones per annum) and a processing plant to produce a high quality flake graphite for export (15,000 tones per annum). The intention is to produce graphite by crushing/grinding and a flotation processes. Tanzanite will be produced as a bi-product. As part of the project development, the operator promised to construct a new murram road, a 33 kV power line from KIA to the mine site and develop water supply at the mine site.

The commercial operator has been granted a 20 year Mining License (ML). The ML includes the mining area itself and has been extended northwards to the Kikuletwa River valley for the purpose of locating water and sitting of the processing plant. The mining process involves the blasting and removal of graphite ore to the processing plant, rock crushing and graphite extraction. Physical extraction activities result in the generation of large quantities of spoil, and the emission of considerable quantities of dust and noise.

Spoil is to be dumped on land adjacent to the processing plant (which forms a component of the mining lease). Processed tailings are to be pumped into bunded (unsealed) settling tanks, and a small component of the liquid content (which consists mainly of water but also industrial solvents, bubbling agents and detergents), is to be recycled for re-use in processing activities. The remainder of the water will be lost through evapo-transpiration and groundwater infiltration.

Case study 2: Tanzam Highway Rehabilitation

The proposal involves upgrading the 10 km stretch of the road from Ubungo to Kimara Temboni to a dual carriageway. The upgraded road will as much as possible follow the alignment of the present Morogoro Road.

The project area experiences a coastal maritime climate. The mean annual rainfall is about 1000 mm. The rain is normally highly erosive as it often falls in storms. The area consists of a severely dissected terrain comprising of hills/ridges separated by "V" shaped valleys forming a fine dendritic drainage pattern. The area as a whole is underlain by easily erodible sediments.

About 595 structures are located within the right-of-way, out of which 304 are residential houses. The rest are kiosks, garages and stores. Out of the 595 structures, 235 are commercial. 499 structures are permanent, while 14 are semi-permanent and 82 are temporary. Approximately 4,560 persons are living within the right-of-way.

Within the project impact area, the amount of built-up land constitute about 17%, while cultivation for perennial crops constitute about 28%, grassland/bushed grassland with scattered cultivation of annual crops constitute 55%. Wildlife is only limited to small animals including snakes and rodents. Livestock are raised by several households and crows are quite common.

The area has neither sewerage nor conventional system for drainage of storm water. Drainage is mainly through natural water courses. Over 90% of the households rely on pit latrines whose emptying services are inefficient. Crude dumping and burning of refuse are practiced and there is crude disposal of heavy metals and toxic substances from car garages and woodwork premises. Air pollution from burning refuse, saw dust, metals, tires vehicle, as well as pollution from exhaust gases and dust along the road is common. Communicable diseases are highly prevalent.

The main camp for the rehabilitation project will be located some 30km outside the project area, about 2 km from Mlandizi Village. The camp will house about 370 people. The camp will also house the asphalt plant while gravel will be brought from Melela Stone Quarry, 220 km from Dar es Salaam.

Site clearance will involve clearing crops and demolishing buildings within the right-of-way. Secondary water pipes connected to the main pipe running parallel to the highway will be affected by the rehabilitation works. The 11 KV electric power line and telephone lines pass very close to the right-of-way will also be affected. Both the water pipes and the power/telephone lines may have to be moved because construction will involve extensive and intensive earth works, moving and compaction.

A new camp for the rehabilitation project is located some 30km outside the study area, about 2 km from Mlandizi Village. The camp houses about 370 people. The camp will also house the asphalt plant. Gravel for construction will be brought from Melela Stone Quarry, 220 km from Dar es Salaam. Site clearance will involve clearing crops and demolishing structures within the right-of-way.

Case study 3: Construction of Cathodic Protection Stations in Mikumi National Park.

In 1968 the Tanzania-Zambia (TAZAMA) Pipeline Ltd. commissioned an underground pipeline to transport petroleum from Dar es Salaam to Ndola in land-locked Zambia. The pipeline has a total length of 1704 km. About 60 km of the pipeline runs through Mikumi National Park in Tanzania.

For over 25 years, the TAZAMA pipeline has been corroding due to a chemical reaction between the metallic pipe and the soil. Corrosion is reported to be more acute within the Mikumi National Park due the clay nature of the soil. Several oil leaks have occurred in the park and continue to threaten the park environment. Hence, the need for an abatement measure was recognised.

To achieve this, the TAZAMA Pipeline Authorities proposed the establishment of five Cathodic Protection Stations (CPS) in Mikumi National Park. These stations will be designed to generate the electricity (by fixed solar panes) required to protect from corrosion the 60 km Tanzania - Zambia (TAZAMA) pipeline in the park. The main activities involved in the project relate to the establishment of the stations including: the construction of four solar stations and one transformer rectifier unit station; mobilisation of equipment and materials at site; installation of solar panels for stations one to four and for station five a transformer rectifier unit to be supplied with TANESCO power.

Case study 4: Tanganyika Bus Service Co. Ltd.

The project is to expand the transportation services offered by Tanganyika Bus Service (TBS) through the acquisition of eight Isuzu 60 seater buses. The new buses will be used on longer routes where passengers prefer bigger buses, and will ease the current shortage of adequate reliable transportation in northwest Tanzania.

TBS's existing fleet comprises forty 60-seater buses and twenty five 30-seater buses. The twenty-five smaller buses were purchased in part with a loan from AEF in 1994, to serve lower traffic destinations and provide more frequent service.

Case study 5: Tanzania AEF Milcafe Limited

This project involves the diversification of coffee and subsequent production of clean coffee. The project will be located in Moshi, in the main coffee growing region of the country. Coffee is processed by dry methods; there will be no liquid effluents. Incoming coffee is stored, then carried by bucket elevators to a pre-cleaner and destoner where dust and heavy materials, respectively, will be removed. From the destoner, the coffee will be hulled, polished and graded before being bagged for shipment.

Case study 6: Mineral Sector Development

The principal objective of the project will be to encourage and expand private investment in mining and other mineral based industries of Tanzania through changes to sector policy and the introduction of institutional reforms. The project will introduce a legal, regulatory and fiscal framework, which would provide a uniform, competitive and stable environment conducive to private investment in mining. Environmental management, mine safety and mine workers'

health will be improved through institutional strengthening and capacity building measures supported under the project. In addition, the project will help improve the productivity, income and social conditions of small-scale subsistence miners mostly operating in Tanzania poverty-stricken rural areas.

The project would have three main components.

(i) Legal and Regulatory Framework: The project will provide consultancies to review existing laws and regulations affecting mineral prospecting, mining rights, and fiscal, environmental and safety aspects of mining activities and to help introduce necessary amendments and changes to them. In addition, a mineral titles registration and information system would be established.

(ii) Institutional Strengthening: The project will improve the organisational manpower and logistical capacity of the Mineral Resource Department (MRD) to efficiently implement the legal and regulatory framework. In addition, the project would finance the publication of about 40 geological map sheets and improvements of MRD's mineral laboratory. A mineral investment information unit would also be established to provide both foreign and domestic investors with information on minerals, investment regimes, and sources of technology, management and investment financing.

(iii) Small-scale Mining: The project will finance collection and analysis of baseline data, demonstration of simple and environmentally-sensitive technologies and training and other capacity building support to encourage the development of small-scale miners through self-help and participatory approaches.

Case study 7: Logging operation

As part of the management of the remaining tropical rainforests of an African country the Forestry Department has identified several areas of forest which it believes can be logged sustainably. The Department is now proposing to issue new logging licences to commercial companies under a new Forestry Policy developed with the support of international and bilateral agencies. One company has applied for a five year licence to log one of these areas which covers 40,000 hectares of which about 30,000 hectares is covered by primary forest, the remainder being a mixture of secondary forest, small farms and scrub. During the country’s colonial period the land was declared state owned land, but today is occupied by six villages (approx. 2000 people) who practice shifting agriculture.

The proposed logging area is an upland area near an existing game reserve. It is 30 km from the coast, and 20km from the nearest large town to which access is difficult due to poor roads. To extract the logs the company is proposing to construct temporary logging roads in the area, and then to transport logs on existing roads to the coast for export overseas. Under the new forest policy royalties from the logging are to be shared with local land owners and village in the area.

Case study 8: Rehabilitation of Irrigation Schemes

As part of the national strategy to improve food production and security the government of a neighbouring country is proposing to rehabilitate a number of existing irrigation schemes. One of these schemes, covering an irrigated area of 500 hectares, was implemented in the

1960's as a smallholder cotton scheme (for export) with the support of the African Development Bank. The local perennial river was the source of water for the scheme. Since its implementation the irrigation canals and pumps have not been well maintained, salinisation has occurred, and expected marketing arrangements and prices for the cotton have not been good. All of these factors have led to the rundown of the scheme, and many farmers have now abandoned their fields. To rehabilitate the scheme the government now proposes to renovate the existing irrigation works and expand the irrigated area by another 50 hectares. Growing of rice and horticultural crops for the local market will be promoted. Farmer user groups are to be established, and user charges introduced to maintain the scheme in the future. Farms which have been abandoned will be allocated to new farmers on 30 year leases, existing farmers will be granted renewals of their existing leases.

The irrigation area is in one of the more remote disadvantaged areas of the country where road access is still poor. The area is semi-arid, and the agriculture of the area is generally livestock based with little rainfed arable agriculture practiced. Land is generally held under customary/communal tenure systems. The land for the irrigation scheme was purchased by the government in 1964 from local communities. The local river is the main source of water for local people, both up and down stream of the irrigation scheme.

Case study 9: Rural roads improvement and maintenance

The maintenance and upkeep of rural feeder roads in many districts in an African country is a major problem. Poor roads are resulting in problems of marketing of agricultural produce, increasing the operating costs and wear of vehicles, and wasting time through longer journeys. A recent study on the costs and benefits of road maintenance has influenced the government to increase its budgetary allocation to rural roads. Due to the general financial situation this has meant a reduction in the budgets of other sectors such as education and health.

Under the government's decentralisation programme six districts in two provinces have been earmarked for a pilot project under the Rural Roads Improvement Project. Coincidentally, two of these districts are also the home locations for the President and the Minister for Finance. Each district is now required to development a Road Improvement Unit (RIU) which is responsible for planning and implementing a road maintenance programme. This will include the issuing of contracts to local business men and groups for the maintenance of rural roads.

Case Study 10: Water development: dam construction

The shortage of water for one of the largest industrial areas in a southern African country has been identified as one of the major constraints to further economic growth. To secure more water surplies the government has proposed a major infrastructure project to build a large concrete dam in the central highlands, and to transfer the water from this reservoir to the industrial area through a 50 km tunnel/pipe where it will be stored in a secondary reservoir. The main dam which will have a capacity of 1.95 km^3 and a surface area of 35 km^2 . A small hydro power scheme (60 MW) will also be built for electricity for local towns, this could be expanded under a second phase to provide power for the more remote industrial area.

This will be a major construction project which in addition to the works for the dam will require the construction of new roads and temporary settlements. The dam location is in a relatively sparsely populated but several villages are located within the area to be flooded and the inhabitants of these will have to be moved to other locations. Labour to construct the dam will have to be brought to the area as there is insufficient local labour. The construction of the transfer tunnel, pipe and canal will be through one of the country's national parks. The area is already the destination for some eco-tourists, and it is proposed to open up the area for major tourism activities when roads to the area are improved following construction of the dam. The Fisheries Department is also interested in the introduction of fish to the dam and the development of an inland fisheries industry.

Case Study 11: Upgrading of Tourism Facilities

The Tourism Development Board and the Tourist Industry Association of a neighbouring country have developed a programme to upgrade tourism facilities in the country. A project has been set up, in one tourist area, with funds from the government, which are matched by the private sector, to refurbish of existing hotels and facilities, and improvement of the currently inadequate (and hence polluting) sewage works, waste disposal facilities, and other public works. The access road currently in a poor state of repair will be resurfaced (but not widened or otherwise improved). This will improve the local environment, and generate additional income in the form of increased prices that can be charged for the better facilities.

The site is a small town located on the coast 40km from a district capital which is on the plains below. There are 5,000 local residents in this quite poor area, and there is a high level of unemployment. The lack of decent facilities mean that there is pollution from the existing inadequate sewage and waste disposal facilities, and health risks during the summer season which is the main time the resort is used.

