

Annexure (f)**COST BENEFIT ANALYSIS FOR BHADBHUT BARRAGE PROJECT NEAR BHADBHUT VILLAGE, DISTRICT - BHARUCH, GUJARAT****Total forest area: 187 Ha****Table-A: Estimation of cost of forest diversion**

Sr. No.	Parameters	Remarks
1	Ecosystem services losses due to proposed forest diversion	Rs. 11.70 Crore. (NPV for this area is Rs. 6.26 Lakh per Ha, therefore Rs. 11.70 Cr for 187 Ha)
2	Loss of animal husbandry productivity, including loss of fodder	Rs. 1.17 Crore (10% of NPV)
3	Cost of human resettlement	Nil. (There is no habitation in the forest land. Hence, human resettlement cost 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	Nil. (There is no public facility and administrative infrastructure.)
5	Possession value of forest land diverted	Rs. 8.79 Crore (As per Circle Rate)
6	Cost of suffering to oustees	Nil. (There is no habitation and hence no suffering to oustees.)
7	Habitat Fragmentation Cost	Rs. 5.85 Crore (50% of NPV)
8	Compensatory afforestation and soil & moisture conservation cost	Rs. 0.84 Crore + Rs. 4.97 Crore = Rs. 5.81 Crore
9	Project Cost	Rs. 4337 Crores spread in span of five years

V.P. Hapare

Table B: Existing guidelines for estimating benefits of forest-diversion in CBA.

sr. No.	Parameters	Remarks
1	Increase in productivity attribute to the specific project	Rs. 1304 Crore per annum. As per the Project Report, 300 Million Cubic Meter of Water is to be reserved for industrial use and 125 Million Cubic Meter is to be used for domestic and other purposes. Water charges and toll charges for the traffic on the bridge would generate the said revenue annually. The said amount is only the revenue to the Government exchequer. Industrial growth to be propelled because of water availability would benefit much more than the said direct benefit.
2	Benefits to economy due to the specific project	Same as 1 above (1. and 2. are the same and not duplicated in computation of Cost Benefit Ratio) As per the Project Report, traffic would be benefitted by curtailment of distance between Dahej and Suart by 30 Km. Industrial growth to be propelled by the project would benefit much more especially in Dahej and surrounding area. No indirect benefits are considered in the said amount.
3	No. of population benefitted due to specific project	No. of population benefitted: 15,00,000 People benefitted from domestic water supply and employment generation are estimated in the said figure.
4	Economic benefits due to direct and indirect employment due to the project	Rs. 135 Crore Per Annum PCPIR is a Special Zone near Dahej which is coming up and waiting for fresh water to be available. Approximately 2.5 Lack employment opportunities (including presently existing unsustainable industries) would be feasible due to this accomplishment.
5	Economic benefits due to Compensatory afforestation	Rs. 1.87Crore per annum. (Rs.1,00,000 Per Ha. for total area of 187 Ha.)

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As per the Guidelines issued by MoEF&CC (Forest Conservation Division), value of benefits is discounted at 12% for 50 years.

Total benefits: 19767

Total loss: 3098

Cost: Benefit Ratio: 1 : 6.38

Note: (1) Annual Cost and Benefits are discounted at 12%.

(2) The Cost Benefit ratio is calculated for 50 years.



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