

Annexure-III

Calculation of Benefit-cost Ratio

		(Rs Lakhs)		
		Only Daudhan	Daudhan+ Bariyarpur	Daudhan+ Bariyarpur+ Parichha
I	Estimated cost of the project			
a.	Total cost of headworks	553010.79	603363.81	623587.71
	Apportioned cost of headworks	463680.38	514033.40	534257.30
	Total utilisation under Daudhan dam=4079.62 MCM			
	Diversion to Betwa basin =659 MCM			
	Utilisation excluding diversion =3420.62 MCM			
b.	Total cost of Ken-Betwa link canal	178966.79	178966.79	178966.79
	Apportioned cost of K-B link canal	69153.83	69153.83	69153.83
	Total diversion through link canal=1074 MCM			
	Diversion to Betwa basin =659 MCM			
	Utilisation excluding diversion =415MCM			
c.	Cost of Ken LBC system	83830.08	83830.08	83830.08
d	Cost of Power houses	34154.20	34154.20	34154.20
e	Land levelling and shaping to facilitate irrigation and to prevent soil loss due to erosion in undulating area of the command as per the EMP Report. Out of 515210 ha 104221 ha only area is considered for land levelling @ Rs 18000/-per ha	18759.78	18759.78	18759.78
	Total apportioned Capital Cost	669578.28	719931.30	740155.20
II	Annual Benefits			
A	Irrigation Component			
a.	Net value of produce after irrigation	144703.39	144703.39	144703.39
b.	Net value of produce before irrigation	7704.46	7704.46	7704.46
	Net annual irrigation benefits (1-2)	136998.93	136998.93	136998.93
B.	Power Component (Av 219.03 MKWh @Rs3/- per Unit)	6570.90	6570.90	6570.90
C.	Water Supply (49 M.Cum @Rs 0.26 per Cum)	127.40	127.40	127.40
D.	Fisheries @ Rs. 34.00/kg for production of 1300 tonnes	442.00	442.00	442.00
E	Tourism @ Rs.2000/- day per hut for 50 huts assuming 100 days in a year	100.00	100.00	100.00
	Total benefits :	144239.23	144239.23	144239.23
III	Annual Costs			
1	Interest on Capital @ 10 % (Estimated total Cost of the project including cost of land development)	66957.83	71993.13	74015.52
2	Depreciation of the project @ 1 % of the cost of project (a+b+c) for 100 years life			

	(irrigation component).	6166.64	6670.17	6872.41
3	Depreciation of the project @ 1.2 % of the cost of power for 75 years (power component).	409.85	409.85	409.85
4	Annual operation and maintenance charges at Rs. 600/- per ha. of CCA (i.e. 515210 ha.)	3091.26	3091.26	3091.26
5	Annual operation and maintenance cost of power houses @5% cost of E & M works of two power houses	663.65	663.65	663.65
6	Maintenance of the headworks at 1% of the cost of item (a)	4636.80	5140.33	5342.57
7	Depreciation of the pumping system @ 8.33% of the estimated cost Rs 517 Lakh of the pumping system in Ken LBC assuming life of the system as 12 years (applicable to lift irrigation).	43.07	43.07	43.07
8	Power charges for lifting in Ken LBC for 76.77 MU @ Rs.3 /- per unit	2303.10	2303.10	2303.10
9	Total annual costs (1 to 8)	84272.20	90314.56	92741.43
	Benefit-Cost Ratio	1.71	1.60	1.56