Case study 12: Disaster relief and food aid project

In response to a major earthquake in one of the country's populated regions the national government has appealed for international help to tackle the effects of the disaster. Several hundreds of people have been killed in the initial earthquake, and estimates are that tens of thousands of people are homeless. All services - water, sewage, electricity, and telecommunications etc., - have been severely disrupted. Several countries and international agencies have responded to this appeal and provided emergency supplies and equipment. As part of further assistance one major agency has proposed a project to provide food aid to the survivors of the earthquake for the next two years while rehabilitation and construction work takes place. This food aid is mainly cereals from the agency's grain reserves. It is to be distributed at relief stations set up in the region to all who require assistance. Staff from the international agency are to be sent to assist the government in the management and distribution of this aid.

The affected area is one of the major food producing areas of the country and it has been provided sufficient surplus for the local market and occasionally for export. The earthquake has occurred two months before the major harvest of the region's cereal crop. While some of the bridges in the region were damaged by the earthquake , the road and rail infrastructure has survived remarkably intact.

Case Study 13: Telecommunications upgrading

The project is to replace the existing telephone network in a less developed southern district traditionally plagued by poor communications. This will involve the replacement of old copper overhead cables with underground cables. Old lead/copper underground cable will be removed and recovered to be sold as scrap metal. This will raise revenue to be offset against its replacement cost with optic fibres. Where necessary new cables or microwave links will be installed. The old exchange equipment will be removed and smaller digital exchanges installed releasing the buildings and land to be sold off. Old overhead lines and poles will be removed, and construction mainly limited to any microwave relay stations required. Some construction work will be required to lay underground ductwork where required.

The area covered is a less developed rural district formed by a strip of land bounded by a range of mountains to the north, and tropical coast to the south. The lack of development means that the area though unspoilt has high poverty levels. The local lifestyle is tied into to the use of natural resources such as the mangrove swamps and fishing on the reefs, and is currently sustainable. The better communications should assist business and development in the area, especially of those industries based on natural resource extraction.

Case study 14: Village Health Centres and Nutrition Programme

To improve the access of the rural population to primary health care the Ministry of Health has proposed a project to rehabilitate and expand the number of village health centres in disadvantaged areas. The aim of the project is to ensure that all villages with a population of over five hundred people have a village health centre within 5 km. This will involve the construction of health centres and housing for staff, equipping of centres, installation of communications and provision of transport. Each centre is to be staffed by primary health personnel, and will provide basic medicines and supplies to local people. The project will be supported by a major training programme of primary and community health workers so that there are sufficient number to staff these centres. The whole programme is to be jointly supported by the government and a multi-lateral donor agency.

This programme will be accompanied by a project on nutrition awareness, and the increased production of food for local and household consumption. This programme will be implemented by the Department of Agriculture and local NGOs. The overall goal will be to improve the health and nutritional status of rural people in the target areas.

CONSIDERING ALTERNATIVES

Aim

To consider alternatives to the case study project, and identify the environmentally-preferable alternative.

Resources Required

1. Description of the case study project.

Note to trainers: *Where possible this project will be used throughout the course as the theme for the remaining exercises. Ideally this should be a real project and participants should visit the project site during the course. Copies case study projects are given in Appendix IV.*

Description of exercise

- Break up into different groups (4 to 6 participants per group).
- Read the description of the case study.
- Specify alternatives to the proposed Project.
- Identify the likely environmental effects of each alternative.
- Recommend and give reasons for the alternatives you believe should be developed.
- Each group should appoint a spokesperson who will present the group's results in plenary.

SCOPING OF CASE STUDY PROJECT

Aim

To give participants real experience of scoping a local project, and to develop terms of reference for a full EIA.

Required Resources

1. Summary of the case study proposal, including its setting and nature of the surrounding communities and human/conservation activities.
2. Scoping notes
3. Scoping guidelines

Description of the Exercise

- Break up into different groups (4 to 6 participants per group)
- Each member of the group should pick a role, e.g. hydrologist, ecologist, sociologist, land use analyst, etc.
- Depending upon logistics groups should visit the proposed project site. If this is not possible the exercise will take place as a desktop one in the classroom.
- Using the case study provided each member of the group should, from the perspective of his/her role, undertake the following tasks:
    - ◊ identify the range of alternatives that might be considered the ones should be considered for further study;
    - ◊ make a list of likely impacts of the proposed project.
- Following the field visit the groups should:
    - ◊ compare their individual lists and reach consensus as on the key issues and impacts;
    - ◊ identify stakeholders - institutions, including local communities, NGOs, CBOs, that are likely to be involved in scoping;
    - ◊ describe the temporal, spatial and institutional boundaries of the study;
    - ◊ determine the mix and expertise required for the study team and the time requirements for the study; and,
    - ◊ combine elements from the above tasks to prepare an outline terms of reference for a full EIA of the case study project.
- Each group should appoint a spokesperson who will present their findings in the form of an outline terms of reference to the workshop plenary.

COMPARISON OF IEA AND LEE & COLLEY REVIEW CRITERIA

Aim

To understand the strengths and weaknesses of the two EIS Review Criteria

Resources required

- the Lee and Colley review criteria
- the IEA review criteria
- Potted summary of the case study

Description of the exercise

- Break up into different groups (4 to 6 participants per group)
- You are provided with a case study and two sets of review criteria: the Lee & Colley; and IEA criteria. Review the case study against the two sets of criteria separately. Record the strengths and weaknesses of each criterion. Specifically, consider the following:
  - ◊ User-friendliness
  - ◊ Time inputs
  - ◊ Degree of replicability between different users
  - ◊ Relevance to the Tanzanian context.
- Each group should appoint a spokesperson who will present their findings to the workshop plenary.

EIA REVIEW OF A CASE STUDY PROJECT

***Aim**:*

To give participants real experience of the review of an EIA and appreciate the strengths and weaknesses of typical Tanzanian EIA.

Resources Required:

- A potted summary of a case study including map of location in Tanzania.
- EIA Reviewing Criteria.
- Some Guidelines and checklists.

Description of the Exercise

- Break up into different groups (4 to 6 participants per group).
- Each member of the group should read the potted summaries very carefully.
- Review the EIS against the various review indicators assigning values (A to F) as required by the review criteria. Extract any additional information from the EIS (for example, information on the stage of the project cycle the EIA was initiated, whether the EIS contained an SIA, EHIA component etc.). Some of these indicators also provided a 'second opinion' on the results obtained using the IEA criteria.
- Discuss amongst the group and reach a concensus on the grade you want to assign this EIS.
- Select a spokesperson to present your results at the plenary session.

Resource Notes

1. **Policy, legal framework and institutional arrangements for the proposed EIA system in Tanzania.**
2. **Experience of Screening and Screening Guidelines for Tanzania.**
3. **Draft Scoping Guidelines for Tanzania.**
4. **Proposed Review System in Tanzania.**
5. **EU Screening Lists.**
6. **World Bank Screening Guidelines.**
7. **Framework for Terms of Reference of an Environmental Impact Assessment.**
8. **Institute of Environmental Assessment Review Criteria.**
9. **Levels of Stakeholder Involvement in Tanzania.**
10. **Typical Contents of an EIS.**
11. **Format of Registration Form used in Ghana.**

POLICY, LEGAL FRAMEWORK AND INSTITUTIONAL ARRANGEMENTS FOR THE PROPOSED EIA SYSTEM IN TANZANIA

Paper presented by Mrs. Esther J.C. Kerario at the first EIA training course, March 1998

1. POLICY ISSUES

1.1 Introduction

Tanzania Economic development in Tanzania will continue to rely on the natural resource base and the productivity of natural systems. Both renewable and non-renewable resources such as land, soil, forests wildlife, fisheries, water minerals and other elemental resources are the resource base on which the state and her people rely for survival and prosperity. Hence, the sustainability of the economic and social development depends ultimately on proper and responsible management of the natural resource base and environment in general.

However, for many years economic development activities in Tanzania have not shown sufficient concern for integrating environmental concerns. Many of the environmental problems that are witnessed today are to a large extent a result of man's own creation to satisfy his/her basic needs for livelihood and socio economic growth. The land degradation and continued decline of agricultural production in our rural society; the massive deforestation and continued loss of biodiversity on land and aquatic environment; the mishandling and mismanagement of solid and liquid wastes from domestic and industrial sources in out cities and municipalities, the pollution of water sources, air and land with severe effects on public health and persistent drought and drying of our water sources and bodies - are a manifestation of increased environmental stress that impact negatively on the national economy and peoples well being. It is therefore clear that environmental quality deterioration and natural resource degradation is an outcome of among other poverty and economic growth.

The current debate about environment and development has therefore received greater attention recently due to this realisation that patterns of development in the past has had significant and far reaching negative effect on the environment. A need to reverse the trend is therefore necessary, so as to conduct development activities is a -way that preserves the natural capacity of renewable resources to replenish their stock and honouring the environment's limited capacity to receives wastes.

That is why we are concerned about SUSTAINABLE DEVELOPMENT. The concept that takes into consideration the current and future generation by integrating environmental concerns in the development process, in addition to the economic social and cultural dimension.

1.2 National policies and strategies

The National Conservation Strategy for Sustainable Development (NCSSD), The National Environmental Action Plan (NEAP), the draft National Policy on Environment and several sectoral policies have recognised the role of EIA in sustainable development.

The ultimate goal of the national environment policy is therefore to attain sustainable socio-economic development for the present generations without compromising the ability of future generations to meet their own needs.

The overall objectives of the national environment policy are:

- to ensure sustainable, secure and equitable use of natural resources to meet needs of present and future generations.
- to prevent and control degradation of land, water, vegetation and air which constitute our life support systems.
- to conserve and enhance natural resources, including biological diversity and their ecosystems.
- to raise public awareness and understanding on close linkages between environment and development and promote their participation in environmental action.
- to promote regional and international co-operation on environmental matters.

One of the policy instrument to achieve the above goal is through the use of Environmental Impact Assessment (EIA).

The need to ensure sustainable development is particularly pertinent and perhaps more important now than before in view of the rapid changes in macro-economic policies.

These changes include a shift from state monopoly to market oriented economies.

- Trade and economic liberalisation including industrial reforms.
- Privatisation and mushrooming of private enterprises which include haphazard developments to alleviate poverty,
- Restructuring of public enterprises e.g. parastatal engaged in commercial production and marketing being sold or made to enter into joint venture arrangement.
- Reform of the financial sectors, reduce inflation and liberalise foreign exchange regime.
- Improve social and infrastructure services.
- Lessening government monopoly on agriculture production, tourism, natural resources and industrial investments.

All these reform certainly will be translated into actions or activities that will consequently result in likely negative implications. Hence, in view of the above, the need to develop clearly understood country specific procedure and guidelines to follow when conducting ElAs for proposed activities is imperative.

1.3 Other Sectoral Policies

A number of sectoral policies such as lands, energy, minerals, tourism, industries advocate the use of EIA in project planning. For example the land policy require EIA studies prior to every major project and changing of land uses. The issuance of an industrial license is subject to an environmental permit. However neither of these policies have detailed specific sectoral guidelines.

There are nevertheless notable initiatives to incorporate EIA in sectoral policies and planning. Tanzania National Parks (TANAPA) has a policy that requires an EIA for all development activities within and adjacent areas to the national park boundaries, proposed by private or public agencies. The Department of Wildlife draft policy also require that development proposals within the protected areas including the game controlled areas, game reserves and forest reserves to be subjected to EIA.

TANESCO has already made EIA mandatory for all power generation projects and construction of transmission lines.

2 WHAT IS ENVIRONMENTAL IMPACT ASSESSMENT

2.1 Definition

EIA has been defined by many is a process or procedure to ensure that environmental consequences of development proposals (of public or private activities)are understood and adequately internalised in the planning process before implementation is undertaken. It is both a process and tool for project planning and decision making to ensure that during development planning, biophysical, economic and socio-cultural aspects are considered, negative impacts are avoided or mitigated and potential benefits are realised.

2.2 The purpose of undertaking EIA

The overall purpose of undertaking EIA is to ensure that:-

- The development options consideration are environmentally sound and sustainable (i.e. to support the goals of environmental protection of sustainable development), and,
- That any environmental consequences are recognised early in the project cycle and taken into account in project design and implementation, (as it is shown in the attachment 1, EIA and the project cycle.)

Specifically, purpose of EIA is as follows:

- is an aid to decision - making, it provides a systematic examination of the environmental implications of a proposed action, with alternatives, before a decision is taken. In other worlds the EIA clarify some of the trade-offs associated with a proposed development action - which lead to more rational and accountable structured decision making.

