CHAPTER II

UNDERSTANDING ENVIRONMENTAL IMPACT ASSESSMENT

It is very important to have a basic and comprehensive understanding of Environmental Impact Assessment at the 'conceptual' level. This will facilitate the understanding of the Environmental Impact Assessment as a process. This will help in comparing ideal Environmental Impact Assessment with the existing legal regime and to suggest changes for accomplishing a better Environmental Impact Assessment law. Hence efforts are being made to bring out the process of Environmental Impact Assessment in a non-technical way. In this endeavour the consultations with the experts was of great help.

Till recently Environmental Impact Assessment was considered to be the forte of technical experts only. Others like economists, policy practitioners and lawyers were not really playing the role they ought have desirably played. Technical experts working in the area of Environmental Impact Assessment would consider 'legal or regulatory frame-work' as one of the several components of the system. In other words, a technical expert will treat the enabling legal frame-work as only a sub-set of the universe of Environmental Impact Assessment.
Hence, it is the process of environmental impact assessment did not attract the attention of others such as lawyers. But in this research work the focus is turned heavily towards law and legal-framework. The attempt of the researcher is to look at law as a 'universe' and the concept of Environmental Impact Assessment as only a 'sub-set' of that universe. In other words, the baseline to this study is that, unless there is strong and pro-active legal regime, the process of Environmental Impact Assessment will be a mere eye-wash or depends upon the high ethical or moral value of the project proponents\(^2\). For example, a project proponent interested in establishing a cement unit will look at an appropriate place where he can get all the necessary raw materials at least cost and cheap labour only. He will give least priority to the protection of environment. Even if the environmental impact assessment is done it will be to substantiate his choice of the place and nothing more.

At two levels a good legal intervention will help in bringing required protection to the 'environment'. The first, if there is a legal mandate that without Environmental Impact Assessment no one should be allowed to start the project. In many countries today there is such a legal mandate that prior to the accord of sanction of the project there has to be an impact assessment done. But this alone is not sufficient to churn out the desired results. The second, there shall
be detailed and proper 'bench-marks' as to the ways in which such an impact assessment study has to be made. If law lacks this second part then the project proponent will choose the method, which is convenient to him in getting the permission from the state regulators. Sometimes there is also a possibility that, connivance between the state regulators and the project proponent might compromise the interest of environment.3

Environmental Impact Assessment is being developed over a period of four decades as an ideal tool of decision-making in the area of environment to achieve the golden aim of 'sustainable development'. There are number of expressions, explanations and definitions of 'sustainable development'. The most widely used, acclaimed and accepted definition is from Bruntland Report. Which defines sustainable development as "that meets the needs of the present without compromising the ability of future generations to meet their own needs."4

The definition mentioned above sets out two fundamental principles of 'intergenerational' and 'intra-generational' equity, and contains the two key concepts of 'needs' and 'limits'. The concept of 'needs' demand that overriding priority should be given to the essential needs of the world's poor. Sustainable development requires meeting the basic needs of all and extending to all the
opportunity to satisfy their aspirations for better life. The core elements of sustainable development are - (i) achieve more equitable standards of living both within and among global populations (i.e. development); (ii) be pursued with great caution as to their actual or potential disruption of bio-diversity and the regeneration capacity of nature both locally and globally (i.e. sustainability); (iii) achieve without undermining the possibility for future generations to attain similar standards of living and similar or improved standards of equity (i.e. sustainability)\(^5\);

Sustainable Development is an excellent theoretical concept but achieving the same requires greater thinking followed by action plan and commitment to it in any given political society. To translate this concept into reality numbers of tools are developed. Examination of all such tools here may not be necessary given the scope of the study. A passing reference may be sufficient, to facilitate the proper understanding of environment impact assessment. Most of the countries both developing as well as developed have adopted at micro-level the following environmental management tools to express their way of achieving sustainable development. At the micro-level following are the most popular and accepted decisional tools used to achieve sustainable development viz: (i) Environmental Audit (Audit); (ii) Life Cycle Analysis (LCA); (iii) Cost Benefit Analysis (LCA); (iv)
Two important reflections may be worth noted here; first, the uses of these tools vary from country to country depending upon multiple factors. Over a period of time Environmental Impact Assessment has emerged as the most popular tool in most countries of the globe today.

