

COST BENEFIT ANALYSIS

Name of the Project:

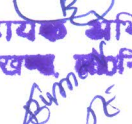
Construction of Four Lane Jalaun to Orai (Bilrayan – Panwari Road SH-21 from Km. 352.000 to 370.450, Bypass No. 1 & 2 and Remaining Part of NH-25 District-Jalaun) State of Uttar Pradesh

Nature of Proposal Diversion of Forest land under FCA, 1980 for Road Widening

Purpose: This Cost of Benefit Analysis is being undertaken for Proposed Diversion of Forest land being affected due to Construction of Four Lane Jalaun to Orai (Bilrayan – Panwari Road SH-21 from Km. 352.000 to 370.450, Bypass No. 1 & 2 and Remaining Part of NH-25 District-Jalaun) State of Uttar Pradesh

a) Parameters for Evaluation of benefit, notwithstanding Loss of Forests

S. No.	Parameters	Description						
1	Increase in productivity attributable to the specific project.	<p>The productivity attributable due to this project is subject to estimation as per lessening of time for movement of goods and services of U.P., less wear & tear to the vehicles, lesser consumption of fossil fuel etc.</p> <ul style="list-style-type: none"> Savings in vehicular operating and maintenance cost. Benefits to trade especially in movement of perishable goods. Reduction in accidents, and <p>Overall enhancement of socio-economic condition of area along the project corridor. Based on economic analysis of the project, Economic Internal Rate of Return (EIRR) is as below.</p> <p>Due to widening of road will result in improved traffic condition and saving in travel time of 1 hr will result in economic benefit of the tune of Rs 3263.483 Crore in 20 years.</p>						
2	Benefits to economy	<p>So Economic benefit due to the project will be: better accessibility to social infrastructure like Educational institutions, health facilitates markets etc.</p> <ul style="list-style-type: none"> Saving in vehicle operating costs, Saving in travel time, Benefits to trade especially in movement of perishable goods. Reduced maintenance costs, Reduction in accidents, and Overall enhancement of socio-economic condition of area along the project corridor. <p>Based on economic analysis of the project, economic internal Rate of Return (EIRR) is as below.</p> <table border="1"> <tr> <td>Project</td><td>EIRR (%)</td><td>NPV @Rs lakhs per ha</td></tr> <tr> <td>Construction of Four Lane Jalaun to Orai (Bilrayan – Panwari Road SH-21)</td><td>12.50</td><td>223.57</td></tr> </table> <p>The result of economic evaluation show that the proposed development of 4-lane is economically viable.</p> <ul style="list-style-type: none"> GDP will Increase by 0.05% approx of districts connected through this road (Khiri, Sitapur, Auraiya, Jalaun and Mahoba) 	Project	EIRR (%)	NPV @Rs lakhs per ha	Construction of Four Lane Jalaun to Orai (Bilrayan – Panwari Road SH-21)	12.50	223.57
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Construction of Four Lane Jalaun to Orai (Bilrayan – Panwari Road SH-21)	12.50	223.57						
3	No. of population benefited.	Entire population of Jalaun district will be benefited directly hence total nos of 5.00 lakhs will be benefited by the proposed development.						
4	Employment potential	Approximately 200 skilled & semi skilled labors will be employed during the construction period thus approx, 115640 man days of employment will be generated during construction period of the project for a period of 1 year.						
5	Cost of acquisition of facility on non-forest land wherever feasible	No cost of Acquisition of facilities on non forest land is possible.						
6	Loss of (a) agriculture & (b) animal husbandry production due to diversion of forest land.	NIL						
7	Cost of rehabilitating the displaced persons as different from compensatory amounts gives for displacement.	NIL As there are no displaced persons involved in forest section.						
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 the construction period. Contractor bill be supply fuel for the cooking and other purposes in the worker's camp to the workers.						


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b) Parameters for Evaluation of Loss of Forests

S. No.	Parameters	Description								
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.	Total nos of trees 2,530 will be affected due to the project Total value of trees = INR 12,41,568.00 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	There is no Resettlement in the forest land hence cost of resettlement is NIL								
4	Loss of public facilities and administrative infrastructure (Roads, buildings, 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 loss of Public Facilities and Administrative Infrastructure (Roads, Building, School, Dispensaries, Electric lines, Railway, etc other) on forest land where diversion is proposed. hence loss of public facilities is NIL								
5	Environmental losses : (Soil erosion, effect on hydrological cycle, wildlife habitat, microclimate upsetting of ecological balance)	<p>The total area of Protected forest land along the project road required for the widening is 35.71435 ha. The environmental loss for density 1.0 is Rs. 126.74 lakhs per hectare As per Forest (Conservation) Act for 50 Years. Considering density of the forest as 0.1, the cost of environmental losses per hectare is Rs. 12.674 lakhs for 50 years.</p> <table><tr><th>Division</th><th>Forest Area</th><th>Density</th><th>Environment loss</th></tr><tr><td>Jalaun</td><td>35.71435</td><td>0.10</td><td>4,52,64,367.00</td></tr></table> <p>Hence of calculation the current total loss is INR 45264367.00 & the total environment loss for the project is INR 45264367.00 + 1241568.00 = 4,65,05,935.00</p>	Division	Forest Area	Density	Environment loss	Jalaun	35.71435	0.10	4,52,64,367.00
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Jalaun	35.71435	0.10	4,52,64,367.00							
6	Suffering to oustees.	NIL								

Therefore Net current Environmental Loss in INR 45264367.00 + 1241568.00 = INR 46505935.00

Environmental Benefits (a) = 3263.483 crore

Environmental Cost (b) = cost of construction + Environmental cost+ NPV + Maintenance cost
= 223.14 + 4.65 + 2.24 + 17.37 = 247.40 Crore

Ratio = total benefit/total cost
= 3263.483/247.40 = 13.19
13.19>1

Hence Project is found viable.

(Signature of User Agency)

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Cost Benefit Analysis

- (1) Length of Proposed Stretch = 28.950
(2) Design Period of the road = 20 Years
(3) Anticipated PCU of Proposed Stretch = 20000
(4) Cost of Saving of time = $20000 \times 4(\text{person}) \times 1(\text{hr}) @ 60 \times 20 \times 365$
= 35,040,000,000.00 = 3504.00 Crore

Hence Total Proposed Saving = 3504.00 Crore (A)

Expenditure :-

For development of Project = 223.147 Crore


For Maintenance of Project for 20 years Taking 3.00 lacs per year per Km.

For Maintenance of Project for 20 years = $3.00 \times 20 \times 28.950$
= 17.37 Crore

Total = (223.147+17.37)
= 240.517 Crore (B)

Hence Proposed Saving = A-B
= 3504.00- 240.517 Crore
= 3263.483 Crore

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