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EIA: A framework for ESDM

USAID Staff Environmental Training
Pretoria ■ 11–15 May 2009

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

Cuyahoga River burns in 1966 (3rd time). Cleveland, Ohio, U.S.



1952 “Killer fog” kills 4,000 in London

1963 *Silent Spring* documents the effects of DDT

Etc. . .

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

EIA is one response:

First national EIA requirements:
1970 US National Environmental Policy Act (NEPA) requires EIA for US government projects.

Other responses:
regulation of industry,
environmental treaties

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.

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.

More...

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

Characterizing the baseline situation. . .

the environmental components of interest are those:

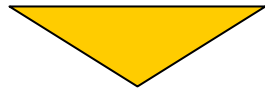


- ❖ likely to be affected by your activity
- ❖ upon which your activity depends for its success

Water?	<i>Quantity, quality, reliability, accessibility</i>
Soils?	<i>Erosion, crop productivity, fallow periods, salinity, nutrient concentrations</i>
Fauna?	<i>Populations, habitat</i>
Env Health?	<i>Disease vectors, pathogens</i>
Flora?	<i>Composition and density of natural vegetation, productivity, key species</i>
Special ecosystems?	<i>Key species</i>

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.

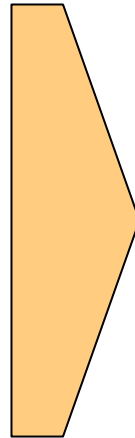
What is an activity?

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**

ACTIVITY:

