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A Review Article on "Environmental Impact Assessment (Eia)

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Abstract

In recent years, there has been a remarkable growth of interest in environmental issues, sustainability and the better management of development in harmony with the environment. Associated with this growth of interest has been the introduction of new legislation, emanating from national and international agencies (e.g. the European Commission) that seek to influence the relationship between development and environment. Environmental impact assessment (EIA) is an important example. EIA means identify, predict and evaluate the environmental effects of proposed actions. EIA is a tool of decision-making development. The three core value of EIA study that has been identifying till date is integrity, utility and sustainability. EIA is a tool for measuring environmental impacts of a upcoming projects or activity covering physical and social factors and providing measure to minimize their impacts. In real sense it is a tool to evaluate the impact of business activity, profitable planning or action leading to bio-geophysical environment and on the health and well being of human beings and interpreting and making public aware about the same. That is to say, EIA focuses on various complications, hardships faced by environment in terms of curtailment of natural resources or human health proned to the upcoming project. It also examines implications of a project that might harm people, their homeland or their livelihood or other nearby developments. After predicting the problems, an

EIA identifies measures to minimize the problems and presents with the optimum guidelines to establish the project in the proposed environment synchronizing with the minimum impacts. In the last three decades, EIA has been recognized as the important tool to decide and minimum the feasibility of the project at the particular site. EIA has more wide scope in comparison of other technique. EIA has the potential to be a basis for negotiation among the developers, public interest groups and planning regulators.

Keywords: Environmental issues, international agencies, environmental impact assessment, public aware, planning regulators etc.

Introduction

Environmental impact Assessments often deal with major projects, with many wide ranging and often controversial impacts. They can also involve many participants with very different perspectives on the relative merits and impacts of projects. It is important that the EIA is well managed and essentially, the EIA process is a management intensive process (Glasson *et al.,* 1994). Some EIA procedures include an initial EIA study to check on the likely environmental impacts and their significance. An initial study, which is usually a 'maybe' or 'no' must substantiate the declaration. If the responses are primarily 'no', most of the 'yes' and 'maybe' can be mitigated, then the project may be screened out from a full EIA (Glasson *et al.,* 1994).

A good practice is to bring them together in a working group and or meetings with the developer. Other key issues could include particularly valued environmental attributes, those impacts perceived to be of particular concern to the affected parties and social, economic, political and environmental issues related to the specific locality. Reference should be made to relevant structure plans, local plans, subject plans and government policies and guidelines. The end result of this process of information collection and negotiation should be the identification of key issues and impacts, an explanation of why other issues are not considered significant and for each key impact, a defined temporal and spatial boundary within which the impact will be measured (Glasson *et al.,* 1994).

EIA are indirectly, public relation exercise and can be seen as publicity documents for developers. Good presentation can convey a concern for the environment, a rigorous approach to the impact analysis and a positive attitude to the public. Bad presentation, in turn, suggests a lack

of care and perhaps a lack of financial backing. Similarly, good presentation can help to convey information clearly, whereas bad presentation can negatively affect even a well organized EIS (Glasson *et al.*, 1994).

The issues in EIA monitoring and auditing appear to shift from purely technical and scientific to management aspects. Key issues in EIA monitoring and auditing thus are the accuracy of impact prediction and the quality of the EIS. EISs are generally expected to contain testable hypothesis and monitoring and auditing focused on compliance. Of late, however, the focus is on project implementation, mitigation, activity management and communication. Nevertheless, EIA monitoring and auditing are less developed than the pre-decision elements of the EIA process. This does not mean that there is no post decision monitoring and evaluation in many jurisdictions, as compliance monitoring and enforcement of permits are elements of the environment permit system (Glasson *et al.*, 1994).

Barrett and Therivel (1991) have suggested that an ideal EIA applies to all projects that have direct and indirect impacts on environment and gives optimum solution to the proposed project to reduce its impacts if possible, which led to decision making. Thompson (1990) evaluated 24 EIA methodologies (such as matrices and various types of checklists) in terms of how they addressed impact significance determination. Wide variations were noted, with none of the methodologies providing a comprehensive framework, along with instructions, for determining the significance of anticipated impacts.

