

ENVIRONMENTAL IMPACT ASSESSMENT

INTRODUCTION

Environmental Impact Assessment (EIA) refers to the evaluation of the environmental impacts likely to raise from a major project significantly affecting the environment.

Environmental Impact Assessment (EIA) is a process which ensures that all environmental matters are taken into account quite early in the project at planning process itself. It takes into consideration not only technical and economic considerations but also, traditional aspects like impact on local people, biodiversity etc.

- A tool used to identify the environmental, social and economic impacts of a project prior to decision-making.
- It aims to predict environmental impacts at an early stage in project planning and design, find ways and means to reduce adverse impacts, shape projects to suit the local environment and present the predictions and options to decision-makers.
- By using EIA both environmental and economic benefits can be achieved, such as reduced cost and time of project implementation and design, avoided treatment/clean-up costs and impacts of laws and regulations.
- The impact of an activity is a deviation (a change) from the baseline situation that is caused by the activity.
- The baseline situation is the existing environmental situation or condition in the absence of the activity.

EVOLUTION OF EIA

EIA is one of the successful policy innovations of the 20th Century for environmental conservation. Thirty-seven years ago, there was no EIA but today, it is a formal process in many countries and is currently practiced in more than 100 countries. EIA as a mandatory regulatory procedure originated in the early 1970s, with the implementation of the National Environment Policy Act (NEPA) 1969 in the US. A large part of the initial development took place in a few high-income countries, like Canada, Australia, and New Zealand (1973-74). However, there were some developing countries as well, which introduced EIA relatively early - Columbia (1974), Philippines (1978). The EIA process really took off after the mid-1980s. In 1989, the World Bank adopted EIA for major development projects, in which a borrower country had to undertake an EIA under the Bank's supervision

IMPACTS

Environmental impacts:

1. Depletion of natural resources.
2. Destruction of habitats.
3. Change in pH, oxygen level, toxicity of water.
4. Increase in toxicity of air.
5. Global warming.
6. Ozone depletion.

TYPES OF IMPACTS IMPACTS

Ecological Impact

Fisheries, forests, plantation, eutrophication

Physico-chemical Impact

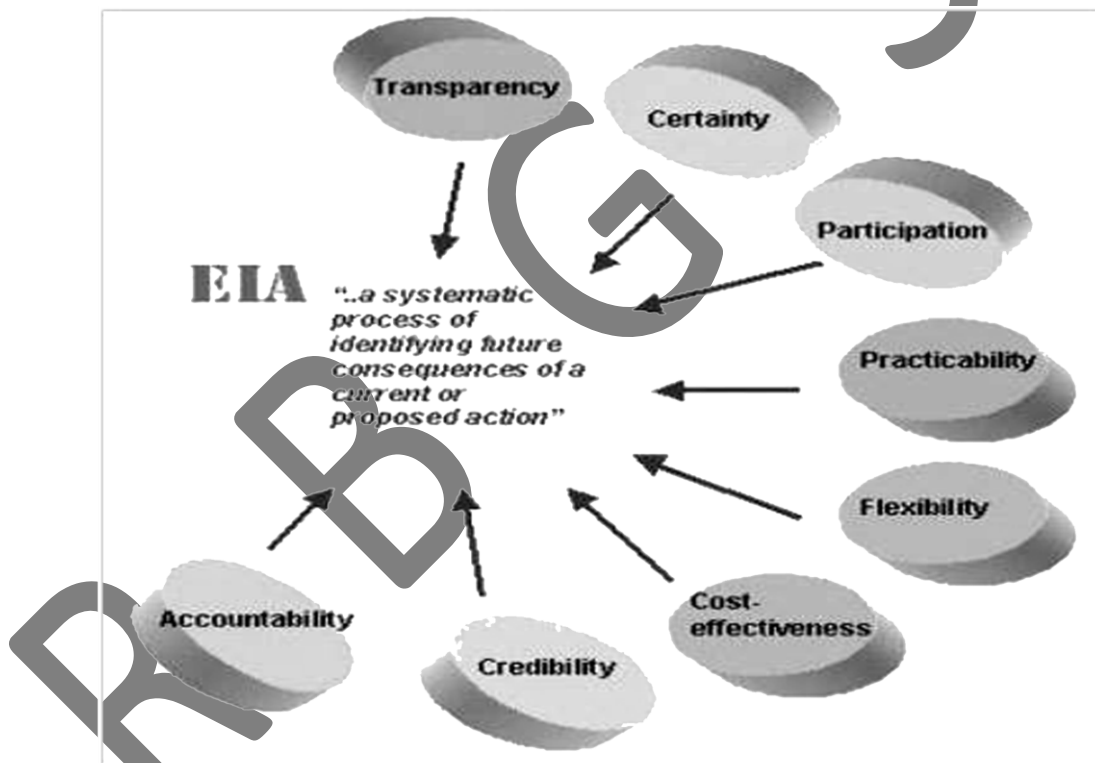
Erosion and Siltation, drainage congestion /water logging, regional hydrology/flooding, obstruction to waste water flow, dust /noise pollution

