

Environmental Impact Assessment: Concept, Documentation & Practices In India.

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Abstract :

Environmental Impact Assessment (EIA) is an orderly scrutiny of all environmental impacts cropping up out of any developmental activity. Depending on the form and enormity of impacts, alleviation measures are recommended to maintain the overall environmental eminence integral. Efforts are also made to additionally augment socioeconomic and environmental aesthetics of the surrounding area.

EIA is the study of the effects of a proposed project, plan or program on the environment. A Strength, Weakness and Opportunity analysis taken up in this article has suggested that there are several issues that need to be readdressed. The opportunities are realized as increasing public awareness, initiatives of environmental groups and forward thinking to environmental plans and policies.

In the era of climate change, environmental good governance is sine qua non for achieving

Sustainable development. For sustainable development, it is absolutely necessary to have effective environmental policy design with in-built control mechanisms such as Environmental Impact Assessment (EIA), to minimize the hazardous impacts of the developmental activities on the environment. According to the principle 17 of Rio Declaration (1992), the concept of EIA has been adopted as an environmental management tool to minimize the potential adverse impacts on the ecology often caused by of any socio-economic developmental project.

Although the inception of EIA as a decision making tool was done in the United States of America during 1960s. In India the National Committee on Environmental Planning and Co-Ordination was set up under the Department of Science and Technology (DST) during the 4th five year plan to focus on a paradigm shift in the area of environmental clearances for the various developmental projects. Initially even the EIA mechanism had limited scope and was exclusively applicable to the river valley projects for which clearances were to be given

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by the Ministry of Environment and Forest of Government of India. It was in then in the year 1994, when the EIA Notification was framed within the scope of delegated power under the necessary and proper clause, for seeking the environmental clearance of the developmental projects within India. Since then, the EIA Notification in India has come a long way and have been tailored and reengineered through several amendments. Among the other environmental policy initiatives, the EIA notification is considered to be an important milestone towards achieving environmental good governance in India. Since its inception the scope of EIA norms in India, has gone through massive transformation, for example in pre 1994 it was only applicable to government projects and thus it can be said that, till 1980s most of the developmental projects in India were implemented with very little environmental concern. Limited involvement of public and government agencies in the initial phases; EIA screening for developmental projects is based on investment criteria instead of impact potential Screening done on the basis of a defined list; Most reports in English instead of the local language are some of the limitation of EIA processes in India.

Keywords:

Environmental Impact Assessment (EIA), India, Limitation, Policy, Process, Sustainable development.

Introduction: Man is the creator and moulders of his environment. (Our Common Future Report, 1987). In this context the term environment means, the bio-physical environment within which all the life forms on earth are sustained. The socio- economic developmental activities of human society to become a contemporary, technologically advanced society had gradually started affecting the environment adversely. The origin of environmental degradation lies in the wider acceptance of ideology of materialism and consumerism, which draws human away from nature even as it encourages wasteful lifestyles. (Gadgil et.al, 2004).

It was for the first time in the Stockholm Conference of 1972, that the need for the preservation

of the environment and its prevention from further degradation was considered at global level.

MATERIALS AND METHODS

Analytical research methodology has been adopted for this study by referring both the primary and secondary sources data. In primary sources the relevant legislative instruments like, the Stockholm and Rio declarations, Constitution of India, 1950, 4th Five year plan, EIA Notifi-

cations of 1994, 2006 and 2009, etc. Secondary sources include the work of many researchers.

CONCEPT OF EIA:

EIA can be described as a process for identifying the likely consequences for the bio geo physical environment and for man's health and welfare of implementing particular activities and for conveying this information, at a stage when it can materially affect their decision to those responsible for sanctioning the proposals (Munn, 1979) EIA is viewed both as science and art, reflecting the concern both with the technical aspects of appraisal and affect of EIA on the decision making process (Kennedy 1984)

OBJECTIVES OF EIA

Objectives of EIA include the following:

- To ensure that the environmental considerations are explicitly addressed and incorporated into the development and decision-making process;
- To anticipate and avoid, minimize or offset the adverse significant biophysical, social and other relevant effects of development proposals;
- To protect the productivity and capacity of natural systems and the ecological processes which maintain their functions; and
- To promote development that is sustainable and optimizes resource use as well as management opportunities.

