

CALCULATION FOR BENEFIT COST RATIO

Name of Scheme: Construction and Upgradation of Road from Hambal to Dedni.

Total Cost of Project/ Scheme	1427.700 Lacs
Length of the Road	10.00 km
Population	7000 Souls
PCU's	154
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

$$\frac{7 \times 10.00 \times 154 \times 365}{100000} = 39.34 \text{ lacs}$$

TRAVELING TIME SAVED

Population	3000 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. 500/ day, the proportionate saving in travel time shall be as under: -

(a) Manday saved $= 0.10 \text{ of population} \times \text{time} \times \text{time reduction}$
 $\frac{0.10 \times 7000 \times 5 \times 365 \times 10.00}{60 \times 8} = 26614.58 \text{ days}$

(b) Value of travel time saved $= \frac{26614.58 \times 0.65 \times 500}{100000} = 86.49 \text{ lacs}$

Benefits an account of saving of Doda District
 $= 26.13 \times 10.00 = 261.30 \text{ lacs}$

Total benefit of project $= 261.30 + 39.34 + 86.49 = 387.13 \text{ lacs}$

Physical and Financial Phasing:

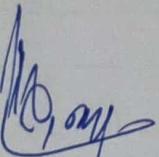
Year	Physical	Financial
1 st Year	30%	428.31 lacs
2 nd Year	40%	571.08 lacs
3 rd Year	30%	428.31 lacs
Total		1427.70 lacs

Benefits: - 387.13

Particular	1st Year	2nd Year	3rd Year	4th Year	Total
Capital cost	428.31	571.08	428.31	-	1427.70
Benefits	116.14	154.85	116.14	387.13	-
Discount factor	0.87	0.756	0.658	2.73	-
Present Worth of Cost	372.63	431.74	281.82	-	1086.19
Present of Benefit	101.04	117.07	76.42	1056.86	1351.39

$$\text{BCR} = \frac{\text{Present Worth of Benefit}}{\text{Present Worth of cost}} = \frac{1351.39}{1086.19} = 1.24$$

BCR = 1:1.24 OK


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