**DEFINING ENVIRONMENTAL IMPACT ASSESSMENT**

There are many definitions to encapsulate the concept of Environmental Impact Assessment. But, as usual with reference to any other definitions, none of them are comprehensive. The legal documents which make Environmental Impact Assessment compulsory, for some developmental activities, also do not define the term Environment Impact Assessment. For example, Indian Legislative provisions straight away make environment impact assessment compulsory without defining 'Environment Impact Assessment'. Thus there is no universally accepted definition of Environmental Impact Assessment. Some commonly used definitions are listed below for reference and further clarity. Firstly, "EIA consists in establishing quantitative values for selected parameters which indicate the quality of the environment before, during and after the action". Secondly, "EIA is an assessment of all relevant
environmental and resulting social effects which would result from a project. Finally, "EIA is an activity designed to identify and predict the impact on the bio-geo-physical environmental and on man's health and well-being".

Therefore, Environmental Impact Assessment can be explained as, a process to identify, predict and to describe in appropriate terms the 'pros' and 'cons' of a proposed developmental activity. The assessment needs to be communicated in terms understandable by the community and decision-makers should be identified on the basis of criteria relevant to the specific needs of the countries. EIA is the systematic examination of environmental consequences of projects, policies, plans and programmes. Its main aim is to provide decision-makers with an account of implications of alternative courses of action before a decision is made. EIA is a formal study process used to predict the environmental consequences of the proposed developmental project, find ways to reduce unacceptable impacts, and shape the project so that it suits the local environment, and present these predictions and options to decision-makers.

Environment Impact Assessment is a policy and management tool for both planning and decision-making. Environment Impact Assessment assists to identify, predict and evaluate the foreseeable
does not make decisions, but it is essential for those who do. It may be worthwhile to encapsulate all the above discussion through a hypothetical example. Consider a project where the 'project proponent' either private or state owned operator/entrepreneur wants to have a chemical plant in a particular place. Naturally this venture requires some amount of resources starting from land to others like fuel, water, electricity, raw materials etc. If he is given a free chance then he will think only reducing the costs on these factors and to increase profits in a globalized scenario. Then depending upon his individual sensitivity takes into account how his project would affect the environment, both during the life time of the project and in long term. Often there may be some conflict of interests; in the sense the immediate neighborhood community might not welcome such an intervention from the project proponent. They may express their resentment in many ways. The most popular way by which it starts is that, the community does not want to give land for the project. Further, they also suspect that, the project is going to affect their environment and ecology. If state sponsors his cause of getting the land then this resentment would continue even after the industry is established. There will be constant conflicts between the industry and the neighborhood community, almost throughout the life time of the project. This will affect the efficiency of industry and may in the long
environmental consequences of proposed development projects, plans and policies. In many countries Environmental Impact Assessment is no longer seen as an add-on process. The greatest contribution of Environmental Impact Assessment to the environmental management is in reducing adverse impacts by devising measures, beyond those warranted by emission standards and environmental management regulations, through the application of tools such as impact identification and use of mathematical models for predictions before the project proposal is submitted for environmental appraisal. It is now, generally accepted throughout the world that the benefits of project level Environmental Impact Assessment considerably outweigh its costs. In recent years, the outcome of Environmental Impact Assessment studies range from simple impact statements to changes in project sites, manufacturing processes, raw materials, engineering designs, introduction of additional pollution control measures, landscaping, manpower training programmes, compensation for restoration of damaged resources, and off-site programmes to enhance quality of life of the community likely to be affected due to proposed developmental activity. The outcome of an Environmental Impact study assists the decision-makers and the general public to determine whether a project should be implemented and in what form. Environment Impact Assessment
run affect its existence itself. This is a well accepted sociological aspect of the behavior of people and their functioning. If the matter is considered only from the point of view of environment and ecology. There will be divided points of view between competing groups. On the one hand there may be some groups which may welcome the establishment of the industry. On the other hand some other groups may oppose the same by taking the reason of environment. This dead-lock can be resolved by the proper environmental impact assessment, wherein the impacts both long and short term upon the environment will be predicted using well established scientific tolls. Once these scientific findings are placed before the community they will naturally be persuaded to accept the findings. This will enhance the sustainability of the project itself. This will also make the state agencies to work without much of dilemma, as they could assess the environmental impacts of the developmental activities with some amount of precision.

