

Ref. No.: MCL/BA/PO/KOCP/E&F/2022-23/83

Date: 29.10.2022

To

The Divisional Forest Officer,  
Sundargarh Division,  
Sundargarh

**Subject: Submission of reply to the Essential Details Sought in respect of diversion proposal of 134.69 Ha of forest land for Kulda Expansion OCP of Basundhara Area, MCL.**

**Ref – 1.)** Our letter No. – MCL/GM/BA/E&F/2021-22/ES-45b/190, date – 29.11.2021.  
**2.)** Your Letter No. – 6342/4F (Misc)/2022, Dt – 19.10.2022

Respected Sir,

With reference to the letter cited above, the short coming found in the diversion proposal has been complied herewith. The details furnished are given below:

**1. Requested to submit the revised Cost Benefit Analysis as per revised guideline, revised rate of Net Present Value (NPV), i.e. Rs. 9,57,780.00/-.**

The Cost Benefit analysis report as per the latest guideline has been revised as per the Letter No. – 6342/4F (Misc)/2022, Dt – 19.10.2022. The cost benefit ratio for the proposed Kulda Expansion OCP (21.00 MTPA) comes to an estimate of 1:96.59. The report is hereby submitted in **Annexure-I** in Hard & Soft copy.

It is humbly requested to consider the application for further processing at your end at the earliest.

Encl. As Above.

Thanking you.

Yours faithfully,

Project Officer,  
Kulda OCP,  
MCL, Basundhara Area

Copy to:

1. General Manager (E&F), MCL HQ – For kind information.
2. GM, Basundhara Area – For kind information.
3. Staff Officer (E&F), Basundhara Area.
4. Office Copy

### Cost Benefit Analysis

Cost benefit Analysis in respect of Diversion of 134.69 Ha of Forest Land for Kulda Expansion OCP of Mahanadi Coalfields Limited having mine lease area of 921.305 Ha for supply of coal produced from open cast coal mine (Proposal No. 50293/2020. State Serial No. OR-050/2021 dated 08/07/2021)

<b>Table – B Estimation of Cost of Forest Division</b>			
<b>S.No.</b>	<b>Parameters</b>	<b>Remarks</b>	<b>Cost (in Rs.)</b>
1	Ecosystem Service loss due to proposed forest division.	Economic Value of loss of ecosystem services due to proposed diversion of Forest – NPV amount of forest land being diverted as prescribed by Central Government (MoEF&CC)	Economic Value of loss of ecosystem services due to proposed diversion of forest shall be Rs. 9,57,780.00/Ha (NPV rate as per ECO value of class III Forest as per Letter received from DFO, SNG on date – 19.10.2022) & as prescribed by Central Government (MoEF&CC).
			Total Forest Land: 134.69 Ha Environment Loss: 134.69 x Rs. 9,57,780.00
			<b>= Rs. 1290.03 Lakh</b>
2	Loss of animal husbandry productivity including loss of fodder.	To be quantified and expressed in monetary term or 10% of NPV applicable whichever is maximum	<b>Rs. 129.00 Lakh</b>
3	Cost of Human Resettlement.	To be quantified and expressed in monetary term as per approved R&R Plan	Budgeted cost of human settlement for 975 families: <b>Rs. 5635.50 Lakh</b> (As per the R&R Plan submitted with Form-A Part-I)
4	Loss of public facilities and administrative infrastructure (roads, building, schools, dispensaries, electric lines, railway etc.) on forest land, which would require forest land if these facilities were diverted due to	To be quantified and expressed in monetary terms on actual cost basis at the time of diversion	There is no public facilities and administrative infrastructure on the forest land to be diverted. Hence, there is no loss of public facilities.

	project.		
5	Possession value of the forest land diverted.	30% of environment cost (NPV) due to loss of forest or circle rate of adjoining area in the district should be added as a cost component as possession value of forest land whichever is maximum	<b>Rs. 387.00 Lakh</b>
6	Cost of suffering to outsees	The social cost of rehabilitation of outsees (in addition to the cost likely to be incurred in providing residence, occupation, and social services as per R&R Plan) be worked out as 1.5 times of what outsees should have earned in two years had he not been shifted.	The average earning of each family is around Rs. 97,800.00 per annum considering wage @ Rs. 326 per day for 300 working days. The total earning of 975 PAFs will be Rs. 953.55 Lakh/Year (975 x Rs. 0.978 Lakh). The social of rehabilitation is considered at 1.5 times of what the person should have earned in two years, have the family had not been shifted. Therefore, the suffering of the outsees is estimated at Rs. 953.55 Lakh x 2 x 1.5 = <b>Rs. 2860.65 Lakh</b> Refer Annexure-I for latest wage rate of unskilled manpower.
7	Habitat Fragmentation Cost	While the relation between fragmentation and forest goods and services is complex, for the sake of simplicity the cost due to fragmentation has been pegged at 50% of NPV applicable as a thumb rule.	<b>Rs. 645.01 Lakh</b>
8	Compensatory afforestation and soil moisture conservation cost	The actual cost of compensatory afforestation and soil and moisture conservation and its maintenance in future at present discounted value	The cost @ Rs. 4,00,000/Ha is taken for compensatory afforestation and soil & moisture conservation. Hence, amount will be: <b>Rs. 538.76 Lakh</b>
Total cost due to diversion of forest land: (Rs. 1290.03 Lakh + Rs. 129.00 Lakh + Rs. 5635.50 Lakh + Rs. 387.00 lakh + Rs. 2860.65 Lakh + Rs. 645.01 Lakh + Rs. 538.76 Lakh)			
<b>B. Total Cost to the society = Rs. 11,485.95 Lakh</b>			

