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A Investigation for Construction of the Kundli-Manesar-Palwal Expressway in Context of Environmental Considerations and Planning and Design Stages

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ABSTRACT: The most crucial information is that other plans will be established for the relocation of high-tension cables and public services, and that every effort will be made to minimize the amount of trees that must be removed. The Forest Act of 1980 also requires the planting of tree seedlings in all publicly accessible open areas. Furthermore, the degraded region will be used to house heavy machinery and stockyards in an effort to reduce oil and grease contamination. About 50 kilometers from Delhi, 15 kilometers from Gurgaon on the Gurgaon-Farukh Nagar Road, and 2.3 kilometers (south-east) from the project area is where you'll find this park and bird sanctuary. Not only must all environmental requirements at borrow sites, quarries, plant sites, and construction sites be met in accordance with the Environmental Management Plan, but it is also crucial that labor camps be located far from forested areas to prevent encroachment on forest land and the subsequent loss of forest products. The design of the project should also account for things like safety precautions, erosion control, noise barriers, a water harvesting system, and improvement plans. Positive consequences on the environment, economy, society, and the nation as a whole are to be expected from this endeavor, while negative ones are perhaps avoidable. If the above technique is considered throughout the planning and construction of all of the aforementioned aspects of the road, the project will be sustainable from an ecological perspective. The overall length of the proposed Kundli-Manesar-Palwal Expressway is predicted to be 135.65 kilometers. With the EC still in force, construction has progressed to the point where around 68% of the initial groundwork has been finished. It is anticipated that the project would be completed in 2019, before the end of 2018. The 52.33-kilometer stretch of the highway that connects Manesar and Palwal has been completed and is now available to the public. From Manesar to Palwal is where you'll find this stretch of roadway. These safety measures have also been considered throughout the project's conceptualization and design phases.

KEYWORDS: National Capital Region, HSIIDC, annual average daily traffic, Kundli-Manesar-Palwal Expressway

I. INRODUCTION

As you'll see below, Haryana is one of the states that cooperates closely with the NCR. In order to make the most of the possibilities presented by the developed lands in close proximity to the nation's capital and to meet the demands of a broad range of land users for the space that has been created, the following aims have been defined: There is more daily traffic since the state of Haryana is investing in infrastructure in the NCR sub-region, which includes the D.C. metropolitan area. The Honorable Supreme Court of India ruled on December 16, 2001, and again on July 15, 2002, that no heavy, medium, or light goods trucks should be allowed to drive on any interstate highway that goes through Delhi in the writ case (civil) 13029 of 1985, also known as M. C. Mehta vs. Union of India. The city of Delhi is traversed by many National Highways, but there are no plans to build a corridor or bypass to connect them. The corridor, if built at all, would have to pass through or very near to Delhi. As a direct result of the decisions made by the Honourable Supreme Court of India [1], a new highway was built to link the cities of Kundli and Manesar in the Indian state of Haryana. Given these factors, the government of Haryana has proposed, via the Haryana State Industrial and Infrastructure Development Corporation (HSIIDC), the construction of an expressway that would link the aforementioned motorways while avoiding Delhi [2].

II. METHODOLOGY & PROJECT DESCRIPTION

The Environmental Impact Assessment (EIA) study primarily consists of the establishment of the current environmental scenario, the study of particular activities associated with the project, and the evaluation of probable environmental impacts, which ultimately results in the recommendation of necessary environmental control measures for the project. In other words, the EIA study's end result is the recommendation of necessary environmental control measures. The whole EIA research has been carried out within the existing legislative, legal, and administrative

framework, taking into account all environmental laws, regulations, and guidelines that are relevant and that have been published by all regulatory agencies and that have been taken into consideration by all regulatory authorities. This has been done in order to guarantee that the study complies with all of the relevant environmental laws, regulations, and standards that are now in effect.

III. RESULTS AND DISCUSSIONS

Mitigation measures

- The enforcement of regulations and the development of public awareness should be done in order to prevent illegal land acquisition on and near the embankment. This is necessary in order to thwart the creation of squatter camps.
- It is essential to continue a thick tree planting on the road embankment in order to meet the requirements.
- It is required to create rules for the correct disposal of waste material produced by commercial enterprises such as shops, petrol stations, service stations, and restaurants. These guidelines will be necessary to ensure that garbage is disposed of in an appropriate manner.

Evaluation Of Impacts

The many activities connected to the construction and ongoing operation of the projected expressway are going to have an impact on the environment, which is something that has been identified and is being recorded. For the purpose of quantifying all of the primary ramifications of the study, predictive methods are utilised.

In the lack of a correlation system that can be relied upon, a verbal rating system rather than a quantitative rating system is used. This is due to the very subjective nature of the rating approach. The impacts that have been investigated via the use of a grading approach are shown in Table 1 for the purpose of determining the scope and importance of the repercussions on the environment.

Table 1: Evaluation of environment impact

Proposed Activity	Potential Impact	Nature of Potential Impact		Rating of Impact	
		Beneficial or adverse	Direct or indirect	Significance of impact	Magnitude of impact
Construction of road and Bypasses	Demand / Supply	Beneficial	Direct	Medium	Medium Medium Low
	Road	Beneficial	indirect	Medium	
	Infrastructure Employment	Beneficial	Direct	Medium	
Raw Materials Consumption	Stone	Adverse	Indirect	Medium	Low
Fuel Consumption	National reserves	Adverse	Direct	High	Medium
Water consumption	Natural resources	Adverse	Direct	Medium Low	Low Low
	Ground Water	Adverse	Direct		
Transportation of materials	Ambient noise	Adverse	Direct	Low	Low
	Public health and safety	Adverse	Indirect	High	Low
Atmospheric emission	Ambient air quality	Adverse	Direct	Medium	Low Low
	Ambient odour	Adverse	Direct	Medium	
Waste water discharge	Land/Water	Adverse	Direct	Low	Insignificant
Solid Waste disposal	Ground water	Adverse	Indirect	Medium Low	Insignificant
	Soil quality	Adverse	Indirect		Insignificant

Noise generation	Ambient noise	Adverse	Direct	Low	significant
Storage and handling / of hazardous material	Public health and safety	Adverse	Indirect	High	Low
Construction spoils disposal	Land Water	Adverse Adverse	Direct Direct	Low Medium	Low Low

Note: (Impact) High – Irreversible; Medium – Mitigated through measures; Low – Mitigation required

Summary

This chapter provides an in-depth overview of the data analysis, environmental impact assessments, and all of the conclusions, along with the inclusion of suitable tables to complement each part.

IV. CONCLUSIONS

It is estimated that the Kundli-Manesar-Palwal Expressway building project would span a total distance of 135.65 kilometers in its entirety. As soon as the environmental clearance was obtained, building immediately began, and during the time that the EC is still in effect, around 68 percent of the groundwork has been completed. It is expected that the project will be finished before to the end of the year 2018, which will be in 2019. The section of the expressway that is 52.33 kilometers long and extends from Manesar to Palwal has already been finished and opened to traffic for travel by the general public. This section of the highway spans from Manesar to Palwal. In addition, these precautions have been taken into account throughout the planning and design stages of the project as well.

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