CALCULATION OF COST BENEFIT RATIO

Name of Project for which Forest Land is required : PMGSY Phase-ix Work/Hadukalak to AB Road

Sl. No.	Parameters	Quantity	Rate	Amount (Rs. Cr.)	Remarks
	COST				
1	Ecosystem services losses due to proposed forest diversion	11.551449	52,00,000	6.01	5 Times of normal NPV has been considered. Though the forest to be diverted in not dense, but to be on conservative side NPV has been taken as Rs.10.40 Lacs/Ha (Class-I, VDF)
2	Loss of animal husbandry productivity, including loss of fodder	11.551449	1,04,000	0.12	Forest area of Dhalai districts are required for construction of the road. There is no loss of animal husbandry including the loss of fodder. The road side vegetation is not being used as fodder. However; 10% of NPV is taken.
3	Cost of human resettlement.			0.00	The cost of Human Resettlement for diversion of Forest Land is Nil as no family is residing in forest land.
4	Loss of public facilities and administrative infrastructure (Roads, buildings, schools, dispensaries, electric lines, railways etc.) on forest land, which would require forest land if these facilities were diverted due to the project.			0.00	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 CPRs have been considered. The likely cost of these utility shifting is estimated as Rs. 20.84 Cr.
5	Possession value of forest land diverted	11.551449	3,12,000	0.36	30% of NPV
6	Cost of suffering to oustees			0.00	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.	11.551449	0	0.00	50% of NPV
8	Compensatory Afforestation and soil & moisture conservation cost.	23.103	95,000	0.22	
TOTAL				**6.71**	

पीयूष घोष
Pijush Ghosh
अतिरिक्त महाप्रबंधक (अभियांत्रिकी)
Addl. General Manager (Engg.)
एच.एस.सी.एल, अगरतला/त्रिपुरा
H.S.C.L. Agartala/Tripura.

SI. No.	Parameters	Quantity	Rate	Amount (Rs. Cr)	
	BENEFITS				
1	Increase in productivity attribute to the specific project.	27000 × (2%×5 + 1%x10) × (7.06÷36.74)		1,037.67	Economic Improvement in the Project districts considering 2% enhanced growth rate in the GDP against normal growth rate due to the project. This benefit will be for 5 years at enhanced rate of 2% and 10 years for enhanced 1% rate (Current GDP of the state @ 27,000 Crore / annum in 2014-15)
2	Benefits to economy due to the specific project.	0.65 cr x 10 years		6.50	Benefits on vehicle operation and maintenance cost due to improvement of the project road. Saving in VOC is 106 crore per year. Other benefits have been accounted for in rest of the points vide SI.1 and 3 to 5.
3	No. of population benefited due to specific project				Population of 1159 from habitations viz. Haduk Kalak Para, Karnajoy Reang Para, Debaram Para, Bishwaram Para, Manik Rai Para, Purnajoy Reang Para, Pusparam Para of Dhalai district are to be benefited due to the specific project.
4	Economic benefits due to direct and indirect employment due to the project.				
	(a) Direct employment				
	Employment Potential - Construction				
	Skilled Manpower	5 nos. × Rs. 400/day × 280 days × 1 year		0.06	
	Semi-skilled Manpower	10 nos. × Rs. 300/day × 280 days × 1 year		0.08	
	Technical People	2 nos. × Rs.1000 / day × 280 days × 1 year		0.06	
	Employment Potential - Maintenance				
	Skilled Manpower	3 nos. × Rs. 400 / day × 120 days × 5 years		0.07	
	Semi-skilled Manpower	5 nos. × Rs. 300/day × 120 days × 5 year		0.09	
	Technical People	1 no. × Rs.1000/day × 120 days × 5 years		0.06	
	(b) Indirect employment	say 394 nos. × Rs.350/day × 150 days × 10 years		20.69	Calculation based on average assumption.
5	Economic benefits due to Compensatory afforestation	23.103	4,38,000	1.01	NPV has been taken as Rs.4.38 Lacs/Ha (Class-IV, OF)
	TOTAL			1,066.29	
	COST BENEFIT RATIO= Total Benefit/Total cost			158.986	

Pijush Ghosh
अतिरिक्त महाप्रबंधक (अभियांत्रिकी)