COST BENEFIT ANALYSIS

NAME OF THE PROJECT :	Widening and improvement of Package-II of Akhegwo-Jessami Road Section of NH-202 into two laning of existing KM 326.018 (Akash Bridge) to KM 340.843 (Jessami) in the state of Manipur by NHIDCL.
NATURE OF PROPOSAL :	Diversion of Forest Land under FCA, 1980 for road widening.
PURPOSE:	This Cost Benefit Analysis is being undertaken for Proposed Diversion of Forest Land being affected due to Widening and improvement of Package-II of Akhegwo-Jessami Road Section of NH-202 into two laning of existing KM 326.018 (Akash Bridge) to KM 340.843 (Jessami) in the state of Manipur by NHIDCL".

TABLE - A: ESTIMATION OF COST OF FOREST DIVERSION

Sl.	Parameters	Description			
1	Eco-system Services Losses due to Proposed Forest Diversion		Rs.	282.396 Lakhs	
		1) Propose Area to be diverted		31.489 Ha	
		2) Crown density of the proposed area		0-60 %	
		3) Forest Cover Area		Area in Hectare	
		(i) Very Dense Forest		0.000	
		(ii) Moderately Dense Forest		25.132	
		(iii) Open Forest		6.357	
		(iv) Scrub		0.000	
		Total Forest Diversion Area =		**31.489**	
		4) As per Supreme Court's Order dated 28.03.2008 in WP(C) No. 202/1995 (i) Forest type of the proposed diversion area : Eco-Class I (ii) Net Present Value :			
		Forest Class	Area (Ha)	Rate (Lakhs/Ha)	Amount (Lakhs)
		(a) Very Dense Forest	0.00	10.43	0.00
		(b) Moderately Dense Forest	25.13	9.39	235.99
		(c) Open Forest	6.357	7.30	46.41
		(d) Scrub	0.00	0.00	0.00
				Total =	282.396
2	Loss of animal husbandry productivity, including loss of fodder	10% of NPV = 10% of Rs. 282.39558 Lakhs =		**28.240 Lakhs**	
3	Cost of human Resettlement.	**Nil** The cost of Human Resettlement for diversion of Forest Land is Nil.			
4	Loss of public facilities and administrative infrastructure (Roads, buildings School, dispensaries, electric lines, railways etc) on forest land, or which would require forest land if these facilities were diverted due to the project.	Electric lines & Poles, Water pipe lines, Water Tank etc. public facilities which are being affected have been considered in the budget. Also the budgets for affected CRSs have been considered.			
5	Possession Value of Forest Land Diverted	30% of NPV = 30% of Rs. 282.39558 Lakhs =		**84.719 Lakhs**	
6	Suffering to oustees	**Nil** The widening and strengthening of the project road is to be undertaken on the adjoining land of the existing road, so there are no sufferings to oustees.			
7	Habitat Fragmentation Cost	50% of NPV = 50% of Rs. 282.39558 Lakhs =		**141.198 Lakhs**	
8	Compensatory Afforestation and Soil & Moisture Conservation Cost	Compensatory Afforestation cost of 62.978 Ha land for 31.489 Ha proposed Forest Land Diversion = Rs.125.96 Lakhs (including Rs.12.6 Lakhs as soil & moisture conservation cost which is 10% of CA item work cost for a maintenance period of 8 years)		**125.956 Lakhs**	
	TOTAL (TABLE - A: COST OF FOREST DIVERSION)			**662.508 Lakhs**	

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		TABLE - B: ESTIMATION OF BENEFITS OF FOREST DIVERSION				
Sl.	Parameters	Description				
1	Increase in Productivity and Economy	'[{18000*(1.05)^5} x (1.84/30) x {(10%x5 + 5%x10 + 2%x15)}]' x (Package Length / Road Length) Economic Improvement in the Project District (Ukhrul) considering enhanced growth in the GDP against normal growth rate due to the project. This benefit will be for 5 years at enhanced rate of 10%, 10 years for enhanced 5% rate & 15 years for enhanced rate of 2% (Current GDP of the state @ 18,000 Crore / annum in 2014-15, Population of Manipur is 30 Lacs and Ukhrul District is 1.84 Lacs).			471.709 Lakhs	
2	Benefits on vehicle operation & maintenance cost due to improvement of the project Road	1753 Lakhs per year x 30 years for Saving in VOC			52,590.00 Lakhs	
3	No. of Population benefited due to specific project	Population along NH-202 Ukhrul District shall be benefited from the project. In addition, the project will boost the agricultural and Industrial development of the surrounding area which will eventually boost the economic growth.				

4 — Economic benefits due to direct and indirect employment due to the project

1. Employment Potential -- Construction

Type	No.	Rate / Day	Years	Amt (Lakhs)
Skilled	27	600	3	177.390
Semi Skilled	10	350	3	38.325
Technical	2	2,500	3	54.750
				270.465

2. Employment Potential -- Maintenance

Type	No.	Rate / Day	Years	Amt (Lakhs)
Skilled	2	600	30	131.400
Semi Skilled	2	350	30	76.650
Technical	1	2,500	30	273.750
				481.800

Total Employment Potential =	752.27 Lakhs

5	Benefit from Compensatory Afforestation	30229 Mandays as per prevailing wage rate for a maintenance period of 8 years of @ present wage rate Rs. 225 Mday =	68.015 Lakhs
	TOTAL (TABLE - B: BENEFIT OF FOREST DIVERSION)		53,882 Lakhs

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