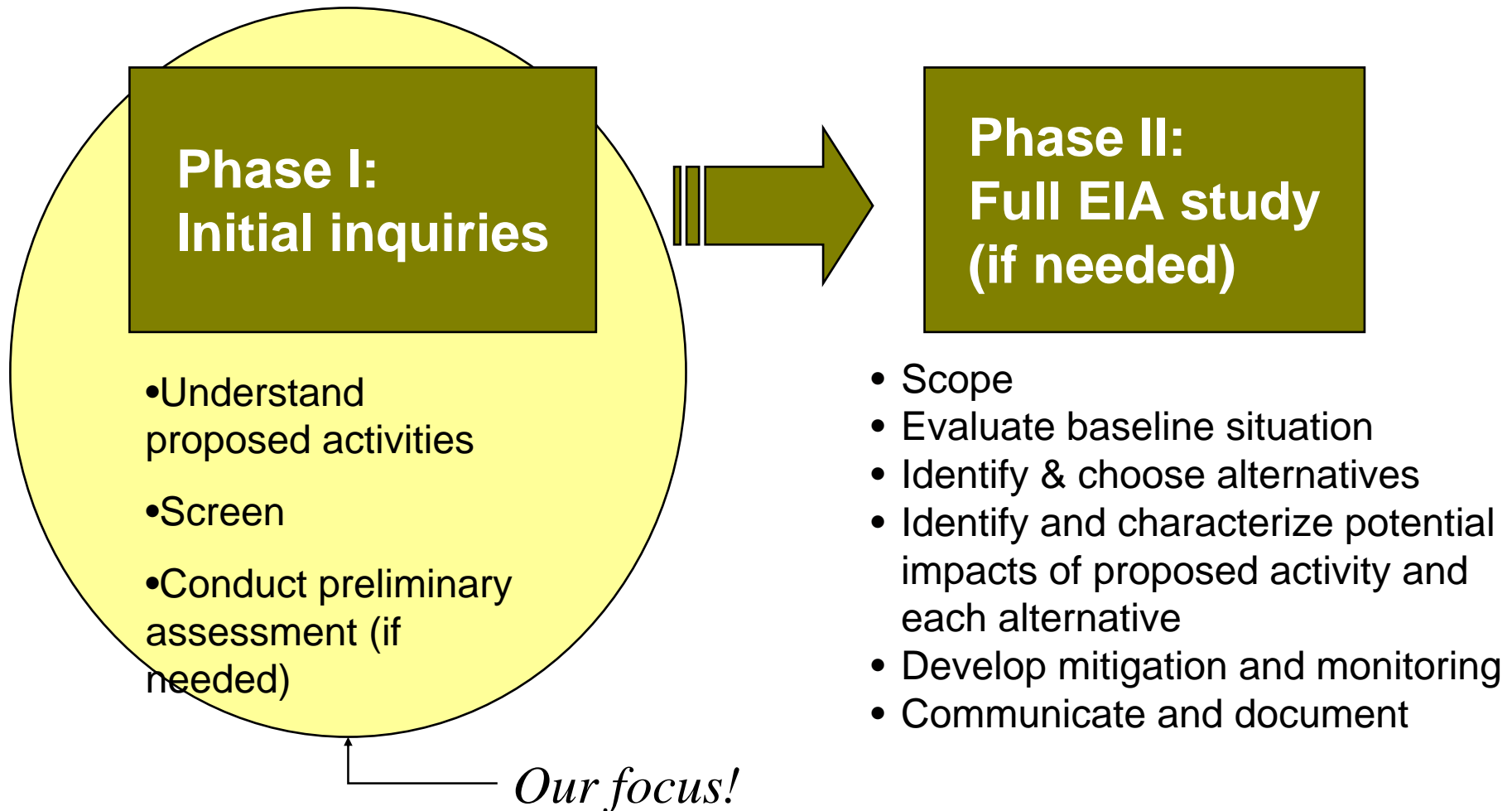
market access
road
rehabilitation

ACTIONS:

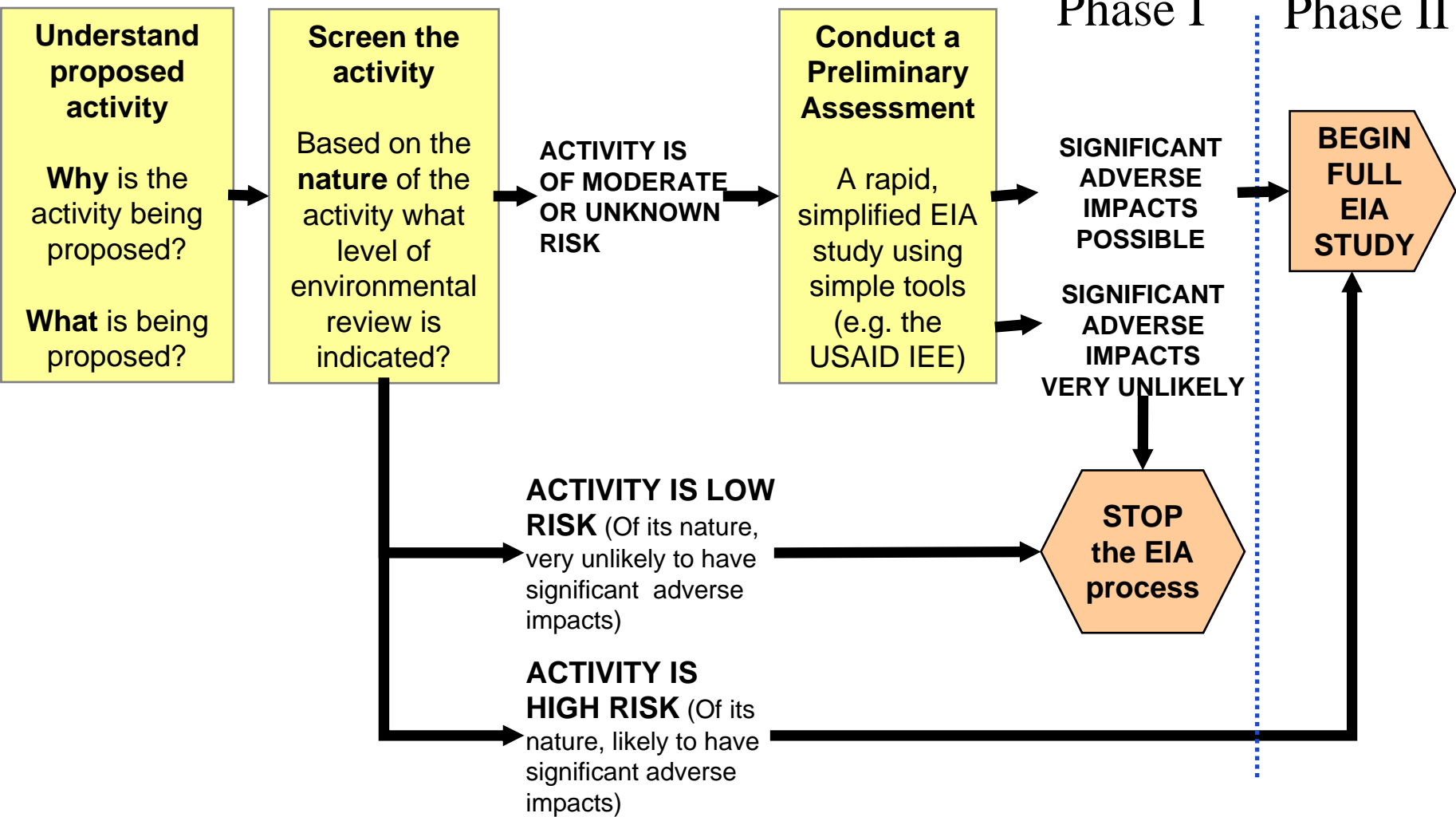
Survey, grading, culvert construction, compaction, etc. . .

