

Cost Benefit Analysis for

SATDHARU 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	Remarks
1	All categories of proposals involving forest land up to 20 hectares in plains and up to 5 hectare 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 plains and more than 5 hectares in hills including roads, transmission lines, minor, medium and major irrigation projects, hydro projects, mining activity railway lines, location specific installations like micro-wave station, auto repeater centres, 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 Satdharu Medium Irrigation Project falls under this category.

Table-B Estimation of cost of forest diversion

SN.	Parameters	Remarks
1	Ecosystem services losses due to proposed forest diversion	Ecosystem services due to diversion of forest land suggested by the Central Powered Committee as per the forest classification report of proposed Satdharu Medium Project is Rs. 6.26 Lakh/ Ha. Cost of Land: $= 789.93 \times 6.26 = 4944.96$ Lakh.
2	Loss of animal husbandry productivity, including cost of fodder.	As per the cost benefit guideline i.e. 10% of N.P.V. 0.626 Lakh Per. Ha. $= 789.93 \times 0.626 = \text{Rs. } 494.50$ Lakh.
3	Cost of human resettlement	There is no human settlement due to proposed Satdharu Medium Irrigation Project, hence cost of Human resettlement is NIL .
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,	There is no loss of public facilities and administrative infrastructures of forest land due to construction of Satdharu Medium Irrigation Project, no cost has been added on this account.
5	Possession value of forest land diverted.	The possession value of forest land diverted is taken 30% of the N.P.V. due to loss of forest i.e. 1.878 Lakh / Ha. $= 789.93 \times 1.878 = \text{Rs. } 1483.49$ Lakh.
6	Cost of suffering to oustees	Not applicable.
7	Habitat Fragmentation Cost	Forest land is being acquired for construction of dam, submergence & Spill channel of Satdharu Medium Irrigation Project. There is no amount is taken under this account.
8	Compensatory afforestation and soil & moisture conservation cost	The cost @ Rs 4.00 Lakh per Ha. is taken for compensatory afforestation and soil moisture conservation, Hence amount will be : $= 789.93 \times 4.00 = \text{Rs. } 3159.72$ Lakh.
9.	Total cost due to forest land diversion.	Total cost due to forest land diversion for Satdharu Medium Irrigation Project will be: $= 4944.96 + 496.50 + 1483.49 + 3159.72$ $= \text{Rs. } 10082.67$ Lakh.

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

Sn.	Parameters	Remarks
1	Increase in productively attribute to the specific project	The crop production benefit due to Satdharu Medium Irrigation Project will be Rs. 5779.38 Lakh in designed life of 100 years & water level will be increase economy growth of the project. Project also reserves the water for Drinking purpose of Damoh Town & adjacent villages.
2	Benefits to economy due to the specific project	Satdharu Medium Irrigation Project will trigger economy development and also influence with Irrigation facility to a land of 7555 Ha. in the surrounding area. Irrigation is proposed by pressurized pipe system.
3	No. of population benefited due to specific project	Project is located in backward area of the village. After completion of project, 8540 cultivators will be benefitted and water level will be increased in surrounding area. This project will also facilitate drinking water supply to Damoh Town & adjacent villages.
4	Economic benefits due to of direct and indirect employment due to the project	The project will provide direct employment for approximate 35000 people (24 Month) during construction period.
5	Economic benefits due to Compensatory afforestation	An economic benefit due to compensatory afforestation has been considered as per the benefit of C.A. guidelines of ministry for N.P.V. estimation.

SATDHARU MEDIUM PROJECT

COST BENEFIT ANALYSIS

Total cost due to forest land (Rs. Lakh) - 10082.67 Lakh.

Total benefit due to project Rs. - 5779.38 Lakh.

Benefit Ratio of project - 1.41



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