

COST BENEFIT ANALYSIS AS PER GoI GUIDELINES 01-08-2017

Name of the Project: 4 laning of Betul-Khandwa Section of National Highway(NH-347B) from Betul Design Ch 0+000 to Khandwa (Rajur) Design Ch 125+300 (length-125.300 km) under BHARATMALA Pariyojana Feeder route (Phase- I) in the State of Madhya Pradesh on Hybrid Annuity Mode.

Table- A: Cases under which cost- Benefit Analysis for forest Diversion are required

No	Nature of Proposal	Applicable/ Not Applicable	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 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 forestland 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 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.

Table- B Estimation of cost of forest diversion

SN	Parameters	Remarks	Response
1.	Ecosystem services losses due to proposed forest diversion	Economic value of loss of eco-system services due to diversion of forests shall be the net present value (NPV) of the forest land being diverted as prescribed by the Central Government (MoEF& CC). <i>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</i>	Forest under Project site area are Tropical Wet Evergreen Forests (Eco Class 1), and Forest canopy cover is between 40-70% of Moderate Forest (MDF) NPV- 8,03,000 X Forest area (136.72Ha.) = 10,97,86,160/- INR
2.	Loss of animal husbandry	To be quantified and expressed in	Yes : 1,09,78,616/- INR

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	productivity, including loss of fodder -	monetary terms or 10% of NPV applicable whichever is maximum	
3.	Cost of human resettlement	To be quantified and expressed in monetary terms as per approved R&R plan	The total cost of Human resettlement will be 161.25 Crore
4.	Loss of public facilities and administrative infrastructure (Roads, building, schools, dispensaries, 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	Nil
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 forestland whichever is maximum	Yes- INR 3,29,35,848/-
6.	Cost of suffering to oustees	The social cost of rehabilitation of oustees (in addition to the cost likely to be incurred in providing in-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.	Compensation against suffering to oustees is Rs 241.87 Crore.
7.	Habitat Fragmentation Cost	While the relationship 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.	Yes , INR- 5.49 Crore
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	Yes, Cost of compensatory afforestation : INR 38.96 Crore Yes soil & Moisture conservation cost - 30.84 Lakhs

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

SN	Parameters	Remarks	Response
1.	Increase in productively attribute to the specific project	To be quantified & expressed in monetary terms avoiding double counting	This project is desirable from society point of view. Found to be economic for NPV & Economic Internal Rate of return (EIRR)- 7.7%
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	The Betul – Bhainsdehi- Khalwa – Harsud –and Khandwa on SH-15. This road will provide uninterrupted free flow of traffic and shall result in: <ul style="list-style-type: none"> • Saving in travel Time & Cost • Saving in foreign exchange due to less

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			<p>consumption off fuel.</p> <ul style="list-style-type: none"> • Increase in income of truck, bus, taxi, etc. Owner as they will be able to communicate maximum distance in short time. • Reduction in accidents as it will provide safe travel, • Will act as catalyst to the industrial development. • Will boost the local and national tourism industry.
3.	No. of population benefited due to specific project	As per the Detailed project report.	<p>Project road will aid accessibility directly to people of two districts like Betul and Khandwa. The road will traverse through numerous villages laying along both side of PROW. It is expected that proposed project will have direct positive impact on more than 28.84 lakhs people residing in two districts.</p> <p>Other population which will be benefited will be tourists, industrialist, etc.</p>
4.	Economic benefits due to of direct and indirect employment due to the project	As per the Detailed project report.	Project Shall directly give employment to around 250-300 people during construction phase of project (four year)
5.	Economic benefits due. to Compensatory afforestation	<p>Benefits from such compensatory forestation accruing over next 50 years monetised and discounted to the present value should be included as benefits' of compensatory afforestation.</p> <p>*For benefits of CA the guideline of the Ministry for NPV estimation may be consulted.</p>	86.64 Crore


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