


CALCULATION OF COST BENEFIT RATION

Construction of Sivok(West Bengal) to Rangpo(Sikkim) New BG Rail Line Project from Chainage 0.00 to 45.00 KM

COST					
Sl.	Parameters	Quantity	Rate	Amount (Rs. Cr.)	Remarks
1	Eco-system Services Losses due to Proposed Forest Diversion	12.379	5200000	6.44	5 Times of normal NPV to be considered. Though the forest to be diverted is 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			0.00	Forest area is required for the road widening. There is no loss of animal husbandry including the loss of fodder. The road side vegetation is not being used as fodder.
3	Cost of human Re-settlement.			0.00	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.			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.
5	Possession Value of Forest Land Diverted	12.379	1,040,000	1.29	20% of NPV
6	Suffering to oustees				Railline through Tunneling does not affect human settlement so there is no suffering to oustees.
7	Compensatory Afforestation	24.7571	1,000,000	2.48	
8	Project Cost (Civil)			3915	
Total				3925.20	

BENEFITS					
Sl.	Parameters	Quantity	Rate	Amount (Rs. Cr.)	Remarks
1	Increase in Productivity and Economy	Rs. 40,000 Cr. x 1% x 5		2,000.00	Economic Improvement in the Project District (Darjeeling) as well as Sikkim State 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 1% (GDP of Sikkim is 22,000 Crore and Darjeeling District is 18,000 Crore)
2	Less transporation Cost through Train: Direct Benefits to people.	Rs. 36.5 Cr x 100 years		3650.00	Per year saving @ Rs. 100 per day per person considering 10000 commuters per day is Rs. 36.5 Cr for 100 years
3	Reduction of Journey Time: Direct benefit to people				Qualitative Quanlity.
4	Employment Potential - Construction				
	Skilled Manpower	100 nos. x Rs. 600/day x 300 days x 5 years		9.00	Employment Potential of Skilled Manpower
	Semi-skilled Manpower	50 nos. x Rs. 350/day x 300 days x 5 years		26.25	Employment Potential of Semi Skilled Manpower
	Technical People	10 nos. x Rs.2500 / day x 300 days x 5 years		2.25	Employment Potential of Technical Manpower
5	Employment Potential - Maintenance				
	Skilled Manpower	30 nos. x Rs. 600 / day x 300 days x 15 years		8.10	Employment Potential of Skilled Manpower
	Semi-skilled Manpower	50 nos. x Rs. 350/day x 300 days x 15 years		7.88	Employment Potential of Semi Skilled Manpower
	Technical People	10 nos. x Rs.2500/day x 300 days x 15 years		11.25	Employment Potential of Technical Manpower
6	Benefit from Compensatory Afforestation	24.757	438,000	1.08	NPV has been taken as Rs.4.38 Lacs/Ha (Class-IV, OF)
Total				5715.81	
COST BENEFIT RATIO					
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 4.6.15
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