

COST BENEFIT ANALYSIS FOR BANDA IRRIGATION PROJECT

On the basis of guidelines for forest land diversion 2018

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

S.NO	Nature of Proposal	Applicable/Not Applicable	Remark
1	All categories of proposals involving forest land up to 20 Hact in plains and up to 5 Hact in Hill	Not Applicable	
2	Proposal for defense installation purpose and oil prospection (prospecting only)	Not Applicable	
3	Habitation ,establishment of industrial units ,tourist ledges complex and other building construction	Not Applicable	
4	All other proposals involving forest land more than 20 Hac. in plains and more than 5 Hac. in Hill i/c roads ,transmission Lines, minor, medium and major irrigation projects mining activity railway lines ,location specific installations like micro wave stations, auto repeater centres , TV tower etc.	Applicable	These are the cases where a cost benefit analysis is necessary to determine when diverting the forest land to non forest use of overall public interest .The Banda Irrigation Project falls under this category

Table —B Estimation of Cost of Forest Diversion

S.No.	Nature of proposal	Remark
1	2	3
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 Banda Irrigation Schemes is Rs. 7.00 Lacs Fla = 530.85×7.00 —Rs. 3715.95 Lacs
2.	Loss of animal husbandry productivity including cost of fodder	As per the cost benefit guideline i.e.10% of M.P.V Lacs per Ha = 3715.95×0.1 —Rs 371.595 Lacs
3.	Cost of human Resettlement	There is no human settlement due to proposed Banda Irrigation Project Scheme 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 Infrastructure of forest land due to construction of Banda Irrigation Project Scheme 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. 2Lacs/Ha. — 530.85×2.00 =Rs. 1061 Lacs
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 Banda Irrigation Project Scheme There is no amount is taken under this account.
8.	Compensatory afforestation and soil & moisture conservation cost.	The cost @ Rs. 8.00 Lacs per ha. Is taken Compensatory afforestation . Hence amount will be — 530.85×8.00 =Rs. 4246.80 Lacs
9.	Total cost due to forest land diversion	Total cost due to forest land diversion for Banda Irrigation Project = 9395.345 Rs. LACS

(H. G.KUMAR)

Project Manager

Bina PMU WR Department

Sagar (M.P.)


Table -C Existing Guide lines for estimating benefits of Forest Diversion in CBA

No	Nature of Proposals	Remark
1	<u>2</u>	<u>3</u>
1	Increase in productivity attribute to the specific project	The crop production benefit due to Banda Irrigation project will be Rs. 48858.00 lakhs in designed life of 50 year and water level will be increase economy growth of thee project
2	Benefit to economy due to the specific project	Banda irrigation Scheme will trigger economy development and also influence with irrigation facility to a land of ha 80000 in the surrounding area Irrigation is proposed by lift.
3	No of population benefitted due to specific project	Project is located in backward area of the village .After completion of the project ,2500 cultivators will be increase in surrounding area
4	Economic benefits due to of direct and indirect employment due to the project	The project will provide direct employment for approximate 2000 people (48month) 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 CA guidelines of ministry for NPVestimation

BANDA IRRIGATION PROJECT

COST BENEFIT ANALYSIS

(A) Pre development cropproduction benefits (Rs.Lacs) -----	5024.00Lacs
(B) Post development crop production benefits (Rs.Lacs)-----	54110.00Lacs
(i) Total crop production benefits due to project (B-A)-----	49086.00Lacs
(C) Total Cost of the project -----	261053.54Lacs
1. Annual Maintenance cost for CCA80000 ha ---	727.08Lacs
2. Interest on capital 10% -----	26105.35Lacs
3. Depreciation charge 1% -----	2610.535Lacs
(ii)Total Charge(1+2+3) -----	29442.969 Lacs
Net Benefit from Project (i-ii) -----	19643.031Lacs
Profit for 50 years -----	982151.55Lacs
(D) Total cost due to forest land -----	9395.345Lacs
diversion Benefit ratio of project -----	104.536 Lacs



(H. G.KUMAR)
ProjectManager
BinaPMUWR
DepartmentSagar(M.P.)

BANDA
IRRIGATIONPROJECT
BENEFIT COST RATIO

District
TEHSIL
COST OF THE PROJECT


SAGAR
BANDA
261053.5
Lakhs

SR.NO.	PARTICULAR	AMOUNT (LACS)	REMARKS
A. BENEFIT			
1	Value of total agriculture produce before irrigation	5024	
2	Cost of cultivation to the economy of item 1	820	
3	Net produce before after irrigation (1-2)	4204	
4 (i)	Value of totel produce after Irrigation	54110	
(ii)	summér crop	0.00	
(iii)	fisheries	1522	
(iv)	Drinking Use	270	
(v)	Red cultivation 5% of total benefit of irrigation	2521	
	Value of total produce <i>after</i> irrigation with fisheries, Drinking , Industrial Summer Crop & Bed Cultivation	58424	
5	cost of cultivation to the economy of item 4	3665	
	NET PRODUCE AFTER IRRIGATION (4-5)	54739	
7	Loss of production due to submergence	228	
8	Net Annual benefits (6-3-7)	50307	
B. ANNUAL COSTS		5% interest	10% Interest
1	Interest on capital (i.e. estimated cost of theproject)	13053	26105
2	Cost of electricity (Levelised tarriff @ Rs 1 per unit) for 29.64 MW @90 days	0.64	0.64
3	Depreciation charges @ 2% of Rs lacs on capitalcost	5221	5221
4	Administraiive expenses @ Rs100 per hectareon 80000 hectare	60	80
	Operation and <u>maintanance</u> @0.75%per annum of unit-II	1043	1043
	TOTAL	19397	32450
	B/C RATIO	2.59	1.55


 (H. G.KUMAR)
 Project Manager
 Bina PMU WR DepartmentSagar (M.P.)

**BANDA IRRIGATION MAJOR PROJECT
ECONOMICS OF IRRIGATION SCHEME**

Name of Crop	Area under cultivation (Ha.)	Cost of cultivation (Rs./Ha.)	Total cost of cultivation (Rs.lacs)	Yield per hectare (Qt)	Rate per Qt (Rs.)	Total Yield (Qt)	Total Value of produce (Rs. Lacs)	Remarks
1	2	3	4	5	6	7	8	9
PRE DEVELOPMENT								
RABI								
Wheat Ord	8000	4000	320.00	8	1600	64000	1024.00	
Gram	20000	2500	500.00	8	2500	160000	4000.00	
TOTAL	28000	6500	820.00			224000	5024.00	
POST DEVELOPMENT								
RABI								
Wheat Ord	59000	5000	2950	22	2800	1298000	36344	
Pulses Gram	21000	3500	735	18	4700	378000	17766	
Total Rabi	80000	8500	3685			1676000	54110	
Loss of Production due To submergence								
Wheat	1000	4000	40.00	8	1600	8000	128.00	
Gram	800	2500	20.00	8	2500	6400	160.00	
TOTAL	1800		60.00			14400	288.00	
			Net Loss				228.00	


 (H. G. KUMAR)
 PROJECT MANAGER
 BINA PROJECT
 BINA MONITORING UNIT
 SAGAR (M.P.)