

PMU-SHG/P/RMB/02/III/

Dated Shillong the 10th February, 2020

COST BENEFIT ANALYSIS


NAME OF PROJECT: "Diversion of 12.781 Ha of Deemed Forest Land for up-gradation to 2-lane of State Highway (SH-04) stretch from Nongjri to Maheshkola (from Existing km 31.70 to 59.270) (Design Length = 25.525 km) under SARDP-NE Phase "A" in the State of Meghalaya"

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

PURPOSE - This Cost Benefit Analysis is being undertaken for Proposed Diversion of Forest Land being affected due to "up-gradation to 2-lane of State Highway (SH-04) stretch from Nongjri to Maheshkola (from Existing km 31.70 to 59.270) (Design Length = 25.525 km) under SARDP-NE Phase "A" in the State of Meghalaya" by NHIDCL.

TABLE - A: ESTIMATION OF COST OF FOREST DIVERSION

SL NO.	PARAMETER	DESCRIPTION						
1	Ecosystem services losses due to proposed forest diversion	<p style="text-align: center;">Rs. 120.01 Lakhs</p> <p>(1. Proposed Deemed Forest Cover Area in Ha:</p> <table border="1"> <thead> <tr> <th>Eco-value Class</th><th>Type</th><th>Total Area</th></tr> </thead> <tbody> <tr> <td>Class-I</td><td>Dense Forest</td><td>12.781 Ha</td></tr> </tbody> </table> <p>1. As per Supreme Court's Order dated 28.03.2008 in WP (C) No. 202/1995:</p> <p>(i) Forest type of the proposed diversion area: Eco-class I</p> <p>(ii) Net Present Value:</p> <p style="text-align: center;">Area: 12.781 Ha @ Rs. 9.39 lakhs</p> <p style="text-align: center;">= 120.01 Lakhs)</p>	Eco-value Class	Type	Total Area	Class-I	Dense Forest	12.781 Ha
Eco-value Class	Type	Total Area						
Class-I	Dense Forest	12.781 Ha						
2	Loss of animal husbandry productivity, including loss of fodder	<p style="text-align: center;">10% of NPV = 10% of Rs. 120.01 lakhs</p> <p style="text-align: center;">= Rs. 12.001 lakhs.</p>						
3	Cost of human resettlement	<p>DC, South West Khasi Hills District has been requested vide letter no. PMU-SHG/P/RMB/02/III/1116 dated 13.02.2020 for providing FRA certificate</p>						
4	Loss of public facilities and administrative	No loss of public facilities and administrative interest occurs.						



 10.02.2020

	infrastructure (Roads, building, schools, dispensaries, electric lines, railways, etc.) on forest land, which would require forest land if these facilities were diverted due to the project	
5	Possession value of forest land diverted	30% of environmental cost (NPV) =30% of Rs.120.01 lakhs =Rs. 36.003 lakhs
6	Cost of suffering to oustees	DC, South West Khasi Hills District has been requested vide letter no. PMU-SHG/P/RMB/02/III/1116 dated 13.02.2020 for providing FRA certificate.
7	Habitat Fragmentation Cost	As per thumb rule : 50% of NPV = 50% of 120.01 lakhs = Rs. 60.005 lakhs
8	Compensatory afforestation and soil & moisture conservation cost	Compensatory Afforestation cost for 12.781 Ha proposed deemed forest land diversion: tentatively Rs. 35,65,899/- (Considering Rs. 2,00,000/- per Ha for Compensatory Afforestation and subsequent maintenance for 8 years)

TABLE - B: ESTIMATION OF BENEFITS OF FOREST DIVERSION

SL NO.	PARAMETER	DESCRIPTION																																								
1	Increase in productivity attribute to the specific project	<p>Due up-gradation of the existing road to two lane with National Highway standards, there will be overall development of the project area. The development of project road will lead to increase in the GDP of the state as there are still numerous unidentified mining sites within the project corridor, hence the development of the highway will attract more business within the project road.</p> <p>By assuming the net GDP growth to be 7% and 10% population(i.e. 10% of 3000000=300000) would be benefited by the project road, the net revenue generated for a period of 30 years would be 6.3 Cr.(300000*7*30)</p>																																								
2	Benefit to economy due to the specific project	<p>Economic Benefits: The reduced design length will lead to lesser fuel consumption and the better quality of road will decrease the maintenance cost of the vehicles by : Rs. 5059 lakhs.</p> <table><tr><th>Sl.No.</th><th>Type of Vehicle</th><th>Total</th><th>Decrease in project length (Km)</th><th>Mileage</th><th>Fuel Price</th><th>Fuel cost reduced for deducted length</th><th>Maintenance Annual</th></tr><tr><td>1</td><td>Two Wheeler</td><td>15</td><td>2.045</td><td>40</td><td>80</td><td>120</td><td>6000</td></tr><tr><td>2</td><td>Car/Jeep/Taxi</td><td>411</td><td>2.045</td><td>8</td><td>80</td><td>16440</td><td>15000</td></tr><tr><td>3</td><td>Mini Bus</td><td>3</td><td>2.045</td><td>5</td><td>80</td><td>198</td><td>25000</td></tr><tr><td>4</td><td>Bus (full)</td><td>32</td><td>2.045</td><td>5</td><td>80</td><td>2112</td><td>25000</td></tr></table>	Sl.No.	Type of Vehicle	Total	Decrease in project length (Km)	Mileage	Fuel Price	Fuel cost reduced for deducted length	Maintenance Annual	1	Two Wheeler	15	2.045	40	80	120	6000	2	Car/Jeep/Taxi	411	2.045	8	80	16440	15000	3	Mini Bus	3	2.045	5	80	198	25000	4	Bus (full)	32	2.045	5	80	2112	25000
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		5	Light Commercial Vehicle (LCV)	182	2.045	8	80	7280	20000
		6	Two Axle Truck	299	2.045	5	80	19734	25000
									116000
		Per day saving (in Rs)							45884
		Per year saving (in Rs)							16747660
		Savings for 30 years (in Rs)							502429800
		Savings for 30 years (in Cr.)							50.59
3	No. of population benefited due to specific project	<p>Economic benefits due to tourism enhancement, access to schools hospitals farmers produces, new industries development etc.:</p> <p>Rs. 9000 Lakhs.</p> <p>The tourism industry of Meghalaya generates approx 100cr revenue per year. The project road has tourists spots like Balapakram National Park, Shizu Cave etc. Hence assuming a total growth of 10% after development of project road, which will generate 10 cr. Added revenue per year.</p> <p>Moreover the development of new project road will maximise the import and export, new facilities for the people like constructions of Hospital, School, Colleges, Hotels etc. would be developed. Hence all these facilities will generate upto approx 40Cr. Revenue per year.</p> <p>Newly constructed highway, with connectivity to urban areas will attract more industrialists to set up industries and startups(MSMEs) within project corridor and give employment to local people for direct and indirect jobs. Hence, assuming 40cr. revenue to be generated by the opening of new industries.</p>							
4	Economic benefits due to direct and indirect employment due to the project	<p>Direct Employment of labours- 500 @ Rs. 1,44,000/- employed during construction for 3 years and 150 @ Rs.43,200/- during operation stage for 15 years : Rs. 3942 lakhs</p>							
5	Economic benefits due to Compensatory Afforestation	<p>12,100 Man day as per prevailing wage rate for a maintenance period of 8 years of @ present wage rate Rs.368.00 Mday = Rs. 44.52800lakhs</p>							


 10.02.2020
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