

प्रारूप- 29

परियोजना का नाम:-

चार धाम परियोजना (ऑलवेदर रोड) के अन्तर्गत राष्ट्रीय राजमार्ग-94(134) कि०मी० 0.00 से 24.300 (घरासू बैड़ से सिलक्यारा बैड़) तक दो लेन चौड़ीकरण हेतु अतिरिक्त डम्पिंग स्थल एवं लैण्ड स्लाईड जोन के उपचार के लिए वन भूमि हस्तान्तरण का प्रस्ताव।

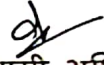
लम्बाई:-

24.300 कि०मी०

लागत लाभ विश्लेषण की सूचना

प्रस्तावित परियोजना से होने वाले आर्थिक, सामाजिक एवं पारिस्थिकीय संतुलन का आंकलन लागत लाभ विश्लेषण की सूचना भारत सरकार द्वारा निर्धारित प्रपत्रों में सलग्न है।


सहायक अभियंता
रामखण्ड, लोप्रमि.वि.
NH, Div. P.W.D.
बड़कोट, उत्तराखण्ड
Barkot Uttarakhand (U.K.)


अधिशायी अभियंता
Executive Engineer
रा.स.खण्ड, लोप्रमि.वि.
NH, Div. P.W.D.
बड़कोट, उत्तराखण्ड
Barkot Uttarakhand (U.K.)

COST BENEFIT ANALYSIS

(As per MoEF & CC guideline. 7-69/2011-FC (Pt.) dated 1st August, 2017)

Name of the Project: Rehabilitation and up-gradation to 2 lane/2 lane with paved shoulder configuration & strengthening of NH-94 from Km 0.000 (Dharasu Bend) to Km 24.300 (Silkyara Bend)

Block : Dunda, Uttarkashi
Road Length : 24.300 km
Forest Land : 5.969 ha
Population : 8000

Table-A: Cases under which a cost-benefit analysis for forest diversion is 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	
2	Proposal for defense installation purposes and oil prospecting (prospecting only) Habitation, establishment of industrial units, tourist lodges complex and other building construction.	Not applicable	
3	Habitation, establishment of industrial units, tourist lodges complex and other building construction.	Not applicable	


Assistant Engineer
NH. Div. P.W.D.
Barkot Uttarkashi (U.K.)

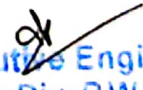

Executive Engineer
NH. Div. P.W.D.
Barkot Uttarkashi (U.K.)


Table-B: Estimation of cost of forest diversion

S. No.	Parameters	Estimated Cost	Details/Remarks
1	Ecosystem services losses due to proposed forest diversion	Rs. NPV: 39,21,633.00 Or 39.22 lac	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). 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.
2	Loss of animal husbandry productivity, including loss of fodder.	3.92 Lac	To be quantified and expressed in monetary terms of 10% of NPV
3	Cost of human resettlement	Since no residential village is getting affected due to diversion of 5.969 ha. Forest land for proposed 3 nos. additional dumping zones and treatment of 3 nos landslide zones. Therefore there will be no human resettlement cost	To be quantified and expressed in monetary terms as per approved ToR.
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 this project	Nil	Since no utility shifting is required. There are no utilities present in proposed 3 nos. additional dumping zones and 3 nos landslide zones.
5	Possession value of forest land diverted	Rs 11,76,489.90 or 11.76 lac	30% of NPV
6	Cost of suffering to oustees	NIL	The cost of rehabilitation of oustees be worked as 1.5 times of what oustees should have earned in two years had not been shifted. Since no residential village is getting affected due to diversion of 5.969 ha. Forest land for proposed 3 nos. additional dumping zones and treatment of 3 nos landslide zones. Therefore there will be no


Assistant Engineer
 NH. Div. P.W.D.
 Barkot Uttarkashi (U.K.)


Executive Engineer
 NH. Div. P.W.D.
 Barkot Uttarkashi (U.K.)

			human resettlement and rehabilitation of oustees cost.
7	Habitat Fragmentation Cost	Rs 19,60,816.50 or 19.61 lac	50% of NPV
8	Compensatory afforestation and soil & moisture conservation cost	{(5.969 ha x 2)=11.94 ha} {(11.94 ha x 2,78,665.00)= 33,27,260.00} Or 33.27 Lac.	The actual cost of compensatory afforestation and soil moisture conservation and its maintenance in future at Present discounted value
	Total Cost	107.78 Lac	


 Assistant Engineer
 NH. Div. P.W.D.
 Barkot Uttarkashi (U.K.)


 Executive Engineer
 NH. Div. P.W.D.
 Barkot Uttarkashi (U.K.)

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

S. No.	Parameters	Estimated Cost	Remarks
1	Increase in productively attribute to the specific project	Mobility is difficult and time taking in mountainous region. Due to up gradation and widening of existing road traffic movement will be smoother and safer. The productivity of the commercial and industrial activities for which transportation shall take place. Besides it will increase the tourism as this route NH-94(134) is the main route to visit world famous Yamunotri and Gangotri Dham of Uttarakhand.	
2	Benefits to economy due to the specific project	Market development taking 24 new shops to be established after the construction of project road Taking minimum benefit per sop per day @ 250 per day Benefits per month: $24 \times 30 \times 250 = \text{Rs. } 1,80,000.00$ Benefits for 24 shops for 1 year $= 12 \times 1,80,000.00 = \text{Rs. } 21,60,000.00$ Benefits for 50 years $= 50 \times 21,60,000.00 = \text{Rs. } 108,00,000.00$ or 1080.00 Lacs Saving in vehicle operating (VOP) cost Present vehicle operating cost: 3000 and after the improvement it will be 1500 per vehicle Saving in VOC for 50 years: $100 \times 1500 \times 12 \times 50 = 900.00 \text{ lacs}$	The project will yield significant economic benefit to the state. Construction o road will lead to much better connectivity, which will play significant role in improving the socio-economic condition of the people of the state in any folds.
3	No. of population benefited due to specific project	8,000	
4	Employment potential	About 200 labors will be employed during construction stage. Average salary will be Rs 500/- per day means $200 \times 500 \times 30 \times 24 = 7,20,00,000.00 = 720.00 \text{ lac}$	Temporary employment will be generated for the construction period of 24months.
5	Ecological benefits due to compensatory afforestation	In Lieu of total forest land to be affected it is proposed to be undertaken in twice of the affected forest land as Compensatory Afforestation as per Forest (Conservation) Act 1980. Thus Compensatory Afforestation will be done in 11.94 Ha of degraded forest land which would be having a density of minimum 0.10 (assuming 50% servility of the plants in the compensatory afforestation). Ecological benefits in 11.94 ha land @ 657000 per hectare would be $= 78,44,580.00 = (78.44 \text{ Lacs})$	
		2778.44 lacs	

Cost Benefit Ratio = Total Benefit/Total Loss = $2778.44 / 107.78 = 25.77$ which is >1 , so project is found valuable based on given/above described criteria.


Assistant Engineer
NH. Div. P.W.D.
Barkot Uttarkashi (U.K.)


Executive Engineer
NH. Div. P.W.D.
Barkot Uttarkashi (U.K.)