Chapter 1
Introduction

1.1 What is EIA?

Historically speaking, environmental impact assessment (EIA) first emerged during the 1972 Stockholm Conference\(^1\), when its importance was noted as an instrument for reaching sustainable development. EIA is now a well-established legal requirement in many countries for integrating environmental considerations into socio-economic development and decision-making processes. It is an assessment process that helps in decision making in multiple ways: Firstly, it provides information on the environmental consequences of proposed activities and, in some cases, programmes and policies, and their alternatives. Secondly, it feeds the right kind of information into decision making. Lastly, it also provides a mechanism for ensuring the participation of potentially affected stakeholders in the decision-making process.

Principle 17 of the Rio declaration\(^2\) states that “Environmental Impact Assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.”

EIA can be defined as a study to predict the effect of a proposed activity/project on the environment, and a legal tool that ensures that the adverse effects are addressed adequately by appropriate actions. As a decision-making tool, EIA compares various alternatives for a project and seeks to identify the one which represents the best combination of economic and environmental costs and benefits.\(^3\)

1.2 Goal and Objectives of EIA

The ultimate goal of EIA is to protect and improve the environmental quality of life. “It is an instrument for achieving” sustainable development by using the precautionary principle. It is also an instrument of integral environmental management.

The objectives of EIA can be summarized as under:

- to improve the quality of decisions from an environmental point of view

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\(^1\) The United Nations Conference on the Human Environment, adopted at Stockholm on 16 June 1972
\(^3\) www.cseindia.org/programme/industry/cia/introduction_eia.pdf
• to aid project management
• to soften consent procedure
• to raise environmental awareness.

The first objective of improving quality of decisions is ensured by providing adequate information about a project’s environmental effects to decision makers so that actions are taken with full knowledge of environmental consequences. Consultation with various expert groups and public participation are essential parts of the process of the information collection. EIA incorporates environmental concerns into decision making processes and puts them on equal footing with economic, social, and political concerns. The second objective sees EIA as a tool for environmental management of the project. The results of EIA give feedback into project design and operation, so decision makers can abandon the actions that are environmentally unacceptable and mitigate environmental effects of the proposal to the point of acceptability. The third objective is to make the consent procedure smooth, so that the acceptance of the project is arrived at without any legal, social, or political complications and unnecessary delays in project implementation are avoided. Finally, EIA provides education in environmental awareness to developers and decision makers so that their future projects could be designed and implemented without facing environmental problems.

1.3 Present Study

1.3.1 Objectives of the Study

Over the years EIA has emerged as a law and as a legal binding to large developmental projects in both developed and developing countries. It has captured attention of both lawyers and policy makers in these countries. Several studies have been done on how EIA is implemented in practice and on what are the major weaknesses in its implementation. However, not much work has been done to understand the legal processes underlying the designing and implementation of EIA. Also, not much literature is available how EIA processes differ in developed and developing countries.

The specific objectives of this research are:
to examine and compare the legal provisions for EIA in India and Germany, and to scrutinize the effectiveness of EIA practices in India and Germany within the cultural and institutional context

• to explain similarities and differences found in the practice of EIA in both countries

• to make recommendations to improve the EIA system in India.

1.3.2 Major Research Areas

The study addresses the following major research areas.

• to examine and compare the context of environmental policy in Germany and India

• to examine and compare the Formal EIA procedures and their integration into the development and pollution control systems in Germany and India

• to describe the environmental effects of industrial projects studied

• to outline the organisation and technology involved in both industrial plants

• to compare the ways in which, in practice, the EIA processes for industrial plants in both the countries are implemented and the nature of the substantive issues raised

• to compare the attitude of the competent authorities to EIA for industrial plants in both countries.

1.4 Cross-national Comparison

This is a cross-national comparative study and examines the problems and practice of EIA in Germany and India with reference to their legal and social context.

The two countries differ from each other considerably particularly with respect to their environmental concerns and policies. In spite of being a highly industrialized country, Germany has a reputation of being one of the best managed countries in environment. This reputation is attributed not only to its sincere adoption of various EU Directives related to environment but also to its good environment management. The pollution control standards in Germany are known to be better than the ones recommended by EU.
India, on the other hand, is a developing country. It is passing through a stage of development when polluting industries are dominating the industrial scene. The Government of India is trying to impose certain legal environmental standards at least on modern large projects. It will be useful to see how far these legal provisions are adhered to and why. India can learn a lot from Germany in this respect. This comparative study of Germany and India will throw useful light on the legal processes and implementation of EIA laws in both countries.

1.5 Methodology

1.5.1 Methodology of the Indian Study

The major tasks undertaken for the Indian case study are as follows:

*Review of the literature* on EIA law and legal processes, and literature on experiences on EIA in India.