There is a popular presumption that, the Environment Impact Assessment shall only be concentrated upon the negative impacts upon the environment and the way this impact is mitigated or managed. This is not true. In its true spirit Environment Impact Assessment need not be restricted to the examination of mitigation of
negative impacts alone, but can also look into possible positive issues relating to developmental projects and explore or suggest ways of enhancing them further by carrying out modifications in the project. “Given the goal of achieving sustainable development it seems only logical if not essential to apply an assessment of the environmental implications of all relevant policies, plans and programmes”.¹¹ This is very important to look at Environmental Impact Assessment in a comprehensive way.

Finnish International Development Agency, FINNIDA, 1989 provides an excellent analysis of the nature of Environmental Impact Assessment in the form of the following terms¹²;

1. The Environment Impact Assessment may be defined as a planning tool which is used, together with the project feasibility study (FS), to ensure that, the project plan is the optimal economic-cum environmental plan, that is, that the plan is environmentally as well as economically sound and thus represents the best approach to planning for development projects in order that continuing economic development will be sustainable. The essential message of the famed UN Burntland Report of 1987 is that, the only sustainable development is economic-cum-environmental development;

2. The Environment Impact Assessment is not intended to disrupt nor to impede economic development. A project plan which is economic-cum-environmental will have a higher benefit/cost ratio than a plan which is not responsive to environmental needs, especially when long term as well as short term effects are considered;

3. The role of Environment Impact Assessment is not just to identify and describe environmental hazards which a proposed project will likely cause if no EPM (Environmental Protection Measures) are included in the project. Rather the Environment Impact Assessment should specify the necessary EPM and ensure that
these EPM are included in the overall project plan as delineated by feasibility study”.

Any project utilizing the natural resources beyond the self-replenishing capacities or discharging emissions or wastes beyond assimilation capacities of receiving bodies will have a profound impact on environment. The extent of impact will vary from project to project and location to location. The Environmental Impact Assessment is an effort to anticipate measure and weigh the socio-economic and bio-physical changes that may result from a proposed project. It assists decision-makers in considering the proposed projects’ environmental costs and benefits. When the benefits sufficiently exceed the costs, the project can be viewed as environmentally justified.

Environmental Impact Assessment criteria is one of the most valuable, inter-disciplinary, and objective decision-making tools with respect to alternate routes for development, process technologies and project sites. It is an ideal anticipatory mechanism allowing measures that ensure environmental compatibility in our quest for socio-economic development. Finally it can be said that, Environmental Impact Assessment works on the simple technique of predicting the state of environment on scientific methods when the developmental activity is taken up. If the impact is predicted to be huge the project need not be allowed to be taken up as it is proposed. When it is learnt
that the proposed project’s impact upon environment is not so significant, project clearance may be given and the developmental activities can take place without affecting any bodies’ interests obviously.

**ESSENTIAL FEATURES OF EIA**

The most important reference to Environmental Impact Assessment is principle 17 of the Rio declaration which states that “Environmental Impact Assessment, as a rational instrument, shall be undertaken for proposed activities that are likely to have significant adverse impact on the environment and are subject to decision of a competent national authority”.