- It provided opportunity for public, specialist affected and interested parties consultation in decision making, thus forming the basis for negotiating between the developer, public interest groups and planning regulators in an open (transparency) and participatory approach (i.e. to provide avenue for the involvement of the public, proponents, private and government agencies) in the assessment and review of the proposed action.
- To predict the consequences of a proposed development from the environmental. socio, economic and cultural perspectives and develop plans **to** mitigate adverse impacts, resolve conflicts and enhance positive aspects.
- To compare various alternative which are available for a particular project/activity and determine the optimum mix of environmental and economic costs and benefits. In other worlds its attempts to ensure that "social costs" of development proposal (those borne by society, rather than the developer) are outweighed by the "social benefits".
- Ultimately, EIA improves project design and implementation.

2.3 The objectives

As a rule of thumb, the objectives of carrying out an EIA are therefore:-

- To identify and incorporate into the project plan appropriate abatement and mitigation measures.
- To predict any significant residual environmental impact for which amelioration is not possible.
- To identify the environmental costs and benefits of the project to the community.

3 WHO IS INVOLVED IN THE EIA PROCESS

As a tool for collecting and assembling information to improve project design, and to be able to effectively achieve the above goals and objectives; EIA need to be interactive participatory and multidisciplinary in nature, to come up with a better understanding of linkages between ecological, social, economic and political systems.

There are five principals groups of stakeholders (or individual) who should be involved in the EIA process. These are:-

i. The developer (or investor/project proponent)

These are project initiators, and are responsible for commissioning and incurring the cost of undertaking the EIA process, on the basis of "developer pays" arrangements. These may be public (or include ministries and their departments or parastatals), or private sectors and companies and development agencies (multilateral, bilateral, donors or international/ national or non-government organisations).

ii. Assessors (service providers)

These are those individuals or a group of multidisciplinary specialists of scientists, economists, engineers, policy makers, ecologist who will undertake the study or provide input to the EIA statement. Local people though not listed contribute much in terms of local knowledge of the environment. These may be individuals drawn from various sectors as a multidisciplinary team, or organisation; research and academic institutions, NGOs, local and international consulting companies.

iii. Stakeholders

These are people (individual/communities) who are impacted by the proposed - They are the most important stakeholder or target group, failure to identify and involve them in the process may jeopardise the whole undertaking and may render project to public criticisms and conflicts. Interest groups may - include local and/or international environmental organisations, labour unions, profession societies and local associations.

iv. Reviewers

These are responsible for providing an evaluation of the strengths and weaknesses of a proposal or assessment report; and assess the content, comprehensives, and adequacy or reports as well as organisational and presentational qualities.

Also reviewers are charged with identification of issues not covered, inaccuracies in information, problem with logic or any conflicts apparent in the assessment process.

Review may be undertaken by an authority responsible for enforcing the need for ElAs and which will oversee the preliminary screening and scoping. Apart from authority reviews there may be specialist reviewers - a qualified specialist who may be required the report of the a assessment and check on the adequacy and completeness of the information in the report particularly if the proposal is controversial or where there is public concern and/or uncertainly over specific issues.

Others may be public reviews and review terms. A review team may consist of authority, public, specialists, and NGOs reviewers.

Public reviews could be done by affected and interested parties themselves, their representative or a panel appointed by the themselves. These should not be seen as delaying tactic but rather a way that affected parties can be sure that their concerns have been adequately addressed and factual information is adequate.

v. Decision taker

Is a person or group . of persons or a body responsible for making decisions once the EIA has been submitted and reviewed. This can be a head of state, minister, elected body or authority or a single designated individual.

4 THE PROPOSED NATIONAL EIA GUIDELINES AND PROCEDURE AND GUIDELINES

The development of a national policy on environmental impact assessment is underway, awaiting the approval of the proposed national EIA procedure and guidelines that will provide the basis for the EIA policy.

The overall objectives of EIA in addition to maintaining long-term ability of natural resources and their ecosystem; to support humans, plant and animal life; and to conserve the social, historic and cultural values of people is to encourage environmentally responsible investments and development in the country.

The underlying principles of the EIA frameworks are: -

i) Sustainability of development activities for present and future generation

ii) Integrated and multi-sectoral approach to resource planning and environmental management be instituted.

iii) Project impacts, must be monitored and managed throughout the life of the development.

iv) The involvement and participation of government agencies with a mandated in the project in the review and approval of EIA documents through a cross sectoral technical review committee (TRC).

v) Particular attention must be given to fair and equitable distribution of project costs and benefit. Development projects/investments should support national growth as well as local benefit. As a minimum, local people in a project area must be no worse off than they were before a project was implemented.

vi) Public participation in the EIA process is mandatory to provide opportunities to individuals, communities, NGOs, interested and affected parties to provide inputs to the process of identifying, reviewing and accepting EIA reports.

4.1 Administration of EIA

The national EIA framework is administered by the Ministry responsible for environment under the office of Vice-President. The Director General of the National Environment Management Council (NEMC) has the responsibility for overseeing the implementation of EIA.

Both public and private sector development activities are subject to EIA. The proposed guidelines has provided a list of projects that require mandatory EIA; those that may require EIA and a list of environmental sensitive areas (See appendix).

An "EIA acceptance" or "Environmental Approval" is granted when the technical review committee has been satisfied that the proposal undertaking has adequately identified the impact as well as the mitigation measures for managing then.

The proponent / developer is responsible for the preparation of EIA reports according to the terms of references approved by the government and fund the EIA studies. The government is responsible for reviewing EIA reports to assess their adequacy. Guidelines on report writing and technical advice to proponents on how best to comply with EIA requirements ?we to be provided by NEMC.

4.2 Stages in the EIA Process

(i) **Registration -** the proponent is required to register his activity by submitting dully filled in a special application form together with a proposal concept to the NEMC to assess whether or not EIA is required.

(ii) **Screening -** this is the classification stage to determine the level at which EIA will be carried out. In making the decision whether full preliminary EIA is required the consideration of the following factors is taken: location of project, technology used concern of public, land use consideration, environmental impacts and any other relevant factors. NEMC then submits a screening report to the proponent.

(iii) **Impact Assessment -** If the classification indicates that a full EIA is required then identification of main issues of concern through scoping will be done by consulting all the relevant concerned parties. Terms of reference will then be prepared to guide the impact assessment study. A public consultation programme ought to be submitted for verification of issues raised by concerned parties.

The preparation of EIA study follows after approval of TOR, to identify likely impacts, assess and evaluate their severity and magnitude and proposed mitigation measures to minimise potential negative impacts and enhance positive benefits.

An EIA report includes an environmental management plan which outlines proposals for monitoring and management of anticipated impacts, especially those which affect local communities. Public consultation is mandatory when conducting an EIA and at a minimum the proponent must meet key stakeholders to solicit their views.

(iv) **Review:** Once an EIA report (or EIS) has been submitted by the proponent a review process will be undertaken by the cross sectoral technical committee (TRC). The TRC is composed of members from sectors responsible for environment and resource management, those that are currently the focus for investment and relevant research institutions. TRC is crucial in enhancing required technical credibility, institutional interagency coordination, accountability and transparency in deciding the fate project.

Depending on the complexity and scope of the project, an independent review panel may be formed for a specific project. The public is notified of the EIS to present their views and comments and these are collated by the NEMC for the TRC consideration.

If more information is required the proponent/his consultant will be informed of the need for a more detailed analysis of certain impacts proposal or any other information to adequately assess the proposal. Additional public consultation may be required as well. Once the additional information has been submitted a further review may be necessary.

Public bearing: as part of the review process may be necessary whenever a strong public concern over the undertaking has been raised and impact are far reaching. Other critical factors that may necessitate public hearing are sensitivity of the site location, type and scale of project, technology used, multiple land use considerations, project impacts and any other factors related to a particular project.

(v) **Environmental Decision Making**

The outcome of the review could be "EIS acceptance" and the proponent will be served with a provisional environmental permit (PEP) together with terms and conditions of approval or could be "EIS rejection" and is signed by the Chief Executive of NEMC.

The proponent may be required to re-submit a revised statement or conduct further studies on the project. The validity of PEP is two years from the date that the proponent is advised of the decision. If a project has not started within that period a fresh re-assessment will be needed.

(vi) **Appeals.** Both the proponent and the affected or interested parties have the right to appeal. If there is dissatisfaction of the decision reached, he/she has the right to appeal to the Minister responsible for Environment. The Minister shall appoint an appeal panel of not more than 5 people 3 experts, one member from public and a high court judge and the results shall be communicated to NEMC for necessary action.

(vii) **Project implementation -** this is to be conducted according to the terms and conditions of approval guided by the environmental management plans.

(viii) **Monitoring and Auditing.** Both the proponent and the government have the responsibility to undertake monitoring. Monitoring include the verification of impacts, adherence to approved plans and mitigation measures and general compliance of terms and conditions. Environmental audits should be undertaken to provide feedback on the EIA process and effectiveness of the management plan.

(ix) **Decommissioning:** This is and of the project life. The decommissioning report shall be prepared by the proponent and submitted to NEMC for record.

4.3 Other Important Considerations

EIA Fees

The proponents is required to pay the following fees

- Environmental Assessment Registration fees payable at NEMC Office
- Environmental Permit

Penalties

Proponents who fails to comply with the requirements of the EIA procedures shall be subject to appropriate penalties.

Time Frame

The total period for the determination of an application at all stages by NEMC is at most 120 working days. Screening - 30 days. approval of ToR - 30 days, Review - 45 days (inclusive of 21 days for public review) and issuance of Provisional Environmental Permit - 1, 5 days.

Environmental Units (EUs)

Environmental units at sectoral and district level shall be the collaborating partners in the EIA process. The linkages between NEMC and these units shall be legally binding to ensure clear lines of command.

5. THE LEGISLATIVE AND INSTITUTIONAL FRAMEWORK FOR EIA

Not withstanding the current efforts in developing guidelines and a clear procedure for the institutionalisation of EIA, an effect EIA process in the country is constrained by the lack of a legal backing. An effective implementation of the policy objectives need to be backed up by an appropriate legislation.

Currently there are numerous pieces of environmental related legislation's that are yet to be streamlined. The situation is further complicated by the existence of the National Environmental Management Council, the national body that advises the government on all matters pertaining to EIA and co-ordinate environmental issues but lack supervisory and regulatory legal powers.

There is therefore a need of:-

i) Providing for an environmental impact assessment process in law; i.e. a specific EIA legislation and

ii) Establishing an environmental protection agency to administer the EIA process or

iii) Enacting a framework environmental protection legislation which often contains an EIA component

In the later case, this is an "umbrella" legislation which lays down the basic legal principles without any attempt at codification. It entails the declaration of national environmental objectives and policies, establishment of relevant environmental management institutions and definition of common procedural principles for environmental decision making applicable to all sectors. In the later respect, the legislation often covers such cross sectoral issues as environmental impact assessment, environmental quality criteria and public participation in decision making and implementation etc.

However, recognising that the process of law formulation takes time, there are initiatives to seek "an administrative directive" from the Minister responsible for environment while awaiting for the formalisation of the legislative framework.

6. CONSTRAINTS TO IMPLEMENTATION OF EFFECTIVE EIA AND POSSIBLE SOLUTIONS.

i) Lack of legal backing for EIA and enforcement tools

To make EIA effective, supervisory, regulatory and compliance monitoring powers be provided for the institutionalisation of EIA in the country. Lack of an EIA legislation may render the process of developing guidelines and procedure to a useless exercise. Up to now, EIA is still be performed on voluntary basis. Appropriate sanctions for enforcement must be available and effective. In addition to provision of mechanisms which include critical penalties for non-compliance, punishment should also include rehabilitation of the actual damage.

On the other hand concerning administrative mechanisms, public agencies responsible for licensing activities may exercise the option of suspending or cancelling the granted permit's. The threat of withdrawing a permit is a more effective implementation tool than, for example, the imposition of a fine.

ii) Inadequate capacity building at all levels.

The Capacity and expertise to manage the EIA process is extremely limited and is thinly spread across different institutions in the country. Experience in undertaking EIA is limited due to inadequate EIA specific training expertise. This implies that specific training will be required to improve the capacity even at the level of commissioning ETA studies.

iii) Inadequate Stakeholder involvement in EIA process.

Effective ElAs require the active involvement and participation of all the stakeholder to ensure that all the relevant concerns are integrated.

iv) Institutional arrangements and processes

Effective implementation of environmental legislation presupposes the existence of appropriate institutional arrangements and processes and the provision of adequate resources (human, financial and technical) for the operation of these institutions. This is not the case, and as a result because of minimal resources - there is continued sectoral approaches to environmental management with effects of diffusing powers and responsibilities, in diverse government departments and local authorities and jurisdictional overlaps and conflict. A need to streamline institutional arrangement effective EIA implementation is of paramount importance.

