

**Define Environment** can be defined as a sum total of all the living and non-living elements and their effects that influence human life.

The **environment** is the sum of all external conditions and influences affecting the life and development of organisms.

**Scoping** is a critical, early step in the preparation of an EIA. The scoping process identifies the issues that are likely to be of most importance during the EIA and eliminates those that are of little concern. Typically, this process concludes with the establishment of Terms of Reference for the preparation of an EIA. In this way, scoping ensures that EIA studies are focused on the significant effects and time and money are not wasted on unnecessary investigations.

**Define Scoping** is the stage that sets out what needs to be assessed in the Environmental Impact Assessment (EIA) to help define how to approach the assessment and what information may be needed to identify the likely significant effects from the development.

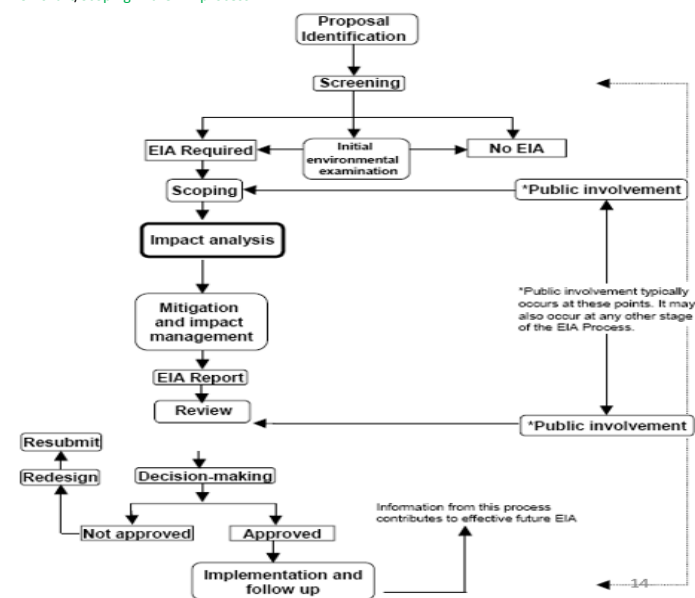
#### key objectives of scoping?

- inform and identify stakeholders
- find out their concerns
- consider feasible and practical alternatives
- identify the main issues and impacts to be studied
- define the boundaries of the EIA study
- agree on means of public involvement and methods of analysis
- establish the Terms of Reference

#### Discuss the guiding principles for the conduct of scoping/Principles of EIA

- Focus on the main issue.
- Involve the appropriate persons and groups.
- Link information to decisions about the projects.
- Present clear options for mitigation of impacts and for sound environmental management.
- Provide information in a form useful to the decision makers.
- Two tiers of EIA principles are: Basic and Operating.
- Basic Principles" apply to all stages of EIA; they also apply to Strategic Environmental Assessment (SEA) of policies, plans and programs.
- Purposive
- Rigorous
- Practical
- Relevant
- Cost effective
- Efficient
- Focused
- Adaptive
- Participative
- Interdisciplinary
- Credible
- Integrated
- Transparent
- Systematic

**Impact Analysis /What do you understand by impact analysis in EIA? /Generalized EIA Process Flowchart/Scoping in the EIA process**



#### What are the steps in the scoping process?

- Screening;
- Scoping;
- Examination of alternatives;
- Impact analysis;
- Mitigation and impact management;
- Evaluation of significance;
- Report;
- Review of EIA;
- Decision making and follow up

#### Outline the terms of reference in scoping.

A terms of reference (ToR) is a document which articulates the scope of work for a taskforce and how the people identified in the ToR will work together in the pursuit of a shared goal.

The TOR provides details of all the information required for the EIA review committee to make an informed decision about awarding the Environmental License.

#### Initial Environmental Examination (IEE)

- Describes the proposal
- Considers alternatives
- Addresses the concerns of the community
- Identifies potential environmental effects
- Establishes mitigation measures
- Includes monitoring and follow up (as necessary)

#### What is Assessment?

"The entire analytical process for undertaking a critical objective evaluation and analysis of data and information designed to meet user needs and support decision-making. It applies the judgment of experts to existing knowledge to provide scientifically credible answers to policy relevant questions, quantifying where possible the level of confidence"

#### Definitions of EIA

**Environmental impact assessment (EIA)** is a planning process used by over 100 countries to predict, assess and mitigate any significant adverse effects associated with a proposed project, programme or policy.

