

UNIT-V: CASE STUDIES

5.2- EIA OF THERMAL POWER PLANTS



EIA OF THERMAL POWER PLANTS

Case Study

Thermal Power plants are an important and major source of power generation. In India approximately 60% of electricity generation comes from the thermal power plants. These power plants cause environmental degradation on the soil, water, air and so on. They also emit mercury and fly ash that destroy the surrounding habitat. So thermal power plants require good and proper environmental impact assessment before a proposed project is commissioned.

Thermal power plant at Sompeta

Environmental impact assessment of a thermal power plant at Sompeta was done by Boddu et al. 2016. The potential environmental negative and positive impacts were identified and evaluated using rapid impact assessment matrix method. The negative impacts identified included problems to surface and ground water quality, disturbances in land use, soil fertility, decrease in biodiversity and pollution due to fly ash. Some socio-cultural aspects such as rehabilitation of local communities, loss of lives due to accidents, aesthetics were also noted. The positive impacts of the proposed project were up lift mint of the backward areas, employment opportunities and so on. So the study concluded that there are both positive and negative impacts of the project. It was concluded that the negative impacts could be minimized by adopting mitigation measures.

Jindal thermal power plant, Dongamahua

This is a Rapid Environment Impact Assessment (REIA) report evaluated by the Centre for Science and Environment, New Delhi. The EIA was done by the Min Mec Consultancy Pvt Ltd., New Delhi. The study is regarding Jindal Steel and Power Ltd. That planned to start a thermal power plant at Dongamahua, Raigarh, and Chhattisgarh. The project site is about 50 kms from Raigarh and 30 kms from the Raigarh-Ambikapur highway. The river Kelo Nadi flows 3.5 km from the proposed site. Further there are other tributaries of the Kelo which all join the Kelo river. The area is rich in coal and many coalmines are operating and proposed. The report concluded that the upcoming project would require 7.46 million cubic meters of water that would be sourced from groundwater. Regarding the land use patterns, the project would require 56 acres of land. The land acquired is either agricultural or wasteland. 26.5 % of the area within the EIA's study area is forestland and 77 % of the forest land in the study area is under reserve or protected forests. There are 94 inhabited revenue villages within a 10-km radius .Around 85,000 people reside in a 10 km radius. The environmental impact of the projects include:

1. Impact of water consumption by the project

Thermal power projects us a lot of water. The breaching of groundwater by mining activity will alter the local groundwater regime.

2. Impact of the project on local air quality

Thermal power projects cause lot of air pollution. The EIA for the project

estimated the particulate emissions as 511 tonnes of particulate emissions per year. The EIA estimated the SO₂ emissions as 3120 kg/hr which can cause damage to plants, cause decreased yields, chlorophyll loss and greater leaf fall. EIA report estimated the NO_x emissions as 4,000 tonnes per year. Mercury emissions from the proposed plant is 618 kg/annum. The plant will release 9.47 lakh tonnes of carbon dioxide per year.

3. *Local biodiversity*

The site is rich in biodiversity and is home to mammals like foxes, bandars, spotted deer, the rhesus macaque, bear, and the leopard. The region surrounding the plant is also rich in mahua plantations. This is of very good economic value to the local communities.

4. *Solid wastes*

The plant is estimated to generate fly ash and bottom ash. Around 1.37 million tonnes of solid wastes will be generated.

Therefore, the proposed project has impacts on the local ground waters, forests and local biodiversity. It can affect the forests and the livelihood of the communities. Hence appropriate measures have to be taken to ensure the protection of the environment and the local communities.