Types of EIA

Environmental assessments could be classified into four types i.e., strategic environmental assessment, regional EIA, sectoral EIA and project level EIA.

(I). Strategic environmental assessment: Strategic Environmental Assessment (SEA) refers to systematic analysis of the environmental effects of development policies, plans, programmes and other proposed strategic actions. SEA represents a proactive approach to integrating environmental considerations into the higher levels of decision-making - beyond the project level, when major alternatives are still open.

(II). Regional EIA: EIA in the context of regional planning integrates environmental concerns into development planning for a geographic region, normally at the sub-country level. Such an approach is referred to as the economic-cum-environmental (EcE) development planning. This approach facilitates adequate integration of economic development with management of renewable natural resources within the carrying

capacity limitation to achieve sustainable development. It fulfills the need for macro-level environmental integration, which the project-oriented EIA is unable to address effectively. Regional EIA addresses the environmental impacts of regional development plans and thus, the context for project-level EIA of the subsequent projects, within the region. In addition, if environmental effects are considered at regional level, then the cumulative environmental effects of all the projects within the region can be accounted.

(III). Sectoral EIA: Instead of project-level-EIA, an EIA should take place in the context of regional and sectoral level planning. Once sectoral level development plans have the integrated sectoral environmental concerns addressed, the scope of project-level EIA will be quite minimal. Sectoral EIA will help in addressing specific environmental problems that may be encountered in planning and implementing sectoral development projects.

(IV). Project level EIA: Project level EIA refers to the developmental activity in isolation and the impacts that it exerts on the receiving environment. Thus, it may not effectively integrate the cumulative effects of the development in a region.

From the above, it is clear that the EIA shall be integrated at all levels i.e., strategic, regional, sectoral and project level. Whereas, the strategic EIA is a structural change in the way the things are evaluated for decision-making, the regional EIA refers to substantial information processing and drawing complex inferences. The project-level EIA is relatively simple and reaches to meaningful conclusions.

Basic EIA Principles: By integrating the environmental impacts of the development activities and their mitigation in early stages of project planning, the benefits of EIA could be realized in all the stages of a project, from exploration, planning, through construction, operations, decommissioning, and beyond site closure. A properly-conducted-EIA also lessens conflicts by promoting community participation, informing decision-makers, and also helps in laying the base for environmentally sound projects.

EIA Beneficiaries: EIA is a universally accepted observable fact for setting off impacts of a project at its preliminary phase and can be valuable to a multitude of industries, utilities, infrastructure projects, institutions, technology transfer projects, policy makers etc. It capitulate superlative results when made at preparatory stage. Nevertheless there have been few cases when a proponent does EIA for a full-fledged

running plant and moreover thinks about post-closure.

Screening: This first stage of EIA establishes whether the anticipated project, necessitates an EIA and if it does, then the intensity of assessment required.

Scoping: Scoping is to identify problems that need to be mitigated or that may cause the project to be canceled. This stage recognizes the key issues and impacts which further needs to be investigated and also delineates the periphery and time limit of the study.

Public Involvement: This aim to assure the quality, comprehensiveness and effectiveness of the EIA.

Impact Analysis: The third stage of EIA identifies and envisages the likely ecological and social impact of the anticipated project and weighs upon the implication.

Mitigation: EIA, mitigation measures are proposed to avoid or reduce environmental and social impacts. Mitigation advocates the actions to lessen and steer clear of the possible adverse environmental upshots of development activities.

Report: The end result of EIA is accounted in a form of a report which summarizes the description of the project, baseline conditions, important findings, regional setting, and impact prediction of the study and is sent to the decision-making body and other concerned parties.

Review of EIA: It examines the adequacy and effectiveness of the EIA report and provides the information and effectiveness for decision-making.

Decision-making: It decides whether the project is rejected, approved or needs further change. The assessment has to be completed within a period of 90 days from the receipt of the requisite documents from the project authorities and completion of public hearing. The decision has to be conveyed to the proponent within 30 days thereafter. It decides whether the project is cast off, accepted or needs additional alterations. Post Monitoring This final step of EIA comes into play once the project is bespoken. It tries to make certain that the impacts of the project does not go beyond the officially permitted standards and execution of the mitigation measures are done in the manner as stated in the EIA report.

