

ANNEXURE –‘A’
COST BENEFIT ANALYSIS
EVALUATION OF LOSSES FROM THE PROJECT

Sr. No.	Parameter	Analysis					Amount Rs. In lakhs
1.	Loss of value of timber, fuel wood & MFP on annual basis including loss of man hours p.a. of people derive livelihood by wages from harvest of these commodities (to be quantified and expressed in monitory terms) N.B.: No extraction of Forest produce is done in this Forest area as it has been devoid of tree growth. Part of it was planted up with miscellaneous species in 1984-85 i.e. 30 years before and has a stunted tree-growth of non-timber miscellaneous species.	a) Forest Produce					
		Timber		Qty. Cum.	Rate Rs. Per Cum	Amount In Rs. In Lakhs	
		i	Teak	Nil	N.A.	00.00	
		ii	Non Teak	Nil	N.A.	00.00	
		Fuel wood					
		i	Teak	Nil	N.A.	00.00	
		ii	Non teak	10	N.A.	0.10	
		iii	MFP	Nil	N.A.	00.00	
		Total as per annual					
		b)	Exploitation cost of		N.A.	Nil	
		c)	Loss of plantation cost on 5.903 hecets x 15000 = 88,545/- R.O. 0.88 lakhs		@15000/- per hectares	0.88	
		d)	Loss of MDs livelihood – 25 H Forest supports 1 person’s livelihood per day. H = 5.903 hectares forest area required for the project. Loss of man days = 5.903/ 25 = 0.236 Loss for 50 yrs = 0.236 x 365 x 50 i.e. = 4,309 Man Days Considering the rate of Rs. 500/- per day on an average considering inflation Monitory loss = 4,309 Man days x Rs.500/- daily wages = Rs.2,154,500/- Rounded off to Rs. 21.545 lakhs			21.545 Lakhs	
		Total					22.4 Lakhs
2.	Loss of animal husbandry productivity including loss of fodder	Loss of fodder Yield of grass per hectare of forest is presumed to be 1 M.T. but these areas drought affected and have plantation hence yield per hectare is taken as 500 kg. Grass yield = 5.903 hect. x 0.5 = 2.952 M.T. Monitory value for 50 years assuming the rate of grass to be Rs. 1500/- per per M.T.= 2.952 x 1500 x 50 = Rs. 2,21,3625/- say Rs. 2.21 Lakhs					22.4
							2.21

3.	Cost of human settlement (to be quantified and expressed in monetary terms)	No families from forest land are affected due to project. The compensation would be as follows: Average cost of acquisition of land, houses and other infrastructures etc. is Rs. 2.00 lakhs per family – Cost of compensation = 00 x 2.00 = 00 lakhs	00.00
4.	Loss of public facilities and other infrastructures (Roads, Buildings, Electric lines, railways etc.) on forest land which would require forest land if these facilities are diverted due to project.	For 50 years- As there are no Roads, Electric lines, Cart tracks, Water pipe lines, Forest nursery, Bridges or any other such public facilities and infrastructures on the forest land required for the project. No forest land is required for diversion of any such facilities or infrastructures due to project. Hence no loss is expected.	Nil
5.	Environment losses, effects of hydrological cycle, wildlife losses, micro climate upsetting of ecological balance	As a thumb rule, environmental loss value of one hectare of Forest density 1.0 taken as 8.75 lakhs for period of 50 years. The Project area is with an average of density of .1 so the monetary environmental loss for next 50 years in Lakhs = Forest Land in Hectares x 0.1 x 8.75 i.e. 5.903 x 0.1 x 8.75 = 5.165 Lakhs (R.O.)	5.165
6.	Suffering outsets' social or rehabilitation cost (In addition to cost likely to be incurred in providing residence occupation and social services be worked out as 1.5 times of what he should have earned in 2 years if had he not been shifted (to be quantified and expressed in monetary terms)	At the average daily wages rate of Rs. 300/- per day, the Suffering outsets' monetary cost can be calculated as follows – 1.5 times for 2 years(730days) @ Rs.300/- per day = i.e. 1.5 x 730 x 300 = 3.29 Lakhs	3.29
		Loss Say Rs. 33.065 Lakhs	33.065

ANNEXURE –‘A’
COST BENEFIT ANALYSIS

EVALUATION OF BENEFITS FROM THE PROJECT

Sr. No.	Parameters	Benefits from the Project	Amount Rs. In lakhs
1.	Increase in productivity attributable to the specific project	The project does directly cause increase in productivity. It is estimated that 20% increase in productivity will be evident due to better transport facility. But it is possible to quantify it directly. But increase in quick transport of exportable produce of floriculture, grapes etc. would raise the benefits to the agriculturists. This in turn would be attributable to the project indirectly. So even though there is no benefit shown here. It is being depicted in other category (parameter) below in respective items.	Not directly quantified So held nil here. Actual given below,
2.	Benefits of economy	i) Project will benefit the economy by improvement ii) Plantation and environment benefit due to compensatory Afforestation (Rs.in Lakhs) = Area in ha x 0.3x 8.75 i.e. 5.903 x 2 x 0.3 x 8.75 = Rs. 30.99 Lakhs iii) Other benefits of economy	30.99
3.	No. of people i.e. population benefitted	Calculation of population benefitted – As per 2011 Census, the population of Alirajpur District was 671,925. There was increase of -1.41 % in the population compared to population as per 2001. Taking this as indication. The increase in population is 1.38 % per year. Therefore the increase in population at present in 2016 from 2011 in 5 years could be taken as 6,71,925 x 1.38% x4 = 37,090. So the present population is 6,71,925 + 37,090 = 7,09,015. Assuming 20% of Total population i.e. 1,34,385 people are directly benefitted by this project. Assuming 5 members per family will be about 1,34,385/5= 26,877 families. Assuming an increase per family of Rs. 1000/-Per year. Over all benefit to the population on this account and for 50 years for families will be – No. of Families x1000x50 – 26,877 x 1000 x 50 = 13,439 Lakhs	13,439