#### EIA in different principles names

**EIA**- Department of Environment, Bangladesh (DoE)  
**ESIA**- International Finance Corporation (IFC) /Asian Development Bank (ADB)  
**EA**- World Bank (WB)  
**ESMF** (Env. & Social Management Framework)- World Bank (WB)  
**ESDD** (Env. & Social Due Diligence)- The Organisation for Economic Co-operation and Development (OECD)  
**ESH** (Env., Social & Health) Audit- Inter-American Development Bank (IDB)  
**CEIA** (Cumulative EIA)- US  
**CEA** (Cumulative effects Assessment)- US  
**IEIA** (Integrated EIA)- Canada  
**GEIA** (General EIA)- European Investment Bank (EIB)

#### EIA in Bangladesh – its History

First EIA process initiated with Chittagong Urea Fertilizer Ltd in 1984-85  
EIA conducted for big Bridge Construction Project (Jamuna Multi-purpose Bridge) during 1987-89  
Subsequently it followed to KAFCO (Karnafully Fertilizer Co. Ltd) in 1993-94

#### Legal Framework

1. There is a legal requirement for the completion of environmental assessments for a variety of different types of projects that are considered as having the potential for causing significant environmental effects.
2. The Environment Conservation Act 1995 constitutes the legal basis for undertaking EIA for any industries or development projects.
3. Clause 12 of the Act requires that no industry or project shall be established without obtaining environmental clearance from the Director General of the Department of Environment.
4. The procedure for obtaining environmental clearance for various projects is specified in Clause 7 of the Environment Conservation Rules 1997.

#### Guiding principles for the conduct of scoping

scoping is a process not an activity or event  
design the scoping process for each proposal  
start early, as soon as information permits  
prepare information package on what is expected  
specify the role of the public in decision-making  
approach should be systematic; implementation should be flexible.  
document the results to guide preparation of EIA  
respond to new information and issues as necessary

#### The conduct of scoping to

identify range of concerns  
evaluate them to determine key issues  
categories the impacts that require study  
establish a strategy for addressing them

#### Steps in the scoping process

prepare an outline scope  
develop the outline through informal consultation  
make the outline available  
compile the range of concerns (long list)  
evaluate these to establish key issues (short list)  
organize these into impact categories (study list)  
amend the outline to incorporate the above information  
develop Terms of Reference  
monitor progress against them, revising as necessary

#### Who should be involved in scoping?

- ◆ the proponent
- ◆ the competent authority
- ◆ the EIA administering body
- ◆ other responsible agencies
- ◆ EIA practitioners and experts
- ◆ key stakeholders
- ◆ the wider community

#### Consideration of alternatives

- ◆ demand alternatives
- ◆ supply or input alternatives
- ◆ activity alternatives
- ◆ location alternatives
- ◆ process alternatives
- ◆ scheduling alternatives

#### Outline Terms of Reference

- ◆ objectives and background to the proposal
- ◆ study area and boundaries
- ◆ alternatives to be examined
- ◆ opportunities for public involvement
- ◆ impacts and issues to be studied
- ◆ the approach to be taken
- ◆ requirements for mitigation and monitoring
- ◆ information and data to be included in the EIA report
- ◆ timetable and requirements for completion of the EIA process

The term ‘environment’ includes

- Human health and safety
- Flora, fauna, ecosystems and biodiversity
- Soil, water, air, climate and landscape
- Use of land, natural resources and raw materials
- Protected areas and sites of special significance
- Heritage, recreation and amenity assets
- Livelihood, lifestyle and well-being of affected communities

Impact identification methods

- Checklists
- Matrices
- Networks
- overlays and geographical information systems (GIS)
- expert systems
- professional judgement

Project Cycle

- Project Identification
- Pre-feasibility
- Feasibility
- Design and Implementation
- Operation and maintenance
- Monitoring
- Evaluation

EIA Process

- Screening;
- Scoping;
- Examination of alternatives;
- Impact analysis;
- Mitigation and impact management;
- Evaluation of significance;
- Report;
- Review of EIA;
- Decision making and follow up