**Table – C Existing guidelines for estimating benefits of forest – diversion**

1	Increase in productively attribute to the specific project	To be quantified & expressed in monetary terms avoiding double counting.	The NPV obtained from selling of coal as per the Project Report of the Project at 100% production level is <b>Rs. 83490 Lakh</b> (cost base Jan' 14). Refer Annexure-II for NPV
2	Benefits to economy due to the specific project	The incremental economic benefit in monetary terms due to the activities attributed to the specific project	Royalty @ Rs. 106.12/Ton for 339,560,000 T (Total extractable reserve of coal) <b>Rs. 360,341.07 Lakh</b>
			NMET Fund i.e., 2% of royalty <b>Rs. 7206.82 Lakh</b>
			DMF, i.e., 30% of royalty <b>Rs. 108102.32 Lakh</b>
			CGST @ 2.5% of Rs. 659.08-Ton x 339,560,000 Ton <b>Rs. 55949.30 Lakh</b>
			SGST @ 2.5% of Rs. 659.08-Ton x 339,560,000 Ton <b>Rs. 55949.30 Lakh</b>
			<b>Total: Rs. 587548.81 Lakh</b>
3	No. of population benefited due to specific project		The average population benefited due to this project is about 3900. Assuming a family of four, total number of family benefited: $3900/4 = 975$ Benefit= $975 \times \text{Rs. } 5772/\text{month} \times 12 \text{ months} \times 11 \text{ years (life of the mine)} =$ <b>Rs. 675.32 lakh</b> (as per MGNREGA rates Rs.222 per day and in a month 26 days is equal to Rs.5722) Refer Annexure-III for MGNREGA rate.
4	Economic benefits due to direct and indirect employment due to the project		The employment potential of the project is 522 persons per day (as per Project Report of the project). The average wages to the employees @ (EMS Rs. 2597.57 (As per the Project report of the project) per person x 26 days per month x 12 months) per year will be Rs.4230.51


			<p>Lakh</p> <p>Total for 11 years; Rs. <b>46535.61 Lakh</b></p> <p>Refer Annexure-II for daily rated manpower requirement and EMS</p>
5	Economic benefits due to Compensatory afforestation	Benefits from such compensatory forestation accruing over next 50 years monetized and discounted to the present value should be included as benefits of compensatory afforestation.	<p>Compensatory afforestation of 305.59 Ha of land @ 800 nos. of sapling + survival rate @ 80%.</p> <p>Total sapling on 131.54 Ha at Punjipahad R.F. = 105232 Trees Survival trees @ 80% = 84186 trees</p> <p>Total sapling on 64.10 Ha at Pandripani R.F. = 51280 Trees Survival trees @ 80% = 41024 trees</p> <p>Total sapling on 56.39 Ha at Panikholia R.F. = 45112 Trees Survival trees @ 80% = 36090 trees</p> <p>Total sapling on 53.56 Ha at Sidarmunda R.F. = 42848 Trees Survival trees @ 80% = 34278 trees</p> <p>Economic benefits if one tree accruing over next 50 years monetized in terms of providing oxygen, water, soil, moisture conversation, etc., timber &amp; firewood = 200000</p> <p>Future benefits of 195578 nos. of trees @ Rs. 200000. = <b>Rs. 391156 Lakh</b></p>
<p>Total benefits due to diversion of forest land for non-forest activity: (Rs. 83490 Lakh +Rs. 587548.81 Lakh + Rs. 675.32 lakh +46535.61 Lakh +Rs. 391156 Lakh)</p> <p><b>C. Total Benefit to the society = Rs. 11,09,405.74 Lakh</b></p>			

**Total Cost to the Society: Rs. 11,485.95 Lakh**

**Total Benefits to the Society: Rs. 1109405.74 Lakh**

**Cost Benefit Ratio: 1118254.22/11,485.95 = 96.59**

**Cost Benefit ratio = 1: 96.59**

  
 Project Officer,  
 Kulda OCP,  
 MCL, Basundhara Area