

Name of the Project:	Four Laning of existing Goa/Karnataka Border-Panaji Goa Section of NH-4A from Km 97.000 to Km 153.075 in the state of Goa on BOT (Toll) basis under NHDP-III (Anmod to Panaji Section)
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PARAMETERS FOR EVALUATION OF LOSSES OF FORESTS

Cost Benefit Analysis		ANNEXURE – VI (b)
S. No	Parameters	Roads
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 are deprived livelihood and wages from the harvest of these commodities	Since the number and density of road side trees to be cut and surrounding vegetation is not high, therefore the amount of timber loss will be insignificant.
2	Loss of animal husbandry productivity, including loss of fodder	Nil
3	Cost of human resettlement	Nil
4	Loss of public facilities and administrative infrastructure (Roads, building, schools, dispensaries, electric lines, railways etc.) on forest land or which would require forest land if these facilities were diverted due to the project.	Nil
5	Environmental Losses (Soil erosion, effect of hydrological cycle, wildlife habitat, micro-climate upsetting of ecological balance)	<p>Environmental value of 1 hectare of forest land with density 1.0 is estimated to be = Rs.126.74 lakh to accrue over a period of 50 years</p> <p>Density of forest area to be diverted ranging from 0.6 to 0.8 rounded to 0.7 to accrue over a period of 50 years. The value will reduce with density, for example, if density is 0.7, a project which requires deforestation of 1 hectare of forest the value will work out at Rs. 88.718 lakh.</p> <p>Value per hectare = 88.718</p> <p>Forest are for diversion = 32.10 ha</p> <p>Environmental loss = 2847.848 lakh</p>
6	Suffering to oustees	Nil

**Parameters to determine benefits (notwithstanding loss of forests
ANNEXURE VI (c))**

S.No	Parameters	Nature of proposal - Roads
1	Increase productivity attributable to the specific project	The project road will result in development of areas establishment of various small, medium and large scale industries due to better transport facilities of goods and materials.
2	Benefits to economy	Improving the accessibility will help in regional economic development
3	No of population benefited	All those who are travelling on the road can save on fuel and time, reducing pollution and carbon emissions. For those residing in the region will be less exposed to noise and air pollution
4	Employment Potential	Induced development of economy will help in generation of employment
5	Cost of acquisition of facility on non-forest land where feasible	Nil
6	Loss of (a) agricultural & (b) non-forest land wherever feasible	Nil
7	Cost of rehabilitating the displaced persons as different from compensatory amounts given for displacement	Nil
8	Cost of supply of free fuelwood to workers residing in or near forest area during the period of construction	Nil


Signature

(Vijay Mardolkar)

E.E Div. XV

PWD (NH), Ponda

Place: Ponda

Date: 09/05/2017