BENEFITS OF EIA

EIA is a universally accepted observable fact for setting off impact of a project as its preliminary phase. Some most important forms criterion are: Specific legal requirements (e.g. national laws, standards conventions, relevant policies, International agreements etc.), Cost of mitigation, Public views and complaints, Geographical extent of the im-

pact (e.g. has Trans boundary implications), Reversibility of impact, Duration, Likelihood or probability of occurrence (Very likely, Unlikely).

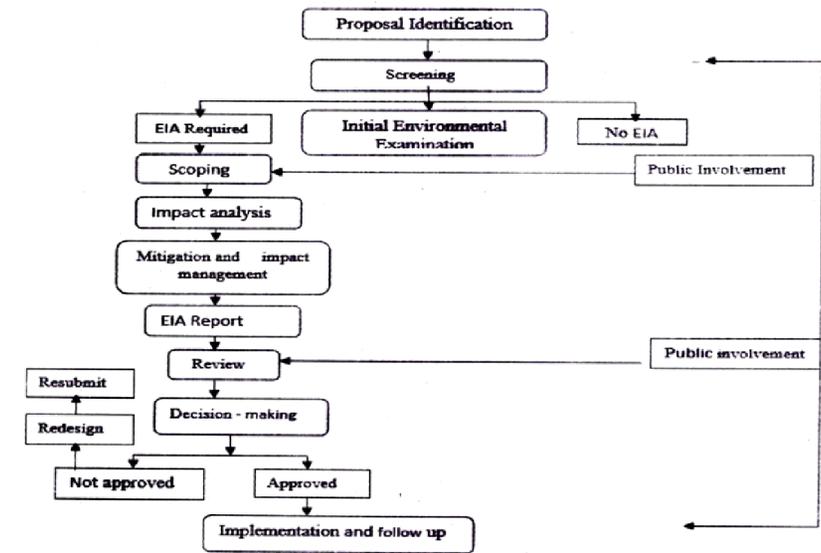


Fig 01: Generalized EIA Process.

LIMITATIONS OF EIA

Present of EIA practice in India is restricted to project level. It also has several drawbacks, (Lohani et al., 1997; Rao, 1997). These are: Improper monitoring and Implementation, EIA screening for developmental projects is based on investment criteria instead of impact potential. Screening done on the basis of a defined list. Threshold values on the size of the project has been used to decide whether the project will be cleared by the state government or the central government, Limited involvement of public and government agencies in the initial phases. insufficient data, Lack of Social Issues and Environmental Problems, coordination and poorly defined decision-making process, Poor governance and Corruption, Poor quality EIA reports and non-accountability of EIA professionals No provision in place to cover landscape and visual impacts in the Indian EIA regulations. Most reports in English and not in the local language.

Executive summary is not translated into local language.

CONCLUSION

EIA is an important tool in assuring that projects and plans will

not give an adverse impact on the environment. The aim is not to produce the reports that describe the impact. "Make things happen" i.e. initiate a process that gives the opportunity to implement the alternative that is regarded as "best" by as many involved as possible. Social aspects come into focus together with scientific and technical aspects. It has been critically remarked that India's existing model for socio-economic development, which focuses heavily on certain material goods and services is profoundly unsustainable (Kothari, 2002). As suggested major weakness of EIA is the general lack of follow-up after consent decision (Morrison et.al, 2008). In the span of fourteen years of its existence the EIA norms have been amended for almost fourteen times and mostly to favour the project proponents and rarely for the sake of the environment. However, a small ray of hope has emerged, when the MoEF, has taken few small, though positive steps by proposing that from 2011 the environmental clearances will be granted only when the EIA report is prepared by accredited consulting firms (Accreditation of EIA Consultant, 2010). Further it has been reiterated by the MoEF that as per the mandate of the EIA notification of 2006, without the prior environmental clearance no project proponent is allowed to start construction or any kind of development on the site, except for a boundary for preventing encroachment. In case of any violation strict penal action has been suggested. Achieving the goal of sustainable development by striking the balance between the environment and development, should be our prime objective. We must remember that saying 'no' to environment means that we are choosing the degradation of the environment and consequentially the very existence of mankind on earth may be wiped out. Hence there will be neither any need, nor any scope for future development, if we continue with our current trend of unsustainable development (Ranshur et.al, 2009).

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