

COST BENEFIT ANALYSIS

NAME OF PROJECT: Proposal for diversion of forest land for widening/improvement of Lalchara- Kanchanpur Section (Package-2) of NH-44(A) to 2-Laning with Paved Shoulders under Dhalai, Unakoti & North Tripura District in the state of Tripura.

NATURE OF PROPOSAL: Diversion of Forest Land under FCA, 1980 for road project.

PURPOSE- This Cost Benefit Analysis is being undertaken for proposed Diversion of Forest Land being taken for widening/improvement of Lalchara- Kanchanpur Section (Package-2) of NH-44(A) to 2-Laning with Paved Shoulders under Dhalai, Unakoti & North Tripura District in the state of Tripura. Estimated construction cost for Package-2 of project road is 322.00 Cr.

TABLE-A: ESTIMATION OF COST OF FOREST DIVERSION							
1	Ecosystem servicesses due to proposed forest diversion	1. Proposed forest area to be diverted for road constrction		82.6044	ha.		
		2. Crown density of the proposed area		0 to 60	%		
		3. Forest Cover Area in (ha.)					
		A. Class		Total (area) ha.			
		ECO Class-I		82.6044			
		4. As per Supreme court,s order date 28.03.2008 in WP© No. 202/1995					
		i. Forest type of the proposed diversion area			ECO-class I		
		ii. Net Present Values (NPV) Eco Class-I			Area	Rate per ha. (Lakhs)	Amt (Rs.) in Lakhs
					82.6044	10.43	861.564
Total NPV (a+b)					861.564		


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2	Loss of animal husbandry productivity, including loss of fodder @10% of NPV		10% of NPV	Amt(Rs.) in Lakhs =	86.156
3	Cost of human resettlement	<p>Nil</p> <p>The cost of human resettlement for diversion of forest land is nill. However, any R&R cost, if required is being considered in project clearnce cot</p>			
4	Loss of public facilities and administrative infrastructure (Roads, building, school, dispensaries, electric lines, railways, etc.) on forest and, which would require forest land if these facilities were diverted due to the project	<p>Nil</p> <p>Electric Lines & Poles, Water pipelines, ater tank etc, public facilities hich are being affected have been considered in the budget. the budgets for affected Community Properties resettlement have been considered</p>			
5	Possession value of forest land diverted	30% of environmental cost (NPV)	30% of NPV	Amt(Rs.) in Lakhs =	258.469
6	Cost of suffering to Outsters	The widening and strengthening of the project road is to be undertaken on the adjoining land of the existing road, so there are no sufferings to outtees			
7	Habitat Fragmentation Cost	As per thumb rule: 50% of (NPV)	50% of NPV	Amt(Rs.) in Lakhs =	430.782
8	Compensatory afforestation and soil & moisture conservation cost	<p>Compensatory Afforestation cost of 89.916 ha land for 82.6044 ha proposed forest land diversion is Rs. 328.766 lakhs @ Rs. 225-wage rate (including Rs. 17.84 lakhs as soil & moisture conservation cost which is 10% of CA item work cost for a maintenace period of 8 Years)</p> <p>Amt(Rs.) in Lakhs 328.766</p>			
Total (Table A: Cost of Forest Diversion)			1965.737	Lakh	
Estimated cost of construction for Package road section			32200	Lakh	
Total Cost (Forest Diversion+Construction Cost)			34165.74	Lakh	


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TABLE-B: ESTIMATION OF BENEFIT OF FOREST DIVERSION			
1	Increase in productivity attribute to the specific project	In lieu of total trees and forest land to be affected due to project, it is proposed to undertake compensatory afforestation as per Forest (Conservation) Act. The Project road will improve connectivity between State Capitals of Tripura & Mizoram State. This will enhance the economic improvement in the Project Districts with additional growth in the GDP due to the project.	
2	Benefit to economy due to the specific project	Main objective of this project is to provide all weather connectivity between Manu & Simlung with improvement of road. Widening and curve improvement under the project will minimize the chances of accidents. Economics benefits will be in terms of saving in travel time and Vehicle operating cost for a period of 30 years. VOC per year for project road (86Km) = 120 cr VOC per year for Package Section (approx. 28 km)	
		Saving for 30 Year	
		39 cr x 30 yrs	117000 Lakhs (Rs.)
3	No. of population benefited due to specific project	Entire population of project districts (Dhalai, Unakoti & North Tripura) shall be benefited from the project as projected population is 10.50 Lakhs. Further specific individuals will be benefited, those will be engaged in construction works is estimated as below. 100 nos. x 600 re. x 300 days x 1.5yrs	
			270 Lakhs (Rs.)


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4	Economic benefits due to direct and indirect employment due to the project	During Construction of the project				Amt(Rs.) in Lakhs
		Semi-skilled Labour	50 nos. x 350 rs. X 300 days x 1.5 yrs			78.75
		Technical People	10 nos. x 2500 rs. X 300 days x 1.5 yrs			112.5
				Sub-total		191.25
		During Operation stage of the project				Amt(Rs.) in Lakhs
		Skilled Labour	10 nos. x 600 rs. X 300 days x 5 yrs			90
		Semi-skilled Labour	5 nos. x 350 rs. X 300 days x 5 yrs			26.25
		Technical People	2 nos. x 2500 rs. X 300 days x 5 yrs			75
				Sub-total		191.25
				Total		382.5
5	Economic benefits due to Compensatory Afforestation	79300 Man days as per prevailing wage rate for a maintenance period of 8 years of (82.6044*2 = 165.2088 ha CA area) @ present wage rate Rs. 225.00 M day = Rs. 178.426 lakhs				
		Area for CA (ha.)	Man days per ha. In a yr.	Period (yrs)	Total Mandays	
		165.2088	60	8	79300	
		Maintenance cost	Daily wage	Total Mandays	Amount (Lakh Rs)	
			225	79300	178.426	
	Total (Table - B: Benefits of Forest Diversion)			117830.93	Lakh	
	Ratio of benefits to cost of forest land diversion for project road section			3.45		


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