Cost Benefit Analysis Report

for

Diversion of Forest Land over an area of 1.66 hectare

in village Barajamda,

Dist West Singhbhum, Jharkhand

for

Existing Sponge Iron Plant

In respect of

SHRI BALAJI INDUSTRIAL ENGINEERING LTD.

Table –A: Cases under which a cost- benefit analysis for forest diversion are required

No	Nature of proposal	Applicable/ not applicable	Remarks
1	*All categories of proposals involving forest land up to 20 hectares in plains and up to 5 hectare in hills*	Not applicable	
2	*Proposal for defence installation purposes and oil prospecting (prospecting only)*	Not applicable	
3	*Habitation, establishment of industrial units, lodges complex and other building construction.*	Applicable	The project is for diversion of forest land for already constructed Sponge iron plant for manufacturing of sponge over an forest area of 1.66 hectares in village Badajamda, Dist- West Singhbhum, Jharkhand
4	*All other proposals involving forestland more than 20 hectares in plains and more than 5 hectares in hills including roads, transmission lines, minor, medium and major irrigation projects, hydro projects, mining activity, railway lines, location specific installations like micro – wave stations ,auto repeater centres, TV towers etc.*	Not Applicable	

Annexure VII

Table – B: Estimation of cost of forest diversion

<table>
<tr><td>SN</td><td>Parameters</td><td>Remarks</td></tr>
<tr><td>1</td><td>Ecosystem services losses due to proposed forest diversion</td><td>The cost of ecosystem services, fragmentation of habitat of wildlife, economic distress caused to people dependent on forests and the cost of settlement of people dependent on forest should also be added as the cost of forest diversion in addition to the standard project cost. Though technical judgment will have to be primarily applied in determining the losses, but as a thumb rule the environmental value of one hectare of fully stocked forest (Density = 1.0) would be taken as Rs. 126.74 lakhs/hectare to accrue over a period of 50 years. The value will be reduced proportionately with the existing density of crop (vegetation) and the figure of the assumed environmental value will change, if there is increase in bank rate of lending, i.e. the change will be proportionate to the increase in the existing bank rate.

A. Basic Data for Calculation of Forest & Environmental Loss:

<table>
<tr><td>1.</td><td>Total area of Forest</td><td>1.66 Ha.</td></tr>
<tr><td>2.</td><td>Total Broken-up area</td><td>1.66 Ha. (already broken)</td></tr>
<tr><td>3.</td><td>Net broken-up area included in modified/revised proposal</td><td>1.66 Ha. (already broken)</td></tr>
<tr><td>4.</td><td>Safety zone area</td><td>Nil</td></tr>
<tr><td>5.</td><td>Forest area required for expansion of already constructed Integrated Steel Plant (to be diverted from the JJ in hectares)</td><td>1.66 Ha.</td></tr>
<tr><td>B.</td><td>Average density</td><td>0.1</td></tr>
<tr><td></td><td>Environmental loss 9,57,780/- x 1.66</td><td>Rs. 15.90 say 16.00 lakhs</td></tr>
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2	Loss of animal husbandry productivity, including loss of fodder	1.60 lakhs
3	Cost of human resettlement	Not Applicable as there is no PAF displacement within the project area
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 as there is public facilities exists within the project area
5	Possession value of forest land diverted	9,57,780/- x1.66@30% = Rs 4.77 lakh (However actual value will be based on the DFO recommendation on avg density)
6	Cost of suffering to oustees	Not Applicable
7	Habitat Fragmentation cost	9,57,780/- x1.66@50% = Rs 8 lakh
8	Compensatory afforestation and soil & Moisture conservation cost	Rs 3..25 lakh/ha x 1.66 ha of Non Forest land for Compensatory afforestation = Rs 6 lakh and total cost for raising Compansatory Affoerstation – 30.85 lakh, Total – 36.85 lakh

Annexure VIII

Table-C- Existing guidelines for estimating benefits of forest –diversion in CBA

Sr. No	Parameters	Remarks
1	Increase in productively attribute to the specific project	Production of Sponge Iron = Annual Sale in INR = 214 crores Grand Total – Rs 214 crore
2	Benefits to economy due to the specific project	24.17 Crores
3	No. of population benefited due to specific project	300 nos.
4	Economic benefits due to of direct and indirect employment due to the project	(a) **Direct** : 14550 nos = Total Salary 2.5 crore per annum (b) **Indirect** : No. of Contract Labours to be engaged by third party and not by company = 8025 nos Total salary- 0.60 crore per annum Grand Total 2.50+0.60 =3.10 Crore
5	Economic benefits due to Compensatory afforestation	Compensatory Afforestation of 1.66 ha of Land@2500 no of sapling = survival rate 100 nos of sapling per 1 hectare = 166 nos of trees. Economic benefits of one tree accruing over next 50 years monetised in terms of providing oxygen, water, soil, moisture conservation, etc + timber & firewood= 23.50 lakh Future benefits of 166 nos of trees @ 23.50 lakh = 3901 lakh Total Economic benefits = 39.01+ 27.33 = **69.34 crores say 69.50 crores**

COST BENEFIT ANALYSIS

(a) Based on value of products (Rs.)

Benefit - Rs 69.50 Crore

Loss - Rs 0.6720 Crore

b) Cost Benefit Ratio

i.e. $\frac{\text{Benefit}}{\text{Loss}} = \frac{\mathbf{66.50}}{\mathbf{0.6722}} =$ 98.92 **say 99**