

Environmental Impact Assessment Report Preparation for a Coastal Project

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ABSTRACT

The development of the tourist places depends on the infrastructures in that spot. Kanyakumari is one of the famous tourist place in India. This projects will enrich the beauty of this place. In this regard, Impact assessment report should be framed for the proposed projects. This report should satisfy the coastal regulation department, unless it cannot be permitted. Since Kanyakumari falls under the II category in Coastal regulation zone, Impact assessment report is more essential to assess. This project encloses the entire details regarding the spot, the projects to be carried out, the assessment part due to each and every project, planning and scheduling of works etc. The preliminary investigations are conducted and the data are prepared. From that the requirements and unavailable facilities are concluded. The structures involved in this project are retaining wall and pavement. The activities involved are site survey, 2D and 3D view, retaining wall design, environmental present condition assessment, elaborating the activities involved in construction, preparation of environmental management report for the involved activities. The facilities required are found to be landscape arrangement with Sea view seating plaza and lights. Right after a clear discussion, the projects to be implemented are framed. The environmental impact due to every project was analyses and discussed. The required tests to assess the projects are conducted and finalized. The activities are scheduled and planned to do in time.

1. INTRODUCTION

1.1 GENERAL

Kanyakumari - special grade town Panchayat is proposed to develop a Beautification of Beach at Kanyakumari, Kanyakumari District. This proposed Beautification of Beach also consists of Landscaping, Approach Road, Drinking water tank and Park with way side amenities etc. The proposed project will be constructed within 8 months from the date of approval and the indicative project cost is about Rs. 9.37 Crores. In order to augment this scenario, has to assess the likely impacts arising out of proposed project activities and to prepare an Environmental Impact Assessment & Management Plan (EMP) report for this proposed program.

1.2 ABOUT THE PROJECT

Kanyakumari the land end southern peninsula, is Scared for the Hindus all around the world. It is ideally located in the Confluence of three waters (triveni Sangam) viz the Bay of Bengal, Arabian sea and Indian Ocean. To enhance the beauty of Kanyakumari, it is proposed to execute the following works in Kanyakumari town panchayat.

1. Drinking water Kiosk at three places of Kanyakumari town panchayat.
2. E- Toilet at two places of Kanyakumari town panchayat.
3. Solid waste bins of 20 No's at various placed at Kanyakumari town panchayat.
4. Fixing 25 No's of light at Beach Road.
5. Information Signage system of 20 No's at important places of Kanyakumari town Panchayat
6. Supplying and installation of first aid equipment container near panchayat office.

7. Landscape arrangement with Seaview seating plaza at beach road of Kanyakumari town panchayat
8. Providing CC paver block from siluvai nagar to sun set point under the component last mile in Kanyakumari town panchayat
9. Waste loader bucket for dumping the wastes around Kanyakumari town panchayat.

For imposing certain restrictions and prohibitions on new projects or activities, or on the expansion or modernization of existing projects or activities based on their potential environmental impacts as indicated in the Schedule to the notification, being undertaken in any part of India. The purpose of this Environmental Impact Assessment (EIA) study is to provide information on the surroundings and the extent of environmental impacts likely to arise on account of the proposed construction and its functioning, and also to define an Environmental Management Plan (EMP) to minimize and mitigate the likely adverse environmental impacts.

1.3 PROJECT LOCATION

1.3.1 Project site

The proposed works are going to execute at Kanyakumari Special Grade Panchayat, Kanyakumari district. The project site is well connected with the National Highway no. 7 and 47. The study area covers 02 km radius aerially from the project site.

1.3.2 Landscaping and beautification of Kanyakumari beach

Kanyakumari is an international tourist center. From all over the world the tourist people are coming to Kanyakumari to visit the natural wealth. There is only a few basic facilities available at the sea shore during the gathering of large number of tourists. The reason for this uncomfot is the steep and improper slope at the sea shore as a hindrance to make development works.

So kanyakumari Special Grade Town Panchayat proposed the landscaping and Beautification of Kanyakumari beach at the beach road. The landscaping work was already done for a small length along the beach side. Now it was proposed to extend the work towards the sun set point of same 25m width and extended length upto 250m. This will give the tourist persons a clear space to gather to view the sea & to sea the sun set also.

