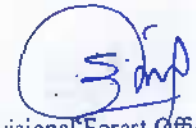


Cost Benefit Analysis Guidelines for forest land diversion

Guidelines for concluding cost-benefit analysis for projects Involving forest diversion

- (i) While considering proposal for diversion of forest land for non-forestry use, it is essential that ecological and environmental losses and eco-economic distress caused to the people who are displaced are weighted against economic and social gains.
- (ii) Whenever the forest land is involved in the development projects, the cost of ecosystem services and fragmentation of habitat of wildlife and economic distress caused to people dependent on forests and the cost of settlement of people dependent on forest should also be added as the cost of forest diversion in addition to the standard project cost which would have been incurred by the user agencies without involvement of forest land while conducting the cost benefit analysis of the project. Similarly the benefits from the project accruing due to diversion of forest land and used in the project should also be accounted for in the benefits component in addition to the standard benefits of the project which would have been accrued without involvement of forest land while conducting the cost benefit analysis and determining the benefit and cost ratio (BC ratio).
- (iii) the cost of compensatory afforestation and its maintenance in future and soil & moisture conservation at present discounted value and future benefits from such compensatory forestation accruing over next 50 years monetized and discounted to the present value should be included as cost- and benefits respectively afforestation while conducting the cost benefit analysis and determining the benefit and cost ratio (BC ratio).
- (iv) **Table-A** lists the details the types of projects involving forest land for which cost-benefit analysis will be required **Table-B** lists the parameters according to which the cost aspect of forest land diverted for the development projects will be determined, while **Table-C** lists the parameters for assessing the benefits accruing to the project using of forest land.
- (v) A cost-benefit analysis as above should accompany the proposals sent to the Central Government for forest clearance under the Forest Conservation Act.


**District & Sessions Judge,
Mandi, Distt. Mandi (H.P.)**


**Divisional Forest Officer
Mandi Forest Division, Mandi
Ph. No. 01905-235360**

Cost Benefit Analysis Guidelines for forest land diversion-2017

Table-A: Cases under which a cost-benefit analysis for forest diversion are required

No.	Nature of Proposal	Applicable/ Not Applicable	Remarks
1	All categories of proposals involving forest land upto 20 hectares in plains and upto 5 hectare in hills	Not applicable	These proposals may be considered on a case to case basis and value judgment
2	Proposal for defense installation purposes and oil prospecting (prospecting only)	Not applicable	-
3	Habitation, establishment of industrial units, tourist lodges complex and other building construction.	Not applicable	-
4	All other proposals involving forestland more than 20 hectares in plains and more than 5 hectares in hills including roads, transmission lines, minor, medium and major irrigation projects, hydro projects, mining activity, railway lines, location specific installations centers, TV towers etc.	Applicable	These are cases where a cost-benefit analysis is necessary to determine when diverting the forest land to non-forest use in the overall public interest.

Harj
District & Sessions Judge,
Mandi, Distt. Mandi (H.P.)


Singh
Divisional Forest Officer
Mandi Forest Division, Mandi
Ph. No. 0191-261111

Cost Benefit Analysis Guidelines for forest land diversion-2017.

Table-B: Estimation of cost of forest diversion.

