**Environmental Impact Assessment (EIA)**

**Introduction**

* Environmental Impact Assessment (EIA) is an important management tool for ensuring optimal use of natural resources for sustainable development.
* A beginning in this direction was made in our country with the impact assessment of river valley projects in 1978-79 and the scope has subsequently been enhanced to cover other developmental sectors such as industries, thermal power projects, mining schemes etc.
* To facilitate collection of environmental data and preparation of management plans, guidelines have been evolved and circulated to the concerned Central and State Government Departments.
* EIA has now been made mandatory under the Environmental (Protection Act, 1986 for 29 categories of developmental activities involving investments of Rs. 50 crores and above.

**Environmental Appraisal Committees**

With a view to ensure multi-disciplinary input required for environmental appraisal of development projects, Expert Committees have been constituted for the following sectors:

1. Mining Projects
2. Industrial Projects
3. Thermal Power Projects
4. River Valley, Multipurpose, Irrigation and H.E. Projects
5. Infrastructure Development and Miscellaneous Projects
6. Nuclear Power Projects

**Environmental Appraisal Procedure**

Once an application has been submitted by a project authority along with all the requisite documents specified in the EIA Notification, it is scrutinised by the technical staff of the Ministry prior to placing it before the Environmental Appraisal Committees. The Appraisal Committees evaluate the impact of the project based on the data furnished by the project authorities and if necessary, site visits or on-the-spot assessment of various environmental aspects are also undertaken.

Based on such examination, the Committees make recommendations for approval or rejection of the project, which are then processed in the Ministry for approval or rejection.  
In case of site specific projects such as Mining, River Valley, Ports and Harbours etc., a two stage clearance procedure has been adopted whereby the project authorities have to obtain site clearance before applying for environmental clearance of their projects.

This is to ensure avoiding areas which are ecologically fragile and environmentally sensitive. In case of projects where complete information has been submitted by the project proponents, a decision is taken within 90 days.  
  
**Monitoring**

After considering all the facets of a project, environmental clearance is accorded subject to implementation of the stipulated environmental safeguards.

Monitoring of cleared projects is undertaken by the six regional offices of the Ministry functioning at **Shillong, Bhubaneshwar, Chandigarh, Bangalore, Lucknow and Bhopal**.

The primary objective of such a procedure is to ensure adequacy of the suggested safeguards and also to undertake mid-course corrections required, if any. The procedure adopted for monitoring is as follows:

1. Project authorities are required to report every six months on the progress of implementation of the conditions/safeguards stipulated, while according clearance to the project.
2. Field visits of officers and expert teams from the Ministry and/ or its Regional Offices are undertaken to collect and analyse performance data of development projects, so that difficulties encountered are discussed with the proponents with a view to finding solutions.
3. In case of substantial deviations and poor or no response, the matter is taken up with the concerned State Government.
4. Changes in scope of project are identified to check whether review of earlier decision is called for or not.

**Coastal Area Management**

Coastal States/UTs are required to prepare Coastal Zone Management Plans (CZMPs) as per the provisions of the Coastal Regulation Zone (CRZ) Notification 1991, identifying and categorising the coastal areas for different activities and submit it to the Ministry for approval.  
The Ministry has constituted a Task Force for examination of these plans submitted by Maharashtra and Gujarat States have been discussed in the meetings of the Task Force and these need to be modified.

The Government of Orissa has submitted a partial plan covering only a part of their coastal area. In respect of West Bengal, a preliminary concept document of the CZMP has been submitted. Revised CZMP/clarifications have been received from the State of Goa and UTs of Daman & Diu, Lakshadweep and Andaman & Nicobar Islands.

During the year, the Task Force had seven meetings and two site visits for consideration of the plans. Once the plans of the different States/UTs are finalised, the development activities in the coastal belt would be more forcefully regulated to ensure non-violation of CRZ Notification.  
  
