

24. ENVIRONMENT IMPACT ASSESSMENT

- Airports, Railway tracks, roads, dams, industries, houses, need raw material from environment. These are developmental activities for any country.
- These activities generate lot of waste which is disposed into environment to cause damage to air soil and water.



- To save environment from damage and depletion of natural resources EIA is needed.
- Environmental Impact Assessment (EIA) is a tool for assessment of all projects for preventing adverse effects of developmental activities on environment.
- **CONCEPT OF EIA AND ITS LEGAL BASES**
 - Sustainable development and conservation of environment are necessary for survival of present and future generations of humans and all living beings.
 - EIA is a tool to evaluate environmental impact of proposed developmental project.

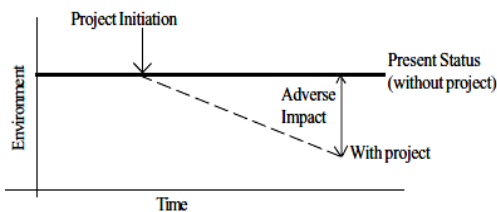


Fig. 24.1: (a) Anticipated environmental impact of developmental project.

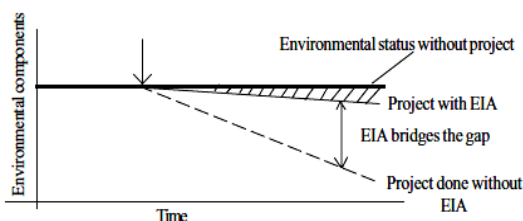


Fig. 24.1: (b) Environmental impact rectification after EIA

- **THE IMPORTANT ASPECTS OF EIA**
 - risk assessment,
 - environmental management and
 - post product monitoring
- EIA provides a cost effective method to eliminate or minimize the adverse impact of development projects.
- **LEGAL BASES OF ENVIRONMENTAL IMPACT ASSESSMENT**

The EIA process will be designed such that its guidelines follow basic legal and policy equipments.

EIA is to-

 - **serve** as a primary environmental tool with clear provisions.
 - **apply** consistently to all proposals with potential environmental impacts.
 - **use** scientific practice and suggests strategies for mitigation.
 - **address** all possible factors such as short term, long term, small scale and large scale effects.
 - **consider** sustainable aspects such as capacity for assimilation, carrying capacity, biodiversity protection.
 - **lay down** a flexible approach with and provides for public involvement.
 - **have** in built mechanism of follow up and feedback for comply into mandatory requirements.
 - **include** mechanisms for monitoring, auditing and evaluation.
- EIA was introduced in India in 1978, with respect to river valley projects.
- EIA is now mandatory for **30** categories of projects such as nuclear power and related project, river valley project, petroleum refineries, port, harbor, airports, pesticides, drug and pharmaceuticals, synthetic rubber, mining projects and highway projects etc.

- These projects get Environmental Clearance (EC) only after the EIA requirements are fulfilled.
- **Environmental Clearance** is the green signal granted by Impact Assessment Agency in the Environment and Forest Ministry under Government of India.
- All projects that require clearance from central government can be broadly categorized as :



• **WHAT ALL IS ASSESSED IN EIA**

- (i) Assessment of existing environmental status.
- (ii) Assessment of various factors of ecosystem (air, water, land, biological).
- (iii) Analysis of adverse environmental impacts of the proposed project to be started.
- (iv) Impact on people in the neighborhood.

• **ENVIRONMENTAL COMPONENTS OF EIA**

The EIA process looks into various components of the environment. This includes:

- Air (air quality standards), Noise(Level and strategies for reducing noise pollution), Water(existing water resources, their quality and quantity), Biological environment (flora and fauna in impact zone)

• **EIA PROCESS AND PROCEDURES**

EIA process and procedure have several components. These steps includes

- (i) Methods of carrying out EIA
- (ii) Steps in EIA process
- (iii) Composition of expert committee

• **Each one is separately mentioned below:
Preparation of EIA report comprises the following steps:**

- (i) Collection of baseline data from primary and secondary sources;
- (ii) Prediction of impacts based on past experience and mathematical modelling;
- (iii) Evolution of impacts versus evaluation of net cost benefit; preparation of environmental management plans to reduce the impacts to the minimum;
- (iv) Quantitative estimation of financial cost of monitoring plan and the mitigation measures;
- (v) Preparation of environmental management plans to reduce the impacts to the minimum
- (vi) Quantitative estimation of financial cost of monitoring plan and the mitigation measures.