The UNDP Report submitted to the Government of the Islamic Republic of Iran, in 1999 entails the essential features of Environmental Impact Assessment in the following terms – (i) EIA shall integrate and balance long term and short term economic, environmental, social and equity considerations of development with consideration for environment; (ii) EIA shall identify and clarify the more likely adverse effects of a activity; (iii) EIA shall consider the global impact of actions and policies of general planning strategies and specific development projects; (iv) EIA shall provide and appropriate vehicle for community involvement in planning, evaluation and decision making. and promotes public participation; (v) EIA laws
shall provide clear guidelines for specific terms of references for EIA study, the type of projects that shall be subject to EIA, and the prioritization of factors to be considered in an EIA; (vi) EIA shall provide guidelines for determining the environmental acceptability of a project as well as the significance of public interest; (vii) EIA shall identify the institutional responsibilities for the preparation of EIA documents and the process of its preparation of EIA documents and the process of its evaluation; (viii) EIA shall develop mechanisms for the resolution of conflicts resulting from the planning, decision making or the implementation of a project; (ix) EIA shall provide a procedure for monitoring and reviewing the effects of a development project during its operation and providing feedback to the community; (x) EIA shall ensure that total effects are considered, and the effectiveness and efficiency of the EIA process is maintained; (xi) EIA shall pursue education opportunities, ensure participation of all interest groups and individuals, and ensure that all participants are fully aware of the project; and (xii) EIA shall ensure that the accountability of responsible institutes, the integrity of decision making process, as well as cost–effectiveness and flexibility are being maintained.¹³

The Environmental Impact Assessment best practices are developed by the International Association for Impact Assessment, 34
which state that, "...the process should provide appropriate opportunities to inform and involve the interested and affected publics, and their inputs and concerns should be addressed explicitly in the documentation and decision-making". An ideal Environmental Impact Assessment mechanism will have the following features – (i) EIA shall provide an opportunity for public participation in government decision-making; (ii) EIA shall be open and transparent; (iii) Provide a certainty of application and process to all participants including the community, government and industry; (iv) Provide accountable decision-making; (v) Be administered with integrity and professionalism; (vi) Provide cost-effective processes and outcomes; (vii) Be flexible enough to deal effectively and efficiently with various proposals; and (viii) Ensure practical outcomes for effective environmental protection.

‘Environment’ and ‘development’ are not separate challenges, but are inexorably linked and they lie in achieving a situation that will enable environment and development to complement each other. Environment Impact Assessment is an ideal anticipatory mechanism which establishes quantitative values for parameters indicating the quality of environment and natural system before, during and after the proposed developmental activity, thus allowing measures that ensure environmental sustainability.
PHASES OF ENVIRONMENT IMPACT ASSESSMENT

The Environment Impact Assessment procedure generally is made up of the following phases - (i) Screening; (ii) Scoping; (iii) Baseline Environmental Status; (iii) Impact Prediction; (iv) Environmental Management Plan; (v) Environmental Impact Statement; (vi) Public Consultation; (viii) Decision Making; and (ix) Post-project Monitoring and Auditing.

SCREENING

Screening is a method of eliminating projects that do not require detailed Environmental Impact Assessment. No doubt every single human activity will have impact upon environment, but this does not necessitate study to predict the impact assessment. Especially when good amount of resources are required for conducting impact assessment, it is worthwhile to assess, whether an Environmental Impact Assessment is required in the first place at all? And also if required what shall be the depth of the study? Experience with Environmental Impact Assessment over the years has shown that many projects necessitating Environmental Impact Assessment within the regulatory framework, due to their scale or nature, will not always justify an in-depth environmental examination. The regulations in India and in most of the countries will normally prescribe some
methods on the basis of which screening is done as to whether Environmental Impact Assessment is required or not.