Impact on Human Interest

Loss of agricultural lands, generation of employment opportunities, navigation and boat communication, commercial and service facilities, industrial activities, irrigation facilities.

BENEFITS OF EIA

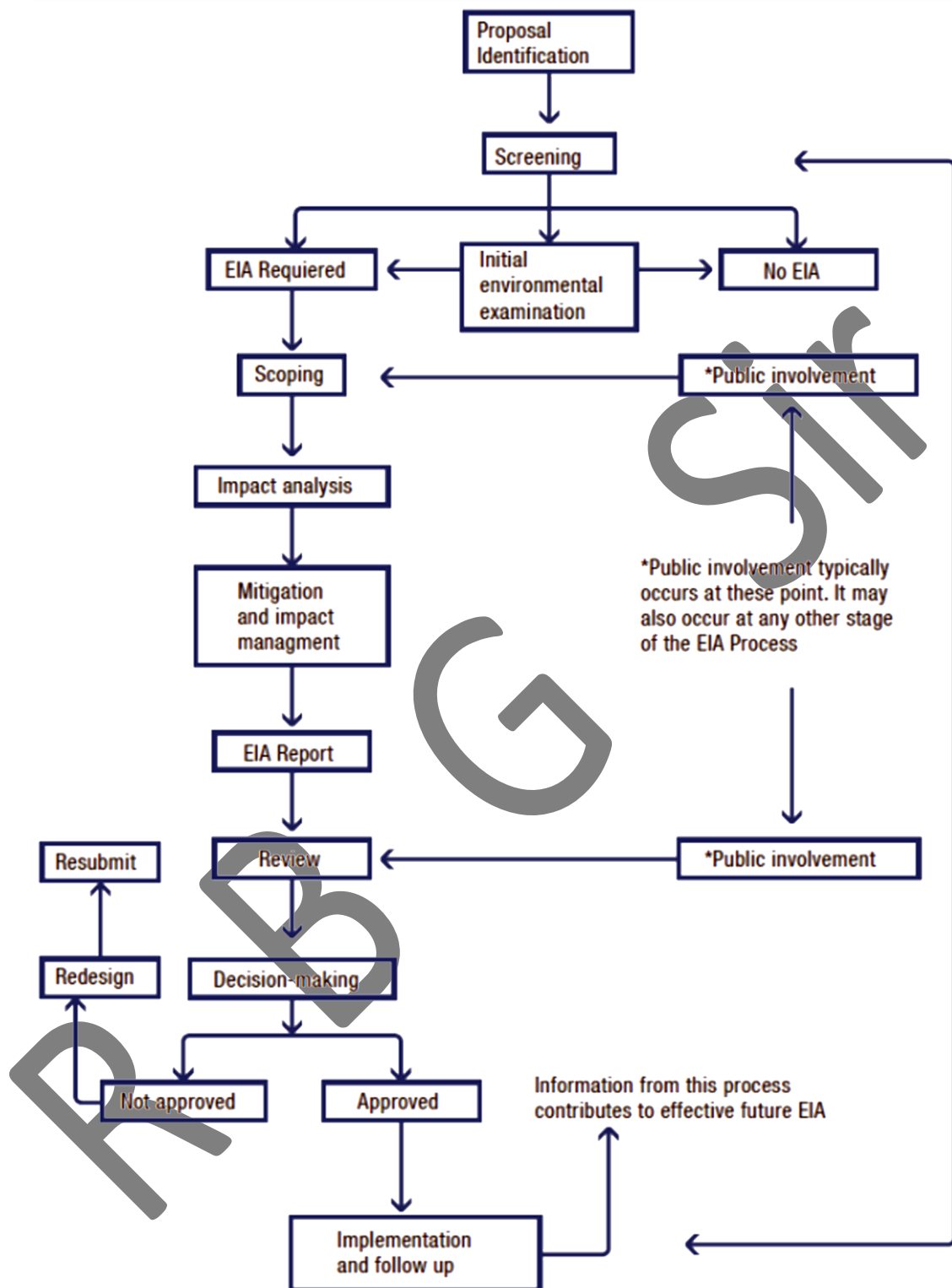
- ✚ Lower project costs in the long-term
- ✚ Increased project acceptance
- ✚ Improved project design
- ✚ Informed decision making
- ✚ Environmentally sensitive decisions
- ✚ Increased accountability and transparency
- ✚ Reduced environmental damage
- ✚ Improved integration of projects into their environmental and social settings



