Financial Analysis of NH-54 (Aizawl-Keitum section)

Considerations:

1) Land Acquisition cost which is not subjected to Economic pricing has been taken same as Financial Cost.
2) For conversion of all items of cost of Financial Cost to Economic Cost factor taken = 0.90
3) Economic Estimated Cost = 1168 Lac/Km
4) Maintenance Cost
   - i) Routine maintenance = 1.80 Lac/Km/pa
   - ii) Periodic Maintenance every 5 yrs = 15 Lac/Km
   - iii) Electricity & Patrolling = 0.60 Lac/Km/pa
   - iv) Office = 0.10 Lac/Km/pa
5) Growth rate for successive years = 5%
6) Estimated annual Accident Cost = 75.35 Lac/pa
7) VOC
   With RF=40, Economic Roughness cost = 0.94 i.e. Rs 1/-
   With conversion by multiplication factor 267/180
   Economic Cost saving =1x1.50 = Rs 1.50/Km/PCU
8) Salvage value taken = NIL
9) ADT in PCU taken in Mid-Block-1 = 5128 PCU/Day
10) Traffic growth rate = 5%
11) Period of consideration = 20Yrs.

FINANCIAL ANALYSIS OF NH-54 (AIZAWL - KEITUM)

Years	Economic Project Cost (Lac/Km.)	Maintenance Cost (lac/km/Yr)				Total Cost (lac/km)	Receipt (lac/km)		Total Receipt (lac/km)	Net Benefit (lac/km)	Discounted @ 5%
		Yearly Routine	5 Yrs Periodic/ @ 3 lac/Yr	Yr Elect & Patrolling	Office Yearly		VOC Saving	Accident Saving			
1	1168	1.80	0.00	0.60	0.100	2.50	0.07692	0.685	0.76	-1.74	-1.65
2		1.89	0.00	0.63	0.105	2.63	0.08077	0.685	0.77	-1.86	-1.77
3		1.98	0.00	0.66	0.110	2.76	0.08480	0.685	0.77	-1.99	-1.89
4		2.08	0.00	0.69	0.116	2.89	0.08904	0.685	0.77	-2.12	-2.01
5		2.19	15.00	0.73	0.122	18.04	0.09350	0.685	0.78	-17.26	-16.40
6		2.30	0.00	0.77	0.128	3.19	0.09817	0.685	0.78	-2.41	-2.29
7		2.41	0.00	0.80	0.134	3.35	0.10308	0.685	0.79	-2.56	-2.43
8		2.53	0.00	0.84	0.141	3.52	0.10823	0.685	0.79	-2.72	-2.59
9		2.66	0.00	0.89	0.148	3.69	0.11365	0.685	0.80	-2.89	-2.75
10		2.79	15.00	0.93	0.155	18.88	0.11933	0.685	0.80	-18.07	-17.17
11		2.93	0.00	0.98	0.163	4.07	0.12529	0.685	0.81	-3.26	-3.10
12		3.08	0.00	1.03	0.171	4.28	0.13156	0.685	0.82	-3.46	-3.29
13		3.23	0.00	1.08	0.180	4.49	0.13814	0.685	0.82	-3.67	-3.48
14		3.39	0.00	1.13	0.189	4.71	0.14504	0.685	0.83	-3.88	-3.69
15		3.56	15.00	1.19	0.198	19.95	0.15230	0.685	0.84	-19.11	-18.16
16		3.74	0.00	1.25	0.208	5.20	0.15991	0.685	0.84	-4.35	-4.13
17		3.93	0.00	1.31	0.218	5.46	0.16791	0.685	0.85	-4.60	-4.37
18		4.13	0.00	1.38	0.229	5.73	0.17630	0.685	0.86	-4.87	-4.63
19		4.33	0.00	1.44	0.241	6.02	0.18512	0.685	0.87	-5.15	-4.89
20		4.55	15.00	1.52	0.253	21.32	0.19437	0.685	0.88	-20.44	-19.42

In order to account for benefits due to reduction in road accidents after upgradation of road i.e. "with project situation" savings in accident cost has been worked out as 75.35 lacs/yr. However, since all road accidents are not reported to Police Stations, it may be said that this may be more. Again with improved road conditions & safety measures, it would lead to reduction of accidents. Hence for economic analysis it is assumed that annual saving due to accident will remain the same over the period of analysis.

Since passenger travel time savings in a developing country like India are controversial in nature, analysis is prepared without this component.

Stream of tangible Social Benefits are low because volume of traffic is low and reduction of accident costs are naturally low. But Economic cost is too high for low stream of tangible social benefits to yield any significant Internal Rate of Return. The opportunity cost of capital may be justified for creation of social capital (asset) enhancing the connectivity of the region promoting the social welfare of the people.

On the basis of cash-flow table it would be seen that the net benefit is negative throughout the analysis period of 20 yrs. and negative benefit is increasing. Hence the Project is not economically viable.

Akshatacharya
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