

COST BENEFIT ANALYSIS REPORT

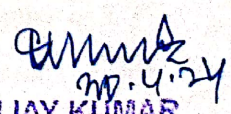
[As per MoEF &CC Guideline 7-69/2011-FC (Pt.) dtd. 01 August, 2017]

Piparwar OCP(Renewal Proposal) (43.30 Forest Land)



**Piparwar OCP Project
PIPARWAR Area
Central Coalfields Limited
(A Miniratna Company)**

Piparwar OCP (Renewal) (43.30 Ha)


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Project Officer
Piparwar U/G

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Introduction:

Piparwar OCP of CCL is located at Chatra district of Jharkhand and has a coal production capacity of 12.50 MTPA (Normative) and 14.375 MTPA (Peak). It is located in the N.K Coalfield and lies in the Chatra District of Jharkhand.

Communication:

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The nature of forest land for which application for diversion of forest land to be applied at Piparwar OCP (43.3 Ha) falls in Class III MDF forest. As such Rate of NPV comes out as Rs 9,57,780 per ha. for 43.30 Ha of the proposed forest land for diversion

3.0 Purpose for Cost benefit analysis: Cost benefit report is required for making on line application in Part I of FORM A at pt no. G (i) (a). The report has been prepared on the basis of MoEFCC circular no. 7-69/2011-FC(Pt.) dated. 01 August 2017. (Copy Attached as Annexure A).

	Total Area as per Mine Plan	Total Area as per Forest application	Forest Land as per Application	Notified Forest as per Application	GMK JJ/Revenue Forest as per Application	Non Forest Land as per Application
Piparwar OCP	1120.25	43.30	43.30	43.30	0	0

Table 1(b): Detail of Household shifting

No. of vill to be rehabilitated	Name of village to be Rehabilitated	No. of Project affected person (Estimated)	No. of PAF to be shifted at R&R site
1	Mangerdaha, Benti, Kichto	0	0

Table 2 (a): Current NPV Rates

Eco Value Class: Class III

Forest type group: Tropical dry deciduous forest

Current NPV rates (Rs. per Ha.) as per Letter No.5-3/2011-FC(Vol-I) Dt. 06.01.2022			
Eco Value Class:	VDF	MDF	OF
Class III	13,57,110	12,28,590	9,57,780

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Calculation rate for NPV in respect of Piparwar OCP (Rate of NPV Rs. 9,57,780 for Class III Open Forest)		
Description	Amount in Rs.	Amount in Rs. Lakhs
Total NPV @Rs.9,57,780 / Ha for 43.30 Ha of the forest land proposed for diversion	9,57,780*43.30 = 41471874	414.71874
10% NPV Value	4147187.4	41.471874
30% NPV Value	12441562.20	124.41562
50% NPV Value	20735937	207.35937

CALCULATION AS PER MOEFCC CIRCULAR NO. 7-69/2011-FC(PT.) Ddt. 01 AUGUST 2017.

I. Estimation of cost of forest diversion

S. No.	Parameters	Remarks	Annexure/Reference
1.	Ecosystem services losses due to proposed forest diversion	Rs. 414.718 Lakhs Total NPV @Rs.9,57,780/Ha for 43.30 Ha of the forest land proposed for diversion = Rs. 4,14,71,874/- Economic value of loss of ecosystem services due to diversion of forest = Net present value (NPV) of the forest land being diverted = Rs. 414.718 Lakhs.	As per Cost Benefit Analysis Guidelines for forest land diversion published vide MoEFCC 7-69/2011-FC(Pt.) Dt 01-08-2017
2.	Loss of animal husbandry productivity, including loss of fodder	Rs. 41.471874 Lakhs 10% of NPV is to be taken which is Rs. 41.471874 Lakhs.	As per Cost Benefit Analysis Guidelines for forest land diversion published vide MoEFCC 7-69/2011-FC(Pt.) Dt 01-08-2017
3.	Cost of human resettlement	Rs. 0 Lakh	PAF not involved
4.	Loss of public facilities and administrative infrastructure (roads, buildings, schools, dispensaries, electric line, railways, etc.) on forest land which would require forest land if	Nil	--

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	these facilities were diverted due to the project.		
5.	Circle rate of adjoining area, land cost paid to Govt of Jharkhand for obtaining NOC of GM-JJ land or Possession value of forest land diverted	Rs. 234.079 Lakh As per the circle rate the possession value = Rs. 234.079 Lakh As per MoEFCC guideline 30% of environmental cost (NPV) due to loss of forest = Rs. 124.415 Lakhs As per the MoEF&CC guideline the higher cost is to be considered as such Possession value of forest land = 234.079 Lakh	Circle Rate as per records of District Registry Office.
6.	Cost of suffering of oustees	Rs. 0 Lakhs No. of oustees= No.of PAFs= 0	
7.	Habitat Fragmentation cost	Rs. 207.35 Lakhs Cost due to fragmentation has been pegged at 50% of NPV applicable as a thumb rule.	As per Cost Benefit Analysis Guidelines of forest land published vide MoEFCC7-69/2011-FC(Pt.) Dt 01-08-2017
8.	Cost of Compensatory Afforestation, Soil & moisture conservation cost and Wildlife management Cost	Rs. 529.36 Lakhs Compensatory Afforestation: $214190.11 \times 2 \times 43.30 =$ Rs 185.48 Lakhs	Rate of CA as per demand note issued in recent years by State Forest Department.
Estimated Cost of Forest Diversion		1426.978 Lakh	

II. Estimation of Benefits of forest diversion

S. No.	Parameters	Remarks	Annexure/Reference
1.	Increase in productively attribute to the specific project	3247.035 =profit/tonne X mineable reserve = 590.37 X 0.55 X 10 = 3247.035	Project Report of Piparwar OCP
2.	Benefits to economy due to specific project	Rs. 6.085 Lakhs	As per MoEFCC guidelines these benefits are incremental economic

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			benefit in monetary terms due to activities attributed to specific projects. These benefits may include benefits due to expenditure made on account of CSR activities as per company's Act 2012, Royalty to the exchequer, contribution to District Mining Fund (DMF), contribution to National Mineral fund, amount collected as Coal cess, Stowing cess where ever applicable and any other benefits.
3.	No. of population benefitted due to specific project	22290 (Direct Employment = Permanent + Contractual)	
4.	Economic benefits due to direct and indirect employment due to project	Rs. 1775.77 Lakhs Economic benefits due to direct employment = 0 Lakh Economic benefits due to indirect employment due to project = 1775.77 Lakh	
5.	Economic benefits due to Compensatory Afforestation	Rs. 234.52 Lakhs Area of CA land X (NPV value of Moderately dense Forest – NPV value of Open forest) 86.60 X (1228590-957780) = 234.52 Lakh	NPV value of the CA land so identified will increase from that of an open forest to that of Moderately dense forest
Estimated Benefits of Forest diversion		5263.41 Lakh	

The Cost to benefit ratio is the ratio of estimated cost and estimated benefits,

The cost to benefit ratio for this forest proposal comes out as under:

Total estimated Cost due to diversion of forest in Rs. lakhs	Total estimated benefits due to project in Rs. Lakhs	Cost to benefit Ratio
1426.978	5263.41	1:3.68

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