USAID
FROM THE AMERICAN PEOPLE

Fundamental Skills of Environmental Impact Assessment (EIA)

GEMS Environmental Compliance-
ESDM Training Series

Ghana ▪ January, 2017

SESSION OBJECTIVES:

- Define Environmental Impact Assessment (EIA) and key terminology
- Explain the EIA process
- Define fundamental EIA skills

Environmental Impact Assessment (EIA)

- An internationally-accepted and widely applied process
- Systematically identifies:
  - Likely impacts of (1) activities or projects on the environment (including human health and welfare) and (2) the environment on activities
  - Means and measures to mitigate and monitor those impacts
- Used as the basis of USAID Environmental Procedures (as legally mandated in Reg. 216 and applied through ADS Chapter 204)

A SOURAV KARMAKAR

THE EIA PROCESS

Phase I:
Initial inquiries

- Understand proposed activities
- Screen activities
- Conduct preliminary assessment (if needed)

Phase II:
Full EIA study (if needed)

- Scope
- Evaluate baseline situation
- Identify and 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

WHAT IS AN ACTIVITY?

THE EIA PROCESS EXAMINES THE IMPACTS OF **ACTIVITIES**.

An activity is:

- A sub-component of a project that contributes to a project purpose or seeks to achieve a desired output or project goal.
- Typically refers to an award (such as a contract or cooperative agreement)

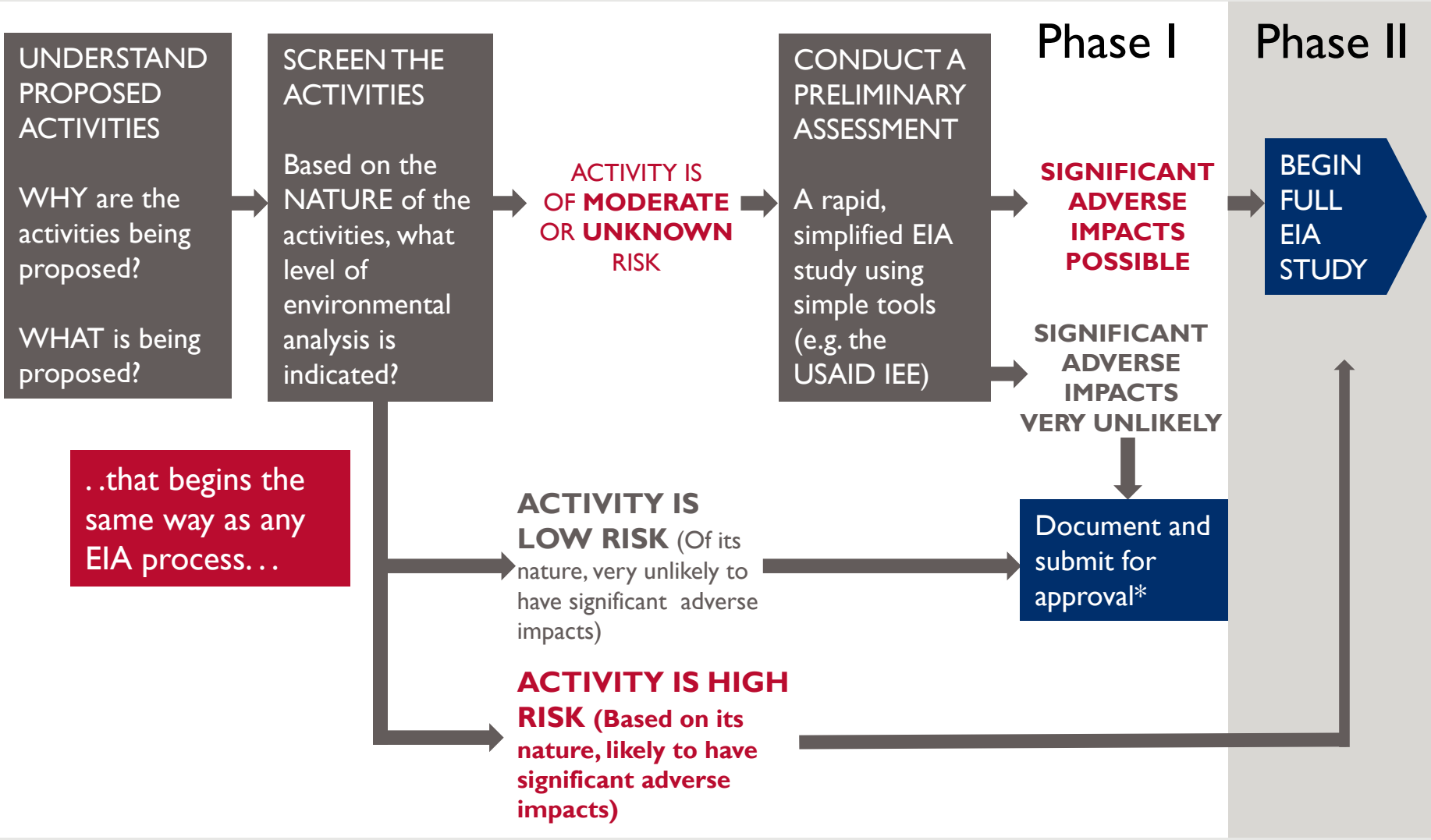
Accomplishing an activity goal requires a set of **actions** or **interventions**

