Cost Benefit of 132 KV DC Mul – SICOM Transmission line for forest land 44.0397 Ha. Diversion in accordance with the MOEF& CCS

Guidelines Date 1/8/2017

1.	Ecosystem services losses due to proposed forest diversion.	Net Present Value for 44.0397ha.of forest land = @ 8.03lakhs per ha. Net Present Value for 44.0397ha. Of forest land = 44.0397 x 8.03 = 353.63lakh.
2.	Loss of animal husbandry productivity, including loss of fodder.	10% of 353.63 lakh of the total Net Present Value calculated as above come to = 35.36 lakh.
3.	Cost of human resettlement.	There will be no loss involved on account of human resettlement.
4.	Loss of public facilities and administrative 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.	Not applicable.
5.	Possession value of forest land diverted.	30% of 353.63 lakh Net Present Value for possession value of forest land comes to = Rs.106.09 lakh.
6.	Cost of suffering to oustees.	Nil.
7.	Habitat Fragmentation Cost.	50 % of Rs. 353.63 lakh Net Present Value for habitat fragmentation cost = Rs.176.81 lakhs.
8.	Compensatory afforestation and soil & moisture conservation cost.	Rs.6.63per ha x 44.0397 ha = 291.98 lakhs
	Total Estimated cost of Forest Diversion :-	Rs. 963.89lakhs

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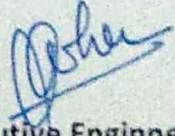| Sr. No.	Parameters.	Evaluation of Benefits.			
1.	Increasing of productivity attributed to specific project.	(A) Due to increase in Agriculture produce :-			
			Agricultural Produced before Completion of the Project Quantity In Mt. 263.24	Value in (Rs.Lakhs) Rs 568.56	Total cost.
		I)			
		II)	Agricultural Produced before Completion of the Project Quantity In Mt. 2089.82	Rs 972.52	= 2019.83 Lakhs
		III)	Increase in Agricultural Produce per year Quantity in Mt. 1826.58	Rs 403.96	
		B)			
		Due to rise in Electricity Power in the project 21 villages are to be benefited In the command area due to construction Of this project by way of increase in Industries Area. Assuming benefit on this account to be Rs.25000/- /village/year. , the total value of benefits That will accrue on this account for 50 years			52.50 Lakhs
		C)			
		Due to increase in timber out turn In the area adjoining to the reservoir it is Assumed that @ Rs. 1200/- per m. width Of the forest all along the 4500 m. Periphery of the reservoir will be benefited Due to Electricity Power =10 x 4500/-			4.5 Lakhs
		Total out turn from the forest of 44.0397 ha is Rs.45000/- per ha./ Year assuming 20% increase in annual Out turn the value per hector 45000 x 3.9=178360.8 Therefore 44.0397 ha to accrue in 50 years will be = 0.4 X 50 X 178360.8			35.67 lakhs
		D)			
		Annual production of @ 5000Kg/14.75 amounting to Rs. 20.00 Lakh per year deduction of expenditure the overall benefits of this accounts for 50 years = 20 x 50			1000.00lakhs
		E)			
		Benefits due to hydro power Generation is			Nil
					Total=3112.50lakhs.

2.	Benefit of Economy due to the specific project.	It is assumed that there will be over all benefit to the economy, @ 10% in the agriculture output worked under parameter, thus benefit to the project will be **Rs.201.98**
3.	No. of population benefited due to specific project.	In all four villages are to be benefited in the command area due to this project. Total population of these villages is 4000 assuming of 3members per family total No. of families benefited will be @ 500/- family. Assuming increase in income per family @ Rs.4500/- per year due to additional employment changes in Agriculture. Over all benefits to the population on this account for 50 years will be **Rs 840.00Lakhs.**
4.	Economic benefits due to direct and indirect employment due to the project.	(i) The total cost of the project is Rs.56.35Lakhs excluding contingency and work charges cost. Employment generated during the construction of project and the labour component will be 400 lakhs. The employment generated assuming the labour wages @ Rs.396.73 per day @ 400 lakhs man days in monetary terms the employment potential will be = 60000 x 300 = 238.038 lakhs. (ii) Employment generated after completion of the project it has been observed from the statistics available for the Electricity Power in operation that a labour potential of man days/ha/year is generated potential due to employment in fields in agro based industries. In case of the project the command area is not applicable assuming wages @ Rs.500/- per day, therefore employment generated will be = 51 x 500x 50 = **101.16**lakhs. iii) Total of Para (I) + (ii) = **339.20 lakhs.**
5.	Economics benefits due to Compensatory Afforestation.	a) NPV for Dense Forest=8.03 lakhs x 44.0397 ha x 25 year = 8840.97 lakhs. b) NPV for open Forest = 6.25 lakh x 44.0397 ha. x 25 = 6892.21 lakhs
	Total	Rs 20024.89lakhs

CALCULATION OF BENEFIT / COST RATIO.

Total Cost (As per Table B Calculation = Rs. 963.89lakhs

Total Benefits (As per Table Calculation)= Rs 20024.89lakhs

Total Benefit / Cost Ration. = Rs. 20.98

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