COST BENEFITS ANALYSIS

Cost Benefit Analysis for Construction of bypass around Chatra town of NH-22(Old NH- 99) in the state of Jharkhand under EPC mode (Total length = 14.23Km)

Total Cost of Project – Rs. 2,35,41,64,886.00

Table-A: Cases under which a cost-benefit analysis for forest diversion is required:

Sl. No.	Nature of Proposal	Applicable/not applicable	Remarks
1.	All categories of proposals involving forest land up to 20 hectares in plains and up to 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.	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. The proposed Bypass construction involved 64.0849Hect. Of forest land.

Table-B: Estimation of cost of forest diversion:

Sl. No.	Parameters	Remarks
1.	Ecosystem services losses due to proposed	Taking Net present value (NPV) of forest area to be diverted as 12.28 lakh/Ha as per density in Eco class-III (Dense forest). Hence losses to Eco system 12.28 lakh x 64.0849 Ha = **786.96 lakh**

COST BENEFITS ANALYSIS

2.	Loss of animal husbandry productivity, including loss of fodder	12.28 lakh x 64.0849Ha x 10% = **78.69lakh**
3.	Cost of human resettlement	There is no Human resettlement involved in the project. Hence losses: Nil
4.	Loss of public facilities and administrative infrastructure (Road, building, schools, dispensaries, electric lines, railways, etc.) on forest land, which would require forest land if these facilities were diverted due to the project.	There is no loss of public facility and administrative infrastructure due to this project. Hence losses: Nil
5.	Possession value of forest land diverted	Taking 30% of NPV Possession value of forest law: Hence losses: 12.28 lakh x 64.0849 Ha x 30% = **236.09 lakh**
6.	Cost of suffering to oustees	There is no rehabilitation of people, hence no oustees. Hence losses: Nil
7.	Habitant Fragmentation cost	Considering 50% of Habitant fragmentation Cost(NPV) due to losses: 12.28lakh x 64.0849 Ha x 50% = **393.48 lakh**
8.	Compensatory afforestation and soil & moisture conservation cost.	Considering 4 Lakh/Ha including CA and soil & moisture conversation cost. 4 lakh x 64.0849 Ha = **256.34 lakh**

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

Sl. No.	Parameters	Remarks
1.	Increase in productively attribute to the specific project	(A) Benefit due to easy communication suppose 800 vehicles (heavy) ply per day for 1 year Nos. of Vehicle-800 x 365= 292000 Assuming Rs. 5000 (av) per vehicle per day = 292000 x 5000 **=14600.00 lakh** (B) Food grains, vegetables, Jungle products transportation Assuming 1000 MT Paddy 300 MT Mahua 200 MT Vegetable Cost enhancement of product due to proper connectivity 1000 MT x 5000 per MT = **50.00 Lakh** 300 MT x 10000 per MT= **30.00 Lakh** 200 MT x 10000 per MT= **20.00 Lakh** **100.00 Lakh**

COST BENEFITS ANALYSIS

		(C) Hat, Bazar development besides alignment of Road Assuming 60000 (av) per day for 1 year 365 x 60000=**219 lakh** (D) Social upliftment of area Assuming = **800.00 lakh** (E) Other benefit such as Petrol Pump, School, College etc. establishment **800.00 lakh**
2.	Benefits to economy due to the specific project	Same as above (c) i.e. **219.00 lakh**
3.	No. of population benefited due to specific project	This is road is passes through Chatra town NH-522(Old NH-100) on connecting Bihar,Chatra, Hazaribagh, Balumath, Tandwa,Ranchi. As per rough estimate around 2 lakh people will get direct benefit They will get a very good communication between Chatra,Hazribagh, Balumath, Tandwa,Ranchi Bypass road will also provide better movement without traffic Jam ,reduce travel time and cost to road users.
4.	Economic benefits due to of direct and indirect employment due to the project	Project will be ongoing for two years. Roughly 300 labours going to work daily whose income will be @ 400/day 300 x 400 = 120000/- For two year total = 120000x 730 =**876.00 lakhs**
5.	Economic benefits due to Compensatory afforestation	Considering it to be equivalent to the NPV on the area to be diverted. 12.28 lakh x 64.0849Ha = **786.96 lakh**

Total loss of Environment: **1751.56** lakh

Benefits of Economy**: 18400.96 lakh**

Cost of Ratio: Total Loss to Environment: Benefit to economy **= 1:10.51**

26/10/24

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