1.3.3 Drinking water kiosk

Kanyakumari Special Grade Town Panchayat is also proposed to provide three numbers of drinking water kiosks at Beach road, near town panchayat & inside the poompuhar shipping corporation. The drinking water is the most essential parameter for the tourist persons. The tourists will suffer a lot if there is no provision of

standard drinking water at main spots. The drinking water going to distribute will be according to the conditions in Indian Standards.

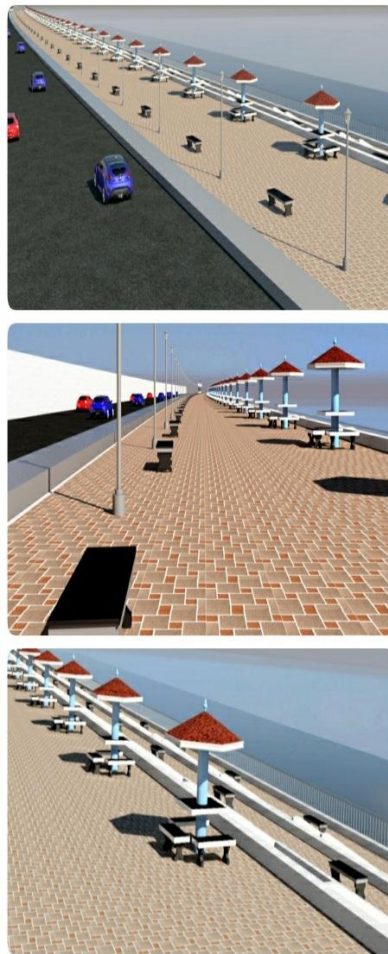


FIG 1.1 LANDSCAPE AT BEACH ROAD



FIG 1.2 DRINKING WATER AND FIRST AID KIT

1.3.4 E- Toilet

Everyday thousands of tourist from all over India visit Kanyakumari. So it is essential to have an E-Toilet at beach road where they are present to view the sun rise and sun set. Also another one near the bus stop where all the tourists gather to depart.



FIG 1.3 E-TOILET

1.3.5 Solid waste bins

To keep the environment neat & clean it was decided to keep the solid waste bins of 20 Nos all around the important places of Kanyakumari. Without waste bins the wastes are dumped in open space and due to this more pests and pets are roaming at that place and even digging over everything and making the place ugly. This may even leads to spreading disease at that tourist spots.



FIG 1.4 SOLID WASTE COLLECTION BINS

1.3.6 Illumination

The tourist persons are mostly coming to the coastal side at the time of sun set and sun rise. At both the time that place will be gloomed by low intensity of sun light. Due to safety and to protect the tourists from thieves, it was planned to provide 5 Nos of solar light at beach road in Kanyakumari town panchayat.



FIG 1.4 SOLAR LIGHT

1.3.7 Information signage system

Kanyakumari the land end southern peninsula, is Scared for the Hindus all around the world. It is popularly known as cape comerin. It is ideally located in the Confluence of three waters (triveni Sangam) viz the Bay of Bengal, Arabian sea and Indian Ocean. Another outstanding feature of this internationally popular Tourist center is the unobscured view of sunrise and sunset which is unique one.



FIG 1.5 INFORMATION BOARD

So to avoid the confusion to reach the spots available in Kanyakumari it was planned to fix 20 Nos of Backlit Totem for information signage system at important places in Kanyakumari town panchayat.

1.3.8 First aid kiosks

Accidents in tourist spots may happen at any time, it is unexpectable. To overcome this factor and to enhance additional safety, it is planned to install a container with first aid equipment's near Kanyakumari town panchayat office.

1.3.9 Last mile connectivity

It is planned to provide CC paver block from Siluvai nagar to Sun Set point under the component last mile connectivity in Kanyakumari Town Panchayat. It gives additional look to the sea shore and enhances comfortability too.

1.3.10 Beach cleaning equipment

Being it was a tourist spot, collecting and cleaning the dust bins with heavy buckets and vehicle is required. So supplying and delivery of Backhoe Loader vehicle with bucket for cleaning purpose in Kanyakumari was also enclosed with this proposal.



FIG 1.6 BEACH & WASTE BIN CLEANING EQUIPMENT

Coastal Regulations Zone III

The proposed project is covered under the Coastal Regulations Zone III as per the MoEF guidelines. The design complies with the coastal regulations. The Northeast boundary of the project falls on HTL.

No development zone

- 200m from the High Tide Line (HTL) is earmarked as no development zone and only parks and play field is proposed in this area as permissible by the Ministry of Environment and Forest.
- In the no development zone not even temporary fencing is proposed.
- No permanent structure for sports facility is proposed.