7. CONCLUSION

Agenda 21 emphasises the need to develop capacity for sustainable development in developing countries. Appropriate environmental policies and legislation and related

institutions is conceived of as part of the critical element in the building of overall capacity to deal with challenges of sustainable development. The proposed national EIA guidelines and procedure that have been developed to suit the local specific conditions which will form the basis for the EIA legislation will be among the most important instruments for transforming the environment and development policies into action. There is therefore a need to review and strengthen environmental legislation and institutions with a view to enhancing their capacity to meet challenges of sustainable development.

Moreover, there will be need to evolve strategies that promote compliance and ensure effective enforcement. The capacity of enforcement agencies to inspect and monitor compliance, to investigate violations, and to compel compliance need to be enhanced.

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EXPERIENCE OF SCREENING IN TANZANIA

Paper presented by Mrs. Esther J.C. Kerario at the first EIA training course, March 1998

1. WHAT IS SCREENING

Screening is the process of classifying a proposal to determine the level at which an environmental assessment will be carried out i.e. whether a full EIA study is required, or a preliminary assessment, or no assessment. It is the first stage undertaken within the EIA process after registration of the project proposal.

The responsibility for screening lies with the national environmental body that is charged to oversee the implementation of environmental impact assessment (EIA) issues. Sectoral and district environmental units with assistance from the national environmental regulatory body may screen project of local importance.

2. PERSONAL EXPERIENCES WITH SCREENING PROJECTS

Different approaches have been used by different agencies world-wide in determining whether or not a proposal requires a full-scale EIA and the level at which that assessment should occur.

Some of the most common criteria used are screening projects are as follows:

i) Past experience in implementation of projects has indicted that certain types of projects have serious adverse impacts than others.

ii) Preliminary assessment. The subjection of projects to initial environmental examination may indicate the scale of impacts and their importance.

iii) Use of checklists and matrices.

iv) Sensitive are criteria - areas that are environmentally fragile or valuable ecosystems.

v) Use of exclusion list criteria.

2.1 Some examples of categorisation of project

i) *World Bank* has identified project categories based on the nature, magnitude and sensitivity of the environmental issues. It has 3 categories of projects:

Category A: requires full EIA; have significant impacts that may be sensitive, irreversible and diverse. Impacts results from a major component of project and affect the area as a whole or an entire sector. e.g. Dams and reservoir; industrial plants and estates river basin development etc.

Category B: initial environmental examination required. Here impacts are less significant than in class I e.g. small scale agro-industries, watershed projects, rural electrification etc.

Category C: No EIA needed. Education, Health, Nutrition, Technical assistance etc.

ii) *Commission of European Community* have proposed two fists, those require mandatory EIA and those that may be subjected to EIA.

iii) *Ghana* has a list of mandatory EIA projects, those that may require EIA; those that can be exempted outright from proceeding and those that need to observe existing laws and regulation.

iv) *South Africa* has two categories of activities, those that are of national transboundary importance and those that are of provincial/local in nature. In either case, there are those which require mandatory EIA, initial assessment or do not require EIA.

In summary, the determination of the level at which an environmental assessment can occur is basically dependent on local circumstances and conditions and therefore may be country specific.

3. THE PROPOSED SCREENING PROCEDURE FOR TANZANIA

3.1 Screening Procedure

The NEMC with the assistance of a cross-sectoral technical review committee (TRC) is responsible for screening projects. Screening is undertaken using information on the registration form "EIA F1", and additional information provided from the submitted proposal.

Projects of national interest or highly risks and contentions projects with potentially serious and multidimensional environmental concerns are screed by NEMC, while the more localised projects by the district sub-offices. No projects shall be screened or reviewed by environmental units at sectoral level as these cannot form cross-sectoral technical review committees.

EIA is mandatory for projects known from previous experience to have the potential of causing significant impacts. These are listed in the proposed national EIA guidelines, Appendix 1. Other projects on a mandatory list are those to be developed within or near environmentally sensitive/critical areas (ESAs). ESA are critical area that are fragile or contain valuable environments/ecosystem that can easily be harmed by the effects of development. The proposed EIA procedure and guidelines have a list of ESA (see Appendix 2).

Figure 1 gives a flowchart of the screening procedure proposed for Tanzania.

3.2 Criteria used for screening projects not on a Mandatory list

for those projects not on the mandatory list the following criteria will be used to determine if an EIA is required:

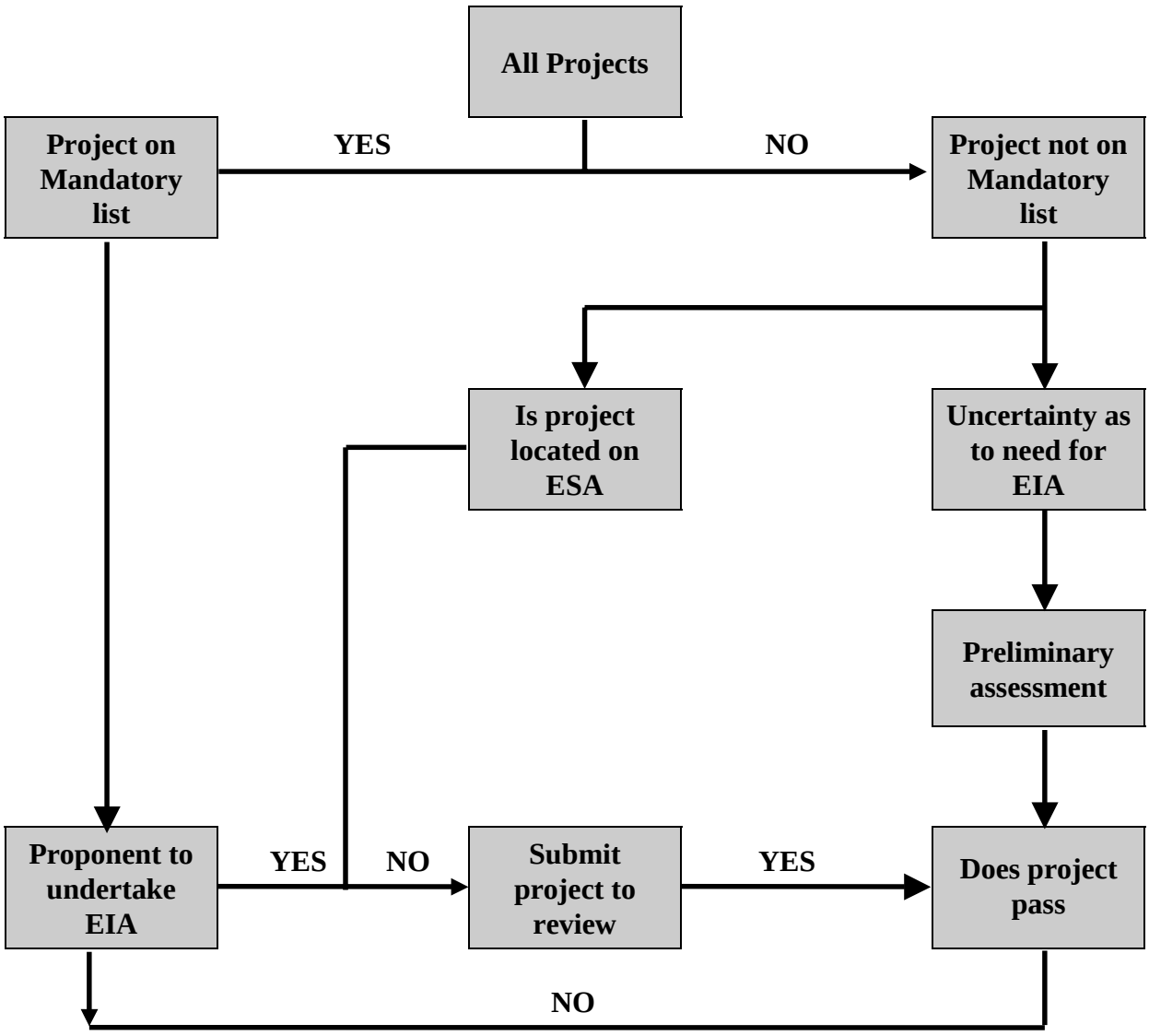
i) *Key project parameters.* e.g. type, size, sitting of project, resource demand, technical production processes, infrastructure needs, expected effluents/emissions etc. Using information on such method of development, the potential environmental consequences will be appraised.

ii) *Affected Area:* This include the ecological importance, people, land use, value, fragility and dynamics of development.

iii) *Importance and scale of potential environmental impacts***:** Scale of impacts include such issues likes area of influence; duration of disturbance, effluent/emission of quality resettlement requirements, cumulative effects, reversibility, infringement of any laws, regulations or directives etc. Importance of impacts will be appraised after establishment of scale of impacts.

iv) *Public opposition/concern.* Controversial issues which raise public concern as a result of type and scale of the undertaking, sensitivity of site location; technology used; conflict of interest in land uses etc. may render the project under detailed scrutiny and assessment.

Figure 1 Proposed screening process for Tanzania



3.3 Conditions for exempting protects from EIA

The proposed national guidelines have set conditions for exempting projects from subjection to EIA if all of the following are satisfied. These are:

i. The activity will not substantially use a natural resource in a way that pre-empts the use, or potential use of that resource for any other purpose.

ii. Potential residual impacts on the environment are likely to be minor, of little significance and easily managed.

iii. The type of activity, its environmental impacts and measures for managing them are well understood in the country.

iv. Reliable means exist for ensuring that impact management measures can and will be adequately planned and implemented.

v. The activity will not displace significant number of people, families or communities.

vi. The activity is not located in and will not affect, any environmental sensitive areas as.. national parks, reserves; wetlands, prime agricultural land; important archaeological and cultural sites; areas protected by law; areas containing rare or endangered flora or fauna and areas containing unique or outstanding scenery. .

vii. The activity will not cause emission of pollutants or create by - products, residual or waste materials which require handling and disposal in a manner that is not regulated by existing authorities.

viii. The activity will not cause significant public concern because of potential environmental changes.

ix. The activity will necessitate further development activity which is likely to have significant impact on the environment.

3.4 Screening decisions

Following screening exercise screening report will be prepared. The outcome of screening could be one of the following:

- *No EIA required* - the screening report is submitted to TRC for review.
- *Full EIA* - having decided that a particular undertaking be subjected to full EIA it is then the responsibility of the proponent to undertake a scoping exercise in order to determine the full scope of the terms of reference for the EIA (for details see scoping guidelines).
- *Preliminary EIA* is required

APPENDIX I A LIST OF PROJECTS REQUIRING EIA

A. MANDATORY LIST

1. Agriculture

Cultivating natural and semi-natural not less than 50ha.; Water management projects for agriculture (drainage, irrigation); Large scale mono-culture (cash and food crops); Pest control projects (i.e. tsetse, army worm, quelea quelea, locusts, Rodents weeds) etc. Fertiliser and nutrient management; Agricultural programmes necessitating the resettlement of communities, Introduction of new breeds of crops.

2. Livestock and Range Management

Large Scale livestock movement. Livestock markets; Introduction of new breeds of livestock; Introduction of new breeds of livestock; Introduction of improved forage species; Fencing; Provision of public water supply (watering points, wells); Ectoparasite management (cattle dips, area treatment). Intensive livestock rearing units; Livestock routes.

3. Forestry Activities

Timber logging and processing. Forest plantation and afforestation and introduction of new species; Selective removal of single commercial tree species; Pest management.

4. Fisheries activities

Medium to large scale fisheries; Artificial fisheries (Aqua-culture for fish, crustaceans shrimps, lobster or crabs); Introduction of new species in water bodies.

5. Wildlife

Introduction of new species; Wildlife catching and training, Hunting. Wildlife ranching and farming, Zoo and sanctuaries.

6. Tourism and Recreational Development

Construction of resort facilities or hotels along the shorelines of lakes. river; islands and oceans; Hill top resort or hotel development; Development of tourism or recreational facilities in protected and adjacent areas (national parks, marine parks, forestry reserves etc.) on islands and in surrounding waters; Hunting and capturing; Camping activities, Walk ways and trails etc; Sporting and race tracks/sites; Tour operations.

