

CALCULATION FOR BENEFIT COST RATIO

Name of Scheme: Construction of link road from Gai Dessa to Bhatta via Mangal Thatha and Dewal Kund (upto FW Status) Under CRF.

Total Cost of Project/ Scheme	700.00 Lacs
Length of the Road	10.00 km
Population	10000 Souls
PCU's	129
Distance reduction	10.00 km
Saving in Vehicle Operation Cost.	VOC x Distance x PCU x 365

As per IRC norms and guidelines of May 1998.

Assuming the vehicle operating cost at Rs. 7.00/Km/PCU

The annual saving in VOC may be quantified as under

$$\frac{7 \times 10 \times 129 \times 365}{100000} = 32.96 \text{ lacs}$$

TRAVELING TIME SAVED

Population	10000 Souls
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Assuming 10% of the population is engaged in taking commercial activities with average time reduction of 5 min/ km with probability of securing employment at 0.65 and the current wage rate at Rs. 225/ day, the proportionate saving in travel time shall be as under: -

(a) Manday saved $= 0.10 \text{ of population} \times \text{time} \times \text{time reduction}$
$$\frac{0.10 \times 10000 \times 5 \times 365 \times 10.0}{60 \times 8} = 38020.83 \text{ days}$$

(b) Value of travel time saved $= \frac{38020.83 \times 0.65 \times 225}{100000} = 55.60 \text{ lacs}$

Benefits an account of saving of of Doda District

$$= 26.13 \times 10.00 = 261.30 \text{ lacs}$$

Total benefit of project $= 261.30 + 32.96 + 55.60 = 349.86 \text{ lacs}$



Physical and Financial Phasing:

Year	Physical	Financial
1 st Year	30%	210.00 lacs
2 nd Year	40%	280.00 lacs
3 rd Year	30%	<u>210.00 lacs</u>
	Total	700.00 lacs

Benefits: - 349.86

Particular	1 st Year	2 nd Year	3 rd Year	4 th Year	Total
Capital cost	210.00	280.00	210.00	-	700.00
Benefits	104.96	139.94	104.96	349.86	-
Discount factor	0.87	0.756	0.658	2.73	-
Present Worth of Cost	182.70	211.68	138.18	-	532.56
Present of Benefit	91.31	105.79	69.06	955.11	1221.27

$$\text{BCR} = \frac{\text{Present Worth of Benefit}}{\text{Present Worth of cost}} = \frac{1221.27}{532.56} = 2.29$$

BCR = 1:2:29 OK

 
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