

COST BENEFIT ANALYSIS


Full Title of the proposal:- Rehabilitation and Upgrading of Existing Road to 4 Lane from Shalaghat to Nauni Chowk (Shalaghat to Reota Village-Pkg IIA, Reota Village to Daseharan Village-Pkg IIB & Daseharan Village to Nauni Chowk-Pkg IIC) of NH 205 [Design Chainage – Km 28+800 to Km 58+450, Design Length – 29.65 Km] in the State of Himachal Pradesh

Proposal No.:- FP/HP/ROAD/156128/2022

Date of Proposal:- 01 June 2022

KUNIHAR & BILASPUR FOREST DIVISION

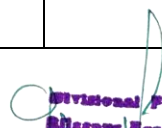
Table-A: Cases under which Cost-Benefit Analysis for Forest Diversion are required			
S. N.	Nature of Proposal	Applicable / Not Applicable	Remarks
1	All categories of proposals involving forest land upto 20 hectares in plains and upto 5 hectares in hills	Not Applicable	These proposals may be considered in a case to case basis and value judgement.
2	Proposal for defence 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, hydroprojects, mining activity, railway lines, location specific installations like microwave stations, auto repeater centres, 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


Divisional Forest Officer
Bilaspur Forest Division
Bilaspur (H.P.)


Divisional Forest Officer
Kunihar Forest Division


Project Director
NHAI PIU HAMIRPUR

Table B: Estimation of Cost of Forest Diversion				
	Parameters	Remarks	Description	Amount (Rs. In Cr.)
1	Ecosystem services losses due to proposed forest diversion	Economic value of loss of ecosystem services due to diversion of forest shall be the net present value (NPV) of the forest land being diverted as prescribed by the Central Government (MoEF&CC). Note :In case of National Parks the NPV shall be ten (10) times the normal NPV and in case of Wildlife Sanctuary the NPV shall be five (5) times the normal NPV or otherwise prescribed by the Ministry or any other competent authority.	33.8599 ha of forest land to be diverted. NPV Cost of the forest area 16.5130 (Kunihar Div.) X 12.93 (lakh/ha) for 50 years (Eco-class V Dense category) = 213.51 Lakhs NPV Cost of the forest area 17.3469 (Bilaspur Div.) X 10.052 (lakh/ha) for 50 years (Eco-class V Open category)= 174.37 Lakhs NPV obtained from HP Forest Department website as per revised rates by MoEF&CC vide letter dated 6.01.2022.	3.88
2	Loss of animal husbandry productivity, including loss of fodder	To be quantified and expressed in monetary terms or 10% of NPV applicable whichever is maximum	10% of NPV = 10% of Rs. 3.88 Cr,	0.39
3	Cost of human resettlement	To be quantified in monetary terms as per approved R&R plan	Total cost of human resettlement in Forest Land as per R&R Plan	27.13
4	Loss of public facilities and administrative infrastructure (roads, building, schools, dispensary, electric lines, railways etc) on forest land, which would require forest land if these facilities were diverted due to the project	To be quantified and expressed in monetary terms on actual cost basis at the time of diversion	Loss of public facilities in Forest land	3.79
5	Possession value of forest land diverted	30% of environmental costs (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	30% of NPV = 30% x Rs. 387.88 lakhs	1.16

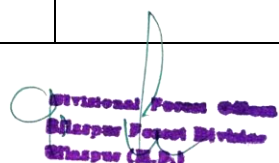

Divisional Forest Officer
Bilaspur Forest Division
Bilaspur (M.P.)


Divisional Forest Officer
Kunihar Forest Division


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Table B: Estimation of Cost of Forest Diversion				
	Parameters	Remarks	Description	Amount (Rs. In Cr.)
		whichever is maximum		
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	-	25.30
7	Habitat fragmentation cost	While the relationship between fragmentatin 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 thumb rule.	50% of NPV = 50% x Rs. 387.88 lakhs = Rs. 193.94 Lakh	1.94
8	Compensatory Afforestation and soil and moisture conservation cost	The actual cost of compensatory afforestation and soil and moisture conservation and its maintenance in future at present discounted value	CA and other cost estimated to be provided by the Forest Department	6.72
Total Estimated Cost (in Cr.)				70.31

Table C- Existing guidelines for estimating benefits of forest diversion in CBA			
S. N.	Parameters	Remarks	Description
1	Increase in productivity attributed to the specific project	To be quantified and expressed in monetary terms avoiding double counting	Benefits of the project to the Economy are in terms of increase in Economic Activity around the Project Area, increase in Per capita income around the Project Influence Area, etc. The economic analysis of the project gives an EIRR of 7.1% indicating that the project is economically viable (as per recommendations of NITI Aayog) largely due to savings in road user cost such as VOC & VOT likely to accrue from the development of the highway.


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Kunihar Forest Division


Project Director
NHAI PIU HAMIRPUR


Table C- Existing guidelines for estimating benefits of forest diversion in CBA			
S. N.	Parameters	Remarks	Description
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	For 30 year Concession Period, the NPV shows positive result of Rs. 180 Cr.
3	No. of Population benefited due to the specific project	As per Detailed project report	Population of Solan District & Bilaspur District (10.54 Lakh) will be directly benefited. Population of Himachal Pradesh (75.78 lakh) will be indirectly benefited.
4	Economic benefits due to direct and indirect employment due to the project	As per Detailed project report	Proposed project shall provide direct and indirect employment to around 900 people during construction period (2.5 years) and operation period (15 years) Economic benefit = Rs. 889.23 Cr.
5	Economic benefits due to the compensatory afforestation	Benefits from such Compensatory Afforestation accruing over next 50 years monetised and discounted to the present value should be included as benefits of compensatory afforestation. *For benefits of CA the guideline of the Ministry for NPV estimation may be consulted	Rs. 56 Cr. (67.7 x 1,200 sapling/ha x Rs. 6,900/unit)
	Total Estimated Benefits (in Cr.)		1125.40
	Ratio of Cost and Benefit		1 : 16.01

As such after considering the above figures of Cost of the diversion of forest land and the benefits to the economy, the benefits are more than the cost incurred which makes the Project viable.

Date : 05.09.2024

Place : Hamirpur


Divisional Forest Officer
Kunihar Forest Division


Divisional Forest Officer
Bilaspur Forest Division
Bilaspur (H.P.)


Project Director
NHAI PIU HAMIRPUR

Project Director
National Highways Authority of India
Project Implementation Unit (PIU)
Hamirpur, Himachal Pradesh