

COST BENEFIT ANALYSIS

NAME OF THE PROJECT:	Consultancy Services for Preparation of Detailed Project Report for Improvement of SH and MDRs (Group 1) under Asom Mala in the State of Assam. Corridor No A04/Road Name: Jogighopa to Swahid Bedi (near Bangaigaon).
NATURE OF PROPOSAL:	Diversion of 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 widening and improvement of Jogighopa to Swahid Bedi (near Bangaigaon) Road of proposed length 36.791 Km in the state of Assam under Asom Mala Program.

TABLE - A: ESTIMATION OF COST OF FOREST DIVERSION

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Sl.	Parameters	Description		
1	Eco-system Services Losses due to Proposed Forest Diversion		Rs.	22.53 Lakhs
		1) Propose Area to be diverted 3.086 Ha		
		2) Crown density of the proposed area 0-60 %		
		3) Forest Cover Area	Area in Hactare	
		(i) Very Dense Forest	0.000	
		(ii) Moderately Dense Forest	0.000	
		(iii) Open Forest	0.000	
		(iv) Degraded/Non-Forest (No Vegetation)	3.086	
		Total Forest Diversion Area =		3.086
		4) As per Supreme Court's Order dated 28.03.2008 in WP(C) No. 202/1995		
		(i) Forest type of the proposed diversion area : Eco-Class I		
		(ii) Net Present Value :		
		Forest Class	Area (Ha)	Rate (Lakhs/Ha)
				Amount (Lakhs)
		(a) Very Dense Forest	0.000	10.43
		(b) Moderately Dense Forest	0.000	9.39
		(c) Open Forest & Non-Forest	3.086	7.30
		(d) Scrub	0.000	-
		Total = 22.53		
2	Loss of animal husbandry productivity, including loss of fodder	10% of NPV = 10% of Rs.22.528Lakhs =		2.253 Lakhs
3	Cost of human Resettlement.	Nil The cost of Human Resettlement for diversion of Forest Land is Nil.		
4	Loss of public facilities and administrative infrastructure (Roads, buildings School, dispensaries, electric lines, railways etc) on forest land, or which would require forest land if these facilities were diverted due to the project.	Electric lines & Poles, Water pipe lines, Water Tank etc. public facilities which are being affected have been considered in the budget. Also the budgets for affected CRSs have been considered.		
5	Possession Value of Forest Land Diverted	30% of NPV = 30% of Rs.22.528 Lakhs =		6.758 Lakhs
6	Suffering to oustees	Nil 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 oustees.		
7	Habitat Fragmentation Cost	50% of NPV = 50% of Rs.22.528 Lakhs =		11.264 Lakhs

8	Compensatory Afforestation and Soil & Moisture Conservation Cost	Compensatory Afforestation cost of 6.172 Ha land for 3.086 Ha proposed Forest Land Diversion = Rs.12.34 Lakhs (including Rs.1.23 Lakhs as soil & moisture conservation cost which is 10% of CA item work cost for a maintenance period of 8 years)	12.344 Lakhs
TOTAL (TABLE - A: COST OF FOREST DIVERSION)			55.147 Lakhs

TABLE - B: ESTIMATION OF BENEFITS OF FOREST DIVERSION						
Sl.	Parameters	Description				
1	Increase in Productivity and Economy	'[(374000*(1.05)^3) x (4.82/309) x {(10%x5 + 5%x10 + 2%x15)}]'			13,460.736 Cr	
		Economic Improvement in the Project District (Bongaigaon) considering enhanced growth in the GDP against normal growth rate due to the project. This benefit will be for 5 years at enhanced rate of 10%, 10 years for enhanced 5% rate & 15 years for enhanced rate of 2% (Current GDP of the state @ 3.74 Lakhs Crore / annum in 2019-20, Population of Assam is 3.09 Cr and Bongaigaon District is 7.39Lacs).				
2	Benefits on vehicle operation & maintenance cost due to improvement of the project Road	Rs.20.32 Cr. per year x 30 years for Saving in VOC			609.600 Cr.	
3	No. of Population benefited due to specific project	Population along NH-17 Bongaigaon District (7.39 Lacs) shall be benefited from the project. In addition, the project will boost the agricultural and Industrial development of the surrounding area which will eventually boost the economic growth.				
4	Economic benefits due to direct and indirect employment due to the project	1. Employment Potential – Construction				
		Type	No.	Rate / Day	Years	Amt (Cr.)
		Skilled	200	375	3	6.750
		Semi Skilled	67	300	3	1.809
		Technical	13	2,000	3	2.340
						10.899
		2. Employment Potential – Maintenance				
		Type	No.	Rate / Day	Years	Amt (Cr.)
		Skilled	13	375	30	4.388
		Semi Skilled	7	300	30	1.890
		Technical	3	2,000	30	5.400
						11.678
		Total Employment Potential =				22.577 Cr.
5	Benefit from Compensatory Afforestation	2963 Mandays as per prevailing wage rate for a maintenance period of 8 years of @ present wage rate Rs. 300 Mday =			0.089 Cr.	
TOTAL (TABLE - B: BENEFIT OF FOREST DIVERSION)					14,093.002 Cr.	