

Cost Benefit Analysis in respect of diversion of 354.258 Ha Forest land of Jhiria West OC Project (1.50 MTY) of Hasdeo Area, SECL

(As per new guideline dated-01.08.2017 issued by MoEF&CC, Govt. of India, New Delhi and revised rates of NPV prescribed by MoEF&CC guideline dated 06.01.2022)

Project Area= 427.993 Ha.

Table-B: Estimation of cost of forest diversion

S. No.	Parameters	Remarks	Cost (in Rs.)																																																																						
1	Ecosystem services losses due to proposed forest diversion	Economic value of ecosystem services due to diversion of forests-NPV amount calculated as <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>S.No.</th> <th>Comp.No.</th> <th>Site Quality/ Eco-class</th> <th>Density</th> <th>Area applied (In Ha)</th> <th>Rate</th> <th>NPV amount</th> </tr> </thead> <tbody> <tr><td>1</td><td>488</td><td>IV</td><td>0.5</td><td>128.486</td><td>861390</td><td>110676555.5</td></tr> <tr><td>2</td><td>P492</td><td>IV</td><td>0.4</td><td>1.734</td><td>861390</td><td>1493650.26</td></tr> <tr><td>3</td><td>P493</td><td>IV</td><td>0-0.1</td><td>2.437</td><td>670140</td><td>1633131.18</td></tr> <tr><td>4</td><td>P494</td><td>IV</td><td>0.3-0.4</td><td>27.084</td><td>670140</td><td>18150071.76</td></tr> <tr><td>5</td><td>496</td><td>IV</td><td>0.5</td><td>148.789</td><td>861390</td><td>128165356.7</td></tr> <tr><td>6</td><td>P498</td><td>IV</td><td>0.3</td><td>1.396</td><td>670140</td><td>935515.44</td></tr> <tr><td>7</td><td>502</td><td>IV</td><td>0-0.1</td><td>4.817</td><td>670140</td><td>3228064.38</td></tr> <tr><td>8</td><td>Revenue Forest</td><td>Open Forest</td><td></td><td>39.515</td><td>670140</td><td>26480582.1</td></tr> <tr> <td align="center" colspan="6">Total NPV Amount-</td> <td align="right">290762927.4</td> </tr> </tbody> </table>	S.No.	Comp.No.	Site Quality/ Eco-class	Density	Area applied (In Ha)	Rate	NPV amount	1	488	IV	0.5	128.486	861390	110676555.5	2	P492	IV	0.4	1.734	861390	1493650.26	3	P493	IV	0-0.1	2.437	670140	1633131.18	4	P494	IV	0.3-0.4	27.084	670140	18150071.76	5	496	IV	0.5	148.789	861390	128165356.7	6	P498	IV	0.3	1.396	670140	935515.44	7	502	IV	0-0.1	4.817	670140	3228064.38	8	Revenue Forest	Open Forest		39.515	670140	26480582.1	Total NPV Amount-						290762927.4	29,07,62,928
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2	Loss of animal husbandry productivity, including loss of fodder	Taken as 10% of NPV amount. = (10% × Rs. 29,07,62,928/-)	2,90,76,293																																																																						
3	Cost of human settlement	As per provision in Project Report for Rehabilitation & Resettlement.	47,32,77,000																																																																						
4	Loss of public facilities and administrative infrastructure (Roads, building, schools, dispensaries, electric lines, railways etc.,)	02 no. of schools (estimated cost Rs. 20,00,000/- each), 01 temple (estimated cost Rs. 5,00,000/-) and road of length 1.4 km (estimated cost Rs 40,00,000/-) are present in the project area/ forest land proposed for diversion. = (02 × Rs. 20,00,000/- + 01 × Rs. 5,00,000/- + Rs. 40,00,000/-)	85,00,000																																																																						
5	Possession value of forest land diverted	It is a case of proposal for diversion, thus possession value of forest land diverted is taken as 30% of NPV. = (30% × Rs. 29,07,62,928/-)	8,72,28,879																																																																						
6	Cost of suffering to oustees	Subsistence allowance for 94 PAFs (Number of families affected due to Project) @ Rs.176/- (Daily wage rate for Unskilled labour in M.P. State for F.Y. 2019-20) × 300 (Working days in a year) calculated @ 1.5 times for 02-years. = (94 × Rs. 176/- × 300 × 02 × 1.5)	1,48,89,600																																																																						
7	Habitat fragmentation cost	Cost due to fragmentation (50% of NPV). = (50% × Rs. 29,07,62,928/-)	14,53,81,464																																																																						
8	Compensatory Afforestation and soil & moisture conservation cost	Actual cost of compensatory afforestation at present discounted value @ Rs. 3,00,000/- per Ha. = (Rs. 3,00,000/- per Ha × 354.258 Ha) Soil & moisture conservation cost 25% of the CA cost. = (25% × Rs. 10,62,77,400/-)	10,62,77,400 2,65,69,350																																																																						
Total			1,18,19,62,914																																																																						

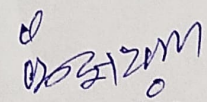
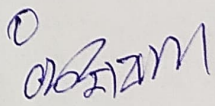

Area General Manager
Hasdeo Area

Table-C:- Estimation of benefits of forest diversion:-			
S.No	Parameters	Remarks	Benefit (in Rs.)
1	Increase in productively attribute to the specific project	Quantified and expressed in monetary terms avoiding double counting	0.00
2	Benefits to economy due to the specific project	Calculated on the basis of incremental economic benefit in monetary terms due to the activities attributed to the specific project. (As per Project Report). Estimated profit @ Rs. 750.92/ton of coal production x 12.82 Million Tonnes.	9,62,67,94,400
3	No. of population benefitted due to specific project	As per Project Report	Direct Employment: 304 Indirect Employment: 600
4	Economic benefits due to direct and indirect employment due to the project	As per Project Report	Direct Employment: Compensation of land, household & other belonging of the affected people will be paid and also land plots will be allotted to all PAPs at fully developed R&R site. Indirect Employment: There is scope of spontaneous economic stimulus in the area to the project. Indirect employment opportunity will be generated in associated and ancillary activities.
5	Economic benefits due to Compensatory Afforestation	Benefit from such compensatory afforestation accruing over next 50 years monetized and discounted to the present value should be included as benefits of compensatory afforestation. Standard gain x applied area x average forest density=150.50 lakhs x 354.258 x 0.4	2,13,26,33,160
Total			11,79,65,93,197
Cost Benefit Ratio			1:9.98


 (U.T. Kanzarkar)
 Area General Manager
 Hasdeo Area