

1. Title of the Project:- Assessment of impact of Doubling of Katni Singrauli Railline Project on flora, fauna and habitats of Sanjay-Dubri Tiger Reserve.

Why this project :-

Ministry of Railway has sent a letter to State Forest Research Institute, Jabalpur through Project Director, Katni-Singrauli Rail Doubling Project, Ircon International Limited, Madhya Pradesh, vide letter no. Ircon/2065/K.S. doubling/18/6/977, dated 22.09.2021 to the compliance of the following issues:

- Biodiversity Impact Assessment Report (since the proposal involves the use of more than 50 ha NP/WLS)
- Details of the Animal Passage plan prepared on the basis of the guidance department. Eco-friendly measures to mitigate impacts of line a infrastructure on wildlife along with the locations of details and dimensions of the mitigation structure and of hermitigation measures.
- Trees fall in within the definition of wildlife as per the Wildlife (Protection) Act, 1972. Therefore, please provide specific comments with reference to 29/35 (6) of the Wildlife (Protection) Act, 1972.

Research Methodology: Environmental Impact Assessment (EIA) study is supposed to provide adequate baseline information, which is likely to have implication on project activities on various environmental components and their projections towards the improvement on existing and localized flora and fauna/wild life. Consequently, the study on EIA ultimately provides a set of recommendations to the policy planners and decision makers for safe operation of the projects. As per the guidelines of MoEF Govt. of India for EIA, the area covering 10 km radius from the project site is the study area for the project. The impact assessment will be conducted in the forest area within 10 km radius from the centre of the project site. The whole impact area (10 km radius) is divided into 5 sub-impact zones from the centre point :-

- 0-1 km- sub-impact zone
- 1-3 km-sub-impact zone
- 3-5 km-sub-impact zone
- 5-7 km-sub-impact zone
- 7-10 km-sub-impact zone

Study Design:

Experimental plots shall be laid to assess priority sites for conservation one would ideally obtain biodiversity measures assessing the species richness (total number of species), species diversity (type of species) of the Floral and Faunal species found at the site. To attain this information we would require the adoption of variety of methods and assessment of the site at multiple time points.

- Wildlife abundance shall be assessed using occupancy method and camera trap method
- Environmental pollution shall be assessed.
- Socio-Economic status of local communities shall be studied through questionnaire survey
- Suitable mitigation measures shall be developed and report shall be generated



Field survey by SFRI team, Railway Authority, and Officials from Sanjay-Dubri Tiger Reserve



Existing overpasses at Impact Zone of Sanjay-Dubri Tiger Reserve



Reconnaissance survey by SFRI team, Railway authority and Sanjay-Dubri officials



View of measuring the sound and air quality at study sites



Views of quadrat test study and data collection



Existing underpasses at Impact Zone of Sanjay-Dubri Tiger Reserve

Objectives of Research :-

- To collect the baseline data on existing flora and fauna and the socio-economic status of the area for the biodiversity report.
- To assess the probable impacts of the proposed activities on flora and fauna of the area and their habitat within the 10km impact zone.
- To assess the impact of noise, air and water quality due to proposed activities,
- To suggest mitigation measures and animal passage plan for conservation / protection and improvement of flora, fauna, habitats and social status of local communities.

Activities Undertaken:-

- Collection of baseline data on existing flora of the area.
- Collection of air, noise and water samples.

- Scanning 28.65 km foot patrolling of Beohari Buffer, Bastua Core and Dubari Core with the help of forest rangers and beat guards.
- Monitored all sensitive under and overpasses and recorded newly proposed under and overpasses and fencing locations at animal sensitive areas of Katni- Singrauli railway line.

Cost of the project:- Rs 40,07,750/-

Outcome of Research:-

- Collection of baseline data on existing flora and fauna of the area
- Environmental pollution impact on water, air and noise pollution have been studied with the help of standard method prescribed by CPCB.
- Collection of air, noise and water samples and analyzed.
- Scanning 28.65 km foot patrolling of Beohari Buffer, Bastua Core and Dubari Core with the help of forest rangers and beat guards.
- Monitored all sensitive under and overpasses and recorded newly proposed under and overpasses and fencing locations at animal sensitive areas of Katni- Singrauli railway line.
- Final report submitted to Funding Agency