

# JHARKHAND URJA SANCHARAN NIGAM LIMITED (JUSNL)

## COST BENEFIT ANALYSIS

Cost benefit analysis for 132 KV D/C Chhatarpur to Japla Transmission Line in Jharkhand state is estimated as per the guidelines of Govt. of India, issues with letter no. 7-69/2011-FC(Pt.) dated: -01-08-2017, and given below.

Table-A: Estimation of cost of forest diversion: -

SL. No.	Parameters	Cost Rs. Lakh
1	Ecosystem services losses due to proposed forest diversion (Economic value of loss of eco-system services due to proposed forest diversion has been taken as the "net present value (NPV)" of the forest land being NPV rates taken <b>as Rs. 12.2859 Lakhs. Per ha.</b> Under Class III of medium density forest born by the project works out to be <b>(23.2676Ha. x 12.2859)</b> )	285.863
2	Loss of animal husbandry productivity	28.586
3	Cost of human resettlement (there is no human resettlement due to proposed forest diversion)	NIL
4	Loss of public facilities and administrative infrastructure (Road, Building, School, Dispensaries, Electrical lines, Railways etc. on Forest land, which would require forest land if these facilities were diverted due to project (No public facilities and administrative infrastructure are involve)	NIL
5	Possession value of forest land diverted	85.759
6	Cost of suffering to ousters (There are no ousters due to proposed forest diversion)	NIL
7	Habitat suffering to ousters	142.932
8	Compensatory a forestation and soil & moisture conservation cost	264.944
Total		808.084



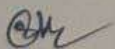
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**Table-B: Estimating Benefit of forest diversion: -**

SL. No.	Parameters	Cost Rs.Lakh
1	<p><u>Increase in productivity attributable to the specific project: -</u></p> <p>Power Flow = 120 MW (2x60) Load Factor = 60% Losses = 2.5% Average Value Added = Rs. 0.37 per kwh Energy sent out per year = <math>120 \times 1000 \times 0.6 \times 8760 \times 0.975</math> kwh = <math>61.4952 \times 10^7</math> kwh Value Added = <math>61.4952 \times 10^7 \times 0.37</math> = Rs. 22.7532 crore / year Value added for 50 years = <math>50 \times 22.7532 = 1137.6612</math> crore</p>	113766.120
2	<p>Benefit to economy due to the specific project. The power will be transmitted through this line to the power deficit of Palamu District of Jharkhand State. This Project will provide sustained and incessant supply of power to this district which will be utilized by large industrial, commercial, domestic and agriculture growth leading to increased output which in turn will lead to increase in GDP (Gross Domestic product) of Jharkhand.</p>	NA
3	<p>No. of population benefited due to specific project. Assuming average 10 units consumption per day per household. Total 3.10 million household can be provided electricity per year.</p>	NA
4	<p>Economic benefits due to of direct and indirect employment due to the project. During project stage, the project will provide employment to the 06 nos. of permanents and 185 temporary employments for a period of 18 month (for permanent employment benefit of Rs. 5.30 lakhs / year per person and temporary employment Rs. 0.96 lakhs / year per person)</p>	314.1
5	<p>Economic benefits due to Compensatory a forestation.</p>	264.944
Total		114,345.164

**Cost Benefit Ratio: -**

- i) Table – A Estimation of Cost of Forest diversion: -808.084lakhs
- ii) Table – B Estimating Benefit of forest diversion: -114,345.164lakhs



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Cost Benefit Ratio = 1: **114,345.164**lakhs / **808.084**lakhs  
= 1: 141.50  
Say 1:141.5

**The Cost Benefit Ratio of the Project is estimated at 1:142**

Signature :

*SKC*  
*23/05/26*  
**SENIOR MANAGER**  
**TRANSMISSION DIVISION**  
**DALTONGANJ**

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