Moore (1992) suggested that several factors have contributed to the decline in the number of EISs prepared annually(1) better scoping, (2) better project planning to reduce negative impacts and avoid the need for EISs,(3) use of mitigated measures and(4) less litigation. Environmental impact studies are often conducted by interdisciplinary teams. This is utmost important that interdisciplinary and not multidisciplinary activities dominate the whole process.”Multidisciplinary activities” denote those in which person experts in various disciplines work with each other specific, pre-established interrelationships. The team member's findings are typically presented as individual topical reports.”Interdisciplinary activities” are characterized by interrelationships and the sharing and integration of the finding of the team member (Van Dusseldorp and Van Staveren, 1983).

Interdisciplinary team' can be denoted as a group of two or more persons well trained in different area of knowledge with many methods, data, terms and concept in which has been systematize to address a common problem with continuous communication among participants from different area (Dorney and Dorney 1989).

An interdisciplinary specific team for a specified impact study can be identified as a temporary entity which has been assembled and possibly specially appointed, for gathering the specific purpose of conducting an EIS for a proposed project (Cleland and Kerzner, 1986). The roles of all team members, consultants and advisors need to be clearly defined (World Bank, 1991; Burack, 1992).

(1) A team leader or project manager is one who plans, researches or use his engineering skills in preparing several similar studies. (2) An biologist or ecologist (3) A anthropologist-sociologist-(4) A geologist-hydrologist-soils scientist or geographer, (5) An urban or a regional planner.

An interdisciplinary team member's number can change from as few as two to perhaps as many as eight or ten individuals, specifically upon the severeity and variety of the study. (Canter, 1991).

The conference on the Human Environment at held at United Nations, Stockholm, Sweden in June 1972 was the first comprehensive international attempt to articulate the interrelationship between the quality of environment, growing world population and the world economic growth needed to sustain it. Man has made every effort to make his environment much more hospitable in the past. In the recent few decades, however he had made it more hostile.

Guha (2000) published paper on environmental movement in the US which reflect in the forest and wild areas. In the mid of the last decade, EIA had become a necessary requirement in more than 100 countries (Canter 1996).

The turning point of the history of mankind is the decade of 1960 which ushered contemporary human civilization and culture into an entirely new type of perception of man with his surroundings. This perception pioneered the fitness of global resources system the "Parasitic" nature of the contemporary human civilization and the deep rooted conflict between what man wants to achieve by chasing the utopia of never conflict economic development and what can

really be achieved without all-round devastation. Actually 1960's decade was the age of volcanic up start of environmental awareness. The decade of 1970 silently went beyond these concepts and pleaded for an action instead of a reaction and for the replacement of despair and anger with responsibility and hope (Rathore, 1988). The Modern Industrial Era has bought with it a marked increase in the consumption of all type of natural resources.

EIA (Environment Impact Assessment) emerged out of the growing appreciation of what man should actually do instead of lamenting over the state of environment. In 1969, transition to a decade of responsibility and action took place and with it grew the realization that the conflict of the economic development with the ecological balance should be resolved objectively. The field of EIA was first explored in USA resulting in the USA's National Environmental Policy formation which focused on green harmony between man and environment, promoted efforts to save environment to make earth better for life of all living and enriching the understanding of ecological systems and of all non renewable resources belonging to the nation, to establish a council on environmental quality management. Since the implementation of NEPA in the USA, EIA has gained wild acceptance through out the world as an important tool in decision making as regards to the implementation of developmental projects (Rathore, 1988).

Environment is term representing complex interlink between atmosphere, hydrosphere, lithosphere and biosphere. It as always in a state of perpetual change. However in early 1960 it was realized the rapid development spreads of agriculture, industrialization, urbanization and mordernisation and over utilization of resources is a serious threat to environment. Growth in finance rapid develops in parts betterment in life but in long sum, environment is badly affected due to this development. Hence, Develop should also include word "Environment" A stabilization of environment should be prime concern with the increasing development. U.S. Army Corps of engineers were the one who first brought the idea of assessing the possible impacts of a develop or proposed project on environment. They developed methodologies procedure for assessing environment impacts. However introduction to existing term of CIA was made in 1969 in V/s National environment policy Act 1969. Understanding pros & Corns new EIA became necessary tool adopted by both developing and develop countries across the world since 1970. EIA is now a globally discussed system, becoming burning theme of conventions, summits & protocol organized world wide. EIA as a compulsory study before any upcoming

project to acquire sustainability. In 1980 EIA included in national policies but plasticized only after 1992 earth summit.

