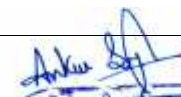


COST BENEFITS ANALYSIS

Project Name:Construction of ASH-POND to help for increasing the thermal power for the unit of Obra "C" Thermal Power Plant, situated at Obra in District – Sonbhadra.

Proposal No.:FP/UP/THE/149789/2021

(A) Cases under which a cost-benefit analysis for Forest Diversion are required:							
No.	Nature of proposal	Applicable / Not	Remarks				
1	All categories of proposals involving forest land upto 20 hectares in plains and upto 5 hectare in hills	Not Applicable	These proposals may be considered on a case to case basis and value judgement				
2	Proposal for defense installation purposes and oil prospecting (prospecting only)	Not Applicable	In view of national Priority accorded to these sectors, the proposals would be critically assessed to help ascertain that the utmost minimum forest land is diverted for non-forest use.				
3	Habitation, establishment of industrial units, tourist lodges complex and other building construction	Not Applicable	These activities being detrimental to protection and conservation of forest, as a matter of policy, such proposals would be rarely entertained.				
4	All other proposals involving forest land 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 centers, TV towers etc.	Applicable	These are cases where a cost benefit analysis is necessary to determine when diverting the forest land to non-forest use in the overall public interest				
(B) Estimation of cost of Forest Diversion:							
1	Ecosystem services losses due to proposed forest diversion.	Total Reserve Forest land diversion is being regularized for the Obra “C” Thermal Power Plant, NTPC Ltd. As per Forest (Conservation) Act, 1980, the density of 0.3 is INR 9.58 lacs per hectare.					
		Division	Forest Area (ha.)	Density	NPV rate	Ecosystem Losses (In Cr.)	Environ mental Losss (In Cr)
		Obra Forest Division	39.568	0.3	Rs.9,57,780	3.79 Cr	189.48 Cr
2	Loss of animal husbandry productivity, including loss of fodder.	To be quantified and expressed in monetary terms of 10% of NPV applicable whichever is maximum i.e. 189.48 Cr =18.94 Cr					
3	Cost of human resettlement.	Cost of human resettlement is 65.069 Cr					
4	Loss of public facilities and administrative infrastructure (Roads, buildings, school, dispensaries, electric lines, railways, etc.) on forest	There are no public facilities and administrative infrastructure (Roads, buildings, School, dispensaries, electric lines, railways, etc.)					


 अधिकासी अभियन्ता
 ओबरा 'सी' जनपद निर्माण खण्ड IV
 30.00 राज्य विद्युत उन्नित
 ओबरा सोनभद्रा

	land if these facilities were diverted due to the project.	
5	Possession value of forest land diverted.	30% of environmental costs (NPV) due to loss of forests 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 i.e. Rs. Cr.56.82 Cr
6	Cost of suffering to oustees.	The social cost of rehabilitation of oustees (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 oustees should have earned in two years had he not been shifted. So total cost is 12.62 Cr
7	Habitat Fragmentation Cost.	While the relationship between fragmentation and forest goods and service is complex, for the sake of simplicity the cost due to fragmentation has been pegged at 50% of NPV applicable as a thumb rule i.e. Rs.94.74 Cr.
8	Compensatory afforestation and soil & moisture conservation cost.	The actual cost of compensatory afforestation and soil & moisture conservation and its maintenance in future at present discounted value. Approximately 0.991 Cr is the total value of trees found in the proposed land. No livelihood of people will be affected due to proposed diversion forest land.

Therefore, Total loss on account of forest as per FCA guidelines are = Rs. (189.48 Cr +18.94 Cr +65.069 + 56.82 + 12.62 +94.74 +0.9916 = 438.66) Crores.

(C) Existing guidelines for estimating benefits of forest-diversion in CBA

Sl. No.	Parameters	Remarks
1	Increase in productively attribute to the specific project	Cost of generation 2.93 per KWh Life of Project=25 years For 2 x 660 MW Land required for ASH-POND=113.477 ha Productivity profit per Ha.=5314.03 Ha. Total Profit = 2102.658Cr
2	Benefits to economy due to the specific project	A CSR cost for the life of the project = 2% of Profit= 42.053 Cr
3	Number of populations benefited due to specific project	Direct (NTPC Employees)-400 Indirect (Through contract)-250 Indirect (External Services)-2000 Total: 2650 Considering Average family size 5, then no. of Population benefitted= 2650 * 5=13250
	Economic benefits due to of direct and indirect employment due to the project	Direct (NTPC Employees)-400 Indirect (Through contract)-250 Indirect (External Services)-2000 Total: 2650 Economic benefits due to direct and Indirect employment = 97.28 Cr
	Economic benefits due to Compensatory afforestation	Compensatory Forestation Land= 39.568 Ha Change in Forest Land to LDF to MDF) as per NPV= 70.03 Lakhs Economic Value of Carbon Storage = 68.97 Lakhs


 अधीक्षक अभियन्ता
 ओबरा 'सी' जनपद निर्माण खण्ड IV
 30 प्र० राज्य विद्युत उ० नि० लि०
 ६, ओबरा सोनगढ़

		Total value= 1.390 Cr
Therefore, Total benefit on account of forest as per FCA guidelines are = Rs (2102.658+42.053+97.28+ 1.39= 2243.38)Crores.		

COST BENEFIT ANALYSIS

Based on value of products:

A) Total Benefit to the Society = Rs. 2243.38 Cr

B) Total Cost to the Society =Rs. 438.66 Cr

• Cost Benefit Ratio = Total Benefit /Total Cost

=Rs. 2243.38 Cr/ Rs. 438.66 Cr

=5.11

Ankur Singh
 अधिशासी अभियन्ता
 ओबरा 'सी' जनपद निर्माण खण्ड IV
 ३० प्र० राज्य विद्युत उ० नि० लि०
 ओबरा सोनभद्र

Filename: G_a_Cost_Benefit_Analysis new_F044AA
Directory: C:\Documents and Settings\UserXP\Local Settings\Temp
Template: C:\Documents and Settings\UserXP\Application
Data\Microsoft\Templates\Normal.dotm
Title:
Subject:
Author: Mining
Keywords:
Comments: DocumentCreationInfo
Creation Date: 4/25/2022 3:07:00 PM
Change Number: 2
Last Saved On: 4/25/2022 3:07:00 PM
Last Saved By: UserXP
Total Editing Time: 1 Minute
Last Printed On: 4/25/2022 3:07:00 PM
As of Last Complete Printing
Number of Pages: 3
Number of Words: 868
Number of Characters: 4,748 (approx.)