**Island Development Authority (IDA)**  
The 9th meeting of IDA was held on 22.1.96 under the Chairmanship of the Prime Minister to decide on various policies and programmes aimed at integrated development of the islands, keeping in view the relevent aspects of environmental protection, and also to review the progress of implementation and impact of the programmes of development.  
  
**Studies on Carrying Capacity**

Natural resources are finite and are dwindling at a fast pace. Optimization of natural resources for achieving the objective of sustainable development is therefore, self evidents, this can be done only when environmental considerations are internalized in the development process. It has often been observed that one or more natural resource(s) becomes a limiting resource in a given region thereby restricting the scope of development portfolios. The Ministry of Environment & Forests has been sponsoring Carrying Capacity Studies for different regions. The studies involve:

1. Inventorisation of the natural resources available;
2. Preparation of the existing environmental settings;
3. Perspective plans and their impact on natural resources through creation of "Business As Usual Scenario";
4. Identification of "Hot Spots" requiring immediate remedial action to overcome air, water or land pollution;
5. Formulation of alternative development scenarios including a Preferred Scenarios. A comparison between "Business As Usual" and the "Preferred Scenario" would indicate the future course of action to be adopted for development of the region after the package has been discussed with the local people as well as the planners.

A few problem areas such as the Doon Valley - an ecologically sensitive area, the National Capital Region (NCR) which is suffering from air and water pollution as well as congestion, Damodar River Basin which is very rich in natural resources and yet has extensive environmental degradation and Tapi estuary which represents the problems in the coastal region both for water and land development, have been selected for carrying out such studies.  
A multi-disciplinary and multi-institutional approach has been adopted for conducting these studies. Draft reports are ready for Doon Valley and the NCR and are being discussed with the NGOs and the local people for finalising the same. Work relating to Damodar Basin and Tapi Estuary is continuing with respect to secondary data collection and analysis so as to identify the requirements of primary data collection and modification in the development scenarios.

Reference

<http://envfor.nic.in/division/introduction-8>

**Environmental impact assessment** (EIA) is the formal process used to predict the environmental consequences (positive or negative) of a plan, policy, program, or project prior to the decision to move forward with the proposed action. Formal impact assessments may be governed by rules of [administrative procedure](https://en.wikipedia.org/wiki/Administrative_law) regarding public participation and documentation of decision making, and may be subject to judicial review. An impact assessment may propose measures to adjust impacts to acceptable levels or to investigate new technological solutions.

The purpose of the assessment is to ensure that decision makers consider the environmental impacts when deciding whether or not to proceed with a project. The International Association for Impact Assessment (IAIA) defines an environmental impact assessment as "the process of identifying, predicting, evaluating and mitigating the [biophysical](https://en.wikipedia.org/wiki/Biophysics), social, and other relevant effects of development proposals prior to major decisions being taken and commitments made."[[1]](https://en.wikipedia.org/wiki/Environmental_impact_assessment#cite_note-1) EIAs are unique in that they do not require adherence to a predetermined environmental outcome, but rather they require decision makers to account for environmental values in their decisions and to justify those decisions in light of detailed environmental studies and public comments on the potential environmental impacts.[[2]](https://en.wikipedia.org/wiki/Environmental_impact_assessment#cite_note-2)

Engineering and consulting companies work hand in hand as contractors for mining, energy, oil&gas companies executing EIAs. Companies operating globally such as [Royal HaskoningDHV](https://en.wikipedia.org/wiki/Royal_HaskoningDHV), [Golder Associates](https://en.wikipedia.org/wiki/Golder_Associates), [Amec Foster Wheeler](https://en.wikipedia.org/wiki/Amec_Foster_Wheeler), Schlumberger Water Services (an [Schlumberger](https://en.wikipedia.org/wiki/Schlumberger) company) are an exam

ple of a much bigger pool of expertise globally. These contractors are the ones not only in charge of preparing an EIA study but most importantly getting these studies approved by each country government offices prior to the execution of a project. Each country will also have its own local contractors offering the same kind of service hence breaking out monopolies by increasing the supply of EIAs execution consultants.[[3]](https://en.wikipedia.org/wiki/Environmental_impact_assessment#cite_note-3)