EIA in India is a globally practiced system, configured as 4 step process such as screening, scoping, defining ToR followed by collection of baseline information covering entire aspects of environment. Impacts are predicted on the basis of activities to be covered by the upcoming project. Knowing the impacts, Environmental impact management plan called EMP mentioning various mitigation measures is developed & is a part of EIA report. In EMP, details of each mitigation measures is accounted describing, Schedule of monitoring, time span, person or department responsible & most important cost consideration.

EIA in simple term defined as predicted results of a planned r proposed action, project or activity. It is a process of acknowledging and assessing the alteration in physical, ecological and socio-economic condition of the environment before during and after a develop project, prepare plan or future activity on the basis of comparison, suggesting, mitigative measure to make the effect of undersirable changes negligible.

The idea of specific assessment on the possible total impact on the environment before starting a development programme such as land clearance for agriculture, establishment of industries, construction of dams, or other uses is an old one. United States Army Corps of Engineers (1980) had developed methodology and techniques for impact assessment in the year 1870. However environmental impact assessment in the present form was introduced by the U.S. Environmental Protection Agency (1986) under 'action forcing provisions' U.S. National Environment Policy Act of 1969.

EIA is a tool to harmonise developments with environment. EIA set the spark of environment concerns in the society, at very initial stage right at the time of planning to set the activity. (Canter, 1977, 1996; Holling, 1978; Rosenberg, *et.al.,* 1981; Beanland and Duniker, 1983; Larkin, 1984).

In a simple definition Environmental Impact Assessment (EIA) is the process of doing predictive studies of the proposed developmental activities and analyzing and evaluating the outcome of the development (Lash, *et al.*, 1974), thus scientifically based EIA's are composed of two distinct parts, (a) a predictive part which is undertaken to predict the effect of expected impacts before

development occurs and (b) a monitoring and assessment phase which aims to measures and interpret environmental effects during preparation, construction and after the development has been completed i.e. during operation phase (Rosenberg and Resh 1981).

The concept of the environment, mother earth & nature, as a whole is of great significance and kept at gods place in India. Earlier the nature was work shipped in day to day activity. Modernization leading to massive increase in urbanization is root cause of environment pollution and degradation (Chopra, *et.al.,* 1993) whereas Wood, (1995) developed management plan strategies.

Environmental Impact Assessment (EIA) is the regular assessment and evaluation of the positive impacts of the proposed projects, plans, programmes or legislative actions relate to the physical-chemical, biological, cultural and socio-economic components of the environment as suggested by Canter (1996). Environmental impact assessment is the process in which environmental factors are integrated into decision making and project planning to achieve ecologically sustainable development. Best practice in EIA identifies environmental risks, lessens conflicts by minimizes adverse environmental effects, promoting community participation, informs decision makers and helped lay the main base for environmentally specific projects. Advantage of integrating EIA have been noted in all stages of a project, from planning and exploration through various construction, operations, decommissioning and beyond site closure and other activites.

The process of EIA includes all environmental factors from initial stage of project planning and decision making to acquire sustainability. EIA, Settles the base for environment sound projects as it identifies risks and other disasters before beginning of project and giving, marking best mitigation measures. EIA benefits are observed in all stage starting from initial phase to the site closure. Jain, *et al.,* (1977) defined Environment Impact Assessment.

Heer and Hagerty, 1977 defined Environment Impact in more complex algae and UN Agenda 21 (UNEP, 1992)**,** devoted to integrating environment and development in policy, providing an effective legal and regulatory framework, planning and decision-making tool which is mandatory as per legal requirements and output of which results into an effective system for integrated environmental and economic measures.

Specialty of an Environmental impact assessment (EIA):

- Identifies the sources of impacts from the project activities and recognizes the environmental components which are critical to the changes or the impacts;
- Predicts the likely environmental impacts on the identified environmental component either using quantitative, qualitative, semi quantitative or hybrid methods.
- Find ways to reduce unacceptable impacts and enhance the positive contributions of the project by recommending mitigation measures or by exploring a change in the capacity, technology or design or even by evaluating alternative sites.
- Presents to decision makers and other concerned agencies the results of impact identification, prediction & assessment with options of suggested measures of mitigation & monitoring.

