

ADITYA BIRLA



COST BENEFIT ANALYSIS

Purpose: The Cost of Benefit Analysis is being undertaken for PROPOSED DIVERSION OF FOREST LAND AT VILLAGES KOTA & PADRACH OF TEHSIL-OBRA, DISTRICT SONBHADRA, FOR THE MINING LEASE - KAJRAHAT (DALLA) LIMESTONE MINES FOR DALLA CEMENT WORKS IN UTTAR PRADESH.

Total Forest land: 331.475 Ha

Cost Benefit Analysis:

The Cost benefit analysis is done as per MoEF&CC guidelines for Cost Benefit Analysis vide file no. &-69/2011-FC(Pt.) dated 1st August 2017 & revised rates as per the MoEF&CC Order Dated 06.01.2022, Government of Rate for NPV is as below:

Description	Eco-Class	Very Dense	Dense	Open
Rate/Ha	Eco Class III	1357110	1228590	957780

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Unit: Dalla Cement Works

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TABLE A: CASES UNDER WHICH A COST-BENEFIT ANALYSIS FOR FOREST DIVERSION ARE REQUIRED

S.No.	Parameters	Applicable/not applicable	Remarks
1	All categories of proposals involving forest land up to 20 Hectares in plains and up to 5 Hectares in hills.	Not Applicable	-
2	Proposals for defense installation purposes and oil prospecting (Prospecting only)	Not Applicable	No such area is involved in the project.
3	Habitation, establishment of industrial units tourist lodges/complex and other building construction.	Not Applicable	No such activities involved in the project.
4	All other proposals involving forest land more than 20 ha in plains and more than 5 ha in hills including roads, transmission lines, minor, medium and major irrigation projects, hydel projects, mining activities, railway lines, location specific installation like micro-wave stations, auto repeater controls, towers etc.	Applicable	The proposed project involves 331.475 Ha of forest land. Hence, the CBA is applicable.

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**TABLE B: ESTIMATION OF COST OF FOREST DIVERSION**

S. No.	Parameters	Remarks
1	Ecosystem services losses due to the proposed forest diversion	The proposed forest area to be diverted is mostly characterized by Tropical Dry Deciduous Forest. According to MoEF&CC Guidelines for diversion of forest land for non-forestry purposes under Forest (Conservation) Act, 1980- and Guidelines for collection of Net Present Value (NPV) dated 06.01.2022, the area comes under Class III type having dense forest with an average value of Rs.12,28,590 can be considered per hectare. Hence, the total NPV for the diverted project shall be INR ₹ 40,72,46,870 (Approx.)
2	Loss of animal husbandry productivity, including loss of fodder	10% of NPV <i>i.e.</i> INR ₹ 4,07,24,687
3	Cost of human resettlement	There is no resettlement in the forest land. Hence, cost of resettlement is not applicable.
4	Loss of public facilities and Administrative (road, buildings, schools, dispensaries, electric lines, railways etc.) on forest land or which would require forest land if these facilities were diverted due to the project.	There are no public facilities and administrative infrastructure.
5	Possession value of forest land diverted	30% of the NPV <i>i.e.</i> , INR ₹ 122174061.1
6	Cost of suffering to outsees	There are no outsees.
7	Habitat Fragmentation cost	50% of the NPV <i>i.e.</i> , INR ₹ 203623435.1

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8	Compensatory afforestation and soil & moisture conservation cost	The compensatory afforestation will be taken up in about 331.475 Ha of non-forest land, as per forest guidelines.
		Treatment Cost for CA @6L/Ha = 1988.85 lakhs
		Purchase cost land for CA @17.50 lakhs/Ha = 5800.8125 lakhs
		Total CA and Soil & Moisture Conservation Cost = 77,89,66,250

The Total Estimated Cost of Forest Diversion= Ecosystem services losses (+) Loss of animal husbandry productivity (+) Cost of human resettlement (+) Loss of public and administrative facilities (+) Possession value of forest land diverted (+) Cost of suffering to outsees (+) Habitat Fragmentation cost (+) Compensatory afforestation and soil & moisture conservation cost.

Hence, the Total Cost of Forest Diversion = INR 1552735303.475

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TABLE C: EXISTING GUIDELINES FOR ESTIMATING BENEFITS OF FOREST-DIVERSION IN CBA

Sr. No.	Parameters	Remarks
1	Increase in productivity attributable to the specific project.	Total 146.85 Tons of Limestone reserves shall be available from the area, which will generate R. 1500 Crores as Royalty, DMF, NMET & Upfront.
2	Benefits to economy due to the Project	Limestone mined shall be used as raw material for production of 2 MTPA of Clinker and 0.5 MTPA of Cement at Dalla Cement Works. In addition, Limestone from these mines will also be used for production of clinker in 2.01 MTA of Dalla Super Cement Works.
3	Number of Population benefitted due to the project	The completion of the project will directly and indirectly benefit the population residing in Sonbhadra District and adjoining districts as well as state and country.
4	Economic benefits due to direct and indirect employment of the project	Direct employment to 1060 persons will be provided. In addition, 1500 persons will be benefitted indirectly due to allied related activities of Cement Plant.
5	Economic benefits due to Compensatory afforestation	The compensatory afforestation will be done in 331.475 Ha of non-forest land. The ecological value for a 50 years period for the density of 1.0 is INR 126.74 lacs per hectare. By considering minimum density as 0.4 gains in density, the ecological gain for this project would be INR 1680445660

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The Total Estimated Benefits of Forest Diversion = Number of populations benefitted due to the project (+) Economic benefits due to direct and indirect employment of the project (+) Economic benefits due to Compensatory Afforestation.

Hence, the Total **Environmental Benefit** of Forest Diversion comes out to be **INR 16680445660**

Therefore, Cost Benefit Ratio = Total Environmental Benefits/Total cost of the Forest
= **16680445660/1552735303.475**
= 10.743 >1.

Hence, Project is found viable.

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