

**Cost Benefit Analysis for  
GARAWADIYA TANK PROJECT**

RATLAM

On the basis of Guidelines for Forest Land Diversion 2017

**Table-A Cases Under Which A Cost Benefit Analysis for Forest Diversion Area Required**

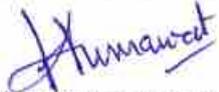
S. No.	Nature of Proposal	Applicable / Not Applicable	Remarks
1	All categories of proposal involving forest land upto 20 Ha. in plains and upto 5 Ha. in hills.	Not applicable	
2	Proposal for defense installation purposes and oil prospecting (prospecting only)	Not applicable	
3	Habitation, establishment of industrial units, tourist lodges complex and other building construction.	Not applicable	
4	All other proposal involving forest land more than 20 Ha. in plain and more than 5 Ha. 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 <b>Garawadiya Tank Project</b> falls under this category.

**Table-B Estimation of Cost of Forest Diversion**

S. No.	Parameters	Remarks
1	Ecosystem services losses due to proposed forest diversion.	Ecosystem services due to diversion of forest land suggested by the forest classification report of proposed, <b>Garawadiya Tank Project</b> is Rs. 6.26 Lakhs/Ha. Cost of Land = $12.77 \times 6.26 = 79.94$ Lakhs Eco Class III consisting of tropical dry deciduous forest .
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. $= 12.77 \times 0.626 = 7.99$ Lakhs
3	Cost Human Resettlement	There is no human settlement due to proposed <b>Garawadiya Tank Project</b> . Hence cost of human resettlement is nill.
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 <b>Garawadiya Tank Project</b> . 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. Rs. 1.878 Lakhs/Ha. $= 12.77 \times 1.878 = 23.98$ Lakhs
6	Cost of suffering to oustees	No Applicable.
7	Habitat fragmentation cost	Forest land is being acquired for submergence of <b>Garawadiya Tank Project</b> . There is no amount is taken under this account.
8	Compensatory afforestation and soil and moisture conservation cost.	The cost @Rs 6.33 Lakhs per Ha. is taken for compensatory afforestation and soil moisture conservation. Hence amount will be $= 12.77 \times 6.33 = 80.83$ Lakhs
9	Total cost due to forest land diversion	Total cost due to forest land diversion for <b>Garawadiya Tank Project</b> will be : $= 79.94 + 7.99 + 23.98 + 80.83 = 192.74$ Lakhs

**Table-C Existing Guidelines for Estimating Benefits of Forest Diversion in CBA**

S. No.	Parameters	Remarks
1	Increase in productivity attribute to the specific project.	The crop production benefit due to <b>Garawadiya Tank Project</b> will be Rs. 7631 Lakhs in designed life of 100 years and water level will be increase economy growth of the project. Project also reserves the water for drinking purpose for adjacent villages.
2	Benefit to economy due to the specific project	<b>Garawadiya Tank Project</b> will trigger economy development and also influence with irrigation facility to a land of 147 Ha. in the surrounding area. Irrigation is proposed by gravity flow system.
3	No. of population benefited due to specific project.	Project is located in backward area of the village. After completion of project 147 Ha. Cultivators will be benefited and water level will be increased in surrounding area. This project will also facilitate drinking water supply to adjacent villages.
4	Economic benefit due to of direct and indirect employment due to the project.	The project will be provided direct employment for approximate 5,000 people (12months) during construction period.
5	Economic benefits due to compensatory afforestation.	An economic benefit due to compensatory afforestation has considered as per the benefit of C.A. guidelines of ministry for N.P.V. estimation.

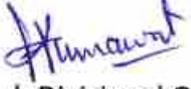
  
Sub Divisional Officer  
Water Resources Sub Division  
Sailana

  
Executive Engineer  
Water Resources Division  
Ratlam

## GARAWADIYA TANK PROJECT

### COST BENEFIT ANALYSIS

Total Cost Due to Forest Land: Rs. 192.74 Lakhs  
Total Benefit Due to Project : Rs. 7631 Lakhs  
Benefit Ratio of Project : 1.22

  
Sub Divisional Officer  
Water Resources Sub Division  
Sailana

  
Executive Engineer  
Water Resources Division  
Ratlam

# GARAWADIYA TANK PROJECT

Block : Bajna

District : Ratlam

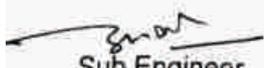
## BENEFIT COST RATIO

### (A) BENEFITS

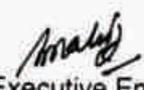
1	(i)	Value of total agriculture produce before irrigation	: Rs.	2810000.00
	(ii)	Cost of cultivation to economy	: Rs.	1388000.00
	(iii)	Net production before irrigation	: Rs.	1422000.00
2	(i)	Value of agriculture produce after irrigation	: Rs.	10421500.00
	(ii)	Cost of cultivation to economy	: Rs.	1368000.00
	(iii)	Net production after irrigation	: Rs.	9053500.00
		<b>Net benefit 2 (iii) - 1(iii)</b>	: Rs.	<b>7631500.00</b>

### (B) ANNUAL COST

			5%	10%
1	(i)	Interest on capital of (Lacs) 513.31 produce before irrigation	: Rs. 2566550.00	5133100.00
	(ii)	Depreciation charges @2%	: Rs. 1026620.00	1026620.00
	(iii)	Administrative expenses @500/-per Ha. on 147.00 Ha.	: Rs. 73500.00	73500.00
	<b>Total</b>		: Rs. 3666670.00	6233220.00
	<b>Benefit Cost Ratio</b>	<b>=</b>	<b><u>7631500.00</u></b> <b>3666670.00</b>	<b><u>7631500.00</u></b> <b>6233220.00</b>
		<b>=</b>	<b>2.08</b>	<b>1.22</b>

  
Sub Engineer

  
Sub Divisional Officer  
W. R. Sub Division  
Sailana

  
Executive Engineer  
W. R. Division  
Ratlam [M.P.]