7. Energy Industry

Production and distribution of electricity; gas; steam and hot water; Storage of natural gas; Thermal power development (i.e. coal, nuclear); Hydro-electric power - electric power; Bio-mass power development; Wind-mills power development; Solar (i.e. Impact due to pollution

during manufacture of solar devices; acid battery spillage and improper disposal of batteries) and Nuclear energy.

8. Petroleum Industry

Oil and gas fields exploration and development, including seismic survey. Construction of offshore and onshore pipelines; Construction of oil and gas separation, processing, handling and storage facilities. Construction of oil refineries; Construction of product depots for the storage of petrol, gas, diesel, tar and other products within commercial, industrial or residential areas, transportation of petroleum products.

9. Food and beverage industries

Manufacture of vegetable and animal oils and fats; oil refinery and ginneries; processing and conserving of meat; manufacture of dairy product; brewing distilling and malting; fishmeal factors; slaughter - house. soft drinks; tobacco processing; caned fruits, and sources; sugar factories; other agro-processing industries.

10. Textile in Industry

Cotton and Synthetic fibres; dye for cloth; ginneries.

11. Leather Industry

Tanning; tanneries; dressing factors; other factories.

12. Wood, Pulp and Paper Industries

Manufacture veneer and plywood; manufacture of fibre board and of particle - board; manufacture of Pulp, Paper, sand-board cellulose - mills.

13. Building and Civil Engineering Industries

Industrial and housing estate; major urban projects (multi-storey building, motor terminals, markets etc.); tourist installation; construction and expansion/upgrading of roads, harbours, ship yards, fishing harbours, air fields and ports, railways and pipeline; river drainage and flood control works; hydro-electric and irrigation dams. reservoir; storage of scrap metal; military installations; construction and expansion of fishing harbours. developments on beach fronts.

14. Chemical industries

Manufacture; transportation. use and storage of pesticide or other hazardous and or toxic chemicals. production of pharmaceutical products; storage facilities for petroleum., petrochemical and other chemical products (i.e. filling stations); production of paints; varnishes, etc.,

15. Extractive industry

Extraction of petroleum; extraction and purification of natural gas; other deep drilling bore - holes and wells; mining; quarrying; coal mining; sand dredging.

16. Non - metallic industries (Products)

Manufacture of cement, asbestos, glass-fibre, grass - wool; processing of rubber; plastic industry; lime manufacturing. tiles. ceramics.

17. Metal and Engineering industries

Manufacture and assembly of motor - vehicles, manufacture of other means of transport (trailers, motor - cycle, motor-vehicle, bicycles - cycles). body - building; boiler-making and manufacture of reservoirs; tanks and other sheet containers; foundry and forging; manufacture of non-ferrous products; iron and steel; electroplating.

18. Waste Treatment and disposal

(a) Toxic and Hazardous waste

Construction of Incineration plant. construction of recovery plant (off-site); construction of waste water treatment plant (off-site); construction of secure land fills facility; construction of storage facility (off-site); collection and transportation of waste.

(b) Municipal Solid Waste

Construction of incineration plant; construction of composting plant; construction of recovery/re-cycling plant; construction of Municipal Solid Waste landfill facility; construction of waste depots; collection and transportation.

(c) Municipal Sewage

Construction of waste water treatment plant; Construction of marine out fall; Night soil collection transport and treatment; Construction of sewage system.

19. Water Supply

Canalisation of water courses; Diversion of normal flow of water; Water transfer scheme; Abstraction or utilisation of ground and surface water for bulk supply; Water treatment plant.

20. Health Projects

Vector control projects (malaria, bilharzia, trypanosomes etc.)

21. Land Reclamation and land development

Rehabilitation of degraded lands; coastal land reclamation; dredging of bars; Greyones, dyes, estuaries etc.; spoil disposal.

22. Resettlement/relocation of people and animals

Establishment of refugee camps

23. Multi-sectoral Projects

Agro-forestry. dispersed field - tree inter-cropping. Alley cropping. Living fences and other linear planting. Windbreak/shelterbelts; Taungya system- Integrated conservation and development programmes e.g. protected areas; Integrated Pest Management (e.g. IPM); Diverse construction - public health facilities schools, storage building, tree latrines, small enterprises, logging mills, manufacturing furniture carpentry shop, access road, wen digging, camps, dams, reservoirs; River basin development and watershed management projects; food aid, humanitarian relief

24. Trade: Importation and Exportation of the following

Hazardous Chemical Waste; plastic; petroleum products; vehicles; used materials; wildlife and wildlife products; pharmaceutical; food and beverages,

25. Policies and Programmes

Decision of policies and programmes on environment and development; decision to change designated status; family planning; technical assistance; urban and rural land use development clans e.g. master plans, etc.

A LIST OF SMALL - SCALE ACTIVITIES AND ENTERPRISES THAT REQUIRE REGISTRATION (MAY OR MAY NOT REQUIRE EIA).

Fish culture

Bee-keeping

Small animal husbandry and urban livestock keeping

Horticulture and floriculture

Wildlife catching and trading

Production of tourist handicrafts

Charcoal production

Fuel wood harvesting

Wooden furniture and implement making

Basket and other weaving

Nuts and seeds for oil processing

Bark for tanning processing

Brewing and distilleries

Bio-gas plant

Bird catching and trading

Hunting

Wildlife ranching

Zoo, and sanctuaries

Tie and dye making

Brick making

Beach sailing

Sea weed farming

Salt pans

Graves and cemeteries

Urban livestock keeping

Urban agriculture

Fish landing stations

Wood carving and sculpture

Hospital and dispensaries

Schools, community centres and social halls, play ground

Wood works e.g. boat building

Market places (livestock and commodities)

Technical assistance

Rain water harvesting

APPENDIX 2 ENVIRONMENTALLY SENSITIVE AREAS AND ECOSYSTEMS

1 Area prone to natural disasters (geological hazards, floods rain storms, earthquakes, landslides, volcanic activity, etc)

2. Wetlands:- (flood plans, swamps, lakes, rivers etc.) water bodies, characterised by one or any combination of the following conditions.
(a) Tapped for domestic purposes brick making
(b) Within the controlled and/or protected areas;
(c) Which support wildlife and fishery activities
(d) Used for irrigation agriculture, livestock grazing

3 . Mangrove swamps characterised by one or any combination of the following conditions;
(a) With primary pristine and dense growth
(b) Adjoining mouth of major river systems;
(c) Near or adjacent to traditional fishing grounds;
(d) Which act as natural buffers against shore erosion strong wind and storms floods

4. Areas susceptible to erosion e.g.
(a) hilly areas with critical slopes
(b) unprotected or bare lands

5. Areas of importance to threatened cultural groups

6. Areas with rare/endangered/or threatened plants and animals.

7. Areas of unique socio-cultural history archaeological, or scientific importance and areas with potential tourist value.

8. Polluted area.

9. Areas subject to desertification and bush fires

10. Coastal areas and Marine ecosystems:-
- Coral reef
- Islands
- Lagoons and estuaries
- Continental shelves
- Beach fronts etc
- Intertidal zones
- Marine reserves

11. Areas declared as:-
National parks, Watershed reserves, forest reserves, wildlife reserves and sanctuaries, sacred areas, wildlife corridors, hot-spring areas.

12. Mountainous areas, water catchment areas and recharge areas of aquifers

13. Areas classified as prime agricultural lands or range lands

14. Green belts or public open spaces in urban areas

15. Burial sites and graves

DRAFT SCOPING GUIDELINES FOR TANZANIA

Presented by NEMC at the National Workshop on the development of procedures and guidelines for instituting EIA in Tanzania in June 1997, and discussed during the EIA training course March 1998

1. INTRODUCTION

Scoping is defined as a procedure for determining the extent and approach to an impact assessment. It is a procedure which follows once the screening report indicates that the undertaking will result in significant adverse impacts and will thus require an Impact Assessment to be undertaken. It is an early and open process for determining the scope of issues related to the proposed action.

The objectives of scoping are:-

- To provide an opportunity for the proponent, his/her consultants, the relevant authorities interested and affected parties to exchange information and express their views and concerns regarding the proposal before an Impact Assessment is undertaken.
- To focus the study on reasonable alternatives and relevant issues to ensure that the resulting Impact Assessment is useful to the decision makers and address the concerns of interested and affected parties.
- To facilitate an efficient assessment process that saves time and resources and reduces costly delays which could arise where consultation were not to take place.

Scoping determines the Terms of Reference (ToR) and boundaries of the EIA study.

2. RESPONSIBILITY FOR SCOPING

The proponent and his/her consultants, have final responsibility for scoping. In cases where the proponent or consultant lack the expertise it may, be appropriate to appoint a multidisciplinary team or advisory group to guide the scoping process.

3. TASKS INVOLVED IN SCOPING

Scoping involves the following tasks:

3.1 Background Information and Proposal

Background information on the nature of proposal (including the purpose and need for the project, proposed actions, location, timing, method of operation of likely impacts etc), as well as a brief description of the affected environment, is required in order to assist interested and affected parties to comment constructively and from an informed position during the scoping process.

The information should be clear and concise, so that It can be easily understood by the general public.

3.2 Involvement of Authorities, interested and affected parties

The proponent or his/her consultant will prepare a scoping programme indicating the following:-

3.2.1 Authorities, Affected and Interest Parties

The proponent or his/her consultant's first task is to establish who is the responsible decision making authority or authority with delegated responsibilities, the affected and interested parties or special expertise relevant to the proposal should be directly contacted for information and comments.

This form of scoping will enable the proponent/consultation to identify, policies, legal and local administrative constraint that may exist, as well as determining the major consensus of these various groups whose interests may be affected by, the proposal.

3.2.3 Methodologies for Public Participation Involvement

The proponent/consultant should establish a list of interested and affected parties as well as developing methods of notifying then of the proposal. Consultation with the public should be a two - way process, in which information about the proposals disseminated and useful local/information and opinions received. The consultation process should record the fears, interests and aspirations of the community, so that these can be addressed in the subsequent EIA study.

Public participation or involvement methodologies may include:-

- Public meetings
- Newspaper advertisements
- Surveys, interviews and questionnaires
- Workshops
- Advisory groups

Whatever methodology, of public involvement is selected should be designed to suit the circumstances. It should provide the means of obtaining the views of the interested or affected parties.

<u>Public Meetings:</u>

A public meeting is a gathering of interested and affected parties to present and exchange information and views on a proposal. There are several functions which meetings serve. These function may be fulfilled in different meetings. These functions include:

- to provide background information on the proposal
- to identify, other interested and affected parties and
- to respond to any question or concerns regarding proposals
- to actively seek information which could include perceptions of needs, attitudes to
- specific aspects of the proposals and issues of concern
- to identify reasonable alternatives and/or significant issues associated with the proposal
- to provide feedback to the public (e.g. progress of investigations, or completion of impact Assessment)
- to seek consensus on problems opposing views and conflict areas.

In designing a meeting it is important to be clear about what is to be accomplished by holding the meeting. The meeting should begin with a description of the proposal and its anticipated effects by the proponent or his/her consultant. Displays of posters and other illustrative material may also be made available to give the public a good understanding of all aspects of the proposal, Concerned people should then be invited to identify the issues and /or alternatives that they believe should be addressed in the EIA study,. A written account/record should be made of the proceedings of the meeting.

While public meetings appear to be the simplest and most direct way of gaining contact with the public, they are one of the most complex, unpredictable and demanding methods of public involvement and have several limitations. The consultant should device ways of minimising or avoiding these limitations by:-

- Organising small-medium sized meetings because large public meetings may create an intimidating atmosphere and prohibit people from raising questions or concerns,
- Being on the watch out for interested groups or assertive/local individuals who have a particular agenda and may be taken over the meeting.
- making sure that people do not use public meetings to raise and discuss other issues beyond the scope of the proposal
- having contingency, plans because on practical level it is difficult to know how many people will participate and therefore what facilities and services will be required.
- Combining a public meeting with other methods because a meetings does not ensure that all views are heard because only those with time available can participate.

<u>Newspaper advertisement:</u>

Advertisement in newspaper can be used to provide information to the general public on a proposal and at the same time solicit comments from them. They can also be used for announcing public meetings or other public involvement activities. An advertisement could also include a response form on which readers can express their opinions or indicate willingness to participate in other public involvement activities. Most newspapers are able to

handle the distribution of inserts for a modest cost . The way in which an advertisement is placed will obviously affect the number of people who are reached. It is important to place the advertisement or article in a prominent place in the newspaper. The information provided should be accurate, clear. and concise and the language should be simple. Major limitation of this method is that the information will only reach those interested and affected parties that regularly purchase and read the newspapers. This would obviously exclude members of the community who are poor, illiterate and have no interest with newspapers. It is important to devise other ways to reach such groups

Surveys, interviews and questionnaires:

Surveys can be used to determine public attitudes, values and perceptions on the various issues surrounding a proposal. Two basic survey methods:

- self administered questionnaire
- personal interview

A rigorous methodology must be employed to ensure that the findings of the surveys represent the sentiments of the communities being sampled. Survey must therefore be designed by somebody who is experienced in survey design.