Development zone

- In the development of the vacant plot between the 200m to 500m high tide lines, Beautification is being proposed as per the norms.
- As per the Ministry's regulation the land area of the project site is planned.

1.3.11 Water supply

The source of water for the completion of work will be taken from outside of Kanyakumari special grade Panchayat. The waste water generated from the construction site is of negligible quantity and no need to take into consideration.

1.3.12 Solid waste management

There will be no solid waste generated at the landscaping. The wastes that will be generated due to the tourists will also be collected at the bins and then taken out by vehicle.

1.3.13 Hazardous waste

Since it is a Beach landscaping project no hazardous waste will be generated.

1.3.14 Power supply

The Power if required for the proposed beautification would be within 10000 Kwh/hr days which will be acquired from TNEB through substation.

1.4 OBJECTIVES OF EIA STUDY

The objectives of the EIA study are:

- To establish baseline environmental status of the study area.
- To identify and quantify sources of pollution in the surrounding area and to determine the extent of impacts on sensitive receptors.
- To identify, predict and evaluate environmental and social impacts expected during the construction phase and the operational phase in relation to the existing civic infrastructure and the sensitive receptors.
- To develop mitigative measures so as to minimize the pollution, environmental disturbance and the nuisance during construction and operational phases of the project.
- To design and specify the monitoring schedule, during construction and Operational phases, necessary to ensure the implementation and the efficiency of the mitigative measures adopted.

2. LITERATURE REVIEW

2.1 INTRODUCTION

Many impacts are assessed and to predict future fluctuations according to the numerous literatures were collected and from the studied literature reviews. The review shows the environmental condition of a coastal areas and the constructions are constructed in these areas. Then comparing of existing condition of environment and the proposed areas.

2.2 REVIEW OF LITERATURE

In accordance with the topic there are limited studies and the related literatures were studied to gain information useful for the development of this topic. Some of those relevant literatures are as follows:

1. Environmental Impact Assessment (EIA) and Construction, Amit Bijon Dutta and Ipshita Sengupta (2014)

This paper describes about either its beneficial or harmful effect on the evaluation of any project through EIA. Indian construction industry is rapidly growing at a rate of 9.2% as against the world average of 5.5%. Undertaking EIA for construction industry and improving site management can reduce environmental impacts both on and off site. In order to appreciate the risks posed by construction activities and taking steps to reduce incidents can help

reduce costs and improve business reputation. Environmental Impact Assessment or EIA can be considered as the appraisal of the probable impact that a proposed project may have on the natural environment. Environmental impact is a supplementary variable. As a participant in the construction and development process, the success may depend on how well the environmental risks are identified, analysed and managed. Simply being oblivious of the environmental obligations does not relieve one of their liabilities.

2. Environmental Impacts Assessment on Construction Sites, Samaneh zolfagharian, Aziruddin Ressang, Masoud Gheisari (2016)

This study investigated the environmental impacts due to construction processes in residential building in Malaysia in order of their impact levels. An interview with an expert panel group was conducted to determine the frequency and severity of the environmental impacts in industry. The results demonstrate that ‘Transportation Resources’, ‘Noise Pollution’, and ‘Dust Generation with Construction Machinery’ are the most risky environmental impacts on construction sites in Malaysia. The results of this research can be a tool to improve the on-site environmental performance. The construction practitioners will be able to achieve a comprehensive perception of the environmental impacts of construction processes during the pre-construction stage. The outcome of this study can help organizations and managers prepare proper sustainability plans and also to increase the knowledge of partners in construction sites through training and awareness programs.

3. A review on Environmental Impact Assessment of Construction Projects, Vivek Kumar Tiwari, Anjali Verma, Akash Kumar and Manjul Gupta (2016)

This project describes on the environment is degraded severely by so many factors which are caused by the activities of Construction Projects. The integration of environment into development planning is the most important tool in achieving sustainable development. The ‘top-down’ and ‘bottom-up’ approaches could improve democracy and service delivery. The present review focuses on EIA process, which is necessary for providing an anticipatory and preventive mechanism for environmental management and protection in any development. It is a study of the effects of a proposed project, plan or program on the environment. In other words, EIA is an administrative process that identifies the potential environmental effects of any proposal along with its advantages and disadvantages on environment. Positive effects are maximized whereas; adverse effects are minimized to greatest possible extent.

