

## **COST– BENEFIT ANALYSIS: NMEW PCKG - V**

As per cost (Conservation) Rules 2003, Rules 6, Form 'A' S. No. 1 (v) and guidelines– application of Forest Act 1980, Chapter II (2.6)] and Revised Guidelines issued by MoEFCC vide No. 7-69/2011-FC (Pt.) dated 1st August, 2017.

### **A: Evaluation of Loss of Land**

<b>Estimation of Cost of Forest Diversion</b>			
<b>Sr. No.</b>	<b>Parameters</b>	<b>Values</b>	<b>Remarks</b>
1	Ecosystem services losses due to proposed forest diversion	200837284	NPV = Rs. 20,08,37,284
2	Loss of animal husbandry productivity, including loss of fodder	20083728	10% of NPV= 2,00,83,728
3	Cost of human resettlement	-	Since there is no displacement of persons due to the diversion of forest land, the cost of resettlement is nil.
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	-	Public facilities and administrative infrastructure like roads, building, schools, dispensaries, electric lines, railways, etc. are not going to be affected due to the Diversion of forest land therefore the loss on this account will be nil.
5	Possession value of forest land diverted	60251185	30% of NPV= Rs. 6,02,51,185
6	Cost of suffering to ousters		The cost of rehabilitation is Nil.
7	Habitat Fragmentation Cost	100418642	50% of NPV = Rs. 10,04,18,642
8	Compensatory afforestation and soil & moisture conservation cost	287772396	Rs. 28,77,72,396

Therefore, the total loss, as per the approved parameters, works out to as under:

<b>Parameters No</b>	<b>Description</b>	<b>Loss (in Rs.)</b>
	Environmental losses	<b>66,93,63,236</b>

### **B: Evaluation of Benefits**

<b>Estimation of Benefits</b>			
<b>Sr. No.</b>	<b>Parameters</b>	<b>Value</b>	<b>Remarks</b>
1	Increase in productively attribute to the specific project.	42,73,75,000	Implementation of entire project will ensure fast and safe road traffic movement, reducing travel time by almost half. Turnaround time of commercial vehicle will be reduced resulting in better profit margin for commercial vehicle operator, besides faster, safer and smoother transportation of raw materials/ agricultural/horticultural produce. Project also aims at creation of commercial nodes mainly in tourism, commercial and agricultural sectors resulting in employment generation.

Estimation of Benefits							
Sr. No.	Parameters	Value	Remarks				
2	Benefits to economy due to the specific project.	788,00,00,000	For Package V reduction in length is 16 km if compared with existing facilities. Saving in Vehicle Operating Cost (VOC) due to reduction in length is Rs. 112 crore per year. Saving in VOC for improved facility will be Rs. 169 crore per year when calculated for 2020 traffic projection. Saving on account of accident reductions and improved safety measures is 507 Crore. Total savings is Rs. 788 Crores. Saving will go on increasing with increase in traffic in subsequent years.				
3	No. of population benefited due to specific project		Thane & Nashik districts will be direct beneficiary. Total population getting benefited will be about 120 lakhs.				
4	Economic benefits due to of direct and indirect employment due to the project	182,37,41,250	More local people will be benefited during Construction as well as operation of this expressway. Economic benefit due to employment generation per year is				
			Sr. No.	Description	Number	Wage	Amount (Rs.)
			1	Unskilled	714105	450	321347250
			2	Semiskilled	514480	650	334412000
			2	Skilled	139985	1200	167982000
						Total	823741250
			Permanent Employment for 100 person (approx.) @ Rs. 250000 (average annual income) for toll period of 40 yrs = 100*250000*40 = 1000000000				
5	Economic benefits due to Compensatory afforestation	37,32,37,433	Compensatory afforestation on land transferred to Forest Department – 383.8535 Ha.				
			Compensatory afforestation on 10m strip of land by the side of Expressway on either side = 2x10m x57 km= 114 Ha				
			Total Afforestation Land = 497.8535 Ha				
			NPV = 497.8535 x 749693.3 = Rs. 37,32,37,433				

Therefore, the total benefits, works out to as under:

Parameters No	Description	Benefits (in Rs.)
	Benefits	<b>10,50,43,53,683</b>

**C: Benefits to cost ratio works out to be as follows:**

<b>B/C Ratio of Pckg-V</b>	<b>15.69</b>
<b>Cost : Benefit Ratio</b>	<b>1: 15.69</b>

CB Ratio of other NMEW Packages	
Pckg-I	30.86
Pckg-II	18.40
Pckg-III	41.21
Pckg-IV	41.58