COST BENEFIT ANALYSIS

Table C: Existing guideline for estimating benefits of forest- diversion in CBA

Sr. No.	Parameters	Remarks
1	Increase in productivity attribute to the specific project	Eight Revenue villages would gain better accessibility. Total population of around 5000 will benefitted in terms of economic of social development of the area
2	Benefits to economy due to specific project	**Benefits to the State Economy** **a. Power benefits** **(i)** Shahpur kandi dam project = 415.00 crore **(ii)** Peaking benefits of Ranjit Sagar Dam = 59.00 crore **(iii)** Additional power generation at UBDC power houses = 144.00 crore **Total 618.00 crore** **b. Irrigation benefits** (i) 5000 ha. area of Shahpur kandi dam project = 6.00 crore (ii) Benefits from UBDC = 228.00 crore **Total 234.00 crore** **Benefits to the Local Economy** 3,000,000 Man days (2500 Man power for 40 months) would be generated due to the direct employment of labors including locals in the construction of the project. 3,000,000*400 = Rs 120 Crores During Operation and Maintenance, 250 persons shall get the permanent job @ Rs 25000/month/employee for 100 years 250*25000*12*100 = Rs 750 Crores 50 labor/month will get the employment during O&M stage to fulfill the requirement of various casual jobs for 100 years assuming @400/day= Rs 72 Crores

		Local contractors will be engaged for suitable jobs and 5% of the Construction cost will be carried out by them. Assuming 15% as their profit margin for the contract works, Rs 2715.70*5%*15% = Rs 20.36 Crores Local Transport vehicles will be utilized during construction period, Assuming 1% as the total value and 15% as the profit margin, the total benefits would be 4.07 Crores **Indirect Employment** Indirect Employment to locals in terms of the Support business to satisfy the needs of manpower deployed in the project during Pre Construction, Construction and Operation and Maintenance periods: Construction: Rs 5000/- per month from 2500 labors for 42 month Rs 52.50 Crores O&M: Rs 20000/- per month from 30 officers for 100 years- Rs 72 Crores
3	No. of population benefitted due to specific project	5000, considering direct and indirect benefits
4	Economic benefits due to direct and indirect employment due to the project	Construction stage (2500 Man Power for 42 months) 3600000 Mandays during operation stage. (100 Man power including casual labors for 1200 months) **Indirect Employment** Indirect employment to locals in terms of the support businesses to satisfy the needs of manpower deployed in the project during Construction and Operation and Maintenance (O&M) periods
5	Economic benefits due to compensatory afforestation	INR 24,49,100,88/- (Twenty four crore fourty Nine lakhs ten thousand eighty eight rupees only) Using Standard Compensatory Afforestation Restoration Factor (SCARF) factor at 4% discounted rate(based on data taken from the report"REVISION OF RATES OF NPV APPLICABLE FOR DIFFERENT CLASS/CATEGORY OF FORESTS by CESM,IIFM &FSI") = 5.18% of NPV (for moderately dense forest in tropical dry deciduous forest) = 5.18% of 22, 09, 53, 480= INR 11445390

Cost- benefit ratio = 68.31cr:1963.35 cr = 1:28

Table B: Estimation of Cost of forest diversion

Sr. No.	Parameters	Remarks
1	Ecosystem services losses due to proposed forest diversion.	**INR 22, 09, 53, 480/-** (Twenty two crore nine lakhs fifty three thousand four hundred eighty rupees only)
2	Loss of animal husbandry productivity, including loss of fodder.	(10% of NPV) **INR 2,20,95,348 /-** (Two crore twenty lakhs Ninty five thousand three hundred forty eight rupees only)
3	Cost of human resettlement.	**INR 75,00,000/-** (Seventy five lakhs only)
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.	No administrative infrastructures such as roads, buildings, schools, dispensaries, electric line, railway, etc area affected due to diversion of forest land to this project. There will be no loss involved on this amount.
5	Possession value of forest land diverted.	(30% of NPV) **INR 6,62,86,044** (Six crore sixty two lakhs eighty six thousand forty four rupees only)
6	Cost of suffering to oustees. .	**INR 1,12,50,000/-** (One crore twelve lakhs fifty thousand only)
7	Habitat Fragmentation Cost	(50% of NPV) **INR 11,04,76,740** (Eleven crore four lakhs Seventy six thousand seven hundred forty rupees only)
8	Compensatory Afforestation and soil & moisture conservation cost.	**INR 24,49,100,88/-** (Twenty four crore fourty Nine lakhs ten thousand eighty eight rupees only) CA cost at present discounted value (4 % discounted value)=INR 230320678 Soil and moisture conservation cost at present discounted value (4 % discounted value)=INR 119411337 **Total =INR 349732015**

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