4. An evaluation of environmental impacts of construction projects, Adnan Enshassi, Bernd Kochendoerfer, Ehsan Rizq (2014)

his study was to identify and investigate the most common environmental impacts of construction projects in Gaza Strip. A total of 50 questionnaires were distributed to professionals working in the construction industry. The results showed that construction process has a massive effect on ecosystem, resources, and public health. The results also revealed that labours and those who are working in construction sector are the most slices of people exposing every day to health problems and moreover construction impacts cause environmental degradation, including air, soil and water pollution, damage or dirty property and create unsafe working conditions. Therefore,

there is an urgent need to control these adverse impacts of construction to protect human, environment, and resources. The results of this study can be useful for project participants to enhance their awareness regard to environmental impacts of construction. The results also can help decision makers identify major construction impacts on environment and make environmentally friendly construction plans in the early stages of construction.

5. Environmental Impact of Construction Site Activities in Ghana, Ayarkwa,J, Acheampong.A, Hackman.J.K and Agyekum,K. (2014)

This paper reports on a study to assess the negative impacts of construction site activities on the environment using structured questionnaire survey approach. Fifty-five major construction sites involving a total of 330 contractors, site workers, consultants, and nearby residents were studied using the convenience purposive sampling method. The study has shown that primary environmental impacts of construction site activities in Ghana. The breeding of mosquitoes and other pests were of concern to construction practitioners seemingly because they affect the health of their workers. Blasting, site clearance, earthmoving, and demolishing are the construction site activities that were found to have the most severe environmental effects in Ghana. People living near construction sites, site workers, and people in schools and hospitals are most likely to be adversely affected by construction site activities, and this explains why residents are more worried and concerned about the effects of construction activities in their neighbourhoods. They suffer from sleeplessness and stress effect due to noise nuisance, and respiratory disorders, asthma, and allergies due to dust nuisance from construction sites. Monitoring regulations to ensure that contractor measure and impact levels during construction are recommended.

6. Impacts of construction activities on the environment: the case of Ghana

Simon Ofori, Ametepey and Samuel Kwame Ansah (2014)

This project shows that the impact on environment throughout the life cycle of development. These impacts occur from initial work on-site through the construction period, operational period and to the final demolition when a building comes to an end of its life. This study focused on impacts of construction activities on the environment in Ghana. The study showed that, out of a total of 33 environmental impacts identified, the top ten most important environmental impacts factors agreed by all the respondents are raw materials consumption, noise and vibration generation, vegetation removal, interference with the ecosystems, water consumption, electricity consumption, loss of edaphic soil and dust generation from machinery, ordinary waste and fuel consumption. The 33 environmental impacts identified in the study were grouped into nine categories and ranked accordingly. Effects on biodiversity impacts were considered the second most important causing environmental deterioration followed by local issues impacts. Besides, all forms of construction activities should be subjected to an environmental impact assessment to determine the potential impacts and also come up with some mitigation measures before they are executed.

7. Construction site environmental impact in civil engineering education, Jose.M, Cardoso Teixeira (2003)

This projects describes about the environmental impact of construction activity has gained increasing importance in the last few years and become a key subject for civil engineering education. A survey of Portuguese higher

education institutions shows that concern with this topic is mostly directed at the impact of large construction projects and especially focused on their operational stage. The impact of construction sites of smaller projects in urban areas tends to merit less attention, despite their importance for citizens and other economic activities taking place in the neighbourhood. Typical negative impacts include noise and dust production, traffic increase, shortage of parking space, visual impacts, etc. Typical negative impacts include noise and dust production, traffic increase, shortage of parking space, visual impacts, etc. This paper reports a survey on negative impacts of construction sites in urban areas and presents a set of related subjects that should be considered in civil engineering curricula.

8. The role of environmental impact assessment in protecting coastal and marine environments in rapidly developing islands: The case of Bahrain, Arabian Gulf Humood, Naser.A (2010)

This project presents that the Bahrain, a group of islands, is facing several environmental challenges, including degradation of coastal and marine environments due to intensive dredging and reclamation activities. The major focus for development activities including housing, recreational, economic, and industrial projects. It is proposed that an effective environmental and ecological impact assessment may achieve this delicate balance between development and the environment. EIA is increasingly contributing to the overall environmental policy and promoting sustainable development in Bahrain. However, several measures are required to further strengthen the EIA system in Bahrain. SEA is a promising tool to integrate environmental considerations of coastal development in higher-level decision making process and improve the understanding of the consequences of dredging and reclamation activities on the integrity of coastal and marine ecosystems in Bahrain.

