

Widening and Formation of 30.0 Mtrs Wide road from
 Kundalahalli (old airport road) to Gunjur palya via
 BWSSB Treatment plant in the State of Karnataka as per RMP 2015

Cost Benefit Analysis

Loss of Forest formation of Kundalahalli (old airport road) to Gunjur palya via BWSSB Treatment plant in the State of Karnataka

SI No	Parameters	Remarks
1.	Ecosystem Services Losses due to proposed forest diversion	Economic value of loss of eco-system services due to diversion of forest shall be the net present value (NPV) of the forest land being diverted as prescribed by the state government (MoEF & CC). All the reference parameter were quantified in the Net Present Value for the forest land suggest by central Empowered committee constitute by supreme court of India. As per the forest area classification in central Empowered committee report, the forest area along the proposed highway alignment fall in to Eco Class-1 consisting Plain forest with an NPV value of Rs. Nil /- lakhs /ha of moderate Lean forest NIL
2.	Loss of animal husbandry productively, including loss of fodder	NIL
3.	Cost of human resettlement	There is no human resettlement along the proposed alignment within forest area, hence it is not applicable.
4.	Loss of public facilities and administrative infrastructure (Roads, Building, schools, dispensaries, electric lines, railway etc) on forest land, or which would require forest land these facilities were diverted due to the project.	There is no loss of public facilities and administrative infrastructure Fres land for this project Public facilities not effected within the forest land or outside the forest land.
5.	Possession value of forest	30% of environment cost (NPV) due to loss of


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Sl Nd	Parameters	Remarks																				
1.	Increase in productivity attributable to the specific project.	The monetary benefits due to Road construction will total to Rs. 50 Lakhs in design life of 30 years due to reduction in travel time, vehicle operation cost, fuel consumption, accident risks, congestion, increased economic growth along the project influenced area, reduced environmental pollution etc.																				
2.	Benefits to Economy	Road development will trigger incremental economic development in the project influence area with opportunities for new commercial and industrial establishments. Better connectivity with reduced travel time and better road geometrics will result in saving in travel time, fuel, and health improvements due to smoother road and congestion reduction which will add to economic growth of the state as a whole.																				
3.	No. of population benefited	Since the project road connecting Old airport road to sarjapur road help in reduction in travel time, vehicle operation cost, fuel consumption, accident risks, congestion, increased economic growth along the project influenced area, reduced environmental pollution etc.																				
4.	Economic benefit due to the direct and indirect employment potential	<p>More local people will be benefited during the construction as well as operation of this Road</p> <p>The projects results in Rs. 200 Lakhs through employment generation under:</p> <table border="1"> <thead> <tr> <th></th> <th></th> <th>Construction</th> <th>Maintenance</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Skilled</td> <td>50</td> <td>50</td> </tr> <tr> <td>2</td> <td>Semiskilled</td> <td>750</td> <td>25</td> </tr> <tr> <td>3</td> <td>unskilled</td> <td>750</td> <td>25</td> </tr> <tr> <td></td> <td>Total</td> <td></td> <td></td> </tr> </tbody> </table>			Construction	Maintenance	1	Skilled	50	50	2	Semiskilled	750	25	3	unskilled	750	25		Total		
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		<p>The economic value per year out of this employment potential is as under:</p> <p>During construction period</p> <table border="1"> <thead> <tr> <th></th> <th>Employment typ</th> <th>MD</th> <th>Rate / Day</th> <th>Amount</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Skilled</td> <td>5550</td> <td>650</td> <td>3607500</td> </tr> <tr> <td>2</td> <td>Semiskilled</td> <td>35275</td> <td>450</td> <td>15873750</td> </tr> <tr> <td>3</td> <td>unskilled</td> <td>45685</td> <td>380</td> <td>17360300</td> </tr> <tr> <td></td> <td>Total</td> <td></td> <td></td> <td>36841550</td> </tr> </tbody> </table> <p>Employment cost during construction works out to Rs. 368.41 Lakhs/year</p> <table border="1"> <thead> <tr> <th></th> <th>Employment typ</th> <th>MD</th> <th>Rate / Day</th> <th>Amount</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Skilled</td> <td>300</td> <td>650</td> <td>195000</td> </tr> <tr> <td>2</td> <td>Semiskilled</td> <td>3000</td> <td>450</td> <td>1350000</td> </tr> <tr> <td>3</td> <td>unskilled</td> <td>6000</td> <td>380</td> <td>2280000</td> </tr> <tr> <td></td> <td>Total</td> <td></td> <td></td> <td>3825000</td> </tr> </tbody> </table> <p>During Maintenance:</p> <p>Employment cost during construction works out to Rs. 38.25 Lakhs/year</p>					Employment typ	MD	Rate / Day	Amount	1	Skilled	5550	650	3607500	2	Semiskilled	35275	450	15873750	3	unskilled	45685	380	17360300		Total			36841550		Employment typ	MD	Rate / Day	Amount	1	Skilled	300	650	195000	2	Semiskilled	3000	450	1350000	3	unskilled	6000	380	2280000		Total			3825000
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	Economic benefits due to compensatory afforestation	<p>The standard Compensatory afforestation restoration factors (SCARF) has been estimated to further adjust the applicable NPV based on the proportion of value of ecosystem services restored due to compensatory afforestation scarf. Adjustment of Rs. 40 Lakhs per hectares is considered for this project.</p>																																																					
	Total benefits due to project notwithstanding loss of forest	<p>$0.99 \times 40 = 29.6$</p>																																																					

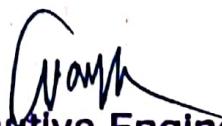
C. Cost – Benefit Ratio

Cost Benefit Analysis	
Total Cost due to Forest Loss (Rs. in lakhs)	10 Lakhs
Total Benefits due to project (Rs. In lakhs)	50 Lakhs
Cost Benefit Ratio	5


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1.	Land Diverted	Forest or circle rate of adjusting area in the district should be added as a cost component as possession value will be Rs. lakhs
2.	Cost of surfing to outees	Not applicable since there is no resettlement from forest areas for Road development.
3.	Habitat Fragmentation Cost	This project New road formation there is no habitat along the proposed alignment
4.	Compensatory afforestation and soil & moisture conservation cost	The plain terrain, Hence the project is expected to have only minor impact on environment.
	Total cost due to forest land diversion for the project	Not Applicable


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