

SEMALKHEDI TEERTH IRRIGATION PROJECT**Cost of Benefit Analysis**

(AS PER GOLMOEP4CC NO. 7-69/2011 DATED 01.08.2017)

TABLE -B ESTIMATION OF FOREST DIVERSION.

1	Ecosystem services losses due to proposed forest diversion.	Ecosystem services due to diversion by the central powered committee as per the forest classification report of proposed Semalkhedi Teerth Irrigation Project is Rs. 12.29 Lakhs/Ha. Cost of land. $= 70.88 \times 12.29 = 871.12$ Lakhs.
2	Loss of animal husbandry productivity including cost of fodder	As per the cost guideline i.e. 10% of N.P.V. 1.229 Lakh per ha. $= 70.88 \times 1.229 = 87.11$ Lakhs.
3	Cost of human resettlement	There is no human resettlement due to proposed Semalkhedi Teerth 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 infrastructure of forest land due to construction of Semalkhedi Teerth 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. Rs. 3.687 Lakhs/ha. $= 70.88 \times 3.687 = 261.33$ Lakhs
6	Cost of suffering to oustees.	Not applicable.
7	Habitat fragmentation cost.	Forest land is being acquired for submergence of Semalkhedi teerth Irrigation project. There is no amount taken under this account.
8	Compensatory afforestation and soil and moisture conservation cost.	The Cost @ Rs. 5.00 Lakhs per Ha. Is taken for compensatory afforestation and soil moisture conservation. Hence amount will be. $= 70.88 \times 5 = 354.40$ Lakhs
9	Total Cost due to forest land diversion	Total cost due to forest land diversion for semalkhedi teerth irrigation project will be. $= 871.12 + 87.11 + 261.33 + 354.40 = 1573.96$ lakhs

TABLE -C EXISTING GUIDELINES FOR ESTIMATING BENEFITS OF FOREST DIVERSION IN CBA.

1	Increase in productivity attribute to the specific project.	This dam will provide irrigation to 1240 ha of agriculture land. Irrigation on this 1240 ha will produce additional about 8680 tonnes of Rabi crop. The crop production benefit due to Semalkhedi Teerth Irrigation project will be Rs. 2170 Lakhs. Project also reserves the water for Drinking purpose for Sironj of Distt. Vidisha.
2	Benefits to economy due to the specific project.	Semalkhedi Teerth Irrigation project will trigger economy development and also influence with irrigation facility to a land of 1240 ha. in the surrounding area. Irrigation is proposed by pressurized pipe system. This project will generate addition employment to the tune of 1.23 lakh mandays.
3	No. of population benefitted due to specific project.	Project is located in backward area of the village. After completion of project 1800 cultivators will be benefitted and water level will be increased in surrounding area.
4	Economic benefits due to of direct and indirect employment due to the project.	The Project will be provided direct employment for approximate 35600 man-day during construction period (24 Month)
5	Economic benefits due to compensatory afforestation.	An economic benefit due to compensatory afforestation will be round Rs. 280 lakhs
6	Total benefits	Rs. 2450 lakhs

Total cost of this project = Rs. 1573.96 lakhs

Total benifits of this project = Rs. 2450 lakhs

Cost-benefit ratio = 1 : 1.55

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SEMALKHEDI TEERTH TANK PROJECT

Tehsil : Sironj

District : Vidisha

Pre Development (Economics of tank irrigation schemes)

S. No.	Name of crop	Area under cultivation	Cost of cultivation	Total cost of cultivation	Yield/Ha. (Quintal)	Rate per quintal	Total Yield	Total Value of produce in Rs.
1	2	3	4	5	6	7	8	9
1	Rabi -							
	Ordinary Wheat	810	5000	4050000	18	4200	14580	61236000
	Gram	250	3000	750000	12	5650	3000	16950000
	Pulses	180	3000	540000	10	7550	1800	13590000
	Total	1240		5340000				91776000

Post Development (Economics of tank irrigation schemes)

S. No.	Name of crop	Area under cultivation	Cost of cultivation	Total cost of cultivation	Yield/Ha. (Quintal)	Rate per quintal	Total Yield	Total Value of produce in Rs.
1	2	3	4	5	6	7	8	9
1	Rabi -							
	Ordinary Wheat	510	6000	3060000	40	4200	20400	85680000
	Hy. Wheat	485	7000	3395000	50	4200	24250	101850000
	Gram	120	4500	540000	25	5650	3000	16950000
	Pulses	125	3000	375000	20	7550	2500	18875000
	Total	1240		7370000				223355000

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SEMALKHEDI TEERTH IRRIGATION PROJECT**BENEFIT TO COST RATIO****(A) BENEFITS:**


1	(i) Value of total agriculture produce before irrigation.	:	91776000
	(ii) Cost of cultivation to economy	:	5340000
	(A) net production before irrigation (i-ii)	:	86436000
2	(i) Value of total agriculture produce after irrigation	:	223355000
	(ii) Cost of cultivation to economy	:	7370000
	(B) Net production after irrigation (i-ii)	:	215985000
	Net Benefit 2 (B) - 1 (A) (215985000 - 86436000) =	:	129549000

(B) Annul Cost

Estimated Cost of Project	:	430934000
Cost of Land Development 1240 @ Rs. 2000/Ha.	:	2480000
Total Cost	:	433414000

		5%	10%
1	(i) Interest on capital of Rs. 4334.14 Lakhs produce before irrigation.	21670700	43341400
	(ii) Depreciation charges @ 2%	433414	866828
	(iii) Administrative charges @ Rs. 250/- per ha on 1240 Ha.	310000	310000
	Total	22414114	44518228
	Benefit Cost Ratio	$\frac{129549000}{22414114} = 5.78$	$\frac{129549000}{44518228} = 2.91$
	5% Interest on Capital	5.78 Lakhs	
	10% Interest on Capital		2.91 Lakhs


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SEMALKHEDI TEERTH IRRIGATION PROJECT.

BENEFIT TO COST ANALYSIS

Total cost due to forest land.	-	1573.86 Lakhs
Total benefit due to project.	-	1295.49 Lakhs
Benefit cost ratio of project.		
@ 10% Interest on capital.	-	2.91 Lakhs
@ 5% Interest on Capital.	-	5.78 Lakhs

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