9. Effects of construction activities on the environment, Siddiqi.Z.A, Chaudhry.M.A, Ashraf.M (2013)

This project contributes that the present work is to study the hazardous effects of construction on environment and environmental policy matters. To secure the environment from dangerous aspects of their on-going projects. The analysis of data reveals that open crushing and grading of aggregates, use of health hazard chemicals and improper deployment of natural resources in construction result into environmental degradation. The construction planners are advised to implement standard and safe policies to ensure environmental protection rules for environmental regulations at various levels of construction projects may be specified by them, thus ensuring safe construction and environmental compatibility. Reviewing the tendency of construction organizations, it is observed that environmental policies are not being implemented in most of the construction projects mainly due to poor planning. It is therefore suggested that environmental policy implementation should be the responsibility of construction organizations. These may include measures to control noise and air pollution and various other hazards. The most effective type of remedy is recycling of construction waste. The government in this context is suggested to make special provisions to bring recycling equipment within economical range. In third world countries like Pakistan, most of construction organizations do not have the purchasing power of acquiring expensive recycling equipment. Therefore, stabilization and solidification techniques are suggested to be developed and research institutes should be mobilized in this context.

10. Improving management of future coastal development in Qatar through ecosystem-based management approaches, John.A.Burt, Mohamed.A.R (2017)

This study describes about the coastline of Qatar is a rich mosaic of productive and diverse ecosystems including mangrove forests, intertidal mudflats (sabkha), seagrass beds, and coral reefs. The extreme environmental conditions that characterize Qatar has led to fauna that are robust compared with other regions, but makes them highly sensitive to further pressure from anthropogenic stress. These vulnerable ecosystems have come under increasing pressure in recent decades as a result of dramatic expansion of coastal development, and threats to these ecosystems are likely to accelerate in the coming years as Qatar's economy and population continue to grow. In recent years Qatar's leadership has aggressively expanded environmental management and improvements are encouraging, management remains challenged by its current sectorial, project-driven focus.

3. METHODOLOGY

3.1 OVER VIEW

Basic survey of site was carried and understand the nature of the proposed development and to decide upon the sampling locations and further execution programme. Sampling locations were identified on the basis of following criteria

- Predominant wind direction at the study area
- Existing topography
- Locations of the existing activities
- Location of sensitive areas
- Accessibility, availability of power and security of monitoring instruments, and
- Area that represents base line conditions.

