Name of Project:	Improvement of Bahraich - Gonda section of State Highway No. 30 from Km 4+150 to Km 64+232 of SH-30 in Bahraich and Gonda district in the State of Uttar Pradesh

COST BENEFIT ANALYSIS

(As per MoEF&CC guidelines for conducting Cost Benefit Analysis vide no. 7-69/2011-FC (Pt.) dated 1st Aug, 2017 and its Handbook 28th March, 2019)

Nature of Proposal: Diversion of 82.7212 Ha of Protected Forest Land within existing RoW under FCA, 1980 for improvement of Bahraich – Gonda section SH-30 from existing Km. 4+150 to Km 64+232, in the state of Uttar Pradesh

Purpose: The Cost of Benefit Analysis is being undertaken for proposed Diversion of Forest land being affected due to the development of project.

Table: A- Details of Types of project involving forest land for which cost-benefit analysis will be required.

S. No	Nature of proposal	Applicable / Not Applicable	Remarks
1.	All categories of proposals involving forest land upto 20 Hectares in plains and upto 5 Hectares in hills	Not Applicable	-
2.	Proposals for defense installation purposes and oil prospecting (Prospecting only)	Not Applicable	No such area is involved in the project.
3.	Habitation, establishment of industrial units tourist lodges/ complex and other building construction.	Not Applicable	No such activities are involved in the project.
4.	All other proposals involving forest land more than 20 ha in plains and more than 5 ha in hills including roads, transmission lines, minor, medium and major irrigation projects, hydel projects, mining activities, railway lines, location specific installation like micro-wave stations, auto repeater controls, towers etc.	Applicable	The proposed project involves 82.7212 Ha. of forest land. Hence, the CBA is applicable. Hill = Nil Plain = 82.7212 Ha.

Table: B- Estimation of cost of Forest Diversion

S. No.	Parameters	Remarks
1	Ecosystem service loss due to proposed diversion	The proposed forest area to be diverted is mostly characterized by tropical dry deciduous forest. Considering Open forest of Eco-Class III, an average value of NPV of INR 957780/- (Say 9.58 Lakh) per ha. can be considered (as per MoEF&CC (FC Division) **File No. 5-3/2011-FC(Vol-I)** dt. 6th January, 2022). Therefore, ecosystem services losses due to proposed diversion of 82.7212 Ha. of forest land = **Rs. 792.47 Lakhs**, considered as total NPV.

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S. No.	Parameters	Remarks
2	Loss of animals husbandry productivity including loss of fodder	There is no loss in animal husbandry, productivity including loss of fodder due to the diversion of forest land. 10 % of NPV is maximum i.e. **Rs. 79.25 Lakhs**
3	Cost of human resettlement	Nil. The existing Row is declared as Protected Forest and there is no displacement of people involved in the forest area proposed for diversion
4	Loss of public facilities and administrative infrastructure (Roads, Buildings, Schools, Dispensaries, Electric lines, Railways etc.) on which would require forest land if these facilities were diverted due to the project.	Nil. There are no loss in public facilities and administrative infrastructures (road, buildings, schools, dispensaries, electric lines, railways etc.) on proposed diverted forest land.
5	Possession value of forest land diverted	30 % of NPV cost i.e. **Rs. 237.74 lakhs**
6	Cost of Suffering to oustees	Nil. There are no outstees involved in the forest area.
7	Habitat Fragmentation Cost	50% of total NPV i.e. **Rs. 396.23 Lakh.**
8	Compensatory afforestation and soil & moisture conservation cost	The compensatory afforestation will be taken up in the double the area of degraded forest land i.e. 82.7212 x 2 = 165.4424 Ha of in lieu of proposed forest to be diverted. As per guidelines Standard Compensatory Afforestation, Restoration Factor (SCARF) assuming 4% discounted rate for Dense forest for Tropical Dry Deciduous Forests is 5.18% of NPV and the proposed NPV rates is Rs. 9.58 Lakhs per ha. So the adjusted NPV rates will be Rs. 9.08 Lakhs per ha. (**9.58** -[0.0518 x **9.50**]). Therefore, the compensatory afforestation cost will be **Rs. 1502.84 Lakhs**