The purpose of survey must be clear and an indication of how the information will be used once it has been obtained must be given. Survey can provide an expression of the feeling from the 'total' public, not just those individuals who are most directly affected. They also gather opinions front people who might be unwilling to speak out at public meetings or participate in other public involvement activities. Surveys also give a snapshot picture of opinion at a given time.

The limitation in surveys is that they are time consuming; they also convey public views given time.

Workshops:

The term 'workshop' is used for a wide variety of small meetings in which a limited number of participants can be briefed on a proposal, or be engaged in the review of plans.

Workshops are expected to produce results as well as to be forums for exchanging information. They are also useful for dealing with complex topics which the public needs briefing on technical matters; as well as time for detailed consideration.

Workshops can be used at a number of different stages of the public involvement process. They allow for in-depth involvement and participants have an opportunity to work out value priorities and evaluate alternatives.

Workshop participants have to be properly informed of the proposal, as well as the issues under consideration.

In designing a workshop it important to identify activities which will lead to the desired result/product

Advisory Groups:

Advisory groups usually consist of a relatively small group of people who represent various interests, points of view or fields of expertise to advise the proponent or consultant with the proposed actions or a specific proposal.

- they provide a cross-sampling of public views and concerns and members of the group have a chance to become informed about the issues before coming to conclusions and have a better understanding of the consequences of decisions.
- personal relationships are established which result in members of the group developing deeper understanding of the concerns of other Interests and establish relationships which serve as a moderating influence on more extreme ideas.
- they can serve a communication link back to the communities they represent
- they can assist in determining the terms of reference for the Impact.

An advisory, group must be representative of the public who may have an interest in or be affected by a proposal, this extensive consultation with interested and affected parties prior to the establishment of an advisory group is important

4. SCOPING REPORT

The proponent/Consultant will prepare a written report on the results of the Scoping exercise. This will serve as a record for interested and affected parties and as guidelines for the Impact Assessment investigations.

The report should at least indicate:-

- how Scoping was undertaken,
- the authorities and interested and affected parties consulted
- alternatives which should be examined in the Impact Assessment
- the issues of concern and
- the specific guidelines for undertaking and preparing the Impact Assessment.

5. TERMS OF REFERENCE (ToR)

Following an identification of key environmental issues of concern and how various stakeholders will be involved, the proponent and/or his consultant prepares the Terms of Reference for the EIA. First the proponent will prepare a draft Terms of Reference and submit twelve (12) copies to NEMC. The ToR should be accompanied by the Scoping Reports.

The Terms of Reference should be able to provide formal guidance for practitioners on the range of issues that must be addressed in the EIA process. They also form a basis for subsequent review process. The draft Terms of Reference (ToR) must indicate that the Environmental Impact Statement will include:

- a description of the proposed undertaking and an analysis of the need/reason for the undertaking
- the objective of the undertaking
- other options for carrying out the undertaking
- alternatives of the undertaking
- a description of the present environment that would be affected directly or indirectly
- a description of the future environment, predicting its condition if the undertaking did not take place.
- the impacts that may be caused to the environment by the undertaking
- proposed measures to prevent or mitigate all adverse impacts
- an evaluation of opportunities and constraints to the environment of the undertaking
- a proposal for an environmental management programme to cover constructional, operational and decommissioning stage of the undertaking.
- proposals for a programme of public information.

The draft Terms of Reference will be studied by NEMC for approval. Where necessary a visit to the site(s) will be made. The outcome of the study, which could either be a rejection or revision/modification or approval should be communicated to the proponent or his/her consultant in a period not exceeding thirty (30) days.

Upon approval of ToR, the environmental investigation and preparation of EIS can follow immediately.

PROPOSED REVIEW SYSTEM IN TANZANIA

1. Introduction

The National Environmental Management Council (NEMC) assisted by the cross-sectoral technical review committee (TRC) will be responsible for the review.

2. The Technical Review Committee

- Members of the TRC will be drawn from key sectors dealing with environment and resource management, those that are currently the focus of investment and relevant research institutions:
    - Ministry responsible for environment
    - Ministry responsible for natural resources and tourism
    - Ministry responsible for urban and rural planning
    - Ministry responsible for water
    - Ministry responsible for minerals
    - Ministry responsible for works
    - Ministry responsible for industries and trade
    - Institute of Resource Assessment
    - NEMC 2 Members (shall be the secretariat)
- TRC may coopt specialists in relevant disciplines to assist whatever required
- Depending on the scope and complexity of the activity an independent review panel may be formed
- The importance of the TRC is central in enhancing:
    - appropriate technical credibility
    - institutional inter-agency co-operation
    - accountability and transparency in deciding the fate of a proposal
    - minimisation of subjectivity and bias.

3. Tools used for the review and Review criteria

These will include:

- approved terms of reference
- General environmental checklists
- project specific checklists
- expert opinion

- public review
- adapted standard review criteria

The adopted review criteria for use in Tanzania are those of the UK's Institute of Environmental Assessment (1990) with minimal modifications to suit our local circumstances. The criteria has 4 main review areas:

1. Description of the development, local environment and baseline conditions
2. Identification, analysis and assessment of the impacts
3. Consideration of alternatives and mitigation of the impacts
4. Public involvement and communication of the results

- In review area one, the focus is more on the purpose and objective, design, size and scale of development, raw materials used in construction and operation phase.
  - Site description of the affected area is clearly shown and land required specified in relation to existing land use
    - The baseline information the interest is whether there is sufficient information on the description of the study area environment which could be the basis for impact prediction and monitoring

- In review area two, consideration is given to:
  - methodology used in the analysis
  - the logic used to identify potential impacts for all phases of the project
  - scoping methods are adequately described and justified
  - affected groups by the project clearly identified

- In review area three, the focus is on:
  - other project alternatives have been considered
  - all significant adverse impacts have been considered for mitigation
  - an effective environmental monitoring and management plan is in place
  - commitment of mitigation measures

- In review area four, we focus on:
  - whether there were genuine and adequate consultation with all stakeholders and their issues integrated
  - presentation of the information is appropriate and logical
  - the balance of the report, no emphasis or prominence of bias
  - there are no gaps and conflicting statements
  - the non-technical summary of the analysis and main findings are clear and justified

- Basing on the above, the overall assessment of the EIS is made whether the report:

  A is excellent, no tasks left uncompleted

  B is good, only minor omissions and inadequacies

  C is satisfactory despite omissions and inadequacy

  D parts are well attempted, but generally unsatisfactory because of omissions and/or inadequacies

  E poor, significant omissions or inadequacies

  F very poor, important tasks not attempted.

If the rating is below C, the proponent is required to revise the report.

4. Public review

Further to the review by the TRC, it is proposed that the public will be given 21 days notice for their reaction to the proposal. This involves putting up notices in newspapers, radio and public places about the receipt of the EIS and placing them in libraries and information centres for the larger public to comment upon. The comments will be collated by the NEMC for the TRC.

5. Public Hearings

It is proposed that public hearings will be conducted for projects which have a strong public concern and impacts are extensive and far reaching. Factors that necessitate a public hearing may include:

- sensitivity of project site
- type and scale of the project
- technology used
- multiple land use considerations
- degree of public concern
- any other factor related to that particular project

In case there is dissatisfaction on the outcome of the review, there is room for Appeal to the Minister responsible for environment. He/she will appoint an appeal panel of 5 members chaired by the high court judge, 3 technical experts and one member from the public. The results of the appeal shall be communicated to NEMC for action.

EU SCREENING LISTS

The European Community has three categories:

Category A: Projects requiring no environmental analysis
Category B: Projects requiring further environmental analysis
Category C: Projects requiring a full Environmental Impact Assessment

Screening List A: Projects Requiring No Environmental Analysis

- Educational facilities (small-scale)
- Teaching facilities and equipment
- Scholarships and conferences
- Teaching staff and resource personnel
- Audio/visual productions
- Training
- Medical centres (small-scale)
- Medical supplies and equipment
- Medical staff and community health workers
- Training
- Nutrition
- Family Planning
- Research
- Trade (except trade in tropical hardwoods, endangered species, hazardous materials)
- Micro-projects/programmes (small-scale capital and service)
- Programme assistance (general and sectoral import programmes)
- Food aid
- Emergency assistance
- Assistance to refugee returnees and displaced persons
- Studies, including evaluations
- Technical assistance for project implementation
- Technical assistance for policy formulation
- Works supervision
- Institution building at the government/local level

Screening List B: Projects Requiring Further Environmental Analysis

- Rural water supply and sanitation

- Land drainage (small scale)
- Sewerage systems
- Installations for the disposal of sewerage sludge
- Recycling plants
- Installations for the disposal of domestic refuse (large scale)

- Housing and commercial projects

- Upgrading/rehabilitation of major rural roads
- Airports with basic runway length less than 2,100m
- Inland ports which permit the passage of vessels under 1350 tonnes
- Upgrading of port or harbour facilities (large scale)
- Thermal power stations and other combustion installations with a heat output of less than 300 megawatts
- Electricity transmission lines
- Rural electrification
- Renewable energy (large scale)
- Mini-Hydro
- Widespread introduction of new management practices (e.g. mechanisation, mixed cropping)
- Widespread introduction of new crops
- Pest control programmes (large scale)
- Widespread introduction of fertilisers
- Watershed management and rehabilitation
- Surface-water fed irrigation projects covering between 100 and 500 hectares
- Ground-water fed irrigation projects covering between 200 and 1000 hectares
- Protected forest reserves (large-scale)
- Agro-forestry (large-scale)
- Productive forest reserves large-scale)

- Intensive rearing of cattle (> 50 heads), pigs (> 100 heads), or poultry (> 500 heads)
- Intensive aquaculture (large-scale)
- Extensive aquaculture (exceeding 50 ha, or exceeding 10 ha if affecting mangroves)
- Artisanal fisheries (large-scale)
- Introduction of new species
- Introduction of new harvesting technology

- Extraction of aggregate minerals such as marble, sand, gravel, shale, salt phosphates and potash.
- Extraction of non-metallic or energy producing minerals (small-scale)

- Agro-industries, including manufacture of vegetable and animal oils and fats, manufacture, packing and canning of animal, fish and vegetable products
- Manufacture of timber products, pulp, paper and board (large-scale)
- Tannery and leather-dressing factories (large-scale)
- Production of chemicals, including pesticides (small-scale)
- Industries utilising hazardous materials (small-scale)
- Accommodation large-scale)
- Amenities (large-scale), such as water, energy, sanitation, waste disposal
- Large-scale facilities such as marinas, modifications to ports, entertainment complexes
- Ecological or cultural-tourism (dependent upon conservation-worthy ecosystems, flora or fauna; or local populations with a particular cultural identity)
- All other resettlement schemes

Screening List C: Projects Requiring a Full Environmental Impact Assessment

- Rural and Urban Water Supply and Sanitation
- Canalization and flood-relief works (large-scale)
- Dams and reservoirs (medium and large-scale)
- Waste water treatment plants (large scale)
- Land drainage (large-scale)

- Waste disposal installations for the incineration chemical treatment or land fill of toxic hazardous and dangerous waste
- Installations for the disposal of industrial wastes

- Hospital and educational facilities (large-scale)

- Major urban roads
- New and upgraded motorways/express roads
- Rural road programmes
- Oil and gas pipelines and installations
- Rail infrastructure
- Elevated and underground railways and suspended lines used mainly for passenger transport
- Inland waterways
- Airports with a basic runway length of 2,100m or more

- Trading ports
- Ports for inland waterways traffic which permit the passage of vessels over 1350 tonnes
- Large scale expansions to existing ports and harbours

- Thermal power stations and other combustion installations with a heat output of 300 megawatts or more
- Hydroelectric power large-scale)

- Land clearing/conversion to agriculture (large-scale)
- Land reclamation (large-scale)
- Surface-water fed irrigation projects covering more than 500 hectares
- Ground-water-fed irrigation projects more than 1000 hectares
- Plantation afforestation/reforestation (large-scale)

- Large-scale open range rearing of cattle, horses, sheep etc.