Environmental Impact Assessment (EIA) in India:

- In India, the foundation of environmental impact assessment was started in long ago in 1976-77, when the upcoming river valley projects were became the priority to get examined from environment point of view planning commission was handled this response. Then slowly it was implemental to all projects requiring approval of public investment board. However earlier administration ruled over this and support of legislation was missing. Later GoI came with EPA, act on 23rd May 1986. As one of important objective, EIA was made statutory requirement. Further, MoeFF, under EPA Act, 1986. formed and EIA notification, through which concept of environment clearance became mandatory for expansion or modernization for expansion or modernization of any specific activity or for setting up new projects listed in Schedule 1 of the notification and till new there have been 12 amendments in the EIA notification of 1994.

- In 2006, MoEF bought major amendment in EIA notification. It came with a broad list of many projects for which Environment Clearance is very necessary. Although this notification, clearly aqua power to state Gov. to grant EC depending ensize/capacity of the project.

- A fixed time schedule is depicted in this notification for entire process of getting Environment Clearance. The formal EIA notification was declared on Jan., 27th,1994. One of the

major specific amendments was made in 1997 with the specific introduction of the public hearing procedure.

- Mitigation plan are to be generated for the selected areas and is supplemented with an Environmental Management Plan (EMP) to specific guide the developer towards specific environmental improvements (Sworup, 2002).

- EIA Notification MoE&F, 1994 reported two types of EIA report in India; Rapid EIA based on the time scale of the data supplied and Comprehensive EIA (MoE&F, 1994).

- A comprehensive Environment Impact Assessment report normally gets completed in 1 year at least as it covers data of 4 seasons. It can be submitted later as demanded. The need of EIA can be dispensed by the IAA, depending on the impacts of environment caused by projects, in case negligible & insignificant can dispense the need of EIA; and so project development is required to give complete justification for such exemption. (MoE&F, 1994).

- Once submitted process of appraisal starts by expert committee. This appraisal committee consists of 15 members; all members being expert in multi-disciplinary subject. The independent experts committee. This appraisal committee consists of 15 members, all members being expert in multi-disciplinary subjects. The independent experts chair the appraisal committee. Meetings are organized several times before the final approval.

Environmental Impact Assessment Notification, 2006

India, as already reported is on the expressway for development. Rapid industrial growth and an upsurge in the number of implemented projects all over the country area is often accompanied with the entire environmental and social burdens, particularly borne by peoples living in the neighbor of project area. It is noted that man, from the topman of the area to a local man in some remote area of the country is desire in the Environmental Clearance (EC) system, since everyone is directly and indirectly come in periphery by it. With this at the backdrop, the Planning Commission's Approach rule on the 11th Five-Year Plan had clearly stated that 'the country's environmental clearance rules and regulation are start to resemble the old clearance permit raj and quite in need of urgent reform'. The concern expressed by this body formulating men reflected the governmental concerness towards such a critical objective in the last a few years.

The new rules has came in light brought in more number of programmes within the environmental clearance process. As a result, selected list of those projects and subsequently, has been started which needs prior environmental clearance. Most urgently, the categorisation of various such programmes & projects requiring EIA is now no longer based on expenditure. Instead, the size or capacity of the project, according to the modern notification, determines whether it is to be clarified by the state or central government.

The notification was largely requires to be cumbersome and time consuming. To search such ides in the 1994 EIA Notification, MoEF conducted a large review of the entire process laid down in the said notification, under the Environmental Management Capacity Building Project in 2001. This study by the MoEF requires published the need for immediate reforms. Then Committee was also set up by then Cabinet Secretariat, with Shri V. Govindarajan as convener, to examine extant procedures for expenditure approvals and implementation of such required project to add measures to simplify and expedite the process of both all type of required projects. The committee pointed that the Environment Clearance taken the longest time and causes maximum delay for projects.

Change in the EIA Notification, 1994

Primarily it was thought to completely change the EIA Notification of 1994, the latter was change twelve times in eleven years of time. Most of the change were blamed to have diluted the process of environmental clearance, only a few, which also given strength to this process. The focus of the modern Notification has been to minimise the time required for the whole environment clearance process. The foremost process took lesser months for Rapid EIA and 21 to 28 months for Comprehensive EIA. As per the new notification, the Category A projects must be completed in 10.5 to 12 months. This seems to be no justification for this other than the explanation that EC processes require to be rapid in order to assess rapid development. This may result in compromising on the efficiency and transparency of the whole environmental clearance process.

