

## UNIT–III: ENVIRONMENTAL MANAGEMENT PLAN

### 3.3 EIA Report Preparation



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All anthropogenic activities have some impact on environment. The impacts may be significant or controversial, positive or negative. The negative, harmful, effects are often far more common than useful. There is thus a pressing need to evaluate the potentialities of a proposed project before it is undertaken. There is no danger to environment if the impacts are within the sustainability of environment but when they exceed the carrying capacity and produce ecological changes that the alarm bells start ringing. These ecological changes must be characterized early in the project cycle and corrective steps taken. The need to foresee the problems of a development project is the primary objective of Environmental Impact Assessment (EIA). It is an exercise to document the consequences of a proposed project in totality along with measures necessary to keep the environment clean and healthy. Administrative and legislative decisions are needed to go ahead with the project or to curb/restrain activities. These provisions have been made in the Environment (Protection) Act, 1986\*. Similar steps have been taken elsewhere in the world. The National Environmental Policy Act of USA (NEPA), 1970 is a forerunner of such efforts. An inter relationship between EIA and EIS (Environment Impact Statement) was indicated by Jain et. al (1977).

In order to prepare an EIA/EIS document, number of steps are needed. They are represented in the Fig.

1. Identify actions



2. Identify activities



3. Examine elements



4. Evaluate impacts



5. Summarise impacts



6. Reviews alternatives



7. Analyse findings
    - a) Environmental impacts
    - b) Controversial
    - c) Significant
  8. Prepare EIA/EIS document
  9. Process document
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graph TD; 7[7. Analyse findings] --> 8[8. Prepare EIA/EIS document]; 8 --> 9[9. Process document];
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### **Step By Step Procedure**

The first step in the series requires identification of actions on the part of proponents. Ministry of Environment and Forests have identified 30 + 2 category of actions which need to be examined. If the project requires EIA document, it requires identification of activities in Step 2. All project specific activities shall be listed and those elements/attributes which are important and can have an impact must be examined and evaluated. Alternatives to the project must also be reviewed and the one with least environmental disturbance selected.

The environmental impacts, controversial, significant, positive, negatives analyzed. All possible mitigation measures, environmental management programmes worked out and documented in EIA/EIS.

The basic premise in preparing the document/statement is to promote Sustainable Development without/or least impairing the quality of environment, protection and restoration of resources and leaving a good quality setting for future generations. If by a proposed project a component of environment is in danger, the document will also alert the concerned agencies. The document can also predict short/long term effects and can be used in the planning process.

In order that all/most of the issues are addressed in the document/statement, it should have the following:

- 1.Introduction
- 2.Description of the Project
- 3.Description of the Environment
- 4.Screening of Potential Environmental Impacts and Mitigation Measures
5. Institutional Requirements and Environmental Monitoring Plan
- 6.Public Consultation and Information Disclosure
- 7.Findings and Recommendation
- 8.Conclusions

## **Introduction**

1. Purpose of the report including
  2. identification of the project and project proponent;
  3. brief description of the nature, size, and location of the project and of its importance to the country; and
  4. any other pertinent background information; and
- (ii) Extent of the IEE study: scope of study, magnitude of effort, person or agency performing the study, and acknowledgement.

### **1. Project details**

- a) Definition, objectives, goals and purpose of action.
- b) Area, magnitude of action during planning, construction, maintenance and operation.
- c) Total requirement of man, material and time required.
- d) Energy requirements during construction, operation and maintenance.
- e) Complete environment settings, present population of area and rate of growth, biophysical and socio-economic.
- f) Historical data and topography.
- g) Water bodies in and around.
- h) Any religious or tourist resort, sensitive area around like hospital, academic

institutes and air port.

- i) Forest cover in the vicinity (core zone refers to the area where the project has to be undertaken and buffer zone within 10 km radius).

## **2. Land use plan**

- a) Existing land use in terms of agriculture, forest, green cover, waterbodies, community and commercial uses.
- b) Land use projections in Master Plan.
- c) Changes anticipated in land use.

## **3. Probable Impacts of Proposed Actions**

- a) Anticipated changes in environmental attributes, air, water, land, noise, vibration, ecology and natural settings.
- b) Effects of changes on human health, welfare and surroundings (Impacts include, direct, indirect, primary and secondary).

## **4. Alternatives to the present, proposed actions**

For every proposed project, there are a few alternatives which may include another site, another technology, mitigation measures and costs. All possible alternatives with merits, demerits, risks and cost benefit analysis must be put forth and the one with least effects, least risks and positive cost benefit ratio must be recommended.

## **5. Adverse impact which can not be avoided**

Despite all possible precautions in avoiding impacts on one or more of environmental attribute, some adverse effects on air, water, land, human

health can not be avoided. All these must be discussed with all conceived mitigation measures. These could be by Waste Water Treatment (Municipal or package plants), Scrubber, system for air pollution control, high rise stacks to abet pollutant dispersion, acoustic housing for DG sets for noise control, green belt for aesthetic and many more.

### ***6. Conservation of Natural Resources***

The irreversible commitment to natural resources must be discussed and include

- i) Human Resources, labor and other technical workmen
- ii) Local materials
- iii) Natural ecosystem imbalance
- iv) Change in natural land use pattern
- v) Consumption of natural energy sources, fossil fuel, natural gas
- vi) Cultural
  - destruction of human interest sites
  - archeological sites
  - scenic view
  - open space
  - social and economic effects
  - aesthetics

This section will describe the process undertaken to involve the public in project design and recommended measures for continuing public participation; summarize major comments received from beneficiaries, local officials, community leaders, NGOs, and others, and describe how these comments were addressed; list milestones in public involvement such as dates, attendance, and topics of public meetings; list recipients of this document and other project related documents; describe compliance with relevant regulatory requirements for public participation; and summarize other related materials or activities, such as press releases and notifications. This section will provide a summary of information disclosed to date and procedures for future disclosure.

### **Findings & Recommendations**

This section will include an evaluation of the screening process, and a recommendation will be provided whether significant environmental impacts exist needing further detailed study or EIA.

If there is no need for further study, the IEE itself, which at times may need to be supplemented by a special study in view of some small significant impacts, becomes the completed EIA for the project and no follow-up EIA will be needed.

If further additional study is needed, then this section will include a brief terms of reference (TOR) for the needed follow-up EIA, including approximate descriptions of work tasks, professional skills required, time required, and estimated costs. The Bank's Environment Guidelines provides a guide for preparing the TOR for different projects.

### **Conclusion**

This section will discuss the result of the IEE and justification if any of the need for additional study or EIA. If an IEE or an IEE supplemented by a special study is sufficient for the project, then the IEE with the recommended institutional requirements and monitoring program become the completed EIA.