4.	Employment Potential	i) Employment generated Total cost of the project is considered Rs. 199.72crores at 2015 price level. Assuming an escalation and labour component @ 12% of the project- The cost of the <u>employment generated during the construction</u> of the project would be (around) – <u>(i) Rs.23.97 Lakhs</u> ii) After completion of project – It has been assessed from the statistics available for the Project that the increase in the industries in the vicinity of the Project Road will increased by 20%. The potential of employment to work force at various levels in such industries expected to be generated as shown in the table under. The man-days generated yearly or Yearly labour potential would be thus 365 x 350 = 1,27,750 The weighted average daily pay is calculated @ Rs. 650/- as detailed below- <table border="1"> <thead> <tr> <th>Post</th><th>Nos.</th><th>Daily Salary</th><th>Daily Cost lakhs</th></tr> </thead> <tbody> <tr> <td>Managers</td><td rowspan="5">350</td><td rowspan="5">365</td><td rowspan="5">830.37</td></tr> <tr> <td>Senior Executives</td></tr> <tr> <td>Junior Executives</td></tr> <tr> <td>Supervisors</td></tr> <tr> <td>Labourers</td></tr> <tr> <td>Total</td><td></td><td>Total</td><td>830.37</td></tr> </tbody> </table> Weighted average = Daily Cost / No. of Men i.e. 650/350 = Rs.1.87 Benefit for 50 years – Labour Potential x 534 x 50 = i.e. 1,27,750 x 534 x 50 = Rs. 34109/- Total (i)+(ii)= 34,109 + 175.75 = 176.09 Lakhs (ro)	Post	Nos.	Daily Salary	Daily Cost lakhs	Managers	350	365	830.37	Senior Executives	Junior Executives	Supervisors	Labourers	Total		Total	830.37	176.09 Lakhs
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Managers	350	365	830.37																
Senior Executives																			
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Supervisors																			
Labourers																			
Total		Total	830.37																
5.	Acquisition of non-forest land wherever feasible(to Be quantified & expressed in monetary terms)	The total Non-Forest land acquired for the project is To assess the benefits to the people on this account is the cost of land @ Rs. 20 Lakhs per Hectare –	NIL																

6.	Benefits to agriculture/Animal husbandry.	The facility of the quick transport would facilitate the export of agricultural, animal husbandry and allied produce such as floriculture product, grapes etc. The export of such produce will fetch benefits to the agriculturists in the district. As per census figures of 2011, there are 2,56,393 cultivators (agriculturist) in Alirajpur District. Assuming 0.04% of them, realizing and grabbing the opportunity, would take up to produce the exportable agricultural goods and animal husbandry goods (milk, meat, grapes, flowers etc), out of total 2,56,393 cultivators (agriculturists) in the district, the benefit at an average of Rs. 2.5 lakhs per year for fifty years – 1026 cultivators x 2.5 lakhs x 50 = 1.28 lakhs	1.28
7.	Benefits to the people due to land acquisition & rehabilitation.	As a person from each family will be provided with employment on the project, assuming Rs. 1 Lakh per family per year the benefit for 50 years – No families x 1 Lakh x 50 yrs = Rs.	NIL
8.	Benefit due to free fuel wood supply to the labours during the construction of project.	The actual construction work period to be taken as five years. It is assumed from the previous experience of such construction that there will be approximately 350 families of labours on construction work. Assuming the consumption of fuel wood to be 400 kg.(4 quintal) per family per year @ Rs. 200/- per quintal (100kg.), the benefit due to supply of free fuel wood to worker families- 350 families x 4quintal x Rs.200/- x 5 yrs = 350 x 4 x 200x 5 = 14,00,000/- i.e. 14 Lakhs	14.00
		Total benefit Rs. (In Lakhs)	845.39

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ABSTRACT OF COST BENEFIT ANALYSIS

A) LOSSES

Total Losses likely to occur due to the Project in 50 years as per Annexure -‘A’

Parameters	Description	Amount (Rs. In Lakhs)
1.	Loss of timber,fuelwood, minor forest produce	22.4
2.	Loss of animal husbandary productivity	2.21
3.	Loss of human settlement	00
4.	Loss of public facilities& infrastructure	Nil
5.	Loss of environment	5.165
6.	Suffering to the ousets	3.29
	Grand total (As per annexure A)	33.065 Say Rs. 33 lakhs

B) BENEFITS

Total Benefits from the Project to accrue in 50 years as per Annexure ‘B’

Parameters	Description	Amount (Rs. In Lakhs)
1.	Increase in Productivity (Please see annexure A)	Depicted catagory wise.
2.	Benefits to economy	96.23
3.	No. population benefited * (-)	(-)13,439
4.	Employment potential * (-)	(-)176.09
5.	Acquisition facilities	Nil
6.	Benefit of agriculture and Animal husbandry	1.28
7.	Cost of rehabilitation	Nil
8.	Cost of free fuelwood supplied to labours	14.00
	Grand Total (As per annexure B)	111.51 Say