

## COST BENEFIT ANALYSIS

**NAME OF PROJECT :** WIDENING OF EXISTING ROAD (NH 310A) TO NHDL SPECIFICATION WITH PAVED SHOULDER FROM MANGAN OF DESIGN KM 0+000 TO CHUNGTHANG OF DESIGN KM 27+476 IN THE STATE OF SIKKIM UNDER PROJECT SWASTIK OF BRO

**NATURE OF PROPOSAL :** Diversion of Forest Land under FCA,1980 for road widening.

**PURPOSE** - This Cost Benefit Analysis is being undertaken for Proposed Diversion of Forest Land being affected due to "Widening of existing road (NH 310A) to NHDL specification with paved shoulder from mangan of design km 0+000 to chungthang of design km 27+476 in the State of Sikkim under Project Swastik of BRO".

**TABLE - A: ESTIMATION OF COST OF FOREST DIVERSION**

SL NO.	PARAMETER	DESCRIPTION
1	Ecosystem services losses due to proposed forest diversion	Rs. 101 Lakhs
2	Loss of animal husbandry productivity, including loss of fodder	Rs. 10.1 lakhs
3	Cost of human resettlement	No Resettlement in the Forest Land that are diverted for the Project
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 the project	No loss of public facilities and administrative infrastructures will be diverted on Forest land due to Project.
5	Possession value of forest land diverted	Rs. 30.3 lakhs
6	Cost of suffering to ousters	Nil
7	Habitat Fragmentation Cost	Rs. 50.5 lakhs
8	Compensatory afforestation and soil & moisture conservation cost	Rs.42.704 lakhs

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**TABLE - B: ESTIMATION OF BENEFITS OF FOREST DIVERSION**

SL NO.	PARAMETER	DESCRIPTION
1	Increase in productivity attribute to the specific project	In lieu of total trees to be affected in forest land in Project, it is proposed to undertake compensatory afforestation as per Forest (Conservation) act. The road will improve accessibility to the remote areas in the districts of Mangan. This will help in both economic & social development.
2	Benefit 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 and safe road to the users by widening of the highway to 2 lane with paved shoulders and improvement of its curves and gradients which will minimize the chances of accidents.  The project will yield significant economic benefits to the State. Widening and up gradation of the highway will lead to much better connectivity, which will play a significant role in improving the socioeconomic condition of the people of the State in many folds. It will aid in boosting the tourism in the region and also generate direct and indirect employment opportunities for the people in addition to other indirect benefits by way of saving vehicle operating costs, less fuel consumption and saving time and cost of passenger travel etc.  The road shall also attract tourists and will add to the economy of the state from tourism perspective.  Economics Benefits- savings in travel time and Vehicle operating cost for 30 years (Due to improvement in design speed and reduction in length of road): <b>Rs. 26,078.986 lakhs.</b>
3	No. of population benefited due to specific project	Population along NH-310A Mangan District (4,644) shall be benefited from the project. In addition, the project will boost the economic growth of the Region and State as well by boosting through tourism. The road shall also provide better connectivity to the commuters travelling to neighbouring states
4	Economic benefits due to direct and indirect employment due to the project	1. Economic Benefits due to tourism enhancement, access to schools hospitals, farmer produces etc.: <b>Rs. 2,692.94 lakhs.</b> 2. Direct Employment of Labours- 500 @ Rs. 1,44,000 employed during construction for 3 years and 100 @ 1,44,000 during operation stage for 15 Years: <b>Rs. 4320.00 lakhs</b>
5	Economic benefits due to Compensatory Afforestation	<b>Rs. 92.15100 lakhs</b>

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