


PROJECT: UNI DIRECTIONAL TWIN TUBE SUDHMAHADEV – DRANGA TUNNEL OF LENGTH 5.4 KM AND ITS APPROACH ROADS ON CHENNANI – SUDHMAHADEV – GOHA ROAD PORTION CHAINAGE 2+500 TO 6+405 KM (DESIGN LENGTH 3.905 KM) NH-244 IN THE UNION TERRITORY OF JAMMU AND KASHMIR

TABLE: A DETAILS OF COST BENEFIT RATIO

Sl. No	Particular	Amounts	Remarks
1	Total Cost (Investment Incurred)		
A	Construction Cost of project	2233.08	
B	NPV, CA, R&R, LA and Other	70.51	
Total		2303.59	
2	Benefits from taking age of road as 50 Years	50 Years	
A	Economics benefits Saving in travel time and vehicle operating cost for 50 Year	4286.7 Cr.	
B	Direct employment of Labors(Temporary) about 600 Labor @Rs 560,000 for 5 Year will get employment and 80 labours@560,000 for 45 Years will get employment during operation and maintenance(temporary)	369.6 Cr	
C	Economic benefits due to tourism enhancement- 25 Cr/Year approx. access to District, Farmer Product, LOC/LAC area Pakistan and China approx. 30 Cr/year Approx.	55.00 Cr	
Total		4711.3 Cr	
Benefit/Cost= 4711.03/2303.59		2.05	
Note: Therefore, Construction of road is economically viable and Socially beneficial.			


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TABLE: B ESTIMATION OF COST OF FOREST DIVERSION

Sr. No	Parameter	Remarks
1	Ecosystem services losses due to Proposed Forest Diversion	Forest Area diverted underground tunnel area 17.73605 Ha. and open area 1.681246 Ha. Total Forest Area 19.4173 Ha. Underground land 17.73605 Ha. 50 % of Normal NPV rates at Eco class 5 Dense forest @8,45,000 =422,500/Ha. 17.73605 Ha. X 422,500 =7493481 (0.75 Cr.) NPV rates at Eco Class 5 Very Dense Forest 9,39,000/Ha. 1.681246 Ha. X 9,39,000 =1578690 (0.16 Cr.) Total NPV=9072171 (0.91 Cr.)
2	Loss of animal Husbandry productivity, including loss of fodder	Loss of animal husbandry productivity including loss of fodder due to diversion of RF land will be negligible.
3	Cost of Human Resettlement	0.0
4	Loss of public facilities and administrative infrastructure(Roads, building, school, dispensaries, electric line, railways, etc. on forest land, which would require forest land if these facilities were diverted due to the project.	0.0
5	Possession value of forest land diverted	30 % of NPV 0.30 X 0.75= 0.22 Cr.(Underground Tunnel Forest) 0.30 X 0.16 = 0.05 Cr.(Open Forest Area)
6	Cost of suffering to oustees	0.0
7	Habitat Fragmentation Cost	0.0
8	Compensatory afforestation and soil and moisture conservation Cost	Total 38.8346 Ha. X 4,55,000=17669739.00 (1.77 Cr.)



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TABLE: C EXISTING GUIDELINE FOR ESTIMATING BENEFIT FOR FOREST DIVERSION IN CBA

Sr. No	Parameter	Remarks
1	Increased in productivity attribute to specific project	Vehicle Mobility is difficult and time taking in Mountainous region due to land slide, snow fall zone and heavy traffic on existing road. Tunnel proposed 24-hour x 7 days connectivity in all weather. By this project 2 lane saving in travel time, fuel and people energy, casualty, saving of time and fuel itself shall help indirectly in increasing the productivity of commercial and tourism activities for which transportation shall take place along the highway. Beside it will increased the pilgrimage, tourist. This is an alternative route to connect the Srinagar and border areas in J&K with all-weather roads. Strategic to ease the traffic volume on Jammu-Srinagar Highway via Jawahar Tunnel i.e. NH-44 after construction of this alternative route to reach the Srinagar via NH-244. To avoid the accident due to land slide on the present Goha-Khellani Road and also to avoid poor geometry of this road, a new alignment is being proposed from the end of the Sudhmahadev-Dranga Tunnel to Khellani town & Goha village is being connected with a link road which will reduce the travel time, cost of the surroundings area.
2	Benefits to economy due to the specific project	The main objective of this project is to alleviate the current unsafe condition of the highway and provide better quality, 24 hours 7 days all-weather connectivity Jammu to Srinagar and safe transport to the user by construction length. The project will yield significance economics benefits to the Union territory of Jammu and Kashmir. Construction of tunnel and approach road will lead to much better connectivity, which will play significant role in improving the socio-economics condition of the people of UT of Jammu and Kashmir in many folds.it will aid in boosting the tourism, pilgrimages in the region and also generate direct and indirect employment opportunity for the people in addition to the other indirect benefits by way of saving vehicle operating costs, less fuel consumption and saving time and cost of passenger travel, casualty etc.

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		An amount of Rs. 250 million(per capita expenditure of tourist taken as Rs.10,000 (approx.) per person for 10-day package for additional 25000 tourist may be earned from tourism due to approximately increase of 10% tourist flow of 2.5 lacks of present tourist flow.
3	Number of populations benefited due to specific project	According to 2011 census, the population of District Udhampur and Doda is 554985 and 409 936, respectively. This entire population of both the district will be benefited by proposed tunnel and approach road. Further lacks pilgrims and tourist visit Jammu and Kashmir every year who will also be benefited due to Tunnel and approach road. In addition, the defense force deployed LOC,LAC along border of Pakistan and china will also be benefited immensely. Economic benefits due to tourism enhancement- 25 Cr/Year approx. access to District, Farmer Product, LOC/LAC area Pakistan and China approx. 30 Cr/year Approx. Total 55.0 Cr/year.
4	Economics benefits due to of direct and indirect employment due to the project	Approximately direct employment of Skilled Labors(Temporary) about 600 manpower for 5 Year that will be cost approximate Rs. 168 Cr and approximately skilled 80 Manpower for 45 Years will get employment during operation and maintenance(temporary) that will be cost approximately 201.6 Cr. Total employment potential will cost approximately 369.6 Cr.
5	Economic benefits due to compensatory afforestation.	The amount of Rs. 2.67 Cr deposit to forest department for CA. There will be various employment generate for execution as well as maintenance of this CA works.



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