Generally the screening criterion is based upon one or more combinations of the following - (i) scales of investment; (ii) type of developmental activity; and (iii) location of the developmental activity. In some systems, where there is no such prescription, the enforcing agency is required to look into the matter in detail before giving permission to start the activity, and also to decide whether Environmental Impact Assessment is required to be done or not. Screening methodologies are generally based upon positive and negative lists, matrices, etc., Project screening will determine whether to continue to the next phase of the Environmental Impact Assessment process, i.e., scoping. The process of screening involves a decision to come to the conclusion that, whether Environment Impact Assessment is required or not as per statutory requirements of the country in question.

**SCOPING**

Scoping is the name applied to the process of determining the range of issues to be addressed in the Environmental Impact Assessment report and for identifying the significant issues related to proposed action. This process also helps in developing and selecting
alternatives to the proposed action and in identifying the issues to be considered in an Environmental Impact Assessment.

Time, manpower, financial resources and data generally are constraints in the process of Environmental Impact Assessments. Due to these constraints the project proponent and the industry are not really inclined to get the Environmental Impact Assessment done. These requirements can however be reduced to a great extent through the incorporation of scoping. By identifying the key features for detailed examination, scoping allows the Environmental Impact Assessment to focus on the most significant environmental issues inherent within a project and its alternatives. Scoping can also determine the significant impacts to be considered in an Environmental Impact Assessment.

This phase i.e. scoping will help in listing those key areas where environment is going to be affected most, if the developmental activity is taken up. By this listing the impact assessor will be relieved of unnecessarily looking into all the aspects of environment. For instance if a Cement Industry is going to be set up in a piece of land having no vegetation, then there is no need for the impact assessor to look to the impact on bio-diversity. In this way scoping will result in the development of Environmental Impact Assessment’s terms of reference (TOR). It is to be noted that, Scoping is mandatory part of
cyclic process in all systems, but surprisingly not in India. It involves several steps as – (i) defining objectives and description of the project; (ii) looking into considerations; (iii) identifying constraints; (iv) reviewing alternatives; (v) highlighting significant issues considering public involvement and views of regulatory bodies; (vi) formulating terms of reference for detailed environmental impact assessment; and (viii) preparing time schedule.

One of the important pre-requisites of scoping is collecting information on the nature of the project, including preparation of a preliminary list of potential environmental impacts and practical alternatives, accompanied by maps, drawings and other aids for a holistic understanding of the environmental settings of the site and surroundings. This key information will help in formulating appropriate assessment methodology and drawing up of feasible mitigation measures that will form the basis of further discussion. Analysis of alternatives can also be considered a part of scoping process.

The ‘alternative selection’ is considered by many experts to be the heart of the Environmental Impact Assessment process because it organizes and clarifies the choices available to the decision maker. Such alternatives can be generated by the project proponent, the agency overseeing the process, or even by interested public can also make suggestions. Alternatives should include the different ways of
accomplishing the purpose and the need for proposed action including 'no alternative' option. It is also to be noted that the analysis of alternatives have to be taken up at a very early stage of project conceptualization so that, it can be effectively taken into consideration.

The Scoping of an Environmental Impact Assessment as pointed out above is based generally on project location and typical characteristics of the project. Project location should be reviewed based upon regulatory and non-regulatory criteria. Generally the regulations governing Environmental Impact Assessment will contain the specific provisions barring some or all developmental activities in some ‘environmentally sensitive areas/zones’. Project sitting restrictions also depend on the ecologically sensitive places that have been notified by the regulatory state agency and includes religious and historical places, archeological monuments, scenic areas, hill resorts, beach resorts, coastal areas rich in corals and mangroves, biosphere resorts, national parks and sanctuaries, natural lakes and swamps, seismic zone, tribal settlements, areas of scientific and geological interest, defence installations, international border areas and airports. It is important to note that the very selection of proper site for developmental activity can effectively minimize the requirements of mitigation measures.
Hence it may be appropriate to refer to the stipulations of Ministry of Environment and Forest in India, with respect to the scoping although we are not focusing upon the Indian Impact Assessment system as such in this chapter. This will help to gain good grasp of the scoping requirements in a comparative way. They are – (i) No forest land may be converted for non-forest activity;\textsuperscript{16} (ii) No prime agricultural land should be converted into industrial site; (iii) the land acquired should be sufficient to provide for a green belt, wherein the treated waste water could be utilized from waste water treatment systems; (iv) the separation between green belts of two adjoining large-scale industries shall be one kilometer; (v) the project should be at least 7kms. from the core areas of an eco-sensitive zones; (vi) Project should be at least 500 meters away from the high tide line of the coastal areas;\textsuperscript{17} (vii) Project should be at least 200 meters from flood plane of the river system; (viii) The project should be at least 200 meters from esturian boundaries; (ix) the project should be at least 500 meters from the highways and the railway lines; (x) Project must be at least 25kms. away from the major settlements.