A project or program may consist of many activities

The EIA process



Phase 1 of the EIA Process



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.

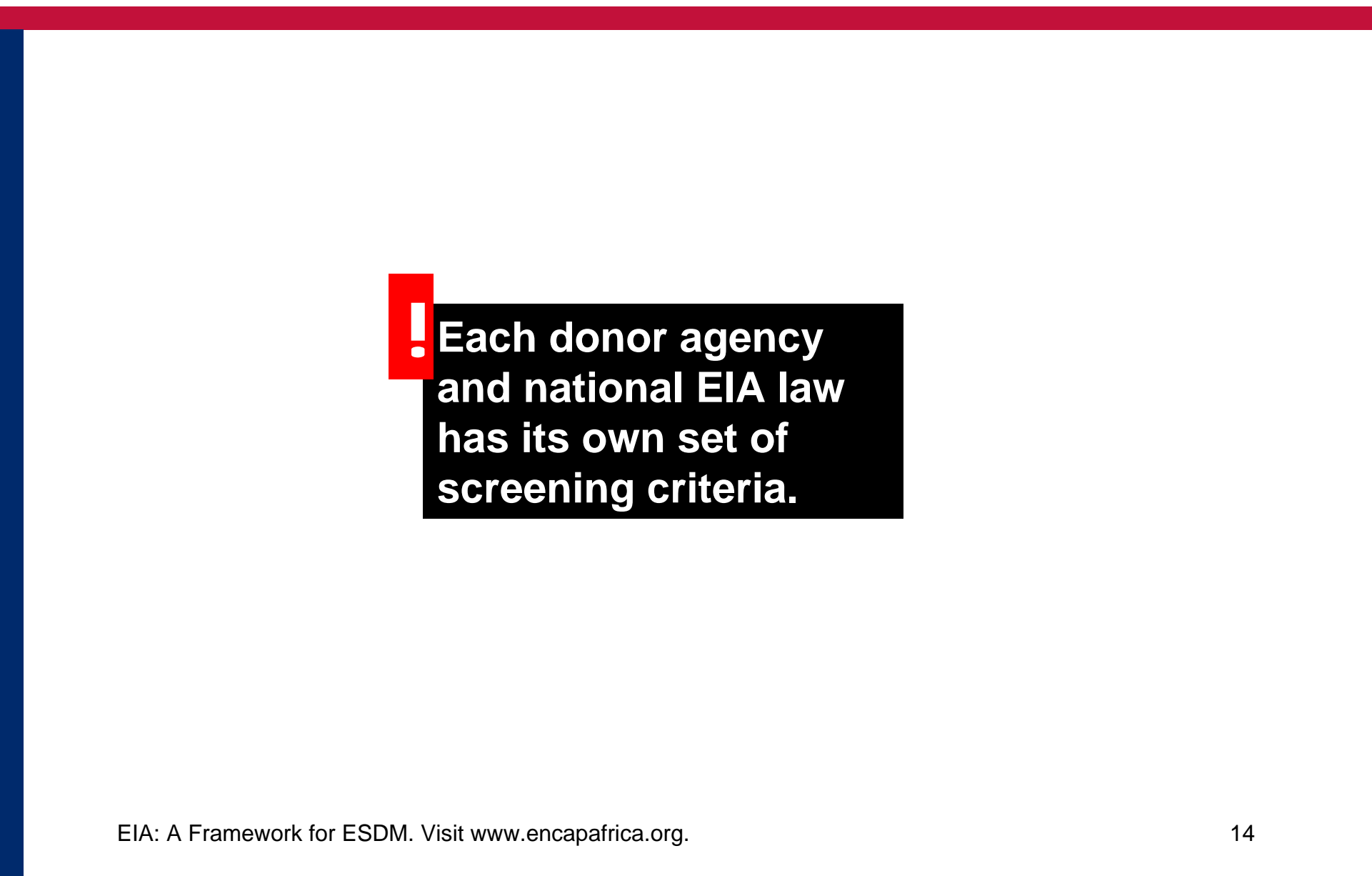
Example screening questions:

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

Conduct a Preliminary Assessment

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

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

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:



**includes the project as proposed, the no-action alternative at least one other real alternative*



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.

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: A framework for ESDM

1

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

EIA requires characterizing environmental conditions


Stakeholder commitment

Stakeholder consultation is central to EIA

Adaptive management

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.**