- Fisheries and Aquaculture Industrial Fisheries

- Mineral Extraction and Processing

- Industry

- Tourism

- Resettlement

- Deep drilling, such as geothermal, oil, and water supplies.
- Extraction of metallic and energy-producing minerals by open-cast mining.
- Extraction of coal/lignite by underground or open-cast mining
- Surface industrial installations for the extraction of coal, petroleum, natural gas and ores
- On-site mineral processing facilities (large-scale)
- Industrial estates
- Major industrial facilities including the following:

    - Oil refineries
    - Gasification or liquefaction plants of 500 tonnes or more of coal or bituminous shale per day
    - Installations for the production of ferrous and non-ferrous metals, including smelting, refining, drawing, rolling and surface treatment (large-scale)
    - Installations for the extraction and processing of asbestos and cement products
    - Treatment and production of chemicals (large-scale), including integrated chemical installations.
    - Manufacture or transport of pesticides or other hazardous and/or toxic materials

- Coastal development (large-scale)
- Resettlement schemes (large-scale)

WORLD BANK SCREENING GUIDELINES

The World Bank categorises project in three groups:

Category A: Projects/Components Which May Have Diverse and Significant Environmental impacts - Normally Require EA

1. Aquaculture/Mariculture (large scale)
2. Dams and Reservoirs
3. Electrical Transmission (large scale)
4. Forestry
5. Industrial Plants (large scale) and Industrial Estates
6. Irrigation and Drainage (large scale)
7. Land Clearance and Levelling
8. Mineral Development (including oil and gas)
9. Pipelines (oil, gas, and water)
10. Port and Harbour Development
11. Reclamation and New Land Development
12. Resettlement
13. River Basin Development
14. Rural Roads
15. Thermal and Hydropower Development
16. Tourism (large scale)
17. Transportation (airports, railways, roads, waterways)
18. Urban Water Supply and Sanitation (large scale)
19. Manufacture, Transportation, and Use of Pesticides or other Hazardous and/or toxic Materials
20. Projects which Pose Serious Accident Risks

Category B: Projects/Components which may Have Specific Environmental Impacts - More Limited Environmental Analysis Appropriate

Projects in this category normally require more limited environmental analysis than an EA.

1. Agroindustries (small scale)
2. Aquaculture and mariculture (small scale)
3. Electrical Transmission (small scale)
4. Irrigation and Drainage (small scale)
5. Industries (small scale)
6. Mini hydro-power
7. Public Facilities (hospitals, housing, schools, etc.
8. Renewable Energy
9. Rural electrification
10. Telecommunications
11. Tourism (small scale)

12.Urban Development (small scale)
13.Rural Water Supply and Sanitation.

Category C: Projects /Components which Normally Do Not Result in Significant Environmental Impacts - Environmental Analysis Normally Unnecessary

Opportunities to enhance environmental benefits should be sought in these projects

1. Education (except school construction)
2. Family planning
3. Health (except hospital construction)
4. Nutrition
5. institutional development
6. Technical assistance

FRAMEWORK TERMS OF REFERENCE FOR EIA

Headings	Topics	Basic requirements
Introduction	Background	Introduce the project and the most critical environmental issues involved.
Context	The problem	Summarise the basic development issue or problem being addressed by the proposed activity.
	Proposed solution	Summarise how the proposed activity is expected to resolve the problem or issue.
	Objectives of the assessment	Specify the objectives of the assessment and the relationship of the results to project design and implementation.
Institutional setting	Legal/policy/institutional basis.	Summarise the legal and policy bases for environmental assessment. Ensure a clear division of responsibilities between institutions involved in the EIA process.
Expertise	Multi-disciplinary skills availability	Ensure an appropriate mix of expertise is present in the EIA team. Use local expertise wherever possible Build training/capacity-building into team composition and EIA process.
Alternatives	Alternatives to the project	(a) Assess the potential for achieving the developmental objective by interventions at the policy level. (b) Assess potential for achieving objectives by implementing other projects.
	Alternatives within the project	Evaluate alternatives for key aspects of the project, eg. scale, siting, waste management and pollution control options.
Institutional and public involvement	Institutional co-operation	Show how institutions will participate in the assessment and how the project fits with development priorities of each institution
	Public involvement	Show how interested/affected groups will participate in the assessment.

Headings	Topics	Basic requirements
Required information	Description of project	Describe the project (design, location, size), inputs (raw materials, energy), outputs (products, by-products emissions).
	Description of environment	Identify study boundaries and give baseline date on relevant physical, ecological, social, economic and cultural conditions.
	Information quality	Assess information quality, identify data gaps, and summarise limitations on the assessment from such deficiencies.
Analysis of impacts	Positive impacts	Predict how lives of affected people will be improved and any enhancement of natural systems resulting from project.
	Negative impacts	(a) Predict significant reductions in quality of air, water and soil or loss of biodiversity. (b) Evaluate the risk of a significant deterioration in the quality of the lives of the affected people. (c) Evaluate plans for involuntary relocation and describe measures to minimise the no. of relocatees. (d) Evaluate the cumulative impacts from the project and compare with incremental losses from previous projects. (e) Evaluate the potential for transboundary impacts and effects on the global commons. (f) Define the meaning of the term "significant" and assess the significance of the expected impacts.
Mitigation and monitoring	Environmental management plan	Provide comprehensive and detailed plan covering mitigation of impacts, relocation/compensation schemes and training. Ensure that costs are integrated into project design.
	Environmental monitoring plan	Detail the environmental and social variables to be monitored, location/timing of sampling, and use of results. Ensure that costs are integrated into project design.
Conclusions and recommendations	Project decisions	Indicate the extent to which the proposed project conforms with the principles of sustainable development.
	Technical matters	Summarise design and operational changes that are critical to improving the environmental acceptability of the project.

Headings	Topics	Basic requirements
	Non-technical summary	Summarise, in non-technical terms, key findings and recommendations of the assessment, including economic benefits.
Annexes	Organisation	Provide information on the assessment team, the overall approach, component studies, schedule and budget.
	Report format	Follow a pre-defined format in preparing the environmental assessment report (usually provided by responsible authority).

INSTITUTE OF ENVIRONMENTAL ASSESSMENT REVIEW CRITERIA

1. Description of the development, local environment and baseline Conditions

1.1 Description of the Development

The purpose and objectives of the development should be explained. A clear justification should be given for the proposed development. The description of the development should include the physical characteristics, scale and design as well as quantities of material needed during construction and operation. The operating experience of the operator and the process, and examples of appropriate and comparable existing developments, should also be given. Estimations of cost should be provided where appropriate and comparable existing developments, should also be given. The EIS should also describe the relationships between the promoter, the planning, engineering and design teams and those responsible for the EIS.

1.2 Site Description

The area of land affected by the development should be clearly shown on a map and the different land uses clearly demarcated. The affected site should be defined broadly enough to include any potential effects occurring away from the construction site (e.g. dispersal of pollutants, traffic, changes in channel capacity of water courses as a result of increased surface run-off etc.).

1.3 Residuals

The types and quantities of waste matter, energy and residual materials and the rate at which these will be produced should be estimated. The methods used to make these estimations should be clearly described, and the proposed methods used to obtain the information should be clearly identified.

1.4 Baseline Conditions

A description of the environment (in the broadest sense) should be included. Baseline data should be gathered in such a way that the importance of the particular area to be affected can be placed into the context of the region or surroundings and that the effect of the proposed changes can be predicted.

2. Identification and Evaluation of Key Impacts

2.1 Identification of Impacts

The methodology used to define the project specification should be clearly outlined in a 'Method Statement'. This statement should include details of consultation and participation during the

scoping process with stakeholder groups including discussions with expert bodies (e.g. the Planning Authority, National Parks Authority etc.) and the public, and reference to panels of experts, guidelines, checklists, matrices, previous best practice examples of environmental assessments on similar projects (whichever are appropriate). Consideration should be given to impacts which may be positive or negative, cumulative, short term or long term, permanent or temporary, direct or indirect. The scoping exercise should identify those impacts which merit further investigation. The logic used to identify the key impacts for investigation and for the rejection of others should be clearly explained. The impacts of the development on human beings, flora and fauna, soil, water, air, climate, landscape, material assets, cultural heritage, or their interaction, should be considered.

2.2 Prediction of Impact Magnitude

The size of each impact should be determined as the predicted deviation from baseline conditions, during the construction phase, during normal operating conditions, during decommissioning (where appropriate), and in the event of an accident when the proposed development involves materials that could be harmful to the environment (including people). The information and data used to estimate the magnitude of the main impacts should be clearly described and any gaps in the required data clearly indicated. Estimates of impacts should be recorded in measurable quantities with ranges and/or confidence limits as appropriate. Qualitative descriptions, where necessary, should be as fully defined as possible.

2.3 Assessment of Impact Significance

The significance of all those impacts which remain after mitigation should be assessed using the appropriate national and international quality standards where available. Where no such standards exist, the assumptions and value systems used to assess significance should be justified and the existence of opposing or contrary opinions acknowledged. The rationale used to assess significance should be clearly explained. Significance should also be considered in the light of national environmental issues and related government policies and legislation on order to place the proposed development in a clear national context. Where appropriate, transboundary issues should be examined in the same light. Significance should not be assessed solely on biophysical criteria.

3 Alternatives and Mitigation

3.1 Alternatives

Alternative sites should have been considered where these are practicable and available to be developed. Alternative developments by which the same project objectives could be achieved should also be explored. The main environmental advantages and disadvantages of these should be discussed in outline, and the reasons for the final choice given. Where available, alternative processes, designs and operating conditions should have been considered at an early stage of project planning and the environmental implications of these outlined.

3.2 Mitigation

All significant adverse impacts should be considered for mitigation and specific mitigation measures put forward where practicable. Estimates of mitigation costs should be given where possible. Mitigation methods considered should include modification of the project compensation and the provision of alternative facilities as well as pollution control. It should be clear to what extent the mitigation methods will be effective. Where effectiveness is uncertain or depends on assumptions about operating procedure, climatic conditions etc., data should be introduced to justify the acceptance of these assumptions. A clear description of residual impacts expected to remain after mitigation should be given.

3.3 Commitment to Mitigation

Clear details of when and how the mitigation measures will be carried out should be given. When uncertainty over impact magnitude and/or effectiveness of mitigation over time exists, monitoring programmes should be proposed to enable subsequent adjustment of mitigation measures as necessary.

4 Communication of Results

4.1 Presentation

The report should be laid out clearly with the minimum amount of technical terms. An index glossary and full references should be given and the information presented so as to be comprehensive to the non-specialist. All methodologies used in the EIA should be clearly explained and external sources of data cited. The EIS should also indicate who the intermediate/final decision-makers are.

4.2 Balance

The environmental statement should be an independent objective assessment of environmental impacts, not a best case statement for the development. Negative impacts should be given equal prominence with positive impacts and adverse impacts should not be disguised by euphemisms or platitudes. Prominence and emphasis should be given to predict large negative or positive impacts.

4.3 Non-Technical Summary

There should be a non-technical summary outlining the main conclusions and how they were reached. Copies should be available in the native language. Preferably the summary should be available separately from the main EIS. The summary should be comprehensive, containing at least a brief description of the project and the environment, an account of the main mitigating measures to be undertaken by the developer, and a description of any remaining or residual impacts. A brief explanation of the methods by which these data were obtained and an indication of the confidence which can be placed in them should also be included**.**

4.4 Terms of Reference

The EIS should contain a clear description of the ToR used throughout the EIA process. The rationale used to formulate the ToR and the people involved in the process should also be described. The ToR should state the format for reporting.

4.5 Gaps and Uncertainties

The EIS should contain clear indications of gaps in information provided and an estimation of uncertainty of data given. Preferably, this should be given in a separate overview.

5 National Involvement in the EIA Process

5.1 Government

Where appropriate the EIA should involve the relevant authorities from the level of the village council up to national government. Involvement may take many forms from consultation (e.g. on national policy) through to active participation in the EIA process. A statement should be included outlining the concerns, recommendations, perceptions etc articulated by the authorities.

5.2 Expertise

The EIA should demonstrate that national expertise provided a significant component of the EIA team, or that national expertise was employed as a component of ongoing capacity-building. The names and expertise of all members of the EIA team should be appear in the report, and each team member should have signed the FIS to indicate their agreement with the findings of the completed statement. Where the views of individual team members differ from the findings presented in the main report, these views should be clearly and fairly summarised.