**BASELINE ENVIRONMENTAL STATUS**

Baseline conditions refer to the background environmental features of the project site and such identified surrounding area known as ‘project impact area’. In a layman’s language the impact assessor
will first take such surrounding area where the project is being proposed, which according to him is likely to get affected, if the project is to be started. Then he will according to the accepted scientific methods assess the prevailing environmental conditions in that area. Such assessment is contrasted against the simulated condition, if the proposed developmental activity comes into being as to how the environment is going to be deteriorated. If this deterioration is significant, then wise thing is to do away with the project or alter the process or take some mitigation measures so that environment can be protected.

While describing the project baseline conditions a good practice is to take give descriptions regarding the following points such as – (i) determination of impact zone; (ii) determination of the existing status of ambient air quality within the impacted region; (iii) collection of surface meteorological data, including wind speed, direction, humidity, temperature, lapse rate and frequency of inversion. Identification, quantification and evaluation of other potential emissions within the impact zone; (iv) assessment of the present status of noise levels and vibration within the impact zone; (v) study of existing ground and surface water resources with respect to its quantity and quality within the impact zone; (vi) assessment of flora and fauna present within the impact zone; (vii) studies of soil characteristics, existing land use, land
topography, landscape and patterns within the impact zone; (viii) collection of demographic and related socio-economic data; (ix) collection of epidemiological data including studies on prominent endemic diseases, for example fluorosis, malaria, filarial etc., and morbidity rates among the impacted populated zone;

This is very important stage in the Environmental Impact Assessment process. When the base-line environmental data is collected which is going to be the base for later calculations in terms of impact, it is not possible to include the guidelines in the regulations itself. Some times the impact assessor hired by project proponent may undermine some important aspects deliberately. For instance, consider that there is a proposal for starting thermal power plant in a specific area. This plant which is part of common knowledge produces tons of fly ash and leaves it to the environment. If the assessor overlooks some species of plants which are going to die if the fly ash accumulates on their leaves, then his report is likely to show less significant impact upon the environment.

Another factor may be illustrated here. ‘Health’ is a factor which has to be borne in mind while assessing the environmental impact. But seldom (especially in developing countries like India) there is data available about the present health indicators, the common diseases prevalent in that locality etc. Hence the project proponent will make
some vague statements or guesses with regard to the health conditions of the people of the impact region. This renders the very objective of health impact assessment a futile one. The ideal situation is to have an authentic environmental data base being created by an environmental regulatory agency and asking the project proponent to adhere to that baseline environmental data. Otherwise the situation leads to (i) the project proponent making illusive statements or predictions about the environment; and (ii) even if the project proponent is interested in collecting the correct data, time and resource constraints may not help him in doing so. Finally he will be forced to compromise with the realities of the situation.

**IMPACT PREDICTION**

Impact prediction is the operative stage of the Environmental Impact Assessment. Hence the project proponent often with the assistance of experts predicts how the environment is going to be affected if the project is commenced. Generally different elements like, water, air, land-use, sociological conditions of the population, health of the population etc., are taken into account and the way they are likely to be affected are listed. Wherever the impact is read to be significant, some mitigation measures are also being suggested which is going to be discussed in greater detail later part of this thesis. For instance because of the developmental activity if there are around 500...
families who are going to lose their land, then the project proponent may propose some alternative employment opportunities with him once the project commences (this will be in addition to their monetary compensation for losing their lands etc.).

