


COST BENEFITS ANALYSIS

Purpose: This cost benefits analysis is being undertaken for proposed diversion of Forest Land being affected due to upgradation/Construction of Pukhryan-Ghtampur-Bindaki (State Highway-46) from km. 0.000 to Km. 82.220 as per guidelines of Ministry of Env. & Forest.

a) 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.	Approximately 12828 Trees, Brick guard 4600 Trees and 4600 Nos. Total values of trees = INR 10,20,46,834.00 (Rs.10.20 crores) 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 if these facilities were delivered due to the project.	There is no loss of public facilities and administrative infrastructure (Roads, buildings, school, dispensaries, electric lines, railways, etc) on forest land where diversion is proposed hence loss of public facilities is NILL.																									
5.	Environmental losses (Soil erosion, effect on hydrological cycle, wildlife habitat, microclimate upsetting of ecological balance).	<p>The total area of protected forest land being diverted for the development of proposed Upgradation / Construction of Pukhryan-Ghtampur-Bindaki (SH-46) from km. 0.000 to Km. 82.220 is 75.5235 hectare.</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.</p> <p>The division wise environmental loss is as follows:.</p> <table><tr><th>Division</th><th>Forest Area (In Hac.)</th><th>Density</th><th colspan="2">Environmental Loss In Lacs</th></tr><tr><td>Forest Division, Kanpur Dehat</td><td>20.631</td><td>0.4</td><td>20.631 x 0.4 x 126.74</td><td>1045.909176</td></tr><tr><td>Social Forestry Division, Kanpur Nagar</td><td>29.586</td><td>0.4</td><td>29.586 x 0.4 x 126.74</td><td>1499.891856</td></tr><tr><td>Social Forestry Division, Fatehpur</td><td>25.3065</td><td>0.4</td><td>25.3065 x 0.4 x 126.74</td><td>1282.938324</td></tr><tr><td>Total</td><td>75.5235</td><td></td><td></td><td>3828.739356</td></tr></table> <p>Hence, The calculation of current total environmental loss for the project = INR. 102046834.00 + 382873935.60 = INR. 484920769.60 = INR. 48.49 Cr.</p>	Division	Forest Area (In Hac.)	Density	Environmental Loss In Lacs		Forest Division, Kanpur Dehat	20.631	0.4	20.631 x 0.4 x 126.74	1045.909176	Social Forestry Division, Kanpur Nagar	29.586	0.4	29.586 x 0.4 x 126.74	1499.891856	Social Forestry Division, Fatehpur	25.3065	0.4	25.3065 x 0.4 x 126.74	1282.938324	Total	75.5235			3828.739356
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6.	Suffering to oustees.	NIL.																									


6/10/17
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b) Parameter for evaluation of Benefits, 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 commuting time for movement goods and services from northern part of India to central / eastern part of India as it connects major highways NH-2 NH-25 and NH-86. This will lead to less wear and tear to the vehicles with lesser consumption of energy in form of 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 the 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 time of Rs.2474.54 Crore in 19 years.</p>						
2.	Benefits of economy.	<p>Socio-economic benefits 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 travels 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"> <thead> <tr> <th>PROJECT</th><th>EIRR(%)</th><th>NPV @ Rs 8.03 lakhs/hac.</th></tr> </thead> <tbody> <tr> <td>The Upgradation / Construction of Pukharya-Ghtampur-Bindaki Road (SH-46) from Km. 0.000 to Km. 82.530 with four laning</td><td>15.57</td><td>6,06,45,371.00</td></tr> </tbody> </table> <ul style="list-style-type: none"> The result of economic evaluation show that the proposed development of 4-lane is economically viable. GDP will Increase by 0.05% approx of districts connected through this road (Kanpur Dehat, Kanpur and Fatehpur). 	PROJECT	EIRR(%)	NPV @ Rs 8.03 lakhs/hac.	The Upgradation / Construction of Pukharya-Ghtampur-Bindaki Road (SH-46) from Km. 0.000 to Km. 82.530 with four laning	15.57	6,06,45,371.00
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3.	No. of Population benefited.	Entire population of Kanpur-Dehat, Kanpur Nagar and Fatehpur district will be benefited directly hence total no's of 90.10 lacs will be benefited by the proposed development.						
4.	Employment potential	Approx. 300 skilled & 600 semi-skilled laborers shall be employed during construction period thus approx. 6.75 lakhs man days of employment will be generated during construction period of the project for a period of 2.5 years.						
5.	Cost of acquisition of facility on non-forest land wherever feasible.	No cost of acquisition of facility on non-forest land is feasible.						
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.	Nil. (As there is no displaced person 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 construction period construction period. Contractor will supply LPG fuel for the cooking and other purpose in the worker's camp to the workers.						

Total project cost = Cost of construction + Environmental cost + NPV + Maintenance Cost

= 1293 + 48.49 + 6.065 + 530.00

= 1877.56 Crore

Benefit cost ratio = Total benefit / Total cost

= 2474.54 / 1877.56 = 1.318 i.e. > 1.0

Hence Project is found viable


(Signature of User Agency)

6/10/17
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