

COST BENEFIT ANALYSIS REPORT

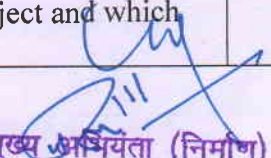
(By the User Agency)

(As per MoEF & CC's advisory provided under Annexure-III of Handbook of Forest Conservation Act, 1980 issued in 28.03.2019)

Cost Benefit Analysis for the diversion of **34.1914 ha** forest land for Construction of 3rd line work between Rajnandgaon - Kalumna passing through the areas of villages Salekasa, Dhansua, Navatola and Jamakud in Tah. Salekasa Dist. Gondia and the total length of Construction of 3rd work is 228 kms from Rajnandgaon to Kalumna (Nagpur).

B. Estimation of cost of forest diversion

Sr.No.	Description of Items	Cost of Forest (in Lakh of Rs.)
1	Ecosystem services losses due to proposed forest diversion. Total forest land to be diverted- 34.1914 ha. Net present value for 1 ha. of forest land to be diverted @ Rs.8.33 lakh per ha (approximately). Hence total net present value for 34.1914 ha. of forest land = Rs. 284.814 lakh. Total 34.1914 ha having 0.1 to 0.7 density gives monetary returns worth over Rs. 50.696 lakhs over a period of 50 years (34.1914 X 50.696 =1733.367 Lakhs.)	2018.181 Lakh
2	Loss of animal husbandry productivity including loss of fodder estimated 10% loss of animal husbandry productivity due to diversion of 34.1914 ha. of forest land which will be Rs. 28.48 lakh.	28.48 Lakh
3	Cost of human Resettlement as this project dose not involved any human resettlement hence there will be no loss involved on account of human resettlement	NIL
4	Loss of public facilities and administrative infrastructure (Roads, building, schools, dispensaries, electric lines, railway, etc.) on forest land, which would require forest land if these facilities were diverted due to the project.	NIL
5	Possession value of forest land diverted at present the possession value of forest land to be diverted 34.1914 ha. Estimated to be 30% of the net present value calculated the total maximum net value of forest land comes to 284.814 lakh and hence possession value of forest land come to 85.44 lakhs .	85.44 Lakh
6	Cost of suffering oustees As this project does not involve any rehabilitation there will be no loss involved on this account	NIL
7	Habitat Fragmentation Cost This project involves forest land between Darrekasa & Salekasa forest division which is in habited for various wild animals & birds found in that area. But there is no Tiger Project, National Park, Wildlife Sanctuary or Eco Sensitive Zone of any existing protected area. Hence habitat fragmentation cost is calculated as 50% of value of maximum net present value realized for this project and which comes to Rs.142.407 lakh.	142.407 Lakh


 उपमुख्य अभियंता (निर्माण)
 Dy. Chief Engineer (Con)
 दक्षिण पूर्व मध्य रेल्वे, गोंदिया
 South East Central Rly., Gondia

8	Compensatory Afforestation and soil & moisture conservation cost. As the project area is 34.1914 ha. and this being a central government project the compensatory afforestation will be taken on double degraded land in possession of forest department i.e. – 68.500 ha. of land this Compensatory Afforestation will be raised @ Rs 12.62 lakh per ha (for the year 2022-23 at the time of sanctioned) = 864.47 Lakh Maintenance for period of 10 years at the cost of user agency calculated at avg. prevailing wage rates of forest department which comes to Rs 3,00,000/- per ha. & hence this operation will cost R.205.500 lakhs.	1069.970 Lakh
Total estimated cost of forest diversion		3344.478 Lakh

C. Existing guidelines for estimating benefits of forest-diversion in CBA: -

Sr. No.	Description of Items	Financial Benefits (in Lakh of Rs.)
1	Increasing of Productivity attributed to the specific project. The benefits from this project over a period of 50 years are calculated based on the data available with Traffic Survey department of Railways. As per estimations due to laying of this line there will be a large enhancement in transportation of Coal, Steel product, Cement, Washed coal, Gypson & Finished product. Increasing in productivity attributed to specific project will be estimated at 17500000 TPA goods for initial year of the full commissioning of project. i) For first 2 years (construction period) – Nil ii) Traffic will be estimated at 52455.02 lakh per year for 1 st years and upto next five year. For 1 to 5 years @ 52455.02 lakh per annum – Rs. 262275.10 lakh iii) Traffic will be estimated at 104197.05 lakh per year from 6th year and upto next 50 year. For 6 to 50 years @ 104197.05 lakh per annum – Rs. 4688867.25 lakh Total (i+ii+iii) = 4951142.35 Lakh for 228 Km (Project length) Darekasa- Salekasa is 11.43 Km so earning will be = 226584.09 Lakh	226584.09 Lakh
2	Benefits to economy due to the specific project. This project will benefit the Indian economy as per the Sr no. 1.	---
3	No. of population benefited due to specific project. The population of 90679 per annum from Darrekasa and Salekasa taluka /village will be benefited indirectly from this project. But monitory gains cannot be assessed.	---
4	Economic benefits due to of direct and indirect employment due to the project. This project involves temporary of 1033 persons per day for 2 years of construction. The average daily wage rate is calculated @ Rs.500/- per person per day and will give employment involving Rs. 3770.45 lakhs. This has to employ nearly 66 permanent persons for running this project over next 50 years. The average salary of each person per month will be Rs. 30000/- and hence the direct employment will cost 11880.00 lakh	15650.45 Lakh

उपमुख्य अभियंता (निर्माण)
Dy. Chief Engineer (Con)
दक्षिण पूर्व मध्य.रेल्वे,गोंदिया
South East Central Rly. Gondia

5	Economic benefits due to Compensatory Afforestation The Compensatory Afforestation will be raised over a land of 68.500 ha. The economic benefits realized from this project are calculated over a period of 50 years (C.A. over taken of $34.1914 \times 2 = 68.500$ ha (approximately) plantation/per ha 2500 plants= 171250 plants) after 50 years per tree value near about Rs. 25000/- but only calculation Rs. 1000/- X 171250 trees= 1712.50 lakh. Therefore full area of plantation density is 1.00. So the NPV rates for 1 ha. of forest land @ Rs.8.33 lakh per ha (approximately). Hence total net present value for 68.50 ha. of forest land = Rs. 570.605 lakh.	570.605 Lakh
Total Financial benefits from the project		242805.145 Lakh

Cost Benefit Ratio:

- I. **Estimation of cost of forest diversion** (As per Table B calculation) = 3344.478 Lakh
- II. **Existing guidelines for estimating benefits of forest-diversion in CBA** (As per Table C calculation) = 242805.145 Lakh

Benefit: Cost Ratio = 72.598


(Prady Goswami)
Deputy Chief Engineer (Con)
S.E.C. Railway Gondia
 उपमुख्य अभियंता (निर्माण)
Dy. Chief Engineer (Con)
 दक्षिण पूर्व मध्य.रेल्वे,गोंदिया
South East Central Rly.,Gondia