

## COST BENEFIT ANALYSIS RATIO

BENEFIT TO ECONOMY : Rs 225031 Lakhs

LOSS ON FORESTS : Rs. 1806.6 Lakhs

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COST-BENEFIT RATIO : 1 : 124.5



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उड़ीसा इटीग्रेटेड पावर लिमिटेड  
ORISSA INTEGRATED POWER LIMITED  
(पावर फाइनेंस कॉर्पोरेशन लिमिटेड की पूर्णतः स्वामित्वामें सहायक कंपनी)  
(A wholly owned subsidiary of Power Finance Corporation Limited)  
"ऊर्जानिधी", 1, बाराखंबा लेंन, कनॉट प्लेस,  
"URJANIDHI" 1, Barakhamba Lane, Connaught Place,  
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Divisional Forest Officer  
Sundergarh Forest Division  
Sundergarh, Orissa

**ANNEXURE - IX**

**PARAMETERS FOR EVALUATION OF LOSS OF FORESTS (COST)**

(Diversion of 17.018 ha of revenue forest land)

| Sl. No. | Parameters   | Figure in Rs. Lakhs per Year | Remarks  |
|---------|--|------------------------------|--|
| 1.      | Loss of value of timber, fuel wood and minor forest produce on an annual basis, including loss of man-hours per annum of people who derived livelihood and wages for the harvest of these commodities.                                     | 1.991                        | a) Loss of Value of Timber as per enumeration<br>For Kopasingha : Rs 60726.00<br>For Kirei : Rs 4683.00<br>For Rupidhi : Rs 125420.00<br>For Lankahuda : Rs 8293.00                                    |
|         |  | 0.199                        | b) Loss of Value of firewood for 10 % of (a) value   |
|         |  | NIL                          | c) Loss of minor forest produce  |
|         |  | NIL                          | d) Loss of manpower  |
|         |  | <b>SUB TOTAL</b>             | <b>2.190</b>   |
| 2.      | Loss of animal husbandry productivity, including loss of fodder  | NIL                          | a) Loss of animal husbandry  |
|         |  | 0.25                         | b) Loss of fodder over 17.018 Ha @ Rs 1500 / Ha = 0.25 lakh  |
|         |  | <b>SUB TOTAL</b>             | <b>0.25</b>  |
| 3.      | Cost of human resettlement   | <b>848.46</b>                | Cost of human resettlement for 1958 families @ Rs 13 lakh per family assumed for a lease period of 30 years (as on section 4 notification date) = Total no. of family X cost per family / 30 = 848.033 |
| 4.      | Loss of public facilities and administrative infrastructure (Roads, building, schools, dispensaries, electric lines, railways etc.) on forest land or which would require forest land of these facilities was diverted due to the project. | <b>20.00</b>                 | Loss of public facility i.e. roads, school, electric poles, etc.   |
| 5.      | Environmental losses due to loss of forest.: (soil erosion, effect on hydrological cycle, wildlife habitat, microclimate upsetting of ecological balance) to accure over 50 years  | <b>18.48</b>                 | Rs 181 lakh / Ha X forest land area X forest density / 50=<br>181 X 17.018 X 0.3 / 50<br>= 18.48 lakhs   |
| 6.      | Cost of suffering to oustees for a family is calculated as 1.5 times of what have earned into two years had it not shifted.  | <b>792.99</b>                | The average cost of earning of each family is around 27000 per annum considering one wage earner @ Rs 90/- per day for 300 working days. 1.5 times   |

| Sl. No.                            | Parameters    | Figure in Rs. Lakhs per Year | Remarks   |
|------------------------------------|---------------|------------------------------|---|
|                                    |               |                              | the total yearly earning of the 1958 displaced families<br>= 1958 X 27000 X 1.5<br>= 792.99 |
| 7.                                 | NPV of Forest | <b>124.231</b>               | 7.30 lakh / Ha X 17.018 Ha<br>= 124.231   |
| <b>TOTAL</b>                       |               | <b>1806.601</b>              |   |
| <b>(Rupees 1806.601 lakh Only)</b> |               |                              |   |

*Rizwanur*

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*Divisional Forest Officer*  
*Sundergarh*  
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Sundergarh, Orissa

ANNEXURE – X

**PARAMETERS FOR EVALUATION OF BENEFIT, NOTWITHSTANDING LOSS  
OF FORESTS: (BENEFIT)**

| Sl. No.                           | Parameters   | Figures in Rs. Lakhs per Year | Remarks   |
|-----------------------------------|--|-------------------------------|---|
| 1.                                | Increase in productivity due to this project   | 2,89,226                      | a) Selling rate (assume) Rs. 3.00 /- per kwh<br>b) Profit After Tax (PAT) = 2892.26 Cr  |
| 2.                                | Benefit to the economy in 30 years   | 57,643                        | Tax to government on first year income (minimum alternate tax at the rate of 19.93 %) = Rs. 576.43 crore  |
| <b>SUB TOTAL {SI No 1 and 2 }</b> |  | <b>1,96,205</b>               |   |
| 3.                                | No of population benefited   | 5,030                         | a) Number of Permanent Employees about 2,000<br>b) Number of Contract Employees including Shopkeepers, Transporters etc about 2,592<br>c) Total people employed 4,592<br>d) Assuming average family size of five, the population being benefited from the project will be around 4,592 X 5 = 22,960<br>e) The population benefited other than the direct employees = 22,960 – 2,000 = 20,960<br>f) Annual benefit to 20,690 people assuming a earning of 2,000 per month = 5.03 lakhs |
| 4.                                | Employment potential   | 10,000                        | a) Employment potential of the project is about 2,000<br>b) The average wage to the employee is Rs 5 lakhs per annum  |
| 5.                                | Cost of acquisition of facility on non forest land wherever feasible                       | 42.245                        | Cost of compensatory afforestation land @ Rs 2.5 lakh per acre for 17.018 Ha  |
| 6.                                | Loss of (a) agriculture & (b) animal husbandry production due to diversion of forest land. | (-) 0.00                      | Nil*  |
| 7.                                | Cost of rehabilitating the   | (-) 43,898                    | a) R&R package cost as per latest   |

| Sl. No.   | Parameters  | Figures in Rs. Lakhs per Year | Remarks   |
|---|---|-------------------------------|---|
|   | displaced persons as different from the compensatory amount given for displacement  |                               | guidelines of Govt of Odisha for rehabilitation and resettlement = 1303.03 Cr<br>b) Compensation towards cost of land, structure, wells, ponds, tube wells, cow shed etc. including IDCO charges = 864.05 Cr<br>c) (a) – (b) = 1303.03 – 864.05 = 438.98 Cr |
| 8.  | Cost of supply of free fuel wood to workers residing in or near forest during the period of construction Rs. 1000.00 / Persons / Year for 1500 persons for 2 years. | (-) 0.00                      | Nil**   |
| <b>Sub Total {SI No 3 to 8}</b>                                     |   | <b>28,826</b>                 |   |
| <b>Grand Total</b>  |   | <b>2,25,031</b>               |   |
| <b>(Rupees Two Lakh Twenty Five Thousand Thirty One Lakhs Only)</b> |   |                               |   |

Note:

\* Agriculturally insignificant

\*\* Existing environmental guidelines do not allow use of fuel wood for construction workers.



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