Session 3:
Environmental Impact Assessment:
A Framework for Environmentally Sound Design and Management
Why this session?

Isn’t this workshop about USAID’s Environmental Procedures, not EIA?

- USAID’s environmental procedures are a specific implementation of the general Environmental Impact Assessment process.
- Understanding this process makes USAID’s procedures much easier to understand.
- Core EIA skills are required for effective compliance during USAID project design and implementation.
Environmental Impact Assessment

Environmental 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 mitigate & monitor these impacts
Environmental Impact Assessment: a universal requirement

- Most countries & almost all donors (including USAID) now have EIA requirements
- EIA now extends beyond government works to
  - Infrastructure and economic development projects funded by the private sector & donors
  - Analysis of policies, not just projects
- In many developing countries, EIA is the core of national environmental regulation
Key EIA concepts

- Defining “impact”
- Characterizing baseline conditions
- Defining “activity”
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>Details</th>
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</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>
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</tbody>
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Baseline situation: not just a “snapshot in time”

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!

ESSENTIAL to focus on the most significant impacts

You definitely do not have time and resources to analyze and discuss in detail less important ones.
What is an activity?

The EIA process examines the impacts of activities.

✔ An activity is:

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

A project or program may consist of many activities

Accomplishing an activity requires a set of actions

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

Most USAID activities do NOT proceed to a full EIA study
Phase I 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

ACTIVITY IS OF MODERATE OR UNKNOWN RISK

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)

Phase II

BEGIN FULL EIA STUDY

Document & submit for approval*

*approval is CONDITIONAL on any mitigation specified by the preliminary assessment being implemented
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
The Preliminary Assessment (USAID’s Initial Environmental Examination)

Purpose is to provide documentation and analysis that:

- Allow 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
For each activity it covers, a preliminary assessment has 3 possible findings:

The activity is . . .

• very unlikely to have significant adverse impacts.
• 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.
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 identify 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 required.
- **A professional EIA team** is usually required.

*includes the project as proposed, the no-action alternative, and at least one other real alternative.
3 rules for Environmentally Sound Design & Management (ESDM)

1. Be prevention-oriented

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

3. Be systematic

Properly done, the EIA process makes them a reality.
1 Be prevention-oriented

- Prevention occurs across the project lifecycle... but starts with DESIGN
- DESIGN starts with the choice of method
- Environmental impacts are 1 factor considered

Possible methods

- Change use of agricultural inputs?
- Introduce improved crop varieties?
- Change cultivation practices?

How do we choose?

Project objective:

*Improve agricultural productivity*
EIA assures a “prevention orientation”

1. Be prevention-oriented

• Prevention begins with choice of method.
  “Consider alternatives” is a key principle of EIA.

• EIA forces formal consideration of environmental issues during project design.

Early consideration is key to prevention—because that is when design changes can be made
Apply general best development practices.

Using a technically sound design…

That is suited for the local social & policy context

Building beneficiary capacity & stakeholder commitment

Adjusting what we do as results come in

...to environmental aspects of the activity

AND design for climate change
Best Practice #1: Technically sound design

The design must be appropriate for local environmental conditions.

... Rainfall, temperature, soils, flood, drought and earthquake potential. . .

For example...

- Appropriate choice of crops or trees?
- Appropriate choices of construction materials and methods?
Best Practice #2: Design for the policy & social context

Environmental applications:

- Compliance
  with national and local environmental laws and policies

- Language, literacy
  Environmental management measures must be matched to capabilities

Natural resource management and land tenure

Activities utilizing land and other natural resources must be compatible with local NRM and land tenure

Land and resource rights are often gender-specific
Best Practice #3: Build commitment & capacity...

Environmental application:
Proper maintenance and operation are critical to controlling environmental impacts.

Local beneficiaries need to be trained and committed to:
- environmentally sound operation.
- maintaining the equipment/structure

Who will maintain it? Who will operate it?
... and involve the local community

Ethics require it (environmental justice)

Local residents must live with the environmental impacts of activities!

LOCAL KNOWLEDGE is critical

- How often does the river flood?
- How often are crops rotated?
- Is there a land tenure problem?
- What do people value and need?

LISTEN to the community
TALK to both men and women
Best Practice #4: Practice Adaptive Management

“Adjust what we do as results come in”

Environmental dimension: If our activity has unintended adverse environmental consequences, we need to DO SOMETHING ABOUT IT!

Requires:

• Funding for environmental monitoring in project budget
• Flexibility to adapt the project in response to unanticipated adverse impacts
• Adjusting implementation based on the experiences of others

Communities are often essential to monitoring results from the field
Best Practice #5: Design for Climate Change

Already mentioned: future baseline conditions will change—design projects to be ROBUST to meet these changes

While individual projects are rarely significant contributors to global climate change...

...climate change is driven by the sum of many small actions.

So even small-scale projects should seek to reduce greenhouse gas emissions/ increase sequestration/ reduce climate vulnerability in the local area in a manner consistent with their development objectives.
Best Practice #5: Design for Climate Change

**Example actions in small-scale projects:**

- **Reduce greenhouse gas emissions**
  - Use alternative energy (PV, windmill water pumping, etc)
  - Improve thermal performance in building design

- **Reduce climate vulnerability in the local area**
  - Prioritize water efficiency to reduce a project’s contribution to the area’s future water stress

- **Increase sequestration**
  - Tree-planting
  - Land management sustainable grazing, cropping

Soil carbon measurement by hand in Senegal
How does EIA make “Rule 2” a reality?

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
Rule 3 for achieving ESDM. . .

Take a **systematic look at**:
- the possible adverse environmental impacts of an activity
- ways to reduce these impacts.

The best way to be systematic: **Environmental Impact Assessment (EIA)**!
EIA: the internationally accepted process to achieve Environmentally Sound Design & Management

- **Systematic process** to be *prevention oriented* & assure that *environmental aspects of development best practices are applied*

**AND**

**EIA is:**

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