

## COST BENEFIT ANALYSIS

Name of the Project: Consultancy Service for Project Management Phase-1 including preparation of detailed Project Report for up-gradation of Junction with NH-47 Limbdi - Surendranagar - Dhangadhra of NH-51 in the State of Gujarat to two/four lane with paved shoulder Configuration

Table- B Estimation of cost of forest diversion


SN	Parameters	Remarks	Response
1.	Ecosystem services losses due to proposed forest diversion	<p>Economic value of loss of eco-system services due to diversion of forests shall be the net present value (NPV) of the forest land being diverted as prescribed by the Central Government (MoEF&amp; CC).</p> <p><i>Note: In case of National Parks the NPV shall be ten (10) times the normal NPV and in case of Wildlife Sanctuary the NPV shall be five (5) times the normal NPV or otherwise prescribed by the ministry or any other competent authority</i></p>	<p>The forest area under diversion is protected forest falling within PROW. The plantation has been done by the forest department.</p> <p>Tropical thorn forest and tropical Dry Evergreen Forests (Eco Class -IV), and Forest canopy cover is less than 40% so Open Forest (OF) Cost has been considered for NPV:</p> <p><b>NPV- 4,38,000 X Forest area (38.51 Ha.) = INR 1,68,67,380/-</b> (Source: F.No.5-3/2007 -FC dated 05.02.2009)</p>
2.	Loss of animal husbandry productivity, including loss of fodder -	To be quantified and expressed in monetary terms or 10% of NPV applicable whichever is maximum	<b>Yes : INR -16,86,738/-</b>
3.	Cost of human resettlement	To be quantified and expressed in monetary terms as per approved R&R plan	<b>Yes: INR – 241.79 crore.</b>
4.	Loss of public facilities and administrative infrastructure (Roads, building, schools, dispensaries, electric lines, railways, etc.) on forest land, which would require forest land if these facilities were diverted due to the project	To be quantified and expressed in monetary terms on actual cost basis at the time of diversion	Loss of public facilities and administrative infrastructure. <b>INR 20,57,510.00/-</b>

SN	Parameters	Remarks	Response
5.	possession value of forest land diverted	30% of environmental costs (NPV) due to loss of forests or circle rate of adjoining area in the district should be added as a cost component as possession value of forestland whichever is maximum	<b>Yes: INR- 50,60,214/-</b>
6.	Cost of suffering to oustees	The social cost of rehabilitation of oustees (in addition to the cost likely to be incurred in providing residence, occupation and social services as per R&R plan) be worked out as 1.5 times of what oustees should have earned in two years had he not been shifted.	<b>No</b>
7.	Habitat Fragmentation Cost	While the relationship between fragmentation and forest goods and services is complex, for the sake of simplicity the cost due to fragmentation has been pegged at 50% of NPV applicable as a thumb rule.	<b>Yes , INR- 84,33,690/-</b>
8.	Compensatory afforestation and soil & moisture conservation cost	The actual cost of compensatory afforestation and soil & moisture conservation and its maintenance in future at present discounted value	<b>Yes, Cost of compensatory afforestation : INR 16,74,000/- Yes soil &amp; Moisture conservation cost – 1.6 Lakh</b>

**Table-C - Existing guidelines for estimating benefits of forest-diversion in CBA**

SN	Parameters	Remarks	Response
1.	Increase in productively attribute to the specific project	To be quantified & expressed in monetary terms avoiding double counting	The Project Highway acts as connector between two important highways in the region; viz, Ahmedabad – Viramgam- Maliya (SH-07, SH-17) and Ahmedabad – Rajkot (NH-08A). These two roads, connects important locations in the Saurashtra Region and Kachchh Region. These two roads carry port bound traffic to the hinterland. This project is desirable from society point of view. Found to be economic for NPV & Economic Internal Rate of return (EIRR)- 12%
2.	Benefits to economy due to the specific project	The incremental economic benefit in monetary terms due to the activities attributed to the specific project	The Limbdi – Dharangadhra road will provide uninterrupted free flow of traffic and shall result in: 1. Saving in travel Time & Cost 2. Saving in foreign exchange due to less consumption of fuel. 3. Increase in income of truck, bus, taxi, etc. Owner as they will be able to communicate maximum distance in short time. 4. Reduction in accidents as it will provide safe travel, 5. Will act as catalyst to the industrial development. This project is desirable from society point of view. Found to be economic for NPV & Economic internal Rate of return (EIRR)- 12%

SN	Parameters	Remarks	Response
3.	No. of population benefited due to specific project	As per the Detailed project report.	It is expected that at least people from whole of the district will be benefited due to proposed road. The district has about 17.56 Lakhs population (Census: 2011) who will be directly or indirectly benefitted.
4.	Economic benefits due to of direct and indirect employment due to the project	As per the Detailed project report.	Project Shall directly give employment to around 250-300 people during construction phase of project (four year)
5.	Economic benefits due. to Compensatory afforestation	Benefits from such compensatory forestation accruing over next 50 years monetised and discounted to the present value should be included as benefits' of compensatory afforestation. *For benefits of CA the guideline of the Ministry for NPV estimation may be consulted.	Yes, INR: 19.52crore

  
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