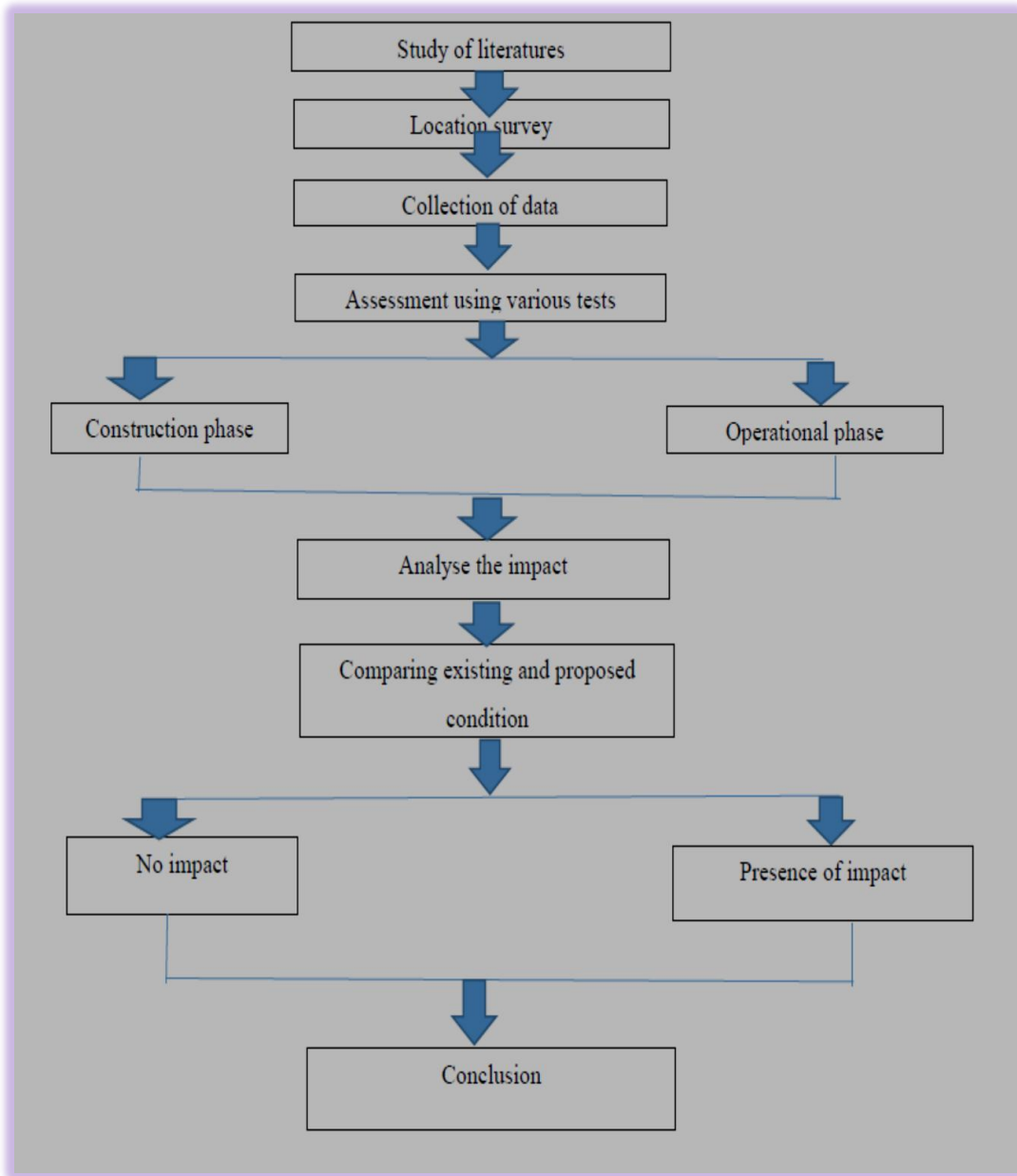
3.2 CONDUCT EIA

The Environmental Impact assessment process involves four basic steps

- Identification
- Evaluation
- Interpretation
- Communication

Impact on various environmental parameters can be categorized into two phases. They are construction phase and operational phase. In the Construction Phase, impact during this phase may be regarded as temporary or short term. In the operational phase impact during this phase shall have long-term effects.

3.3 GRAPHICAL REPRESENTATION OF METHODOLOGY



3.4 POLLUTION SOURCES

Pollutants generated in the proposed Beach development during both the construction and operational phases are solid, liquid and gaseous in nature. Also the generation of pollution could be continuous, periodic or accidental. Sources of pollutants and their characteristics during the construction and Operational phase will be determined in future. The effect of pollution in following platforms will be considered.

1. Air Environment
2. Noise environment
3. Impact on water resources
4. Impacts on land environment
5. Waste disposal

6. Biological environment

7. Socio-economic environment

3.5 DATA COLLECTION

Table 3.1 Predicted impacts due to proposed beautification

S.No	Components	Activities	Predicted impacts	Extent of Impacts
Construction Phase				
1.	Ambient air quality	Dust emissions from site preparation, excavation, material handling and other construction activities at Site.		
2.	Noise	Noise generated from construction activities and operation of construction equipment		
3.	Water quality	-Surface runoff from project site -Discharge of sewage from labour camp.		
4	Land use & aesthetics	-Improper debris disposal. -Land development		
5	Topography & geology	-Existing site is fairly levelled		
6	Soils	Construction activity leading to topsoil removal and erosion.		
Operational Phase				
1	Air quality	Particulate and gaseous emissions due to vehicle movement.		

S.No	Components	Activities	Predicted impacts	Extent of Impacts
2	Noise	Noise from vehicle movement		
3.	Water quality	small amount of contaminated water due to washing and curing		

3.6 ASSESSMENT OF IMPACTS

A number of techniques are available for the assessment of impacts. Each of this technique has its own advantages and disadvantages. The selection of any of these techniques for any particular project depends largely upon the choice of judgment of the analysis. The technique chosen should be comprehensive, easy to understand, systematic and flexible. Considering these criteria for this project, the matrix method was used, with an impact scale of -4 to +4.

