EIA:
A framework for ESDM

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Defining EIA

Environmentally Impact Assessment is

A formal process for identifying:

• likely effects of activities or projects on the environment, and on human health and welfare.

• means and measures to monitor & mitigate these impacts
Origins of EIA

1960s & 70s:
Environmental crisis affects all industrialized economies

EIA is one response:

First national EIA requirements:

Other responses:
regulation of industry, environmental treaties

1952 “Killer fog” kills 4,000 in London

1963 Silent Spring documents the effects of DDT

Etc. . .
EIA today

- Most countries & almost all donors now have EIA requirements
- EIA now extends beyond government to
  - *Infrastructure and economic development projects funded by the private sector & donors*
  - *Analysis of policies, not just projects*
- In Africa, national environmental regulation is usually centered on EIA requirements.
Key EIA concept: What is an impact?

The impact of an activity is the change from the baseline situation caused by the activity.

To measure an impact, you must know what the baseline situation is.

The baseline situation is the existing environmental situation or condition in the absence of the activity. The baseline situation is a key concept in EIA.
Characterizing the baseline situation...  

**the environmental components of interest are those:**

- likely to be affected by your activity
- upon which your activity depends for its success

<table>
<thead>
<tr>
<th>Component</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water?</td>
<td>Quantity, quality, reliability, accessibility</td>
</tr>
<tr>
<td>Soils?</td>
<td>Erosion, crop productivity, fallow periods, salinity, nutrient concentrations</td>
</tr>
<tr>
<td>Fauna?</td>
<td>Populations, habitat</td>
</tr>
<tr>
<td>Env Health?</td>
<td>Disease vectors, pathogens</td>
</tr>
<tr>
<td>Flora?</td>
<td>Composition and density of natural vegetation, productivity, key species</td>
</tr>
<tr>
<td>Special ecosystems?</td>
<td>Key species</td>
</tr>
</tbody>
</table>
The baseline situation

The baseline situation is not simply a “snapshot.”

This chart of groundwater levels shows both variability and a trend over time.

Both are part of the groundwater baseline situation.
Types of impacts & their attributes

The EIA process is concerned with all types of impacts and may describe them in a number of ways:

- Intensity
- Direction
- Spatial extent
- Duration
- Frequency
- Reversibility
- Probability

Direct & indirect impacts
Short-term & long-term impacts
Adverse & beneficial impacts
Cumulative impacts

But all impacts are NOT treated equally.
Focus on the most significant impacts is ESSENTIAL

Don’t waste effort & time analyzing and discussing less important ones.
What is an activity?

We are discussing the impacts of activities.

An activity is:

- A desired accomplishment or output
  - E.g.: a road, seedling production, or river diversion to irrigate land

Accomplishing an activity requires a set of actions

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>market access road</td>
<td>Survey, grading, culvert construction, compaction, etc. . .</td>
</tr>
<tr>
<td>rehabilitation</td>
<td></td>
</tr>
</tbody>
</table>

A project or program may consist of many activities.
The EIA process

Phase I: Initial inquiries
- Understand proposed activities
- Screen
- Conduct preliminary assessment (if needed)

Phase II: Full EIA study (if needed)
- Scope
- Evaluate baseline situation
- Identify & choose alternatives
- Identify and characterize potential impacts of proposed activity and each alternative
- Develop mitigation and monitoring
- Communicate and document

Our focus!
Phase 1 of the EIA Process

Understand proposed activity

**Why** is the activity being proposed?

**What** is being proposed?

Screen the activity

Based on the **nature** of the activity what level of environmental review is indicated?

Conduct a Preliminary Assessment

A rapid, simplified EIA study using simple tools (e.g. the USAID IEE)

**ACTIVITY IS LOW RISK** (Of its nature, very unlikely to have significant adverse impacts)

**ACTIVITY IS HIGH RISK** (Of its nature, likely to have significant adverse impacts)

**ACTIVITY IS OF MODERATE OR UNKNOWN RISK**

Phase I

Phase II

BEGIN FULL EIA STUDY

STOP the EIA process

SINGNIFICANT ADVERSE IMPACTS POSSIBLE

SINGNIFICANT ADVERSE IMPACTS VERY UNLIKELY
Phase 1 of the EIA process: Screen the activity

Screen each activity
Based on the nature of the activity, what level of environmental analysis is indicated?

SCREENING asks a very basic set of questions about the activity.

Example screening questions:
Does the activity involve:
• Penetration road building?
• Large-scale irrigation?
• Introduction of non-native crop or agroforestry species?

These questions do NOT:
• require analysis.
• require detailed knowledge of the proposed sites, techniques or methods
Each donor agency and national EIA law has its own set of screening criteria.
Phase 1 of the EIA process:
The Preliminary Assessment

Purpose:
provide documentation and analysis that:

• Allows the preparer to determine whether or not significant adverse impacts are likely
• Allows the reviewer to agree or disagree these determinations
• Sets out mitigation and monitoring for adverse impacts

Screening determines whether the preliminary assessment is necessary

Conduct a Preliminary Assessment
A rapid, simplified EIA study using simple tools (e.g. the USAID IEE)
Phase 1 of the EIA process:
The Preliminary Assessment

Typical Preliminary Assessment outline

1. Background (Development objective, list of activities)
2. Description of the baseline situation
3. Evaluation of potential environmental impacts
4. Mitigation & monitoring
5. Recommended Findings

For each activity it covers, a preliminary assessment makes 1 of 3 possible findings:

The activity is . . .

• very unlikely to have significant adverse impacts. (EIA process ends)
• unlikely to have significant adverse impacts with specified mitigation and monitoring,
• likely to have significant adverse impacts (full EIA study is required)
We only proceed to Phase II of the EIA process if Phase I indicates that a FULL EIA STUDY is required.
Phase 2 of the EIA process:  
The Full EIA study

The full EIA study has very similar objectives and structure to a preliminary assessment.

However, the full EIA study differs in important ways:

- A formal **scoping process** precedes the study to ID issues to be addressed.
- Analysis of environmental impacts is much more detailed.
- Alternatives* must be formally defined. The impacts of each alternative must be identified & evaluated, and the results compared.
- Public participation is usually required.
- A professional EIA team is usually required.

*Includes the project as proposed, the no-action alternative at least one other real alternative.
EIA: A framework for ESDM

- EIA: the standard international process to achieve ESDM.

Why?
The EIA process requires a systematic treatment of all ESDM elements.
EIA: Be prevention-oriented

- Prevention begins with choice of means. "Consider alternatives" is a key principle of EIA.
- EIA provides a formal process to consider environmental issues and make changes at early stages in project design. Early consideration is key to prevention.

EIA: A framework for ESDM

2. Apply best development practices to environmental aspects of the activity

- Technical soundness
- Stakeholder commitment
- Adaptive management

EIA requires characterizing environmental conditions

Stakeholder consultation is central to EIA

EIA requires a systematic approach to field monitoring

EIA: More than just a good idea

EIA is:

- REQUIRED BY LAW in most countries.
- REQUIRED by almost all donors.
Summing up

- ESDM requires design and implementation of activities with an understanding of their environmental impacts, and active efforts to minimize these impacts.

- ESDM requires following 3 basic rules:
  
  - be prevention-oriented,
  - apply best development practices, and
  - be systematic.

- EIA is a tool to make ESDM a reality.