

COST-BENEFIT ANALYSIS OF DEVELOPING RETAIL OUTLET AT DAPCHHUAH VIS-A-VIS NPV

TABLE - A : ESTIMATION OF COST OF FOREST DIVERSION

Sl. No.	PARAMETER	REMARKS	MONETARY EQUIVALENT
1	ECOSYSTEM SERVICE LOSSES DUE TO PROPOSED FOREST DIVERSION	Economic value of loss of eco-system services due to diversion of forest shall be the net present value(NPV) of the forest land being diverted as prescribed by the Central Government (MoEF&CC). <i>Note:</i> 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.	NPV for the diverted forest area is considered as Rs. 1116900/Ha. Total value of NPV = Rs. 1116900 x 0.12 Ha. = Rs. 134028 (approx.)
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.	The loss of Animal Husbandry productivity including loss of fodder is calculated as 10% of NPV = Rs. 13402.8 (approx). Although there will not be any losses for animal husbandry as this is a small patch within continuous Reverine Forest where human intervention for animal husbandry is minimal.
3	COST OF HUMAN RESETTLEMENT	To be quantified and expressed in monetary terms as per approved R&R plan.	NIL. There is no human settlement in the proposed site. Hence no cost involved for any R&R scheme.
4	LOSS OF PUBLIC FACILITIES AND ADMINISTRATIVE STRUCTURE (ROADS, BUILDINGS, 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.	NIL. The project does not require diversion of any public facility. Also, since this site is within Reverine Reserve Forest no public facility exists within the area.


(LALRAMNGHANA)

5	POSSESSION VALUE OF FOREST LAND DIVERTED	30% of environmental costs (NPV) due to loss of forest or circle rate of adjoining area in the district should be added as a cost component as possession value of forest land whichever is maximum.	The possession value of forest land diverted is calculated as 30% of NPV = Rs. 40208 (approx).
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 work out as 1.5 times of what oustees should have earned in 2 years had not been shifted.	NIL. Not applicable for this project since there is no resettlement involved.
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 as 50% of NPV applicable as a thumb rule.	Calculated as 50% of NPV = Rs. 67014 (approx).
8	COMPENSATORY AFFORESTATION AND SOIL AND MOISTURE CONSERVATION COST	The actual cost of compensatory afforestation and soil and moisture conservation and its maintenance in future at present discounted value.	Cost of CA is considered as Rs. 199123/Ha. Total CA cost = Rs 199123x0.12 Ha = Rs. 23895 (approx).
	TOTAL COST OF FOREST DIVERSION		Rs. 134028+ 13402.8 40208+67014+23895
			= Rs. 2,78,547.8 (approx).


 (LALRAMNGHAKHA)

TABLE - B : ESTIMATION OF BENEFITS OF FOREST DIVERSION

SL. NO.	PARAMETER	REMARKS	MONETARY EQUIVALENT
1	Increase in productively attribute to the specific project	To be quantified and expressed in monetary terms avoiding double counting.	The lump-sum monetary equivalent of the project benefits is considered as Rs. 2000000 (approx).
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 monetary return of the specific project of setting up retail outlet is calculated as Rs. 40000000 (approx)
3	Economic benefits due to direct and indirect employment due to the project	The lump-sum monetary equivalent of the project benefit is considered as Rs 18 lakhs.	Number of temporary staff = 6 Average salary per year =Rs. 720000 Number of regular staff = 6 Average salary per year = Rs. 1080000 Total economic benefit from employment per year = Rs. 1800000 (approx)
4	Economic benefits due to Compensatory Afforestation	Benefits from such compensatory 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.	Benefits of compensatory afforestation is huge and monetary equivalent is considered as Rs. 2000000 (approx)
	TOTAL BENEFIT OF FOREST DIVERSION		Rs. 2000000+4000000+1800000+2000000
			= Rs. 9800000 (approx)

$$\begin{aligned}
 \text{COST BENEFIT RATIO (CBA RATIO)} &= \text{BENEFIT/COST} \\
 &= 9800000/278547.8 \\
 \text{CBA RATIO} &= 35.18 : 1
 \end{aligned}$$


 (LAKSHMINARAYANA)