5.3 Stakeholder Involvement

The EIS should clearly indicate if relevant government authorities - from village to national level were involved in the EIA process, and how. There should be a clear statement of the level of stakeholder group involved in the EIA process, and the methods used to solicit their involvement. Ideally, the public will have been made aware of the EIA in advance and will be well-informed of the key issues to be addressed. The techniques used to achieve this should be outlined in the EIS. The EIS should outline the opportunities given to the public to participate in the different stages of the EIA process, particularly scoping and the identification and definition of mitigation measures. The concerns and perceptions of a broad and representative range of stakeholders should be stated clearly in the EIS. In the case of preliminary EIAs, clear recommendations should be made for involvement of the public in any subsequent stages of project design and EIA.

6. Review Grades

A Excellent, no tasks left incomplete or aspects omitted
B Good, only minor omissions and inadequacies
C Satisfactory, despite omissions and inadequacies
D Parts well attempted, but must as a whole be considered just unsatisfactory because of omissions or inadequacies

E Poor, significant omissions or inadequacies
F This review topic is not applicable or relevant in the context of this statement.
Data One of the above grades could not be assigned due to lack of data

LEVELS OF STAKEHOLDER INVOLVEMENT IN TANZANIA

(Source: Mwalyosi and Hughes, 1998)

Project	Description of stakeholder involvement
Kilombero Valley Hardwood Project	This preliminary EIA included discussions with all key stakeholders, including the government at central, regional and district levels, NGOs, village visits and the proponent organisation. The results of these discussions led to some changes in project design, including the establishment of a locally-controlled social fund.
Pesticides Manufacturing, Moshi	EIA prepared in response to public outcry over siting the plant within a residential area. The EIA process (reportedly) did not involve significant levels of stakeholder groups. No evidence was presented in the EIS of (local) public involvement in the process.
Graphite Mining, Merelani	The EIS makes brief reference to a visit of the consultants to two local villages but does not indicate what questions and issues were discussed. The extent to which those consulted were aware of the objectives of the EIA process, or the scale or design details of the proposed project, is unclear. No references were made in the EIS to the views expressed by the local communities, nor to the influence of those views in shaping the contents of the EIS. With the exception of a reference to consultation with the village/ward government, there appeared to be limited involvement of other stakeholders. Such limited local involvement does not appear to have influenced the design or operation of the mine.
Oil Pipeline Protection, Mikumi National Park	TANAPA and TAZAMA were consulted as part of the study, although surprisingly, their views and contributions are not outlined in the EIS. The study did not involve the tourist industry (most of the impacts predicted were aesthetic), and no mention is made of other government stakeholders.
Hydropower Re-development, Pangani Falls	A small sample of local villagers around the dam site were consulted. Other stakeholders, such as water users and fishing communities upstream and downstream of the dam, were not consulted.
Tourist Development (Serengeti-Serena Lodges) Serengeti national Park	With the exception of TANAPA, and the project proponent, there was no stakeholder involvement in the EIA. Time constraints prevented the EIA team visiting local settlements in areas outside the park from which stone and aggregates were extracted. The study did not include involvement of the tourist industry (most of the predicted impacts were aesthetic), and no mention is made of other governmental stakeholders.

TYPICAL CONTENTS OF AN EIS

Executive, or non-technical, summary

The non-technical summary is the part of the report that most people will read. It is often the only part of the report that people will read!

For a small to medium proposal a two to three page summary is appropriate. However, for a major proposal, the executive summary may be up to ten pages long. The summary should be short but comprehensive, with an emphasis on expected impacts and management measures. For Tanzania the summary should be written in English and Kiswahili, and where relevant in the local language. The executive summary should also be produced as a separate, "stand-alone" document, which also provides details of where the full report can be obtained or referred to.

The non-technical summary should be clearly written, avoid jargon and technical language, and contain sections/paragraphs on:

- title and location of the project;
- name of the proponent;
- name of the organisation preparing the EIA report;
- a brief outline and justification of the proposed project;
- a brief description of the project environment;
- names of project stakeholders plus their, and public, involvement in preparation of EIS;
- description of the major significant impacts;
- recommendations and plan for mitigation/compensation measures;
- proposed monitoring and auditing; and,
- summary of recommendations and conclusions.

Introduction

This should identify the type of project proposed (e.g. road project; forest plantation); its location (or various site alternatives), and if the project is part of a larger proposal or not. The project proponent must be clearly identified as must the team which carried out the EIA. It should outline the background to the project and the reasons or justification for it.

Project description

This should indicate the status of the project in the project cycle e.g. pre-feasibility, feasibility, detailed engineering and design - so that reviewers of the report can understand the level of detail and available planning or design options. The description of the project and its alternate sites, designs and implementation strategies should be given in enough detail so that impact forecasts and management measures can be understood and appreciated. In most

cases, it will not be necessary to include detailed process information or market-sensitive information that a proponent might want to remain confidential (but it is important that this is not used as an excuse to keep information which should be public secret).

In most cases, the description should include:

- inputs (raw materials), outputs (products), processes and major types of equipment;
- the different options or alternative designs or locations available to the project;
- maps, flow diagrams and photographs where necessary; and
- a summary of technical, economic and environmental features essential to the project.

The different design options or project alternatives should be discussed and compared (including the no project option). The principal features of each option should be given and the economic, technical and environmental advantages and disadvantages of each option should be discussed and evaluated - this should be covered in more detail in the section on the assessment of environmental impacts.

Project stakeholders and public involvement

This section should identify all the project stakeholders and their interests in the project (both positive and negative). A report of how these groups were involved in the preparation of the EIS should be included. This should include a description of public involvement in the EIA process, and how the interests of the public and different stakeholders have led to changes in project design and development of mitigation measures for adverse impacts.

Description of institutional, policy and legislative environment

This should describe the institutional, policy and legalisation environment affecting the project and its development. This would include the policies, regulations and legislation which the project will have to comply, and the bodies or organisations with which it will have relations in its construction and operation. This will cover the different institutional and administrative boundaries affecting the project.

Description of existing social and biophysical environment

This section should describe the existing social and biophysical environmental setting in enough detail to allow for an understanding of the analysis and assessment of impacts. It should include:

- spatial and temporal boundaries within which the environment is going to be considered;
- environmental conditions in qualitative and quantitative terms of the physical, biological and human environment before the implementation of the project, as well as projected conditions over the time horizon of the project should the project not go ahead; and,

- environmentally-sensitive areas of special or unique scientific, socio-economic or cultural value.

Environmental planning and design

A discussion of the environmental planning that has gone into the project should be discussed. Issues that have been taken into account for avoiding or minimising impacts, for capturing potential benefits, for compensating for residual impacts, and for impact management have to be discussed. The design and management features to which the proponent is committed must be highlighted as these form a key part of the project design on which the impact analysis is carried out. The objectives, methods and results of involving the public in project planning should also be discussed.

Assessment of environmental impacts

This should include a description of how beneficial/adverse impacts and direct/indirect are expected to occur. This is required for each feature of the environment identified as important during scoping. Possible cumulative or synergistic effects should be highlighted. In each case, the report should discuss:

- the source(s) or cause(s) of the impact(s);
- the severity of impact (e.g. magnitude, direction, etc.) as well as the likelihood of its occurring;
- a quantitative or qualitative assessment of the costs of different impacts;
- a clear statement of residual impacts, i.e. those which cannot be avoided or minimised, and recommendation for how these shall be managed;
- a description of methods and standards used to predict and forecast impacts, of how environmental data was gathered, and the methods and criteria used to judge impact significance;
- the uncertainties in predicting impacts;
- the significance of the different impacts; and,
- possible measures for avoiding or mitigating the affects of significant impacts.

Impact mitigation planning and management

This section should detail an impact management plan which summarises the planning and design measures adopted in the project plan to reduce or eliminate potential environmental impacts. It must outline how it is planned to reduce or eliminate potential environmental impacts, or enhance positive impacts. It must also outline a system for the monitoring and management of impacts during project construction, operation and decommissioning, and outline which activities will be undertaken by the proponent and which should be the responsibility of the government. it should also include an estimate of the costs of implementing the mitigation measures.

Economic evaluation

Where possible, the report will include an economic valuation of the environmental costs and benefits of the project, and identify those which cannot be evaluated in monetary terms. The distribution of costs and benefits (Who benefits? Who pays?) should also be discussed, and integrated into the financial and economic appraisal of the project.

Summary and conclusions

It is useful to have the conclusions summarised in a series of brief statements referring to relevant sections of the report. The section should focus on significant impacts, the measures proposed avoid or mitigate them, and the impact management proposals during project implementation.

Appendices

These should include information not directly useful in the text of the report but needed for reference or detailed review by technical experts. These could include:

- References;
- Abbreviations used in text;
- The Terms of Reference for the study;
- Sources of data and information;
- Detailed data reduced for use in the main body of the report;
- Detailed technical analysis of particular impacts (e.g. pollution dispersion, soil erosion, demands for social services);
- Names of individuals and organisations consulted or involved in study;
- Details of when and where study was undertaken; and,
- Names and qualifications of team members who carried out the study.

Appendices are often included as a separate volume.

FORMAT OF REGISTRATION FORM USED IN GHANA

Environmental Impact Assessment Application
(Registration Form)

OFFICE USE ONLY	ASST NO.	FILE NO.

This is not a legal document. It is designed to provide sufficient, relevant information to enable the EPA to set an appropriate level of formal assessment for a proposal referred to it.

* Attach additional information where necessary in case space provided is not enough.

PROPONENT

Submitted by:

_____

Address for Correspondence:

_____

_____

Proponent's Phone Number _____ Fax Number_____

Contact Person _____ Position_____

PROPOSAL

Title of proposal _____

Description of Undertaking/Development

_____

_____

_____

Location (Please attach a map/site plan)

_____

PROPOSAL SITE

Current zoning _____ Distance to nearest urban or residential area_____

Adjacent land uses

_____

Site description

_____

_____

SERVICES

Water supply: Quantity required

_____

Source

_____

Transport effects

_____

_____

ENVIRONMENTAL IMPACT

Detail nature of activity, its potential environmental impacts and proposed management of impact.

_____

_____

OTHER ENVIRONMENTAL ISSUES

Are there significant risks and hazards associated with the proposal? If so, please attach details. Detail briefly, relevant environmental studies already done (and attach copies if appropriate).

_____

_____

_____

Date: _____ Signed:_____

Appendix I: Course programme and evaluation

1. **Example of course programme.**
2. **Example of course evaluation form.**

REVIEW COURSE PROGRAMME

This is included as a guide for trainers in developing their own programme. It should not be used as a blueprint as each course programme should be prepared to meet the particular requirements of course participants and available resources.

Time	Activity	Trainer
0800:-08:30	Registration	Secretariat
08:30-09:00	Introduction	R.Mwalyosi
09:00-10:00	Importance of EIA quality control; Objectives of review When is review undertaken? Who is responsible for review Approaches to EIS review EIA quality control mechanisms in Tanzania	R. Mwalyosi
10:00-10:20	Discussion	All instructors
10:25-10:45	Coffee/tea	
10:50-11:15	Commissioning EIA Registration	D:Howlett
11:15-11:30	Introduction to screening: Group exercise	D:Howlett
11:30-12:30	Exercise	
12:30-14:00	Lunch	
14:00-16:00	Report back Introduction to scoping Terms of reference	D:Howlett
16:00-16:20	Coffee/Tea	
16:20-17:00	Plenary	All

EXAMPLE OF AN EVALUATION FORM FOR REVIEW COURSE

This evaluation form is included as a guide for trainers in developing their own. It should not be used as a blueprint as each course evaluation should be prepared to meet the particular requirements of course participants and course environment.

---

1. What was your overall assessment of the course? Please check one of the boxes below and make any comment you would like to make.

Very Poor	Poor	Satisfactory	Good	Very Good

Comment _____

_____

_____

2. How well did the course achieve its objectives? Please check one of the boxes below and make any comment you would like to make.

Very Poor	Poor	Satisfactory	Good	Very Good

Comment _____

_____

_____

3. Please comment on the presentation of the workshop. Please check one of the boxes below and make any comment you would like to make.

Very Poor	Poor	Satisfactory	Good	Very Good

Comment _____

_____

_____

4. What part of the course did you find most useful or relevant and why?

_____

_____

5. What part of the course did you find least useful and why?

_____

_____

6. What, if anything, would you like to have been included in the course?

_____

_____

7. Please make any other comments on the course you would like to make.

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