Purpose & Outcomes of Screening

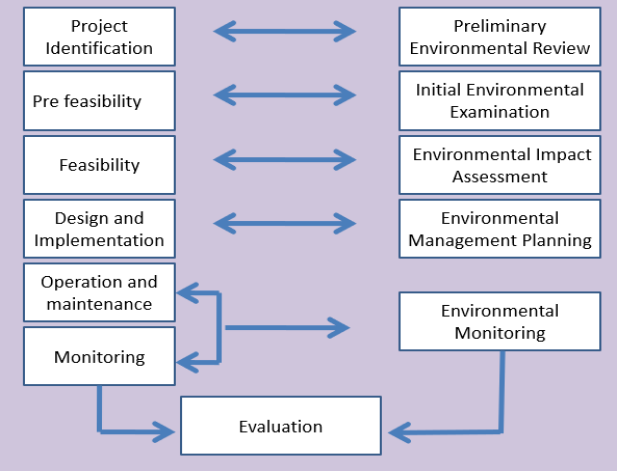
The purpose of screening is to determine:

- whether or not a proposal requires an EIA
- what level of EIA is required

Outcomes will be whether:

- full or comprehensive EIA required
- more limited EIA required
- further study needed to determine EIA requirement
- no further requirement for EIA

Relationship of EIA to Project Cycle



Different Impact identification methods

- Checklists
- Matrices
- Networks
- overlays and geographical information systems (GIS)
- expert systems
- professional judgement

criteria Choice of EIA method depends on

- the type and size of the proposal
- the type of alternatives being considered
- the nature of the likely impacts
- the availability of impact identification methods
- the experience of the EIA team with their use
- the resources available - cost, information, time, personnel

Environmental standards

- limits on effluent discharge concentrations
- clean air standards, water quality standards
- policy objectives and targets
- plans or policies that protect or limit use of natural resources

Discuss main advantages and disadvantages of different impact identification methods

	ADVANTAGES	DISADVANTAGES
<b>Checklists</b> <b>–simple</b> <b>–ranking</b> <b>and</b> <b>weighting</b>	* simple to understand and use  * good for site selection and priority setting	* do not distinguish between direct and indirect impacts * do not link action and impact * the process of incorporating values can be controversial
<b>Matrices</b>	* link action to impact  * good method for displaying EIA results	* difficult to distinguish direct and indirect impacts * significant potential for double-counting of impacts
<b>Networks</b>	* link action to impact * useful in simplified form for checking for second order impacts * handles direct and indirect impacts	* can become very complex if used beyond simplified version
	ADVANTAGES	DISADVANTAGES
<b>Overlays</b>	* easy to understand * good display method * good sitting tool	* address only direct impacts * do not address impact duration or probability
<b>GIS and computer expert systems</b>	* excellent for impact identification and analysis * good for ‘experimenting’	* heavy reliance on knowledge and data * often complex and expensive

Name different methods of impact prediction. What are the uncertainties in impact prediction?

- best estimate’ professional judgment
- quantitative mathematical models
- experiments and physical models
- case studies as analogues or references
- scientific uncertainty – *limited* understanding of the ecosystem or community affected
- data uncertainty – *incomplete* information or insufficient methodology
- policy uncertainty – *unclear* or disputed objectives or standards

What are the factors affecting ecological/ health/ social/ economic/ fiscal impacts?

- (Social) demographic – changes to population numbers, distribution
- cultural – changes to customs, traditions and values
- community – changes to cohesion, relationships etc.
- socio-psychological – changes to quality of life and well being
- (economic) duration of construction and operation
- workforce requirements for each period
- skill requirements (local availability)
- earning
- raw material and other input purchases
- capital investment
- outputs
- the characteristics of the local economy
- (fiscal impacts) size of investment and workforce requirements
- capacity of existing service delivery and infrastructure systems
- local/regional tax or other revenue raising processes
- demographic changes arising from project requirements

Discuss different impact significance criteria.

- environmental standards
- level of public concern
- scientific and professional evidence concerning:
  - resource loss/ecological damage
  - negative social impacts
  - foreclosure of land and resource use options
- use established procedure or guidance
- adapt relevant criteria or comparable cases
- assign significance rationally and defensibly
- be consistent in the comparison of alternatives
- document the reasons for judgements
- environmental loss and deterioration
- social impacts resulting from environmental change
- non-conformity with environmental standards
- probability and acceptability of risk
- reduction in species diversity
- habitat depletion or fragmentation
- threatened, rare and endangered species
- impairment of ecological functions e.g.
  - disruption of food chains;
  - decline in species population;
  - alterations in predator-prey relationships.
- human health and safety
- decline in important resource
- loss of valued area
- displacement of people
- disruption of communities
- demands on services and infrastructure