## Contents

## Methods

General and industry specific assessment methods are available including:

* *Industrial products* - Product environmental life cycle analysis (LCA) is used for identifying and measuring the impact of industrial products on the environment. These EIAs consider activities related to extraction of raw materials, ancillary materials, equipment; production, use, disposal and ancillary equipment.[[7]](https://en.wikipedia.org/wiki/Environmental_impact_assessment#cite_note-8)
* *Genetically modified plants* - Specific methods available to perform EIAs of [genetically modified organisms](https://en.wikipedia.org/wiki/Genetically_modified_organisms) include GMP-RAM and INOVA.[[8]](https://en.wikipedia.org/wiki/Environmental_impact_assessment#cite_note-9)
* [*Fuzzy logic*](https://en.wikipedia.org/wiki/Fuzzy_logic) - EIA methods need measurement data to estimate values of impact indicators. However, many of the environment impacts cannot be quantified, e.g. landscape quality, lifestyle quality and social acceptance. Instead information from similar EIAs, expert judgment and community sentiment are employed. Approximate reasoning methods known as fuzzy logic can be used.[[9]](https://en.wikipedia.org/wiki/Environmental_impact_assessment#cite_note-10) A fuzzy arithmetic approach has also been proposed [[10]](https://en.wikipedia.org/wiki/Environmental_impact_assessment#cite_note-11) and implemented using a software tool (TDEIA). More information can be found at [ARAI](http://arai.ugr.es/eiadifusa/) web site.

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The [Ministry of Environment and Forests](https://en.wikipedia.org/wiki/Ministry_of_Environment_and_Forests_%28India%29) (MoEF) of India has been in a great effort in Environmental Impact Assessment in India. The main laws in action are the Water Act(1974), the Indian [Wildlife (Protection) Act (1972)](https://en.wikipedia.org/wiki/Wildlife_Protection_Act_of_1972), the Air (Prevention and Control of Pollution) Act (1981) and the Environment (Protection) Act (1986),Biological Diversity Act(2002).[[42]](https://en.wikipedia.org/wiki/Environmental_impact_assessment#cite_note-43) The responsible body for this is the Central Pollution Control Board. Environmental Impact Assessment (EIA) studies need a significant amount of primary and secondary environmental data. Primary data are those collected in the field to define the status of the environment (like air quality data, water quality data etc.). Secondary data are those collected over the years that can be used to understand the existing environmental scenario of the study area. The environmental impact assessment (EIA) studies are conducted over a short period of time and therefore the understanding of the environmental trends, based on a few months of primary data, has limitations. Ideally, the primary data must be considered along with the secondary data for complete understanding of the existing environmental status of the area. In many EIA studies, the secondary data needs could be as high as 80% of the total data requirement. EIC is the repository of one stop secondary data source for environmental impact assessment in India.

The Environmental Impact Assessment (EIA) experience in India indicates that the lack of timely availability of reliable and authentic environmental data has been a major bottle neck in achieving the full benefits of EIA. The environment being a multi-disciplinary subject, a multitude of agencies are involved in collection of environmental data. However, no single organization in India tracks available data from these agencies and makes it available in one place in a form required by environmental impact assessment practitioners. Further, environmental data is not available in enhanced forms that improve the quality of the EIA. This makes it harder and more time-consuming to generate environmental impact assessments and receive timely environmental clearances from regulators. With this background, the Environmental Information Centre (EIC) has been set up to serve as a professionally managed clearing house of environmental information that can be used by MoEF, project proponents, consultants, NGOs and other stakeholders involved in the process of environmental impact assessment in India. EIC caters to the need of creating and disseminating of organized environmental data for various developmental initiatives all over the country.

EIC stores data in GIS format and makes it available to all environmental impact assessment studies and to EIA stakeholders in a cost effective and timely manner. So that we can manage that in different proportions such as remedy measures