COST BENEFIT ANALYSIS

Annexure - I

Table A: Cases under which a Cost -benefit Analysis for Forest Diversion is required

S.No	Nature of Proposals	Remarks
1	All Category of Proposals involving forest land up to 20 Ha in Plains and up to 5 Ha in hills	Not applicable
2	Proposals for defense installation purposes and oil prospecting (Prospecting Only)	Not applicable
3	Habitation, establishment of industrial units, tourist lodges / complex and other building construction.	Not applicable
4	All other proposals involving forest land more than 20Ha. In plains and more than 5Ha. in hills including roads transmission lines, minor and major irrigation projects, hydro projects, mining activity, railway lines located specific installation like micro – wave stations, auto repeater centers, T.V towers etc.,	Applicable. The proposal is for diversion of forest area of an extent of **60.06 Ha** along existing **Koyyuru – Paderu section of NH-516E.**

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Annexure - II

Estimation of cost of forest diversion

S.No	Parameters	Remarks
1.	Ecosystem Services losses due to proposed forest diversion. NPV of the forest land being diverted i.e. Reserve forest 60.06 Ha x Rs. 8,87,000 per Ha = Rs. 532.73 lakh	**Rs. 532.73 lakh**
2.	Loss of animal husbandry productivity including loss of fodder	10% of NPV Applicable i.e. **Rs. 53.273 lakh**
3.	Cost of human resettlement(R & R Cos)	Nil
4.	Loss of public facilities & administration infrastructure (roads, building, school, dispensary, electric lines, railways etc.) on forest land	Not applicable, since these facilities are not available inside the forest area for proposed diversion.
5.	Possession value of forest land diverted	30% of Environmental Costs (NPV) i.e. **Rs. 159.819 lakh**
6.	Cost of suffering of oustees	Nil
7.	Habitat Fragmentation cost	50% of NPV Applicable as thumb rule i.e. **Rs. 266.365 lakh**
8.	Compensatory Afforestation and Soil & Moisture Conservation Cost	Considering approximate CA cost per Ha with 10 years of maintenance as 4 lakh per Ha, CA cost for double degraded forest = 2x 60.06 Ha x 4 Lakhs/Ha= 480.48 lakh
	Total Cost (Environmental Loss)(A)	**Rs. 14.93 Crores.**

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Annexure - III

Table C – Existing guidelines for estimatingbenefits of Forest Diversion in Cost Benefit Analysis

Sl.No	Parameters	Remarks
1.	Increase in productivity attributable to the specified project	About 20000 tones / annum of coffee and forest produces are being transported from this road.
2.	Benefits to economy due to specific project	At present the traffic from Rajahmundry to Vizianagaram and Narsipatnam to Paderu are traversing about 30 km more than the proposed route. The development of this project road will save about 3000 liters of fuel per day for 2,800 Vehicles flying in this route, due to which 3000 liters per day x Rs 90 per liter = Rs.2,70,000/- per day will be saved. So, Rs 9.85Cr (2,70,000 x 365) per annum in terms of fuel saving and time saving for the road users. For 20 years the turnover will be **197.10Cr.** In addition this area is being developing conversion of forest land to coffee estates by the government. After construction of this road, the production of coffee seed will be increased, this will give substantial income to the government. The percentage of Educated peoples in this area and higher education will be increased due to future development of transport system in this route. The death ratio due to hospitalization in time will be reduced.
3.	Number of population benefited	Population around 10,000 people will be benefited from this project.
4.	Economic benefits due to direct and indirect Employment due to project	About 2000 workers and staff could be employed for development of Tourism in this route.

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5.	Economic benefits due to Compensatory Afforestation	CA will be taken up in 120.12 Ha of land having a minimum density of 0.7. The ecological value for 50 years period for the density of 1.0 is Rs.126.74 Lakhs per Ha as per forest act 1980. Therefore ecological gain would be **Rs.106.56 Cr**

Total benefit (B) = 197.10 +106.56 = 303.66 Cr.

Benefit to Cost Ratio = **Total benefit (B) /Total Cost (Environmental Loss) (A)**

. = 303.66/14.93

= 20.33 > 1

The Benefit to cost ratio being greater than 1 i.e. 20.33, hence the proposed project is viable as per the analysis and described criteria.

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