GOAL:
increase rice production

ACTIONS:

- Provide inputs (seed, fertilizer, pesticides)
- Design and construct irrigation infrastructure
- Increased access to finance, lending
- Road rehabilitation
- Capacity building and technical assistance

REG. 216
USAID'S IMPLEMENTATION OF GENERAL EIA PROCESS



PHASE I: SCREEN THE ACTIVITY

SCREEN EACH ACTIVITY

Based on the NATURE of the activity, what level of environmental analysis is appropriate?

Answering these questions does NOT:

- require analysis
- require detailed knowledge of the proposed sites, techniques or methods

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?
- Expropriation or resettlement?

PHASE I: PRELIMINARY ASSESSMENT

CONDUCT A PRELIMINARY ASSESSMENT

A rapid, simplified EIA study using simple tools (such as USAID's Initial Environmental Examination [IEE])

SCREENING DETERMINES WHETHER THE PRELIMINARY ASSESSMENT IS NECESSARY

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 with these determinations
- Sets out mitigation and monitoring for adverse impacts

PHASE I: 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 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)

WHEN TO PROCEED

We only proceed to
conduct the FULL EIA STUDY

IF

the PRELIMINARY ASSESSMENT
indicates that
a FULL EIA STUDY
is required

ANGELA STEPHENS, USAID

PHASE II: 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:

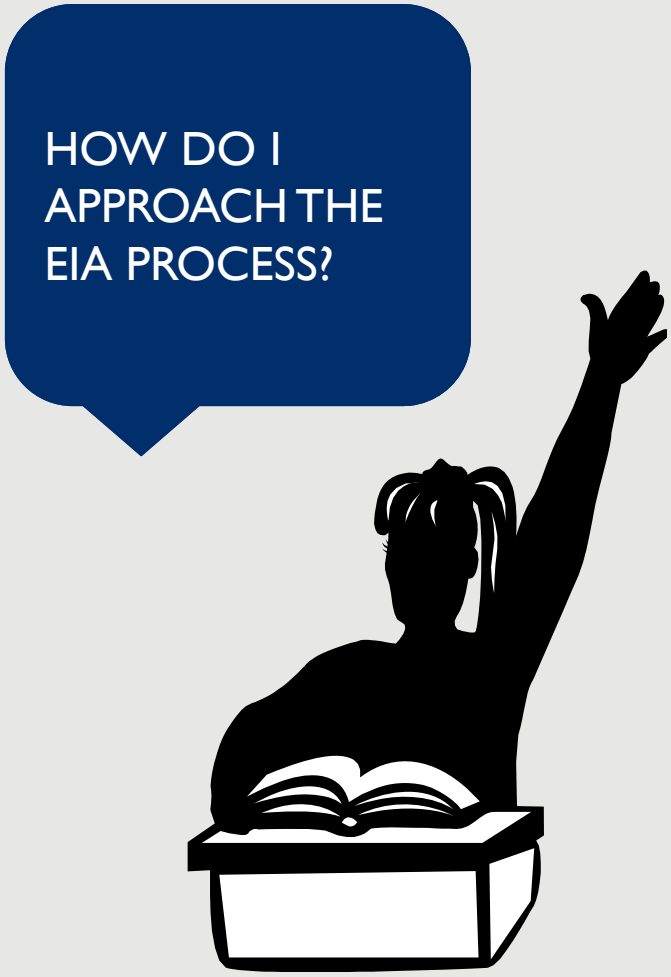
- A formal SCOPING PROCESS precedes the study to IDENTIFY ISSUES TO BE ADDRESSED
- ANALYSIS of environmental impacts is much MORE DETAILED
- ALTERNATIVES* must be formally defined. THE IMPACTS OF EACH ALTERNATIVE MUST BE IDENTIFIED & EVALUATED, AND THE RESULTS COMPARED
- PUBLIC PARTICIPATION is required
- A PROFESSIONAL EIA TEAM is usually required

