

Cost Benefit Analysis for

SONKHEDI TANK PROJECT

BARWANI

On the basis of Guidelines for Forest Land Diversion 2017

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

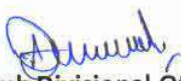
S. No.	Nature of Proposal	Applicable / Not Applicable	Remarks
1	All categories of proposal involving forest land upto 20 Ha. in plains and upto 5 Ha. in hills.	Not applicable	
2	Proposal for defense installation purposes and oil prospecting (prospecting only)	Not applicable	
3	Habitation, establishment 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	

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, Sonkhedi Tank Project (Minor Irrigation Tank) is Rs. 12.29 Lakhs/Ha. Cost of Land = $49.320 \times 12.29 = 606.14$ Lakhs Eco Class III consisting of tropical dry decided forest dams.
2	Loss of animal husbandry productivity including cost of fodder.	As per the cost benefit guideline i.e. 10% of N.P.V. 1.229 Lakh per Ha. = $49.320 \times 1.229 = 60.61$ Lakhs
3	Cost Human Resettlement	There is no human settlement due to proposed Sonkhedi Tank Project (Minor Irrigation Tank) . 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 Sonkhedi Tank Project (Minor Irrigation Tank) . 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. 3.687 Lakhs/Ha. = $49.320 \times 3.687 = 181.84$ Lakhs
6	Cost of suffering to oustees	Not Applicable.
7	Habitat fragmentation cost	Habitat fragmentation cost of forest land diverted is taken 50% of the N.P.V. due to loss of forest i.e. Rs. 6.145 Lakhs/Ha. = $49.320 \times 6.145 = 303.07$ Lakhs
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 = $49.320 \times 6.33 = 312.20$ Lakhs
9	Total cost due to forest land diversion	Total cost due to forest land diversion for Sonkhedi Tank Project (Minor Irrigation Tank) will be : = $606.14 + 60.61 + 181.84 + 303.07 + 312.20$ = 1463.86 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 Sonkhedi Tank Project will be Rs. 3335 Lakhs in designed life of 50 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	Sonkhedi Tank Project will trigger economy development and also influence with irrigation facility to a land of 535 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 350 farmers benefited and 535 Ha. Irrigation area Cultivators will benefit, 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 direct and indirect employment due to the project.	The project will provide direct employment for approximate 6,000 people (24 months) 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.


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SONKHEDI TANK PROJECT

Tehsile :- Varla

District :- Barwani

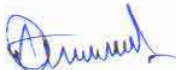
BENEFIT COST RATIO


A. BENEFITS

1.	(i) Value of total agriculture produce Production before irrigation	:	Rs. 16865530.00
	(ii) Cost of cultivation to economy	:	Rs. 921090.00
	(iii) Net production before irrigation	:	Rs. 15944440.00
2.	(i) Value of agriculture production after irrigation	:	Rs. 59420000.00
	(ii) Cost of cultivation of economy	:	Rs. 2384500.00
	(iii) Net production after irrigation	:	Rs. 57035500.00
	Net Benefit 2 (iii)-1(iii)	:	Rs. 41091060.00

B. ANNUAL COST

	5%	10%
i Interest on capital Rs. 1609.01 lacs	Rs. 8045050.00	Rs. 16090100.00
Production before irrigation		
ii Depreciation charges @2%	Rs. 3218020.00	Rs. 3218020.00
iii Administration expenses @500/- per Ha.	Rs. 267500.00	Rs. 267500.00
Total :-	Rs. 11530570.00	Rs. 19575620.00
Benefit Cost Ratio	<u>41091060</u> 11530570 3.56%	<u>41091060</u> 19575620 2.09%


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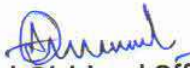
SONKHEDI TANK PROJECT

Tehsile :- Varla

District :- Barwani

COST BENEFIT ANALYSIS

Total Cost Due To Forest Land	:	Rs. 1463.86 Lakh.
Total Benefit Due To Project	:	Rs. 4109.11 Lakh.
Benefit Ratio Of Project	:	0.35



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