• **Steps in EIA process**

EIA process is cyclical with interaction between the various steps.

- **Screening**
- **Scoping**
- **Collection of baseline data**
- **Impact prediction**
- **Mitigation measures and EIA report**
- **Public hearing**
- **Decision making**
- **Monitoring and implementation of environmental management plan**
- **Risk assessment**

• **Composition of expert committee**

This committee includes:

1. The Committees will consist of experts in the following disciplines:

(1) Eco-system management	(6) Social Sciences/ Rehabilitation
(2) Air/ water pollution control	(7) Project appraisal
(3) Water resource management	(8) Ecology
(4) Flora/ fauna conservation and management	(9) Environmental Health
(5) Land use planning	(10) Subject Area Specialists
(11) Representatives of NGOs/persons concerned with environmental issues.	

2. The Chairman will be an outstanding and experienced ecologist or environmentalist or technical professional with wide managerial experience in the relevant development.
3. The representative of Impact Assessment Agency will act as a Member- Secretary.
4. Chairman and members will serve in their individual capacities except those specifically nominated as representatives.
5. The membership of a committee shall not exceed 15 members.

• **ENVIRONMENTAL APPRAISAL PROCEDURE IN INDIA**

- An Appraisal Committee constituted by the Ministry of Environment and Forests to first scrutinized a project. This committee evaluates the impact of the project based on the data presented by the project authorities.
- Coastal Zone Management Plans (CZMPs) are prepared by coastal states or Union
- Territories as per rules set by CRZ notification 1991. This is prepared based on identification and categorization of coastal areas for different activities and then submitted to the MoEF for approval. MoEF has been sponsoring carrying capacity studies for different regions.
- The studies involves:-
 - ✓ a list of natural resources available.
 - ✓ preparation of existing environmental settings;
 - ✓ perspective plans and their impact on natural resources through creation of 'Business
 - ✓ As Usual Scenario;
 - ✓ identification of 'Hot Spots' requiring immediate remedial action to overcome air,
 - ✓ water or land pollution;

• **ISSUES OF ENVIRONMENTAL CLEARANCE / REJECTION LETTER**

Clearance or rejection letter issues are (a) single window clearance (b) time frame and (c) post project monitoring

(a) Single window clearance:

When a project requires both environmental clearance as well as approval under the Forest (Conservation) Act, 1980, proposals for both are required to be given simultaneously to the concerned divisions of the Ministry.

(b) Time frame

Once all the requisite documents and data from the project authorities are received and public hearings (where required) have been held, assessment and evaluation of the project from the environment angle is completed within 90 days and the decision of the ministry shall be conveyed within 30 days thereafter.

(c) Post project monitoring

- Whenever a project is given environment clearance, the project authorities will require submitting a half- yearly compliance report to the Ministry about the compliance of conditions stipulated in the environmental clearance order by the Ministry.
- To monitor the implementation of the recommendations and conditions stipulated by the Appraisal Committee subject to which the environmental clearance has been given.
- The six regional offices of the Ministry located at Shillong, Bhubneshwar, Chandigarh, Bangloru, Lucknow and Bhopal, help the Ministry in post project monitoring of the cleared projects.