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

FUNDAMENTAL EIA SKILLS

There are "core" skills that are central to environmental impact assessment:

- Defining the **activity**
- **Baseline** characterization
- The identification of potential adverse **impacts** (or impacts of concern)
- Designing **mitigation** measures to avoid impacts
- **Monitoring** to ensure that mitigation measures are implemented, sufficient, and effective.



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

IDENTIFYING ENVIRONMENTAL IMPACTS

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.

Important:

Baseline situation is not just a "snapshot in time"

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

TYPES OF IMPACTS & THEIR ATTRIBUTES

The EIA process is concerned with **all types of impacts**

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

and may describe them in a number of ways

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

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.

IMPACT EVALUATION PROCESS

1. **Understand** the activities
2. **Research** the potential adverse impacts typical of these activities
3. Based on the potential impacts, **identify** which elements of the baseline situation are important
4. **Characterize** these elements of the baseline
5. Given:
   1. the baseline conditions,
   2. the project concept/design, and
   3. How the adverse impacts arise,

   DECIDE WHICH IMPACTS ARE OF CONCERN

EIA PROCESS: EXAMPLE

1. Proposed intervention: irrigation scheme
(wing dam diversion type ▪ water-intensive crops ▪ high fertilizer use, unlined canals & open-channel irrigation)

2. Key potential impacts:
   - Excessive diversion of water
   - Salinization of soils
   - Contamination of groundwater & downstream surface water

3. Key elements of baseline:
   - River flow volume, variability
   - Soil & water characteristics & groundwater depth
   - Downstream uses

EIA PROCESS: EXAMPLE

4. Baseline characterization

- *River flow volume, variability*
  - Will divert 3% of normal flow
  - low-year flows are 50% of normal
  - Downstream abstraction is <10% of total flow volume.
- *Soil characteristics & groundwater depth*
  - Soils are well-drained but relatively high in salts; groundwater 2m depth
- *Downstream uses*
  - Key water source for community domestic use & livestock, immediately downstream.

5. THEREFORE:

IMPACTS OF CONCERN:

Salinization
Downstream Contamination

LITTLE CONCERN:

Excess Diversion

WHY THESE CONCLUSIONS?

MITIGATION DESIGN AND MONITORING

* A critical part of the EIA process—and of ESDM

MITIGATION IS…

The implementation of measures designed to prevent, compensate for, or remediate the undesirable effects of a proposed action on the environment.

MONITORING IS…

required to verify whether the mitigation measures are sufficient, effective—and actually implemented.

SUMMARY

- EIA is an established process that promotes sustainable environmental management and successful development outcomes.

- Core skills are needed to implement the EIA process and to help achieve ESDM; these are:
  - Understanding the activity
  - Characterizing the baseline
  - Identifying impacts of concern
  - Designing mitigation and monitoring measures

- EIA enables ESDM-focused development, and is the basis for USAID Environmental Procedures

GROUP DISCUSSION QUESTIONS

There are 5 questions in the sourcebook for small group discussion. Report out will focus on this question:

- Where would you as a project manager seek the baseline information? How would you go about collecting this information?

ANGELA STEPHENS, USAID