*Study of selected EIA documents* to understand the varieties of EIA conducted in India. EIA documents of the following companies have been studied to understand how the legal processes are organized in compiling EIA reports:

- Nirayu Pvt. Ltd
- Sun Pharmaceuticals Industries Ltd, Panoli, Dist. Bharuch, Gujarat
- Torrent Pharmaceutical Limited, Indra Village, Ahmedabad, Gujarat
- Reliance Industries Limited, Hazira, Surat, Gujarat
- Essar Steel Limited, Hazira, Surat, Gujarat
- Reliance Industries Ltd, Jamnagar, Gujarat

*Selection of EIA for in-depth Study*

The reasons for selecting the expansion project of Reliance Industries Ltd., located on the seacoast in district Jamnagar, Gujarat, for in-depth study are:

- EIA reports in India are not easily accessible. It was not possible therefore to get an access to EIA of a wastewater treatment plant.
- a detailed EIA report on the RIL project was however available for the study
• the RIL project is not only large but is also of national importance, with its environmental impacts likely to be significant on the surrounding environment and economy and

• the location of the project in Gujarat made it feasible to visit the area and hold discussions with different stakeholders.

This study is based on secondary data and materials and on available literature. No primary survey was conducted.

Sources of Data

Major data sources of the study are as follows:

• EIA report produced by the consultants hired by RIL: This report includes project description as well as scoping and de-bottlenecking and other details of the project such as baseline environmental status, prediction of impact, and Environmental Management Plan

• secondary data on the status of natural resources in the region and on the local economy

• discussions with stakeholders, policy makers and civil society organizations.

1.5.2 German Study of Wastewater Treatment Plant

I spent three months in Germany on an invitation from Professor Dr. Volker Lüderitz, Dean of School of Water Management, University of Applied Sciences, Magdeburg, Germany. The main purpose was to understand the legal processes underlying German EIA law and conduct an in-depth study of an EIA of a German project.

The visit to Germany was organised with the following objectives:

• to visit expert institutes and meet experts on EIA, including experts on legal processes of EIA, to access relevant materials, and to hold discussions on the area of my study

• to visit major projects where EIA has been done and to study how EIA processes have been implemented in these projects

• to meet stakeholders such on industry leaders, project organizers and others to understand how they view EIA and what do they think about its success in Germany
• to select a project for an in-depth understanding of the EIA legal and other processes at the operational level. I selected a wastewater treatment plant.

Visits to Institutes

During the course of my stay in Germany, the following institutes were visited:

• Society for the Environmental Audit, (UVP-Gesellschaft), Hamm, Germany, which is an academic research centre specializing in environmental protection as well as planning and management for promoting environmental impact assessment. The above society helped me to attend a short Summer School Programme for EIA of infrastructure projects.

• Institute of Landscape and Environmental Planning Technical University, Berlin, to meet Dr. Wolfgang Wende, an expert in EIA and landscape planning

• Pro Terra Team, a consultancy firm headed by Dr.-Ing. Volker Kleinschmidt. This is a leading organization conducting studies in of EIA

• Magdeburg Chamber of Industry and Commerce to meet a few of the members to discuss their views on EIA

• Visits to several plants where EIA has been accomplished: (1) Waste Incineration Plant K+S Kali GmbH, (2) K+S Entsorgung GmbH Underground Waste Disposal Plant, UTD, Zielitz and (3) Wastewater Treatment Plant Ruhleben, Berlin

Wastewater Treatment Plant Ruhleben, Berlin

Since this plant was selected for in-depth study, I visited the plant and held discussions with officers and others about the major areas of concern, and tried to understand the problems that surfaced during the EIA process and the solutions that were sought and implemented.

Problems Faced During Investigation

Prior to visit to Germany a formal training in German language was undertaken which helped interacting with the experts. However, there were other problems:

• no access to relevant EIA documents because German consultants are not permitted to part with unit specific information on EIA. They could give only
the general EIA report of the wastewater treatment industry rather than the particular plant in Germany.

- availability of all stakeholders for discussion: No primary survey for data collection could be undertaken and the information was based on limited published data and discussions with stakeholders. Visit to the Ruhleben wastewater treatment plant, located in Berlin, was useful but here also there was no access to the data. The whole study is thus based on limited published data.

1.6 Framework for Comparison

The comparison of two case studies has been carried out at different stages. Firstly, the history and evolution of the EIA process in the two countries is examined in order to understand the differences in the two countries. The second area of comparative analysis is with respect to EIA law and policy in both countries. The third area is a cross-national comparison in the legal processes followed in the German and Indian case studies at the ground level. Finally, implementation of EIA has been examined in two industries. The major findings as well as the inferences of policy formulation are drawn for India with a view to improving the working of EIA in India.