

EVALUATION OF LOSS OF FOREST

Project : Dhrangadhra Branch canal network ch. 0.00 to 128 km of Sardar Sarovar Narmada Nigam Project in Surendranagar and Morbi District.

Forest Land Need	:	8.6779
Average Quality of Forest	:	Reserve/Protected / Unclass Forest
Average Density of Forest	:	0.5
Total No. Of forest Tree	:	58
Estimated Tentative Volume	:	53.17
Estimated Timber	:	6.665
Estimated Fuel Volume	:	46.5013

Item No. 1 : Evaluation of loss of value of timber , Fuel and minor Forest :

Value of Timbers (Rs.)	:	Rs. 20661.50
Value of Fuel (Rs.)	:	Rs. 1720.50
Value of Plant	:	NIL
Value of Minor Forest Produce	:	Rs.60x 8.6779=520.67

Total item No. 01 (a+b+c+d) : Rs.22902.67

Item No 02: Fire Protection Charges = 25 RA (Where R = Fire Protection @ Rs.80.0 and A = Area)
 $= 25 \times 80 \times 8.6779 = \text{Rs.}17355.80$

Item No 03: Loss of Value of Fodder (Grass):

Estimated Quantity of Grass $= 3 \times 8.6779 = 26.0337 \text{ MT}$

Based on Consideration that an area is capable of average 2 to 4 Mt of Grass per Hectare. Therefore loss of value of fodder at average local market @ Rs. 1000.00 per Mt $= 26.0337 \times 1000 = \text{Rs. } 26033.70$

Item No 04 : Cost of Human Resettlement : No displacement of any person is involved due to the project. Hence Cost of Human Resettlement is NIL.

Item no 05 : Loss of public facilities and administrative Infrastructures :

No forest road and building is involved in this project .Hence
the loss is NIL.

Item No 06 : Evaluation of environmental losses :

Environment loss = Standard Loss per Hectare in fully stocked forest (in lacs) X
Area X Density of Area

$$=126.76 \times 8.6779 \times 0.5=550.0053 \text{ Lacs}$$

(*Signature*)

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DETAILS OF LOSS OF PROFIT

Sr.no	Parameters	Total Benefits in Rupees	
1.	Loss of value of Timber , fuel Wood and minor Forest Produce	0.22902	Lacs
2.	Fire Protection Charges	0.17355	Lacs
3.	Loss of Fodder	0.26033	Lacs
4.	Cost of Resettlement	0.00	Lacs
5.	Loss of Public Facilities and Administrative Infrastrure.	0.00	
6.	Environment Loss	550.0053	Lacs
7.	Suffering of Oustees	0.00	Lacs
	Total	550.6682	Lacs

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**Benefit of the Dhrangadhra Branch canal network ch. 0.00 to 128 km of
Sardar Sarovar Narmada Nigam Project in Surendranagar and Morbi
District**

Sr.no	Head	Quantity	Project useful duration in years	Additional rate in Rs.per hactor	Total Benefit in Rs. In lacs
1	Cost of extra Production to be produced due to irrigation of the land in vicinity of Dhrangadhra Branch canal in life of 50 years (0.75 extra production factor x 1season x 50 years)per hactor (per ha.outcome in normal season without project=25000 p.year) (per ha.outcome after Project complition=1.00 x0.75x25000 x50year)=87500 RS.	1 lacs hactor	50	Rs. 18750/hactor	937500.00
2.	Employment Generated during construction for a period of 5 years (365 days x 5 years x250 x 8 hours)	3650000 hours		Rs. 35 per man hours	1277.5 0
3	Employment Generated during operational life of 50 years (365 x 50 x100(40+40+20)x8x 3pali)	43800000 hours.		Rs.50 per man hours	21900.00
4	Development of industries, agriculture and other fields in 50 years=2000 factoriesx25 year(AV.)x1000lacs t.o.x.25 marjin	Lump-sum (5 times of present developement)			12500000.00
5.	Increase of land value of the farmer.(in averages 8000 to 10000 Rs. Rate per Hactor before project, now increased (av.1.60 lacs/hactor, =to 20 times.)	1.00 lacs hactorx90000= 90000 lacs		19.00	1710000.00
Total Benefits in Lacs Rs.					15170677.00

Cost-Benefit Ratio = Total Benefits from Project / Losses of Forest

Cost benefit = 15170677.00/550.8622

= 27539.87 i.e 27540 Times of profit.

Total Project Cost: Rs. 61755 Lacs(25000branch+13700distyminor+20000ugpl+15%
maintenance)

Cost Benefit = 15170677.00/(61755+550.6682)
= 243.48. i.e 243.50 times of profit.


Cost Benefit(WITHOUT CONSIDERING ITEM-5) = 13460677.00/(61755+550.6682)
= 216.04. i.e 216.04 times of profit.

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PARAMETERS OF EVALUATION OF BENEFITS NOT WITHSTANDING LOSS OF FOREST.

Sr.no	PARAMETERS	TRANSMISSION LINE
1.	Increasing in Productivity	By constructing the Dhrangadhra Branch canal and its network will enable to feed water to Agriculture land/uplift water table/drinking and cattle related activity viz milk production, cattle production etc. In Surendranagar and Morbi district of Gujarat state and this increasing in water availability in the states, which will directly contribute to increase in industrial / rural growth and will have direct impact of growth of productivity of the state and country.
2.	Benefits to Economy	Increased yield of agriculture growth will help related industrial and rural sector thus have direct impact on Industrial growth, thereby growth of economy in the state.
3.	No. of Population Benefited	Increased industrial / Rural Growth and manpower recruited for construction / Operation / Maintenance of canal and allied structures and monitoring the same and including maintenance of the canal network system will benefit the local population of the state.
4.	Employment Potential	Direct Employment : 100 no. 1 Technical ,Commercial , Managerial Employment : 40 Approx 2. Workers: 25 approx. 3. Indirect Employment : 35 approx.
5.	Cost of acquisition of land to facilitate on the non forest whenever	Applicable but nearly 1.138% of the project cost.(539hactor Branch land+599 Hactor distry minor land+0 sub minor land)=1138 hactor of 100000 Hactor. But with the legal remuneration and it is asset of nigram and has a resale value hence not considered.
6.	Loss of (a) Agriculture (b) Animal Husbandry production due to diversion of Forest.	Only Right of way of 8.6779 hector land in various 10 villages-- Stretch of canal distry /minor alignment is being used and 10.00 Ha. land is being diverted for this purpose in bhachuda of Bhuj District as per norms and guideline of forest land acquisition process. So there is no loss to agriculture and animal husbandry production.
7.	Cost of rehabilitating the displaced persons as different from compensatory amounts.	Since there is a no habitation in canal land procurement for this project increment hence no human Resettlement is required ESPECIALLY THIS PORTION OF THE PROJECT.

8.	Cost of supply of Tree fuel wood to workers residing in or near forest area during the period of construction.	The construction of canal network is totally allotted by tendering process with certain rules enforcing towards contractor for giving enough working environment to Workers at Workplace with routine need fulfilled at site. (proper food water(drinking and usable),sanitation,fuel ,shelter and other facility provision by contractor.) work involves earthwork, lining work,inspection road work and various structure construction in and across the canal path. In which casting of foundation, brick work RCC work and other related works carried out by mobile gangs during day time only. Since they don't reside there. No fire fuel,required from the nature.
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