Fate Future of EIA in India

India has one of the best legal provisions and also cultural and ethical environmental conservation values both of which will play a major role in further given momentum to the EIA

process in India. All India's developmental policies are adopting on the sustainable development concept. This is now being realized that specific development is no doubt important but not at such a cost that it begins to harm more than it benefits. The new EIA notification, 2006 and the amendments to follow are important steps that have been taken to launch only sustainable and carefully planned projects in the country. The new notification has few drawbacks which are and will be published by bringing important amendments from time to time. India is on a path which is required to complement as well as supplement the economic growth of the whole country. The development projects will keep coming up from time to time and EIA serves as an almost very perfect tool assess those projects, mitigate the environmental impact conclude all other environmental concerns. However there is a greater need to shift from projects to policies in order to assess the environmental issues very early in the whole development process. Conservation, management protection and preservation of the environment have been the basic stone of the Indian ethos, culture and traditions. These values are included in our constitution as well as which is one of the first in the whole world to recognize the necessary of environmental conservation. The Indian Constitution enjoins the "State to take measures to prevent & protect, improve the environment and to safeguard the forest and wildlife of the country". It also makes it is "fundamental duty of every person to protect and conserve the natural environment including forests, lakes, rivers wildlife and to have ecological balance for the living beings" (Introduction to EIA Notification, 1994).

India's rich in cultural diversity has almost the similar tendency that of its biodiversity. The fact that the poorest of Indians live in remote area that are rich in terms of environmental resources, biodiversity and mineral wealth emphasize the importance of a proper EIA, in the event that new projects are taken at any of these very rich parts of the country. This is because of the direct affect of such projects will evidently be fall on these poor people and any development at this cost will eventually be unsustainable. The some characteristic that should be inherent to not just EIA but any impact assessment protocol in India.