Impact prediction is also popularly known as ‘mapping of environmental consequences’. It should always be noted that, a certain element of uncertainty is always present while making these predictions, particularly with respect to the environment, which is combination of complex elements. It is ideal although seldom done for the impact predictor to mention how much of margin to be provided while relying upon the predictions.

For this reason uncertainty within Environmental Impact Assessment should always be taken care of in the prediction and presentation of impacts. Generally Environment Impact Assessment, impacts should be determined for changes in – (i) air quality; (ii) water quality; (iii) land use pattern; (iv) bio-diversity; and (v) socio-economic conditions.

ENVIRONMENT MANAGEMENT PLAN (EMP)

For any given project, the various alternatives are identified and compared from an environmental perspective. Alternatives should ideally address both project location and its processes. Alternatives should also consider the ‘zero option’. Options should then be ranked
and selected based upon the best environmental option in relation to the level of accrual of economic benefits.

Once alternatives have been reviewed a mitigation plan is drawn for the selected option. Further, the mitigation plan is supplemented with an Environmental Management Plan to guide the proponent towards ongoing environmental improvements. The Environmental Management Plan will form a crucial input in the stages of post-project monitoring. An Environment Management Plan is an implementation for mitigation, protection and or enhancement measures which are recommended in the Environmental Impact Statements (EIS).

The Environment Management Plan presents in detail how these measures should be operated, resources required and the schedule for implementation. It is intended that in the Environment Management Plan, the implementation status of protection measures will be evaluated to a level suitable for incorporation in design phase of the proposed project. The Environment Management Plan document should therefore contain one of several implementation plans, for each of the selected mitigation, protection and enhancement measures.
ENVIRONMENT IMPACT STATEMENTS (EIS)

The output from an Environment Impact Assessment is called an Environmental Impact Statement (EIS). This document assists the decision making agency to assess the suitability (or otherwise) of a proposed project.

An environmental Impact Statement is an intermediate document produced as a part of the project. The Environment Impact Statement indicates quantitatively the magnitude and impact of the development. The Environment Impact Statement provides a basis for decision making about the impact. The Environment Impact Statement generally covers the following – (i) brief description of the project; (ii) description of the existing environment; (iii) likely impacts for the proposed project – adverse and beneficial – irreversible – whether the impacts are long term or short term; (iv) mitigation, protection and enhancement measures. this will identify and recommend the possible means for adopting environmental safeguards minimizing detrimental impacts, enhancing beneficial aspects of the project and for effective management of environmental resources; (v) consideration of alternatives - recommendation will be made by ranking proposed development alternatives including the preferred plans for the most to the least acceptable, in terms of the net effects each alternative would have on the environment. Net effects will be
assessed on the basis of ability to mitigate significant impacts; (vi) consideration of no change alternatives – recommendations may be made to consider additional project development alternatives, including the alternative of not implementing the proposed project; (vii) summary and conclusions – this section should include a review of gains versus losses in environmental resources and values and overall net gains which justify the need for the project. Explanation of how unavoidable adverse impacts have been minimized or offset, explanation of use of any irreplaceable resources and the provision to follow up surveillance and monitoring.

PUBLIC CONSULTATIONS

The statement and evaluation of the project proponent is not enough for the regulator to take decision whether to allow the developmental activity or otherwise. This statement is presented to the public for their comments. Once the comments from the public are received, the final decision is taken.

There are no two opinions on the matter that, public who is likely to be affected by the developmental activity is to be consulted. But how they are to be consulted and to what extent their view points have to be accepted is generally left to each country’s regulations. In some cases it might be at the level of mere ‘tokenism’ or in some cases this may have some vetoing power to the decisions to be taken.
This sharing of impact assessment information with the general public enhances the validity and authority of the impact assessment statement. For this element of 'public consultation' only the environmental impact assessment is taken as building partnership between community, regulators and the project proponent. This also acts as check upon politization and arbitrary decision making by the regulator. In India, consultation with the public is mandated by law. The Environment Impact Assessment notification of 10th April 1997 makes it compulsory to inform and consult the public. The concerned State Pollution Control Board is the agency assigned with this responsibility.