PROCESS OF EIA

EIA process includes following steps:

- Screening Scoping
- Impact analysis
- Impact mitigation
- Reporting
- Review
- Decision making
- Monitoring

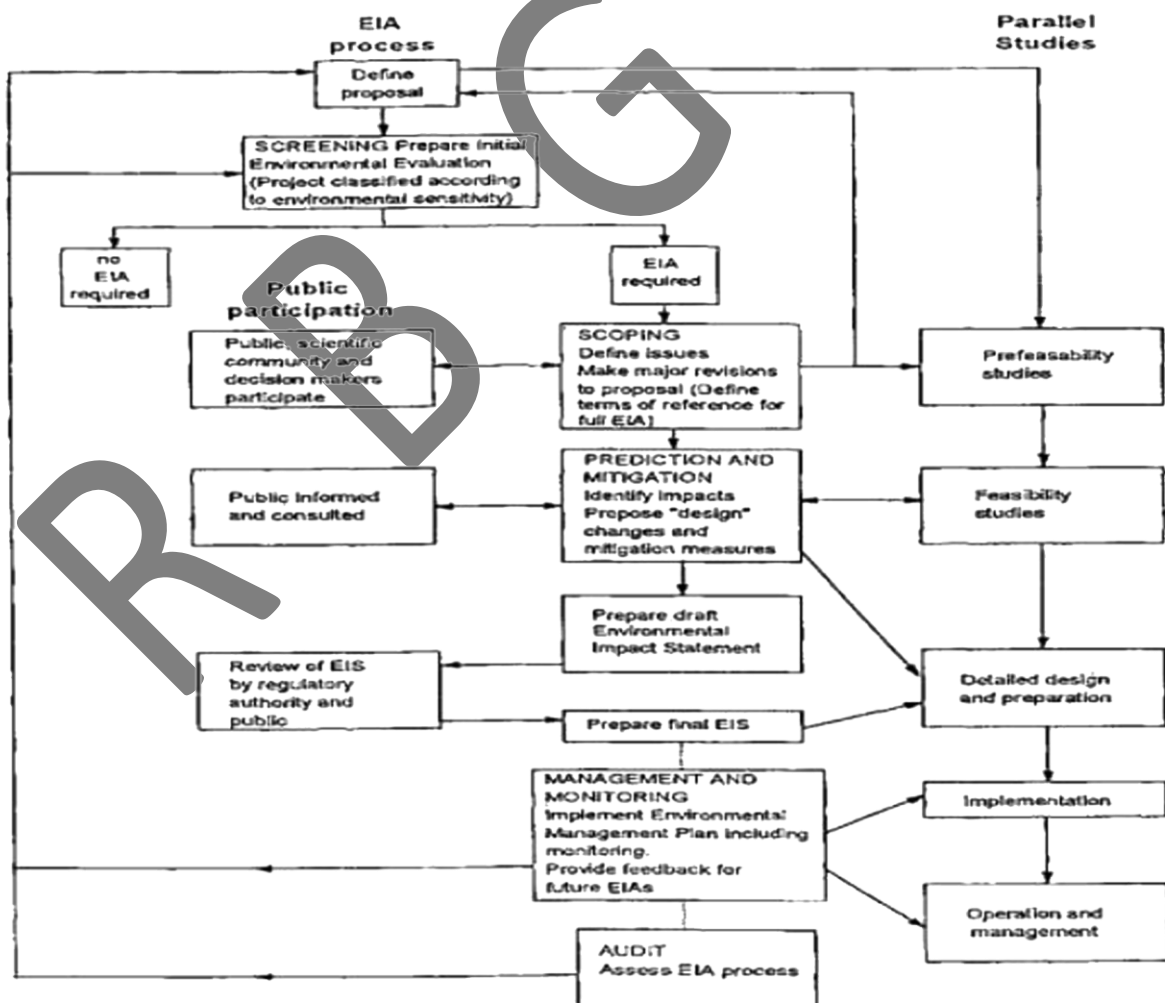


PROCESS OF EIA

- Screening: to determine which projects or developments require a full or partial impact assessment study;
- Scoping: to identify which potential impacts are relevant to assess (based on legislative requirements, international conventions, expert knowledge and public

involvement), to identify alternative solutions that avoid, mitigate or compensate adverse impacts on biodiversity (including the option of not proceeding with the development, finding alternative designs or sites which avoid the impacts, incorporating safeguards in the design of the project, or providing compensation for adverse impacts), and finally to derive terms of reference for the impact assessment;

- Assessment and evaluation of impacts and development of alternatives, to predict and identify the likely environmental impacts of a proposed project or development, including the detailed elaboration of alternatives;
- Reporting the Environmental Impact Statement (EIS) or EIA report, including an environmental management plan (EMP), and a non-technical summary for the general audience.
- Review of the Environmental Impact Statement (EIS), based on the terms of reference (scoping) and public (including authority) participation.
- Decision-making on whether to approve the project or not, and under what conditions; and
- Monitoring, compliance, enforcement and environmental auditing. Monitor whether the predicted impacts and proposed mitigation measures occur as defined in the EMP. Verify the compliance of proponent with the EMP, to ensure that unpredicted impacts or failed mitigation measures are identified and addressed in a timely fashion.



BENEFITS OF THE EIA PROCESS

- Potentially screens out environmentally-unsound projects
- Proposes modified designs to reduce environmental impacts
- Identifies feasible alternatives
- Predicts significant adverse impacts
- Identifies mitigation measures to reduce, offset, or eliminate major impacts
- Engages and informs potentially affected communities and individuals