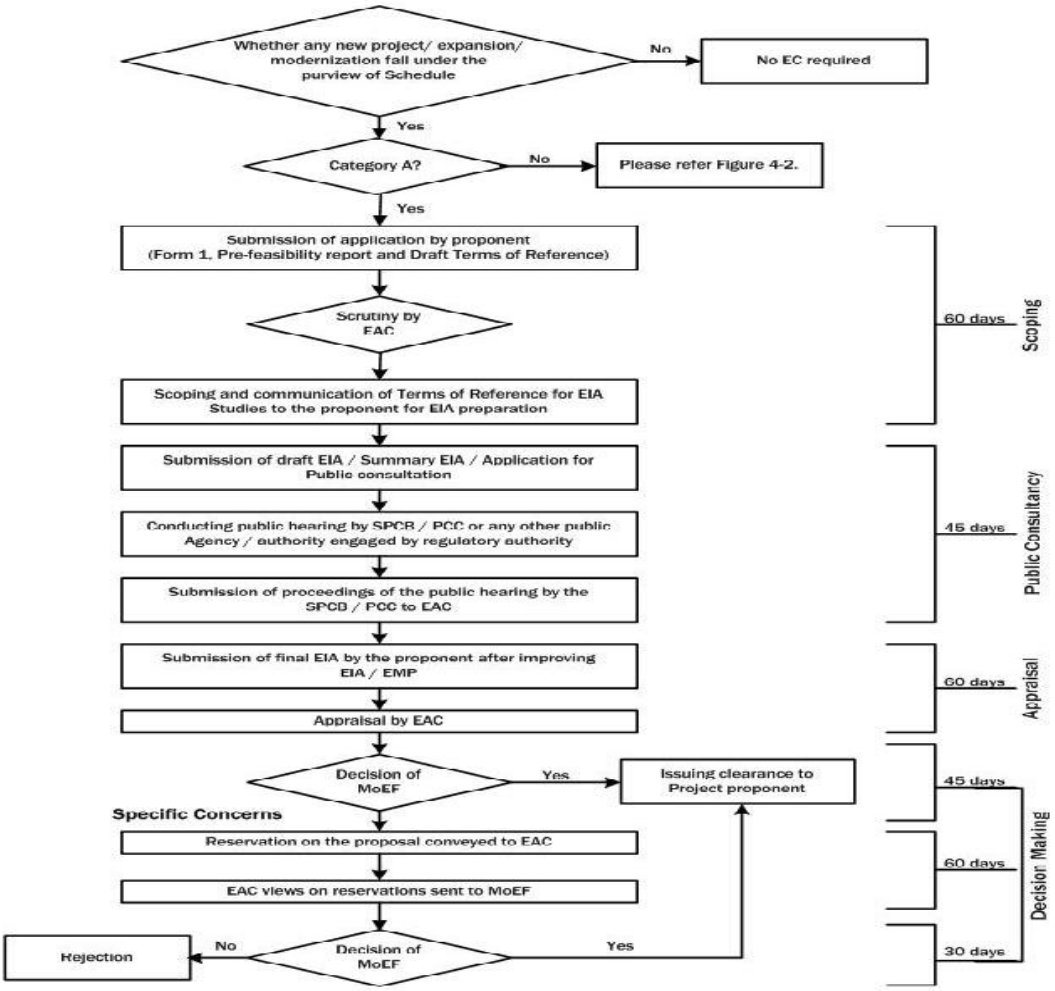
Interdisciplinary Team Formation

An “interdisciplinary team” can be defined as a group of two or more persons trained in different fields of knowledge with different concepts, methods and data and terms which has been organized to address a common problem with continuous communication among participants

from different disciplines (Dorney and Dorney, 1989). Simply put an interdisciplinary team consists of a group of people, trained in different fields, who interact to produce a coordinated EIA report. This approach can be contrasted with a team made up of experts, who pursue their lines of inquiry relatively separately and do not have a common understanding of the impact of the proposal. This is the "multidisciplinary approach" in which persons versed in different disciplines work together without specific, pre-established inter-relationships. When this is the case, the EIA Project Manager has the primary task of drawing together the findings. Often, the lack of an interdisciplinary approach results in an EIA report that does not have any real synthesis and contains a number of specialist studies with little cross referencing. Thus, it is important that interdisciplinary and not multidisciplinary activities dominate the process of Impact Assessment. "Inter-disciplinary activities" are characterized by inter-relationships and the sharing and integration of the findings of the team members (Van Dusseldorp and Van Staveren, 1983; Cleland and Kerzner, 1986).

A member of a successful interdisciplinary EIA team is supposed to have:

- Interpersonal skills
- Creativity
- Adaptability
- Good oral and written communication skills
- Organizational capability
- The ability to listen and to assimilate information
- A sense of humour and Patience
- The number of members of an interdisciplinary team can vary from as few as two to as many as 8 or 10 individuals, depending upon the size and complexity of the study. (World Bank, 1991).



Prior Environmental Clearance Process for Activities Falling Under Category A (Source- MoEF, New Delhi)

Conclusion and Objective

The basic objective of EIA is to identify and evaluate the potential impacts (both beneficial and adverse) of development projects on the environmental system (including social system). This helps in selecting environmentally compatible sites and planning environmental safeguards. The objective of EIA is to ensure that development is sustained with minimal environmental degradation. Environment Impact Assessment has to be made at initial stage while planning a project.

The Environmental Impact Assessment should have the following objectives :-

- To ensure all environmental considerations are well addressed and incorporated into the decision-making process;
- Incorporation of mitigative measures to minimize those adverse impacts considering all factors & keeping all point of view.
- Protection of structural & functional components of ecosystems.
- Leading to sustainable develop & resource optimization.

Predict environmental impact of projects

i. Suggesting ways & measures to reduce impacts.

ii. Shape project to suit local environment

iii. Show cart the predictive impacts & its mitigative measures to decision makers.

In order to ascertain the impact of various developmental projects both on the society as well as on land, water, air, flora and fauna etc the developmental projects are required to prepare an environmental impact statement (EIS) covering the following:

- Effects on land including land degradation and subsistence,
- Deforestation and compensatory a forestation
- Air and water pollution including ground water pollution
- Noise pollution and vibration
- Flora and fauna and loss of biological diversity
- Socio-economic impact including human displacement, cultural loss and health aspects
- Risk analysis and disaster management
- Recycling and the reduction of waste
- Efficient use of inputs.

The EIA presents the important findings in terms of impact identification, prediction and mitigation plans and measures to the decision makers and other stake holders.

