

COST BENEFIT ANALYSIS

Project: 765kV D/C Warora Pool – Warangal (New) Transmission Line

Forest Area proposed for Diversion – 45.1009Ha

Table A: Estimation of Cost of Forest Diversion

Sl.No	Parameters	Valuation in INR
1	Ecosystem services losses due to proposed forest diversion.	Considering the Net present value of forest area to be diverted be 8.87Lakh per Ha as per highest density in Eco class III Hence losses to Eco system: $8.87\text{Lakh} \times 45.1009\text{Ha} = \mathbf{400.04 \text{ Lakh}}$
2	Loss of animal husbandry productivity, including loss of fodder.	Considering 10% of NPV applicable of diversion area. Hence Losses of Animal Husbandry: $8.87\text{Lakh} \times 45.1009\text{Ha} \times 10\% = \mathbf{40.00 \text{ Lakh}}$
3	Cost of Human resettlement.	There is No Human Resettlement involved in the project. Hence losses: NIL
4	Loss of public facility and administrative infrastructure (Roads, building, school, dispensaries, electric lines, railways, etc.) on forest land, which would require forest land if these facilities were diverted due to the project.	There is no Loss of public facility and administrative infrastructure due to this project. Hence Losses : NIL
5	Possession value of forest land diverted	Considering 30% of environmental costs (NPV) due to loss of forest. Hence losses: $8.87\text{Lakh} \times 45.1009\text{Ha} \times 30\% = \mathbf{120 \text{ Lakh}}$
6	Cost of suffering to oustees	There is No rehabilitation of people, hence no social losses. Losses : NIL
7	Habitat Fragmentation Cost	Considering 50% of applicable NPV Total Losses: $8.87\text{Lakh} \times 45.1009\text{Ha} \times 50\% = \mathbf{200 \text{ Lakh}}$
8	Compensatory afforestation and soil & Moisture conservation cost.	Considering 20 Lakh/Ha including CA and soil & Moisture Conservation cost Hence Total Losses: $20\text{Lakh} \times 45.1009\text{Ha} = \mathbf{902.018 \text{ Lakh}}$



Table B: Estimated Benefits of Forest Diversion

Sl.No	Parameters	Valuation in INR
1	Increase in Productivity attribute to the specific project	Project is under the Tariff based and the tariff are fixed for next 35 years at the time of bidding. Construction cost of project including interest rates of Funding agency: 90000 Lakh Revenue generated: 439303.11 Lakh Hence benefit: 349303 Lakh
2	Benefit to economy due to the specific project	Same as of above.
3	No of population benefited due to specific project	Directly or indirectly the complete state of Telangana and nearby states will be benefited by this project. It will enable to flow power from Maharashtra to newly constructed substation in Warangal and strengthen the southern grid for more reliable power flow 24 x 7.
4	Economic benefits due to of direct and indirect employment due to project	The project is of 300km Line length which require direct employment for the construction of above project. Benefit from Direct Employment estimated: 60000 Man days' x Rs 500 = 300 Lakh Indirect employment is also generated during the operation and maintenance of the transmission line for 35 years. Benefit from InDirect Employment: 62300 Man days' x Rs 1000 = 623.00 Lakh
5	Economic benefits due to compensatory afforestation	Considering it to be equivalent to the NPV on the area to be diverted. Hence benefits: 8.87Lakh x 45.1009Ha = 399.18 Lakh

Total Loss to Environment : 1662.058 Lakh

Benefit to Economy : 350625.18Lakh

Cost Benefit Ration : Total Loss to Environment: Benefit to economy

= 1662.058 : 350625.18

= 1: 21.1 = **1:21**