- Influences decision-making and the development of terms and conditions

BENEFITS OF CONDUCTING EIA

- Facilitates informed decision making by providing clear, well structured dispassionate analysis of the effect and consequences of proposed projects.
- Pre-emption or early withdrawal of unsound proposals.
- Assists in the selection of alternatives, including the selection of the best practicable and most environmentally friendly option.
- Results in best practice prediction and mitigation of adverse effects of projects.
- Influences both project selection and design by screening out environmentally unsound projects, as well as modifying feasible projects - Mitigation of negative environmental and social impacts.
- Guides formal approval, including the establishment of terms and conditions of project implementation and follow-up.
- Mitigation of negative environmental and social impacts.
- Serves as an adaptive, organizational learning process, in which the lessons of experience are feedback into policy, institutional and project design - Enhancement of positive aspects.

CONCLUSION

Environment Impact Assessment is a very beneficial step to check, whether the project is environment friendly or not. Since economic development is result of interaction between natural resources and technology supported by designed for people, so all human activity should be economic, social and environment friendly. EIA certainly has a crucial role to play in addressing environmental issues surrounding project development and especially power projects. The integration of environment into development planning is the most important tool in achieving sustainable development. Environmental protection and economic development must thus be dealt with in an integrated manner. EIA process is necessary in providing an anticipatory and preventive mechanism for environmental management and protection in any development. Several developing countries are still at the infancy stage of operationalization of their EIA processes. The need for capacity building for quality EIA is also eminent in these countries. Despite these small setbacks, environmental impact assessment has become an integral part of project planning one, which is continually being improved for posterity.