Despite differences in individual EIA systems throughout the world, the EIA process shares certain common aims:

- To provide decision makers with analysis of the total environment so that decisions can be made based on as nearly complete and balanced information as possible,
- To assess and present intangible/unquantifiable effects that are not adequately addressed by cost/benefit analysis and other technical reports,
- To provide information to the public on a proposal,
- To formalize the consideration of alternative to a proposal being considered, in order that the least environmentally harmful means of achieving the given objective can be chosen,
- Improvement the design of latest developments and safety measures for the environment through the application of avoidance measures and mitigation.

Environmental Impact Assessment Process in planning promotes sustainable development. Its fundamental goal is therefore to: maximize environmental benefits, and minimize or eradicate impacts, during the construction, operation and decommissioning phases of development. **(UNEP 2002)**

Discussion

- "EIA is the set of procedures which permit an understanding of the likely consequences of man's economic growth activities on the environment" **(Fisher, 1974).**
- EIA is attempting to evaluate the penalty of a proposed action on each of the descriptions in the environmental inventory **(Canter, 1977).**
- EIA consists in establishing quantitative values for selected parameters which indicate the quality of the environment before, during and after the action **(Heer & Hagerty, 1977).**
- EIA as the study of probable changes in the various socio-economic and bio-physical characteristics of the environment which may result from a proposed impacting action **(Jain, *et.al.*, 1977).**
- EIA is an assessment of all relevant environmental and resulting socio-economic effects which would result from a project **(Battelle, 1997).**
- EIA as the "administrative process by which the environmental impacts of a project is determined" **(Fuggle, 1979).**

- "EIA is a way to identify and predict the impact of legislative proposals, policies, programmes, projects and operational procedures on the environment and on man's health and well being" **(Munn, 1979).**
- EIA is a process to identify, predict to benefits and penalties of a proposed development. To be useful, the assessment needs to be communicated in terms understandable to the decision-makers and community to the benefits and penalties should be identified on the basis of criteria relevant to the areas affected **(UNEP, 1980).**
- EIA as a process or set of activities designated to contribute pertinent environmental intervention to protect decision making **(Beanland and Duniker, 1983).**
- EIA is the systematic examination of environmental penalty of projects, policies, plans and programmes. Its main aim is to provide decision-makers with an account of implications of alternative course of action before a decision is made **(Clark, 1984).**
- EIA is a formal study process used to predict the environmental penalty of the proposed developmental project, find ways to reduce un acceptable impacts and shape the project so that it suits the local environment and present these predictions and options to decision-makers **(UNEP, 1988).**
- "The term environmental assessment describes a technique and a action by which specific about the environmental impact of a project is specially, both by the developer and from specific other sources, and taken into specific account by the planning authority in forming their judgments on whether the development should go ahead" **(Department of Environment, Londan, 1989).**
- "EIA is the reproducible ,systematic and interdisciplinary evaluation of the potential effects of a proposed action and its practical alternatives on the physical, biological, cultural and socio-economic attributes of a particular geographical area**"**
- The United Nation Environment Programme **(UNEP) in 2002**, set certain goals and principles of EIA as an important tool for declaring & assessing potential environment impacts which are likely to be caused due to proposed project in future EIA get emphasis via Rio Declaration is needed to be done for upcoming activities that are likely to have a beneficial and adverse impact on the environment.

References

Barrett, B. F. D and Therivel, R 1991 Environmental policy and impact assessment in Japan, Rout-ledge, Chapman and Hall, New York. pp.149

Battelle. 1997 Environmental Evaluation in project planning, Battlle Columbus Labs, Columbus, Ohio, USA

Beanland, G. E., Duniker, P. N 1983 “An ecological frame work for Environmental Impact Assessment in Canada”. Institute for resources and Environmental studies Dahousie University, Halifax, Nova Scotia

Burack, D. A. 1992 "Better Management: The Key to Sucessful Environmental Impact Assessment(EIA)”, paper presented at 12th Annual Meeting of the International Association of Impact Assessment, Washington, D.C., Aug.19-22

Canter, L. W 1977 Environmental Impact Assessment, Mc.Graw Hill Book Company, New York

Canter, L. W. 1991 "Interdisciplinary Teams in Environmental Impact Assessment,’’ Environmental Impact Assessment Review. 11(4): 375-387

Canter, L. W. 1996 Environmental Impact Assessment, Mc. Graw Hill, International Edition

Chopra, K., Kadekodi, G.K., Mongia, N. 1993 Environmental impact of projects: planning and policy issues. New Delhi, India