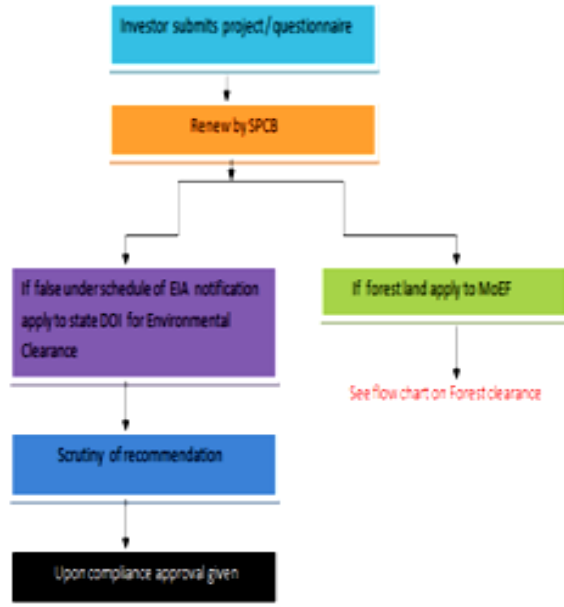
• **THE MAIN PARTICIPANTS OF EIA**

EIA applies to public and private sections. The six main players are:

- Those who propose the project
- The environmental consultant who prepare EIA on behalf of project proponent.
- Pollution Control Board (State or National).
- Public has the right to express their opinion.
- The Impact Assessment Agency.
- Regional centre of the Ministry of Environment and Forest.

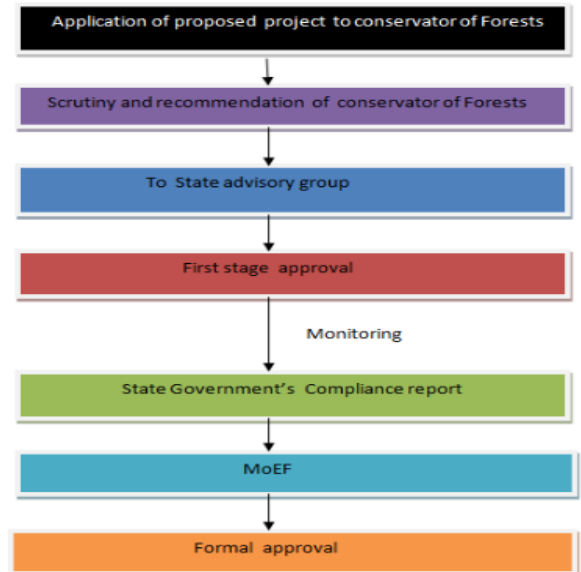
- **ENVIRONMENTAL CLEARANCE**

Flow chart showing some steps in obtaining Environmental Clearance:



- **FORESTRY CLEARANCE**

Flow chart Forestry Clearance shows some key steps:



- **ALTERNATE SCENARIO OF EVALUATION OF EIA**

- An effective EIA exercise is focused, time bound, cost effective and reliable.
- The evaluation of EIA is possible only when (a) there is public awareness of those responsible for protecting environmental quality and enforcement; (b) The EIA report and information contained therein is reliable.



Check Yourself

1. Environmental Clearance is necessary for approximately ----- industry.
 - a. 06
 - b. 15
 - c. 21
 - d. 30
2. Name the ministry which gives approval of EIA for any new project.
 - a. Ministry of Earth Sciences
 - b. Ministry of Jalshakti
 - c. Ministry of Environment and Forest
 - d. Central Pollution Control Board
3. What all is assess in EIA?
 - a. Assessment of existing environmental status.
 - b. Assessment of various factors of ecosystem.
 - c. Adverse impact on people living in neighbourhood.
 - d. All the above
4. After evaluation and assess of a project, how much Time is being taken by ministry to convey a message related to rejection or approval?
 - a. 30days
 - b. 45 days
 - c. 60 days
 - d. 90 days
5. An effective EIA is :
 - a. focused and time bound
 - b. cost-effective
 - c. a and b both
 - d. only a

Ans: 1. d 2.c 3.d 4.a 5.c



Stretch Yourself

1. What is the concept of Environment Impact Assessment?
2. Why do you think that EIA is necessary?
3. List the environmental component of EIA.
4. What is the alternative scenario of evaluation of EIA?



Test Yourself

1. Why do you think that there is a need to impalement EIA for any new developmental project? Explain
2. Discuss about the assessment process of EIA in India
3. How does an expert committee form of appraisal of any project in India?
4. How does one get environmental clearance or rejection letter in India.
5. Mention the participants of EIA.