PMGSY-Division, P.W.D. Sonbhadra

PROPOSED FOREST LAND TO BE DIVERTED FOR WIDENING & STRENGTHENING OF PATWADH TO BASUHARI ROAD FROM KM. NO. 0.000 TO 61.500 UNDER ROAD CONNECTIVITY PROJECT ON LEFT WING EXTREMISM AREA (RCPLWEA) IN TEHSIL:- ROBERTSGANJ, DISTRICT:- SONBHADRA BY PMGSY-DIVISION, P.W.D. SONBHADRA (UTTAR PRADESH)

COST BENEFIT ANALYSIS

Purpose: This cost benefit analysis is being undertaken for proposed diversion of forest Land being affected due to construction of access controlled.

(a) Parameters for Evaluation of the loss of Forests

	1.		Economic Value of Ecosystem services due to diversion of forest				
		Proposed forest diversion	= Proposed Forest area x NPV Rate per Ha				
1			Net Present Value (NPV) for forest land of Eco-class III (density				
1	1		0.1 to <0.3) = 6,26,000/- per Ha.				
	l		Therefore, ecosyst	em services lo	sses due to p	roposed diversion	
-	in .		of reserved forest	land in Forest	division Obra	a of 34,6725 Ha is =	
-	"		34.6725 x 6,26,000= 21704985/-				
-			And ecosystem services losses due to proposed diversion of				
			reserved forest land 10.62 Ha and non-forest land 5.6855 Ha in				
			Kaimoor Wildlife Division Mirzapur is 33925631.80/-				
	9		So, total amount of ecosystem service losses is = 55630616.8/-				
1			No. of Trees that will be affected due to proposed diversion of				
			forest land are:				
			194 trees in Kaim			pur	
			1114 trees in For				
1	_		so, total value of	trees is 22759	2.0/-		
	2.	Loss of animal husbandry, productivity	Niî				
1	,	including loss of fodder	No human displa	coment involv	ad in faract o		
1	3.	Cost of human resettlement Loss of public facilities and					
	4.	Loss of public facilities and administrative infrastructure (roads,	There are no Public facilities and administrative infrastructure				
× 1	••	buildings, schools, dispensaries, electric	(roads buildings, schools, dispensaries, electric lines, railway etc.) on proposed diverted forest land.				
		lines, railways etc) on forest land or		erteu iorest iai	iu.		
-		which would require forest land if these					
	1.	facilities were diverted due to the					
		Project.					
18	5.	Environmental losses (soil erosion,	As per Forest (Conservation) Act. 1980	the environmental	
		effect on hydrological cycle, wild life					
		habitat, microclimatic upsetting of					
		ecological balance)	Division	Proposed	Density	Environmental	
		ecological balance)	DIVISION	Forest	Delisity	Loss in INR.	
				Area		2033 111 1111.	
				(ha)			
			Kaimoor	10.62	0.1	13459788.00/-	
			Wildlife	10.02	0.1	13-37700,007	
-			Division				
			Mirzapur				
			Obra	34.6725	0.3	131831779.50/-	
-			Ϊl	34.0723	0,5	145291567.50/-	
			Total			143271307.30/*	

l Finns		
6.		Hence, on calculation the current total environmental law is IVR = 1267400 per hectare and Total environmental loss for the project is 1452.92 Lakins.
	Possession value of forest land	30% of environment costs due to loss of forests =
-		30% x 145291567.50/- = 43587470.230/-
1.	Suffering to outsee	W

Therefore, Current Environment Net loss

= 55630616.8 (Ecosystem Losses) + 227592.0 (Trees Values) + 145291567.50 (Environmental Loss) + 43587470.250 (Possession Value of forest land) = INR 244737246.55/-

Expenditure for development and maintenance of the project for 15 years

- = Cost of Project + Renewal cost of BC for two cycle
- = INR 361380000 + 180690000
- = INR 542070000.00/-

Net Total Losses/Cost = INR 244737246.55 + 542070000.00/-= INR 786807246.55/-

(b) Parameters for evaluation of Benefit Not withstanding Loss

Sr.No.	Parameter	Description
1	Increase in productivity attributable to the specific Project	In Lieu of total area to be affected in forest land it is proposed to undertake at least twice of the affected trees as compensatory afforestation as per Forest (Conservation) Act, 1980. Since, due to the current project there will be total affected forest land area of 45.2925 Ha and 1308 no. of felling of trees. The CA will be done in 45.2925 Ha of equivalent non forest land and 1000 trees per Ha will be planted as per compensatory afforestation, which is down the line after ten years would be having the density of 1.0 The Compensatory Afforestation cost will be INR 11161300.0/- The ecological value for a 50 years period of density of 1.0 is 126.74 lac per hectare. By considering the min 0.5 density the ecological gain for this project would be INR 574037145.00/
)2	Benefits to economy due to specific project	Socio economic benefits due to the proposed road strengthening project include: Reduce fuel consumption due to better surface quality. Traffic speed increase which save time of road users. Fuel consumption is estimated to be reduced. Vehicle operating cost will reduce due to better transportation. In general there will be enhancement of socio-economic condition of the area along the project corridor. The overall mission is to increase the GDP of the said region and make it comparable with the nation GDP.
	No. of population benefited due to project	The Population of 125000 People from district Sonbhadra will be benefited directly or indirectly.



4	Economic benefit due to direct and indirect Employment Potential	Approximately 2 man days of permanent employment and 25000 man days of temporary employment will be generated due to the Project.				
5	Economic benefit due to specific Project	The benefit of Econom Project Details	y shown in to Increasing Rate of Cost year	ble below Project cost after 50 Years	Current Cost Involve in Construction of Project	Net Profit in 50year
		WIDENING & STRENGTHENING OF PATWADH TO BASUHARI ROAD FROM KM. NO. 0.000 TO 61.500 UNDER ROAD CONNECTIVITY PROJECT ON LEFT WING EXTREMISM AREA (RCPLWEA) IN TEHSIL:- ROBERTSGANJ, DISTRICT:- SONBHADRA BY PMGSY-DIVISION, P.W.D. SONBHADRA	8%	18069.0 Lac	3613.8 Lac	14455.20 Lac
		So benefit of economy in 50 years = 14455.2 Lac. GDP will increase 1.08% (144.552/13385.96) current GDP of Sonbhadra. Saving due to less consumption of fuel and fatalities=1 crore Total NPV of the project is = (21704985.00/- in Obra Division) + (33925631.80/- in Kaimoor WLD), So, total NPV for the project is INR 556.306 Lacs. The result of economic evaluation show that the proposed development of project is economically viable with ERR 11.24%				

Therefore Project Benefit

= 11161300.00 (CA cost) + 574037145.00 (Ecological value) + 1445520000.00 (Economic gain) + 10000000.00 (Savings) + 55630616.8 (NPV)

Net Profit=INR 2096349061.80/-

Therefore Benefit cost ratio ≈ 2096349061.80/786807246.55 = 2.664

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