

ARCELORMITTAL INDIA PRIVATE LIMITED

DIVERSION OF FOREST LAND

THAKURANI IRON ORE MINE

Lease Area - 228.744 Ha

Forest Area-228.744 Ha

Thakurani RF, Village-Dalki/Thakurani

Tahsil-Barbil, District-Keonjhar

Odisha

COST BENEFIT ANALYSIS

1: Estimation of Cost of Forest Diversion(228.744 Ha.)As per Hand book of FC act, 1980, Annexure-iii, MOEF, GOI, Dated 28.3.2019.

Sl. No	Parameters	Cost (in ₹ lakh)	Remarks
1	Ecosystem services losses due to proposed forest diversion (NPV of forest)	2147.906	As proposed forest land falls in Eco class-1. Dense forest NPV is taken @9.39 lakh/Hectarex228.744ha=2147.906 lakhs(total)
2	Loss of Animal Husbandry, loss of fodder10% of NPV (As per Cost Benefit Guideline)	214.790	= 10% X ₹9,39,000.00 X 228.744 = ₹ 2,14,79,061.00 (₹214.790 Lakh)
3	Cost of Human Settlement (As per approved R&R plan)	0.000	No settlement. Thus, No resettlement is required.
4	Loss of public facilities & infrastructure (on actual cost)	0.000	Except forest sps,No such public facilities & infrastructures over the land.
5	Possession value of forest land diverted (30% of NPV)	644.371	@30% of total NPV(2147.906 lakhs)
6	Cost of Suffering to oustees (1.5 times have earned in last 2 yrs)	0.000	NO settlement, Thus, no outsee.
7	Habitat Fragmentation Cost (50% of NPV)	1073.953	50% of NPV = 50% X ₹9,39,000.00 X 228.744 = ₹ 10,73,95,308.00 (₹ 1073.953 Lakh)
8	Compensatory afforestation and soil & moisture conservation	972.162	CA &SMC cost taken@Rs.4.25 lakh/Hectare (228.744 Ha)
Total cost due to diversion of forest land		5053.182 Lakhs.	

2: Existing estimation of benefits of fresh diversion in Cost Benefit Analysis (As per hand Book of MOEF, GOI, Dated 28.3.2019) .

Sl. No	Parameters	Benefit (in ₹ Lakhs)	Remarks
1	Increase in Productivity attribute to the specific project	25,02059.66	(i)Total Resource as per tender documents& Geological reportof Govt. of odisha—179.266 million tonne (MT). (ii)IBM sale price of average grade 60.17 %Fe-171.734 MT, 50.037% Fe-7.592 Rs.2504207.586 Lakhs. (iii)Increase in productivity:-- Total receipt (Rs.2504207.586 Lakhs)-Ecosystem service loss (2147.906)lakhs-Rs2502059.66
2	Benefits to economy due to the specific project	660192.34	(i)The ore will be used for captive use (ii) One million tonne Iron ore contributes approximately 0.588 million tonne steel (iii)Thus179.266MT of Iron ore will produce 105.41 million tonne steel. (iv) Sale value @30000/-per ton of steel will be ₹ 3162252.09 Lakh (v) Additional benefit will be Sale Value of Steel (₹ 3162252.09) - Increase in Productivity Row-1 (₹2502059.66) = 660192.43
3	No of population benefited due to specific project	0.00	550 people as well as families will be directly or indirectly benefited in 12 near by villages.
4	Economic benefits due to direct and indirect employment due to the project	42453.810	Direct employment to 550 persons Cost/ton on wages - ₹ 23.67 Total Resources - 1792.6 Lakh tonne Total Benefit on Direct Employment - ₹42443.855 Lakh Total Benefit on indirect employment considered @ 5 times the project manpower with prevailing unskilled wages of ₹362/- - ₹9.95 Lakh Total Benefit on employment: ₹ 42453.810 Lakh
5	Economic benefits due to compensatory afforestation	4003.02	(i) total number of plants@1000/No.=228744plants. (ii) No. of matured trees after 40 years rotation, 57186 trees (25%) (iii) Anticipated wood volume @0.2m ³ /tree=11437.2m ³ Or 400302 cft. (iv) Considering revenue of ₹1000/cft (mixed forest) : Total revenue Rs.4003.2 lakhs.
Total Benefit		Rs.3208708.83 Lakhs.	

Total Benefits: ₹ 3208708.83 Lakh

Total Cost : ₹ 5053.182 Lakh

Cost Benefit Ratio : 1: 634.98

Or 1: 635

