

COST- BENEFIT ANALYSIS: ALIBAG – VADKHAL SECTION OF NH- 166A

As per cost (Conservation) Rules 2003, Rules 6, Form 'A' S. No. 1 (v) and guidelines– application of Forest Act1980, 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

Estimation of Cost of Forest Diversion			
Sr. No.	Parameters	Values	Remarks
1	Ecosystem services losses due to proposed forest diversion	24315687	NPV for 25.8953 Ha forest land = Rs. 24315687
2	Loss of animal husbandry productivity, including loss of fodder	2431569	10% of NPV= Rs. 2431569
3	Cost of human resettlement	941400000	The cost of resettlement is Rs 941400000
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	7294706	30% of NPV= Rs. 7294706
6	Cost of suffering to ousters	-	Considered in Point 3 above
7	Habitat Fragmentation Cost	12157844	50% of NPV= Rs. 12157844
8	Compensatory afforestation and soil & moisture conservation cost	16210458	Cost for 25.8953 Ha of CA land = Rs.16210458

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

Parameters No	Description	Loss (in Rs.)
	Environmental losses	1,00,38,10,263

B: Evaluation of Benefits

Estimation of Benefits							
Sr. No.	Parameters	Value	Remarks				
1	Increase in productively attribute to the specific project.	-	Implementation of project will ensure fast and safe road traffic movement, reducing travel time significantly. Project also aims at improving regional connectivity for increased industrial and commercial activities, tourism agricultural sectors resulting in employment generation.				
2	Benefits to economy due to the specific project.	985600000	For upgraded Project reduction in length is 0.74 km when compared with existing alternative facilities. Saving in Vehicle Operating Cost (VOC) due to reduction in length is Rs 13.59 Cr. per year. Saving in VOC for improved facility will be Rs. 34.57 Cr. per year when calculated for 2020 traffic projection. Further Saving in reduced accidents shall be around Rs. 50 Cr per year. Total saving in VOC per year is Rs.48.56 Cr and accident savings is Rs. 50 Cr.				
3	No. of population benefited due to specific project	-	Raigad district will be direct beneficiary. Total population getting benefited will be about 27 lakhs.				
4	Economic benefits due to of direct and indirect employment due to the project	952922250	More local people will be benefited during Construction as well as operation phase of this Highway. Economic benefit due to employment generation per year is				
			Sr. No.	Description	Number	Wage	Amount (Rs.)
			1	Unskilled	428620	450	192879000
			2	Semiskilled	349685	650	507043250
			2	Skilled	63250	4000	253000000
						Total	952,922,250
5	Economic benefits due to Compensatory afforestation	19027458	Compensatory afforestation on land transferred to Forest Department – 25.8953 Ha.				
			Compensatory afforestation in RoW land on either side of Highway = 4.5 Ha				
			Total Afforestation Land = 30.3953 Ha				
			NPV = Rs. 1,90,27,458				

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

Parameters No	Description	Benefits (in Rs.)
	Benefits	1,95,75,49,708

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

B/C Ratio	1.95
Cost : Benefit Ratio	1: 1.95