

COST BENEFIT ANALYSIS

Full Title of the proposal Rehabilitation and Ugradation to Four laning of 7.6 km stretch (km 229.00 to km 236.600) inside buffer zone of Similipal Tiger Reserve of Baharagora to Singhara Section (km 199.200 to km 310.806) of NH-6 in the State of Odisha under NHDP Phase-IV, on EPC mode

RAIRANGPUR FOREST DIVISION

Table-A: Cases under which Cost-Benefit Analysis for Forest Diversion are required				
Sl.no	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 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	
Table B: Estimation of Cost of Forest Diversion				
Sl.no	Parameters	Remarks	Description	Amount in lakh Rs
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.	17.795 ha of forest land to be diverted. NPV Cost of the forest area (17.795 X 15.958 lakhs/ha) for 50 years.	283.97
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% x 283.97 lakhs	28.40
3	Cost of human resettlement	To be quantified in monetary terms as per approved R&R plan	No Resettlement in the forest land proposed for diversion of the project	0.00
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	Nil	0.00
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 whichever is maximum	30% of NPV = 30% x 283.97 lakhs	85.19
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	Nil	0.00
7	Habitat fragmentation cost	While the relationship between fragmentatin and forest goods and services is complex, fo 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 283.97 lakhs	141.99
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 cost would be provided by the Forest Department in due course	

Sl.no	Parameters	Remarks	Description	Amount in lakh Rs
			Total cost of Forest divers	539.55
Table C- Existing guidelines for estimating benefits of forest diversion in CBA				
Sl.no	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.	
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		2987.94
3	No. of Population benefited due to the specific project	As per Detailed project report	Direct Benefits (Mayurbhanj District) Indirect Benefit (Odisha state)	2.52 Lakhs 419 Lakhs
4	Economic benefits due to direct and indirect employment due to the project	As per Detailed project report	Around 100 persons will be employed during the construction period	
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		
			Total benefits of forest divers	2987.94
			Cost and Benefit Ratio	1:5.5

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