Clark, B. D. 1984 "Environmental Impact Assessment: Scope and Objectives", in B.D. Clark et al (eds) Perspectives on Environmental Impact Assessments. D. Reidal Publishing Company, Dordrecht, Holland

Cleland, D. I., Kerzner, H. 1986 Engineering Team Management, Van Nostrand Reinhold Company, New York. pp.1-3, 19, 22-24, 68, 268-270

Department of Environment. 1989 Welsh Office 1989. Environment assessment: a guide to the procedures. London: HMSO

Dorney,R. S., Dorney, L. C 1989 The Professional Practice of Environmental Management, Springer Verlag, New York. pp93

Fisher, D. W. 1974, "Environmental Impact Assessment an instrument of public policy for controlling economic growth". Intern. J. Environmental Studies. pp. 223-242

Fuggle, R. F. 1979 Methods for preliminary analysis of Environment Impact in South Africa, Cape town, School of Environmental Studies, University of Cape town

Glasson, J., Therivel, R and Chadwick, A 1994 Introduction to environmental impact assessment, principles and procedures, process, practice and prospects. UCL Press, London

Guha, R. 2000 Environmentalism : A global history, Oxford University Press, New Delhi

Heer, J. E, Hagerty, D. J 1977 Environmental assessments and statements. New York: Van Nostrand Reinhold

Holling C. S 1978 Adaptive environmental assessment nand management. John Wiley and Sons, Chichester, United Kingdom, pp 377

Jain, R. K., Urban, L. V., Stacy,G. S 1977 Environmental Impact Assessment: A new dimension in decision making, Van Nostrand Reinhold, New York

Larkin, P. A. 1984 A Commentary on Environmental Impact Assessment for large projects affecting ponds and streams. Canadian J. Fisheries & Aquatic. Sci: 41: 1121-1127

Lash, T. J. F., Mass Land, D. E. L., Filtean, G., Larkin, P. 1974 On doing things differently: an essay and Environmental Impact Assessment of major projects issues on Canadian Science policy 1:9-16 science council of Canada, Ottanwa

MoE&F. 1994 The Environmental Impact Assessment Notification. New Delhi: Ministry of Environment and Forests, Government of India

Moore, S. N. 1992 "A View of the History of National Environmental Policy Act'', National Association of Environmental Professional Newsletter, 17(5): 8-9

Munn, R. E 1979 Environmental impact assessment: principles and procedures. New York: John Wiley

Rathore, C. S 1988 “An ecosystem approach based model for Environmental Impact Assessment”. Ph.D. thesis, A.P.S. University, Rewa (M.P.)

Rosenberg, D. M., Resh, V. H. *et.al.* 1981 Recent trends in Environmental Impact Assessment, Can. J. Fish Aquat. Sci: 591-624

Sworup, P.R. 2002 Indian Environmental Legislation. CIDC Publication, New Delhi

Thompson, M. A. 1990 Determining impact significance in EIA: a review of 24 methodologies. J. Environmental Management 30. 235-250

UNEP (United Nations Environmental Programme) 2002 Environmental Impact Assessment: Training Resource Manual, 2nd Edition. Available at: http://www.unep.ch/etu/ publications/ EIAMan 2edition_toc.htm [last accessed: 1st September 2009]

UNEP 1980 Guidelines for Assessing Industrial Environmental Impact and Environmental Criteria for the Sitting of Industry, UNEP Industry and Environment Guidelines Series,Vol.1

UNEP 1988 Environmental Impact Assessment: Basic Procedures for Developing Countries, Nairobi

UNEP 1992 UNEP (United Nations Environmental Programme) (1992): Agenda 21. Global programe of action for sustainable development

Van Dusseldorp, D. B and Van Staveren, J. M 1983 ”The interdisciplinary Procedure of Regional Planning “chap.3 in J.M.Van Saveren and D.B.Van Dusseldorp, eds, Framework for Regional Planning in Developing Countries, International Institute of Land Reclamation and Improvement, Wagengen, The Netherlands. pp 37-49

Wood, C 1995 Environmental Impact Assessment-A comparative review, Esses: Longman group ltd, New York

World Bank 1991 "Environmental Assessment Source book-Vol.I-Policies, Procedures and Cross-sectoral issues”, Tech.Paper no.139, Washington, D.C., July. pp 20-22