3.6.1 Matrix method

The matrix used for EIA consists of project activities on the x-axis and the environmental components likely to be affected by these activities on the y-axis. Each cell of the matrix represents a subjective evaluation of the impact of the particular components, in terms of magnitude importance. A blank cell indicates no impact of the activity on the component. The magnitude (m) is represented by a number from 1-4 where,

- 1=minimal
- 2=appreciable
- 3=significant
- 4=severe

Positive sign (or negative sign) indicates beneficial impact and negative sign indicates adverse impact. The importance (w) of the impact is given on a scale of 1-4 in each cell. This number indicates the relative importance of the impact of the activity on the concerned component for this project. The magnitude and importance are multiplied to give a score for each cell ($m_{ij} w_{ij}$). The scores of individual cells in each row are added to determine the total impact of all project activities on each component. Similarly, the scores in individual cells in each row are added to determine the total impact of each activity on all the environmental components likely to be affected. Grand total of all cells indicates the total project impact.

This can be represented by the following equation:

$$\text{Total project impact} = \sum \sum m_{ij} w_{ij}$$

Where, m_{ij} = (positive or negative) magnitude of the j^{th} activity on the i^{th} environmental component and
 w_{ij} = importance of the j^{th} activity on the i^{th} environmental component

Since both m and n vary from 1-4 the total score in each cell can theoretically vary between -16 and +16, therefore the total project impact can vary between (-16*total number of cells in the matrix) and (16*total number of cells in the matrix), to compare scores from the matrices containing different number of cells, the total project score can be normalized to a scale of 100 as follows:

Total project impact =

$$\frac{\text{Total project impact} \times 100}{16 \times \text{Total number of cells in matrix}}$$

On the scale, the overall impact can be classified as follows: (scale of 100)

Total project impact/ Magnitude

-100 to -75	Severely adverse
-75 to -50	Significantly adverse
-50 to -25	Appreciably adverse
-25 to 0	Minimally adverse
0 to 25	Minimally beneficial
25 to 50	Appreciably beneficial
50 to 75	Significantly beneficial
75 to 100	Very highly beneficial

3.6.2 Limitations of Matrix Method

While assessing impact by the matrix method, the following limitations should be kept in mind:

- Guidelines for use of this approach are minimal, this may lead to ambiguities.
- Evaluation of impacts is based on subjective judgment, which can vary from individual to individual.
- Component to component interaction cannot be represented hence inter-relationships between impacts cannot be shown.

4. WORK SCHEDULE

4.1 GENERAL

The results are not yet obtained. Based on the process identified, the results will be obtained in future and discussed accordingly.

Table 4.1 - Survey of Environmental Attributes

Sl. No.	Attribute	Parameters	No. of Locations, Frequency of Monitoring, etc.
1	Ambient air quality	PM10, PM2.5, SO ₂ , NO _x	Locations: 3 nos. PM10, PM2.5, SO ₂ and NO _x - One 24 hourly sample
2	Meteorology	Surface: Wind speed and direction, temperature relative humidity and rainfall.	Primary data: Hourly continuous readings during the study period at project site. Secondary data collection from IMD
3	Water quality	Physical, Chemical and Bacteriological parameters.	Primary data – Sampling at 3 locations for ground water quality during the study period.
4	Ecology	Existing terrestrial and aquatic flora and fauna.	Based on the data collected from secondary sources.
5	Noise levels	Noise levels in dB(A)	Continuous 24-hourly monitoring at 5 locations during the study period
6	Soil characteristics	Parameters related to agricultural & afforestation potential.	Sampling at the project site.

Sl. No.	Attribute	Parameters	No. of Locations, Frequency of Monitoring, etc.
7	Traffic study	Traffic density / pattern	Survey once in study period.
8	Land use	Land use for different categories.	Based on data published in Primary Census abstract 2001 and satellite imagery
9	Socio-economic aspects	Socio-economic characteristics of local population	Based on data collected from secondary sources.
10	Geology	Geology of the area	Based on data collected from secondary sources.
11	Hydrology	Drainage pattern, nature of streams, aquifer characteristics recharge and discharge areas.	Based on data collected from secondary sources.

5. CONCLUSION

In the phase I report, the literature studies has identified that this type of investigation is must to save the environment from pollution occurred due to massive projects. Then the tests that gives the current status of the environment will be done and discussed in future, the effect of the environment namely air, noise, water, land etc., will be assessed in future and will be compared with the permissible values. If the assessed value in the constructional phase and operational phase is lower than the limited value, then the conclusion is given based on the result.

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