THE DECISION MAKING

Environment Impact Assessment should, therefore, provide clear information to the decision-maker on the environmental conditions without the project, with the project, and with project alternatives. In doing so the Environment Impact Statement should also clearly outline any uncertainties of measurement, prediction, and aggregation, that may form an input to the decision making process.

In case the project is likely to modify the existing ambient environmental conditions to a considerable extent, decision making should include consultation between the proponent assisted by a consultant and the impact assessment authority assisted by the expert
group. In addition, the decision making process may also be assisted by liaison with affected parties including industry and NGOs.

The Environment Impact Assessment report shall be evaluated and assessed by the Impact Assessment Agency in consultation with a committee of experts having composition as specified in Schedule III of the notification (Annexure II). The Impact Assessment Agency, in India is the Ministry of Environment and Forest.

For non-complex projects, i.e. where impacts are minor and assessed clearly, and with low levels of uncertainty, the decision can be arrived at by Impact Assessment Agency itself. For projects involving significant impacts, uncertainties in prediction, complex trade-offs and conflicts, the decision is normally arrived at through group discussions based on a number of steps including evaluation of Environment Impact Assessment and Environment Management Plan by an expert panel.

The Impact Assessment Agency will prepare a set of recommendations based on the technical assessment of documents and data and the various inputs received from project authorities, site inspections, public hearing and Environmental Impact Assessment and subject to certain conditions, the environmental clearance will be accorded.
POST PROJECT MONITORING AND AUDITING

Monitoring should be carried out during the construction and operation of a project. The function of this process is to observe that, during project operation the predictions made within the Environment Impact Statements are complied with. Where this is not the case, and impacts exceed those predicted, corrective action should be taken.

Monitoring and auditing will also allow the regulating agency to review the capacity and implementation of the Environmental Management Plan (EMP). In doing so, the agency should also assist the project developers wherever feasible and necessary, in meeting the requirements of the Environment Management Plan.

In order to effectively monitor the implementation of recommendations and conditions subject to which environmental clearance has been given in India, the project proponent shall submit a half-yearly report to Impact Assessment Agency and they shall also be made available to the public.

Thus it may be seen that Environment Impact Assessment is a very powerful tool in the hands of the environmental planners and it addresses all the environmental concerns and it can constitutes an integral component of the project itself. The adverse consequence that may arise out of the establishments of the project is minimized and the mitigation measures outlined in the Environment Impact
Assessment is not only monitored during implementation of the project, but also at regular intervals after commencement of the project. It is mandatory on the part of the project proponent to inform the impact assessment agency, at regular intervals of six months, the developments in the post-implementation phase. The Environment Impact Assessment process therefore, does not end with the issue of environmental clearance before the commencement of the project, but it involves continuous interaction between the project implementer and the impact assessment agency. In India, Environment Impact Assessment process has come to occupy a place of great significance in the environmental history of this country.
Notes and References

1 When the researcher consulted some of the experts in the field of Environment Impact Assessment, they were questioning how a lawyer is interested in this area? They were also little puzzled to note how law has some role to play in improving the situation in this, what they considered to be out and out, technical area.

2 And of course, need less to say, the enforcement agency's ethical commitments.

3 Practically it is often the case, as testified by the recent developments in the field of environmental governance.


8 Information collected during the interview with Prof. Biswas, one of the Technical Experts consulted for the study.

9 Information collected during the interview with Mr. Rajendra Prasad, one of the technical experts consulted during the study, but was unable to give details of the source.


15 Most of these points were quoted from the Technical Experts consulted during the study.


17 Costal Regulation Notification, 1995.

18 -7 to 10kms.