

COST BENEFIT ANALYSIS FOR HUSAINGANJ-ALIPUR ROAD

Name of the Project: Improvement/Widening of Husainganj-Alipur Road MDR (81C) from Km 13.000 to km 48.676.

Nature of Proposal: Diversion of 23.458 Ha. of forest land under FCA, 1980 for road widening.

Purpose: The Cost of Benefit Analysis is being undertaken for proposed Diversion of Forest land being affected due to Construction of Improvement/widening of Husainganj-Alipur Road (MDR81C) in Fatehpur forest division in the state of Uttar Pradesh.

Total length of the road along the PF (Under Fatehpur forest division) = 35.676 km

Total Forest area proposed for diversion (Under Fatehpur forest division) = 23.458 Ha.

a) Parameters for Evaluation of Benefit, not with standing loss of Forests (As per form VI-b of MoEF & CC Handbook)

Sl. No.	Parameters	Roads Tr. Lines & Railway Lines						
1	Increase in productivity attributable to the specific project	<p>The productivity attributable due proposed project is subject to estimation as per reduction in travel time for movement of goods and services; reduction in wear & tear cost for vehicle maintenance and finally reduction in consumption of fossil & fuels etc.</p> <p>The widening of the project road will serve as a vital link for socially and economically backward regions from Husainganj to Fatehpur area.</p> <p>Due to widening of the Husainganj-Alipur Road, it will improved traffic condition and reduction of travel time for 1 hrs will result in economics benefits of the tune of Rs 841.70 Crore in 20 years</p>						
2	Benefits of economy	<p>Therefore, Socio-economic benefits due to the project will be</p> <ul style="list-style-type: none"> • It will provide better connectivity to the project villages by providing better road condition to Reduce travel time and fuel consumption • Savings in vehicular operating and maintenance cost • Benefits to trade especially in movement of perishable goods • Reduction is Road Accidents, and • Overall enhancement of socio-economic condition of the area along the project corridor <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Project</th> <th>EIRR (%)</th> <th>NPV @ 8.03 lacs per ha.)</th> </tr> </thead> <tbody> <tr> <td>Improvement/Widening of Husainganj-Alipur Road MDR (81C)</td> <td>18.5%</td> <td>23.458x8.03=188.37 (=1.88 Cr)</td> </tr> </tbody> </table>	Project	EIRR (%)	NPV @ 8.03 lacs per ha.)	Improvement/Widening of Husainganj-Alipur Road MDR (81C)	18.5%	23.458x8.03=188.37 (=1.88 Cr)
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Sl. No.	Parameters	Roads Tr. Lines & Railway Lines
3	No. of population benefited	Entire population of the District will be benefited. Hence, total nos. of 2,632,733 population will be benefited by the proposed development.
4	Employment potential	Permanent/Regular Employment(Number of persons): 1800 Temporary Employment(Number of person-days): 1000000
5	Cost of acquisition of facility on non-forest land wherever feasible	No additional land is required for the project.
6	Loss of (a) agricultural & (b) animal husbandry production due to diversion of forest land	Nil
7	Cost of rehabilitating the displaced person as different from compensatory amount given for displacement	There is no displacement related to the project in the forest area proposed for diversion
8	Cost of supply of free fuel wood to workers residing in or near forest area during the period of construction	No fuel wood will be supplied to the workers during construction period. Contractor will supply LPG fuel for the cooking and other purpose in the worker's camp to the workers

b). Parameter for Evaluation of Loss of Forests (As per Form VI-C)

Sl. No.	Parameters	Roads. Tr. Lines & Railway Lines
1	Loss of value of timber, fuel wood and minor forest produce on an annual basis including loss of man hours per annum of people who derived livelihood and wages from the harvest of these commodities	3654 Trees will be affected due to the project. Total value of trees = INR 85,99,082 No livelihood of people will be affected due to proposed diversion of forest land
2	Loss of animal husbandry productivity, including loss of fodder	Nil
3	Cost of human resettlement	No resettlement in the forest land that are diverted for the project

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Sl. No.	Parameters	Roads, Tr. Lines & Railway Lines								
4	Loss of public facilities and administrative infrastructure (Roads, building, school, dispensaries, electric lines, railways, etc.) on forest land, or which would require forest land if these facilities were diverted due to the project.	There are no public facilities and administrative infrastructure (roads, buildings, schools, dispensaries, electric lines, railways, etc.) on the forest land where diversion is proposed								
5	Environmental losses (Soil erosion, effect on hydrological cycle, wildlife habitat, micro climate upsetting of ecological balance)	<p>The total area of Protected forest land being diverted for the Improvement / Widening of Hussainganj-Alipur Road (MDR81C) is 23.458 Ha.</p> <p>As per Forest (conservation) Act, 1980 the environmental loss for a 50 years period for the density of 1.0 is INR 126.74 lacs per hectare (Ha).</p> <p>The division wise environment loss for 23.458 is =126.74 x 23.458 x 0.4 are as follows:</p> <table border="1"> <thead> <tr> <th>Division</th> <th>Forest Area (Ha)</th> <th>Consider Density of the PF</th> <th>Environment Loss (INR)</th> </tr> </thead> <tbody> <tr> <td>Fatehpur</td> <td>23.458</td> <td>0.4</td> <td>11,89,22,677</td> </tr> </tbody> </table> <p>Hence, on calculation the environmental loss for the project is INR 11,89,22,677 lacs (11.89 Crore) for diversion of 23.458 ha forest land.</p>	Division	Forest Area (Ha)	Consider Density of the PF	Environment Loss (INR)	Fatehpur	23.458	0.4	11,89,22,677
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Fatehpur	23.458	0.4	11,89,22,677							
6	Suffering to oustees	Nil								

Therefore, **Net Current Environmental loss** in INR= 85,99,082 (total value of trees)+ 11,89,22,677(Environmental loss) = 12,75,21,759
= 12.75 Crore

Environmental Benefits (a) = 841.70 Crore

Environmental Cost = Cost of Construction (103.264) + Environmental Cost (6.075) + Net Present Value (1.88) + Maintenance Cost (15.489) =126.708 Crore

Therefore, Cost benefit Ratio = Total Benefit/Total cost of the project
= 841.70 / 126.708 = 6.64 >1

Hence, Project is found viable.

Place: Kanpur	(Signature of User Agency)
Date: 28/12/2016	

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Name of the Project: Improvement/Widening of Husainganj-Alipur Road MDR (81C) from Km 13.000 to km 48.676.

COST BENEFIT ANALYSIS

1	Length of proposed Project	:	35.676 km
2	Design Period of the Road	:	20 years
3	Anticipated PCU of proposed project road	:	2478 in 2014 and 5482 anticipated in 20134
4	Cost of Saving time	:	5482 x 4 (personal in car) x 01hrs @60 (price of fuel) x 20 x 365= 9604464000 lacs =960.45 Crore
	Hence total proposed Saving	:	960.45 Crore (A)
	Expenditure:		
a	Fore Development of Project (Engineering cost)	:	103.264 Crore
b	For Maintenance of Project for 20 years taking 2.17 lacs per year/km		
c	For Maintenance of Project for 20 years	:	2.17 x 20 x 35.676 =15.489 Crore
d	Total	:	(103.264 +15.489)= 118.754
		:	118.75 Crore (B)
e	Proposed Saving = (A-B)	:	960.45-118.75 Crore =841.70 Crore

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