

ANNEXURE - VI (b)

Name of Project - Etah Kasganj Dist. HQ with Four lane by widening and Strengthening of Etah Kasganj Road (O.D.R) from dist. HQ Etah (G.T. Road N.H.-91 Junction) and Bareilly Mathura Road (S.H.-33) up to dist. HQ Kasganj (Length = 24.300 + 16.500 = 40.800 Km.)

Cost Benefit Analysis

1 Length of Proposed Stretch = 40.80
2 Design Period of the road = 20 Years
3 Anticipated PCU of Proposed Stretch = 19331
4 Cost of Saving of time = $19331 \times 4(\text{Person}) \times 1(\text{hr}) @ 60 \times 20 \times 365$
= 33,867,912,000.00 = 3386.79 Crore
Hence Total proposed Saving = **3386.79 Crore(A)**

Expenditure:-

For development of project 320.468 Crore
For Maintenance of project for 20 years Taking 3.00 lacs per year per K.M
For Maintenance of project for 20 years = $3.00 \times 20 \times 40.80$
= 24.48 Crore
Total = **344.95**
= **344.95 Crore (B)**
Hence proposed Saving **A-B**

A-B = 3386.79 - 344.95
= 3041.84
Say = 3041.84 Crore

28/9/2017
S.K. Sharma

(C.P. Singh)
Executive Engineer
Provincial Division, P.W.D., Kasganj

c/s
A.K. KASHYAP
DFO, ETAH

COST BENEFIT ANALYSIS

Name of the Project : Etah Kasganj Dist. HQ with Four lane by widening and Strengthening of Etah Kasganj Road (O.D.R) from dist. HQ Etah (G.T. Road N.H.-91 Junction) and Bareilly Mathura Road (S.H.-33) up to dist. HQ Kasganj (Length = 24.300 + 16.500 = 40.800 Km.)

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 Etah Kasganj Road (O.D.R) From Ch. 0.000 to 24.300, and Bareilly Mathura Road (S.H.-33) Ch. 145.000 to 161.500 in District-Kasganj 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. 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. 3041.84 crore in 20 years.</p> | | | | | | |
| | Benefits to economy | <p>So Economic benefit due to the project will be: better accessibility to social infrastructure like educational institutions, health facilities, 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" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Project</th> <th style="text-align: center;">EIRR(%)</th> <th style="text-align: center;">NPV @Rs 6.26 lakhs per hec</th> </tr> </thead> <tbody> <tr> <td style="font-size: small;">Etah Kasganj Dist. HQ with Four lane by widening and Strengthening of Etah Kasganj Road (O.D.R) from dist. HQ Etah (G.T. Road N.H.-91 Junction) and Bareilly Mathura Road (S.H.-33) up to dist. HQ Kasganj (Length = 24.300 + 16.500 = 40.800 Km.)</td> <td style="text-align: center;">12.50</td> <td style="text-align: center;">293.018</td> </tr> </tbody> </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 (Etah and Kasganj) | Project | EIRR(%) | NPV @Rs 6.26 lakhs per hec | Etah Kasganj Dist. HQ with Four lane by widening and Strengthening of Etah Kasganj Road (O.D.R) from dist. HQ Etah (G.T. Road N.H.-91 Junction) and Bareilly Mathura Road (S.H.-33) up to dist. HQ Kasganj (Length = 24.300 + 16.500 = 40.800 Km.) | 12.50 | 293.018 |
| Project | EIRR(%) | NPV @Rs 6.26 lakhs per hec | | | | | | |
| Etah Kasganj Dist. HQ with Four lane by widening and Strengthening of Etah Kasganj Road (O.D.R) from dist. HQ Etah (G.T. Road N.H.-91 Junction) and Bareilly Mathura Road (S.H.-33) up to dist. HQ Kasganj (Length = 24.300 + 16.500 = 40.800 Km.) | 12.50 | 293.018 | | | | | | |
| 3 | No. of population benefited. | Entire population of Etah and Kasganj district will be benefited directly hence total nos of 5.00 lacs 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, 208000 man days of employment will be generated during construction period of the project for a period of 18 Month. | | | | | | |

c/s

A.K. Kashyap
09/10/17
A.K. KASHYAP
DFO ETAH

22/9/2017
(S.K. Sharma)

AE

(S.K. Sharma)
अधिकारी अभियन्ता
प्राकृतिक संसाधन विभाग
काशी

| | | |
|---|--|---|
| 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. |

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 5669 will be affected due to the project Total value of trees = INR 16754676.56 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) | The total area of Protected forest land along the project road required for the widening is 46.808 hec. The environmental loss for density 1.0 is Rs. 126.74 lacs per hectare As per Forest (Conservation) Act for 50 Years. Considering density of the forest as 0.3, the cost of environmental losses per hectare is Rs. 38.022 lacs for 50 years. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Division</th> <th>Forest Area</th> <th>Density</th> <th>Environment loss</th> </tr> </thead> <tbody> <tr> <td>Etah and Kasganj</td> <td>46.808</td> <td>0.30</td> <td>177973377.60</td> </tr> </tbody> </table> Hence of calculation the current total loss is INR 177973377.60 & the total environment loss for the project is INR 177973377.60 + 16754676.56 = 194728054.16 | Division | Forest Area | Density | Environment loss | Etah and Kasganj | 46.808 | 0.30 | 177973377.60 |
| Division | Forest Area | Density | Environment loss | | | | | | | |
| Etah and Kasganj | 46.808 | 0.30 | 177973377.60 | | | | | | | |
| 6 | Suffering to outrees. | NIL | | | | | | | | |

Total Project cost = cost of construction + Environmental cost+ NPV + maintenance cost
= 320.468 + 17.797 + 2.93 + 24.48 = 365.675 crore
Benefit cost Ratio = total benefit/total cost
= 3041.84/365.675 = 8.31
Hence Project is Found viable. 8.31 > 1

C/S

A.K. KASHYAP
DFO ETAH

28/9/2017
(S.K. Sharma)

प्रभागीय वनाधिकारी
कासगंज वन प्रभाग
कासगंज

AE.

(Signature of User Agency)
(सि. पी. सिंह)
अधीक्षक अभियन्ता
प्रादेशिक खण्ड मंत्रालय
कासगंज