

OFFICE OF THE CHIEF ENGINEER, HIGHWAY, ZONE,
PUBLIC WORKS DEPARTMENT, ITANAGAR, ARUNACHAL PRADESH

Cost Benefit Analysis

Name of Project - Two Laning of Diversion of forest land for Imp./Upgradation of Hukanjuri to Khonsa Road from 0.00Km to 10.611 Km by PWD Highways in Tirap District of AP.

Total area of the land required to be diverted for Two Laning of the existing road from Chainage KM 00.000 TO KM 10.611 = 28.83 Hectares

Table B:- Estimation of cost of forest diversion (as per MoEF & CC Guideline dated 1st August 2017 related to cost benefit analysis)

SI No.	Parameters	Remarks (For road widening)
1.	Ecosystem Services losses due to proposed forest diversion	Environmental Losses is quantified as follows:- Total RF area proposed for Diversion =28.83 Hectares (between Hukanjuri to Babey Nallah under Deomali Forest Division) Environmental value of one Hectares of Proposed forest with a density of 0.4 to 0.5 being diverted I.E Forest= 28.83 Hactares *7.50 Lacs*2 = 432.45 Lacs There will be minimal impact on the environment as plantation will be carried out on the open face of the forest
2.	Loss of animal husbandry productivity including loss of fodder.	NIL, : Productivity of Livestock will not be affected by this construction as the area is no inhabited by such livestock
3.	Cost of human resettlement.	NIL, The proposed road is being constructed along the existing MDR and there is no such major displacement of people from the area, hence there will be no cost of human Re-settlement.
4.	Loss of public facilities and administration infrastructure (roads, building, school, dispensary , electric lines , water supply line , etc) on forest land or which would required forest land if these facilities where diverted to project.	NIL,, since these facilities are not available Inside the proposed forest area for diversion, Existing Electrical lines will be re-erected within the PROW after completion and no additional cost will be required
5.	Possession value of forest land diverted.	NIL
6.	Cost of suffering of oustees.	Not applicable since there will no displacement of peoples.
7.	Habitat Fragmentation Cost	NIL.
8.	Compensatory Afforestation and Soil & Moisture Conservation Cost.	Compensatory Aforestation Cost amounting to approximately 166.00 lacs wherever applicable, I .e close to 2.88 lacs per hectare including soil & moisture conservation in the compensatory afforestation.
Total Loss (Against the proposed forest land diversion)		Rs.598.45 lacs.

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Table C- Estimation of Benefit of Forest Diversion in Cost Benefit Analysis (as per MoEF & CC Guidelines dated 1st Aug'2017 related to cost benefit analysis.

SI No.	Parameters	Remarks (For road widening)
1.	Increase in Productively attribute to the specific project.	The highway NH-315 A connect the District Head Quarter with major cities of Assam through Hukanjuri. As this is the only surface link to the District HQ Khonsa which is further connected to Longding District and Changlang District through NH-215. This road will provide inter state connectivity to almost all the north eastern states and to the rest of the world. The project is costing the government to Rs. 33135.00 Lacs approx for 20 years.
2.	Benefit to economy due to the specific project.	<p>The Road NH-315A is a vital link and the line communication for the local inhabitants of the forward area of Districts - Tirap, Longding & Changlang of Arunachal Pradesh. Most of the Socio-economical developments of these three districts These are some of the problems attributed to construct this road to 2- lane specification.</p> <p>On the current average daily traffic of 6227, Traffic Jam, Congestion, loss of time and expenses on strolling traffic per day equals = Rs.0.623 lacs and Rs.270.10 per years . For 20 years = 3365.45 Lacs</p>
3	Numbers of People Benefitted due to specific project	Large number of Population of these three districts depend on the business they run in the Dist.HQs as this road connects to all the habitats and is a centre for the businesses. This road also serves as the linkage to the border area and facilitates the moment of Army & the para- military forces bordering Myanmar.
4.	Economic benefit due to direct and indirect employment due to the project.	<p>During the construction stage employment will be generated for direct & indirect skilled and unskilled manpower. About 150 persons will be employed during the peak working season for construction of project the road resulting in about 45000 man days would be required during the construction phase of three years. And about 50 people will get the job for up keeping the facility for 20 years.</p> <p>The local people will also get the opportunity to carry out contract works subject to their work capability/expertise- After the completion; about 50 people will be employed to upkeep and maintenance of road and other structures. The road will facilitate in tourism and horticulture where local population as per their experience and qualification will get benefitted.</p>

		Approximately 625.00 Lacs for a period of 20 years
5.	Economic benefits due to Compensatory Afforestation.	C.A. for 28.83 ha. Degraded forest land @ 3.5 lac per Ha. for 50 years (as per Guideline issued by MoEF vide letter No. F.N. 5-3/2007 FC Dt. 05/02/2009 = 101.00 lacs.
Total		Rs. 37226.45 lacs.

C. Cost Benefit ratio i.e. Project Benefit / Forest loss = **62: 1**

Hence the project has very high benefit to the country as compared to the forest loss. **The benefit to loss ratio is approximate 62 times.**


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