Therefore, Cost of Forest Diversion:

Rs. **792.47** (Ecological loss) + Rs. **79.25** Lakhs (Animal husbandry) + Rs. **237.74** Lakh (Possession value) + Rs. **396.23** Lakhs (Habitation fragmentation) + Rs. **1502.84** (Compensatory Afforestation)

= **Rs. 3008.53 lakhs**

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Table: C - Existing guidelines for estimating benefits of forest-diversion in CBA

Sl.no.	Parameters	Details
1	Increase in productivity attributable to the specific project.	The project will enable smooth accessibility in the region by which people of the region will be directly benefitted. This will also accelerate industrialization and commercialization in the region and the same will directly generate maximum employment opportunities in these areas, which boost up the economy of the region and the state. Due to the proposed project there will be overall development of the project area in terms of fast connectivity, transportation of agriculture produces, easy access to education, health, etc.
2	Benefits to economy	Economic benefit in terms of increase in trade, saving in vehicular operation and maintenance cost, faster and better connectivity, safer journey to commuter and saving of travel time. Improved road connectivity helps in better implementation and management of government schemes. Proposed improved connectivity will accelerate the growth in these areas. It will provide last and economical transport of goods. After completion, the local people and industries situated in the area will be greatly benefited. The proposed project road will provide safe, fast, economic and environmental friendly transportation to the state which in term will accelerate the rate of growth in this area. In addition to that there are several other benefits that may accrue due to proposed development are saving in fuel, reduction in time to commute, vehicle maintenance, reduction in carbon emission etc. "However, they have not been quantified as it will be a function of various govt. policy variables." Exact quantification of the value is not possible as it is time and policy dependent.
3	No. of population benefited.	The proposed project will traverse two districts i.e. Bahraich and Gonda. The population of these districts are 34,87,731 persons and 34,33,919 persons respectively as per the Census of India, 2011. These people will get benefited due to the proposed project. In addition to the above, the neighbouring districts commutators will also get benefited.
4.	Economic Benefit due to direct and indirect Employment due to the project	During the construction period of three years 180000 man days will be generated. These man days will be generated for skilled / un-skilled / semi-skilled worker on the basis of temporary employment in terms of salary and wages @ Rs. 650/day (average). So the total salary generated due temporary employment: **Rs. 1170.00 Lakhs** Basic living amenities including alternative fuel (LPG solar cooker etc.) will be supplied to labours/workers in construction period by contractor for 3 years. Number of labours at peak

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		time will be 200 nos. (Approx. 50% labour assumes to be local). So Per head cost of fuel- Rs. 2.00/day for rest 100 labours. The Total savings on fuel for the construction period will be = **Rs. 1.80 Lakhs** SO the total Economic Benefit for the Construction period will be = 1170+1.80= 1171.80
Q	Economic Benefit due to Compensatory Afforestation (CA)	In Lieu of total forest land to be diverted, Compensatory Afforestation required to be done as per the Forest (Conservation) Act 1980 and its prevailing guidelines. CA will be done in 82.7212 Ha. of Non-Forest Land. The ecological value of forest for a 50 years period of density of 1.0 is 126.74 Lakhs per ha. as per Forest Conservation Act 1980. By considering the maximum density, the ecological gain by this project due to CA would be **Rs. 10,484.085 Lakhs**

Therefore, the Environmental benefit will be: Rs1170.0 Lacs + Rs. 1.80Lacs (Employment generation) + Rs. 10484.085 Lacs (Economy benefits due to compensatory afforestation) = **Rs. 11655.885 Lacs.** **Cost Benefit Ratio = Total Environmental Benefit / Total Cost = 11655.885 /3008.53 = 3.87,** which is greater than 1. Hence, Project is found viable.

Date:

Place:

User Agency
UP PWD

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