

COST BENEFIT ANALYSIS FOR  
**AULLIYA MEDIUM IRRIGATION PROJECT**

On the basis of Guidelines for forest land diversion 2017

**Table-A Cases under which a cost benefit analysis for forest diversion are required**

No.	Nature of proposal	Applicable / Not applicable	Remark
1	All categories of proposal involving forest land up to 20 hectares in plains and up to 5 hectares in hills.	Not applicable	
2	Proposal for defence installation purposes and oil prospecting (prospecting only)	Not applicable	
3	Habitation, establishment of industrial units, tourist lodges complex and other building construction	Not applicable	
4	All other proposals involving forest land more than 20 hectares in plain and more than 5 hectares in hills including roads, transmission lines, minor, medium and major irrigation project, hydro projects, mining activity, railway lines, location specific installations like micro-wave station, auto repeater centers, TV towers etc.	Applicable	These are cases where a cost benefit analysis is necessary to determine when diverting the forest land to non-forest use of overall public interest. The Aulliya Medium Irrigation Project falls under this category.



**Table-B Estimation of cost of forest diversion.**

S.No.	Parameters	Remark
1.	Ecosystem services losses due to proposed forest diversion.	<p>The affected forest area is covered under Tropical dry deciduous forest with net present value 8.03 lakhs/ha. &amp; 6.26 lakhs/ha. Respectively for compartment no. 513 A &amp; 513 B.</p> <p>Cost of land</p> <p>513A -- <math>26.37 \times 8.03 = \text{` } 211.75 \text{ Lakhs}</math></p> <p>513B -- <math>28.23 \times 6.26 = \text{` } 176.72 \text{ Lakhs}</math></p> <p style="text-align: right;"><u>Total = ` 388.47 Lakhs</u></p>
2.	Loss of animal husbandry productivity including cost of fodder.	<p>As per the cost benefit guideline i.e. 10% of N.P.V.</p> <p><math>= 26.37 \times 0.803 = \text{` } 21.18 \text{ Lakhs}</math></p> <p><math>= 28.23 \times 0.626 = \text{` } 17.67 \text{ Lakhs}</math></p> <p style="text-align: right;"><u>Total = ` 38.85 Lakhs</u></p>
3.	Cost of human resettlement	There is no human settlement due to proposed Aulliya Medium Irrigation Project. hence cost of Human resettlement is Nil.
4.	Loss of public facilities and administrative infrastructure (Road, building, schools, dispensaries, electric lines, railways etc.) on forest land if these facilities were diverted due to the project.	There is no loss of public facilities and administrative infrastructures of forest land due to construction of Aulliya Medium Irrigation Project. no cost has been added on this account.
5.	Possession value of forest land diverted.	<p>The possession value of forest land diverted is taken 30% of the N.P.V. due to loss of forest</p> <p><math>= 26.37 \times 2.409 = \text{` } 63.53 \text{ Lakhs}</math></p> <p><math>= 28.23 \times 1.878 = \text{` } 53.01 \text{ Lakhs}</math></p> <p style="text-align: right;"><u>Total = ` 116.54 Lakhs</u></p>
6.	Cost of suffering to oustees	Not applicable.
7.	Habitat fragmentation cost.	Forest land is being acquired for submergence of Aulliya Medium Irrigation Project. There is no amount is taken under this account.
8.	Compensatory afforestation and soil and moisture conservation cost.	<p>The cost @ ` 4.00 Lakhs per Ha. is taken for compensatory afforestation and soil moisture conservation. Hence amount will be :</p> <p><math>= 54.60 \times 4.00 = \text{` } 218.40 \text{ Lakhs}</math></p>
9.	Total cost due to forest land diversion	<p>Total cost due to forest land diversion for Aulliya Medium Irrigation Project will be :</p> <p><math>= 388.47 + 38.85 + 116.54 + 218.40</math></p> <p><math>= \text{` } 762.26 \text{ Lakhs}</math></p>



**Table-C Existing guidelines for estimating benefits of forest diversion in CBA**

S.No.	Parameters	Remark
1.	Increase in productivity attribute to the specific project.	The annual crop production benefit due to Aulliya Medium Irrigation Project will be 3748.49 Lakhs projects designed life of 100 years and water level will increase economic growth of the area. Project also reserves the water for Drinking purpose for adjacent villages.
2.	Benefits to economy due to the specific project.	Aulliya Medium Irrigation Project will trigger economic development with irrigation facility to a land of 5000 Ha. in the surrounding area. Irrigation is proposed by pressurized pipe system.
3.	No. of population benefitted due to specific project.	Project is located in backward area of the District After completion of project. 18579 persons will be benefitted and water level will be increased in surrounding area. This project will also facilitate drinking water supply to adjacent villages.
4.	Economic benefits due to of direct and indirect employment due to the project.	The project will provide direct employment for approximate 125000 mandays during construction period.
5.	Economic benefits due to compensatory afforestation.	Economic benefits due to compensatory afforestation has considered as per the benefit of C.A. guidelines of ministry for N.P.V. estimation.



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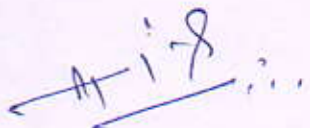
## AULLIYA MEDIUM IRRIGATION PROJECT

### COST BENEFIT ANALYSIS

Total cost due to forest land diversion - ₹ 762.26 Lakhs

Total crop production cost benefit  
annually due to project - ₹ 3748.49 Lakhs

Benefit cost ratio of project — 1.52



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