S No.	Parameters	Value expressed to monetary terms	Remarks
1.	Ecosystem services losses due to proposed forest diversion.	63,07,200/-	Economic value of loss of ecosystem services due to diversion of forests shall be the net present value (NPV) of the forest land being diverted as prescribed by the Central Government (MoEF &CC).
2.	Loss of animal husbandry productivity, including loss of fodder.	6,30,720/- (10% of NPV is more than loss of animal husbandry productivity including loss of fodder)	To be quantified and expressed in monetary terms or 10 % of NPV applicable is maximum.
3.	Cost of human resettlement.	Nil, as no displacement of human settlement	To be quantified and expressed in monetary terms as per approved R & R Plan.
4.	Loss of public facilities and administrative infrastructure (Roads, Building, Schools, Dispensaries, Electric lines, Railways etc.) on forest land, which would require forest land if these facilities were diverted due to this project.	Since no public facility and administrative infrastructure (Road, Building, Schools, Dispensary, Electrical Lines, railway etc.) on forest land being diverted due to the project there will be no such loss.	To be quantified and expressed in monetary terms on actual cost basis at the time of diversion.
5.	Environment losses erosion effect on hydrological cycle, wildlife, habitation, micro climatic raiting of ecological balances.	18,92,160 /- (30% of NPV)	30% of environment costs NPV due to loss the forests of circle rate of adjoining area in the district should be added as a cost component as position value of forest land whichever is maximum.
6.	Suffering of austeas.	Nil	The social cost of rehabilitation of oustee in addition to be cost.likely to be incurred in providing residence, occupation and social service as per R&RPlan be worked out as 1.5 times of what oustee should have earned in twoyears had he not be shifted.
7.	Habitat Fragmentation Cost	31,53,600/-	While the relationship between fragmentation and forest goods and service is complex for the sake of simplicity the cost due to fragmentation has been pegged at 50% of NPV applicable at a thumb rule.
8.	Compensatory afforestation and soil & moisture conservation cost.	CompensatoryAfforestation Scheme =62,59,233/-	The actual cost of compensatory afforestation and soil & moisture conservation and its maintenance in future at present discounted value


District & Sessions Judge,
Mandi, Distt. Mandi (H.P.)


Divisional Forest Officer
Mandi Forest Division, Mandi
Ph. No. 01905-235360

Cost Benefit Analysis Guidelines for forest land diversion

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

S. No.	Parameters	Value expressed in monetary terms	Remarks
1	Increase in productively attribute to the specific project.	The growth of local business by almost Rs 1.20 crore (Rs One crore Twenty lakhs only)	To be quantified and expressed in monetary terms
2.	Benefits to economy due to the specific project	Salient benefits of the project are minimum Guaranteed amount of Rs 2,00,00,000.00 (Rs Two crore only)	The incremental economic benefit in mandatory terms due to the activities attributed to the specific project
3.	No. of population benefited due to specific project.	The local population will be benefited indirectly. The total population of concerned Panchayat is 688. On an average each person earns maximum of Rs 500 per day. Thus two members from each house will be benefited, which comes out to be 8256000.00	As per detailed project report
4.	Economic benefits due to of direct and indirect employment due to the specific project.	Economic benefit due to direct employment : During construction period of 20 months approximate 3,20,000 mandays of temporary employment will be generated by the construction, which in monetary terms calculated at the present wage rate comes out to be Rs 320000 x 275= Rs 8,80,00000/- (8.80 Crore). Economic benefit due to indirect employment: The total quantified indirect benefit to local population will be Rs 3,60,00,000 (Rs Three crore sixty lakhs).(Rs1000 per person earning x 30 days per month x 12 months in a year). This benefit will also increase @ 8 to 10% each year for 100 years.	As per detailed project report
5.	Economic benefits due to compensatory afforestation.	Economic benefit due to compensatory afforestation: As per MoEF&CC guideline these benefits are the benefits which are from such as CA accruing over next 50 years monetized and discounted to the present value and should be included as benefits of CA. For benefits of CA the guidelines of Ministry of NPV estimation have been consulted and these benefits have been calculated on two hands namely benefits to CA and benefits due to carbon storage by the afforestation done on CA land. The result are as under : 1. Economic benefit due to CA= 19.20 x 326001= 6259233/-Sixty two lacs fifty nine thousand two hundred thirtythree only.	Benefit from compensatory afforestation accruing over next 50 year monetized and discounted to the present value should be include as benefits of CA.

Handwritten Signature
District & Sessions Judge
Mandi, Dist. Mandi (H.P.)

Handwritten Signature
Divisional Forest Officer
Mandi Forest Division, Mandi
Ph. No. 01915-253360

Note-1: Net Present value (NPV) of environment and ecosystem services loss:

The concept of Net Present value of the forest land diverted is a scientific method of calculating the environmental cost and other losses caused due to diversion of forest land for non-forestry purposes. The NPV represents the net value of various ecosystem services and other environmental services in monetary terms which the forest would have provided if the forest would not have been diverted.

Note-2: Possession value of forest land diverted:

The forest land diverted for the project such as irrigation, hydropower, railways, roads, wind, and transmission lines and mining etc are unlikely to be returned and remains in possession of the user agencies. Therefore 30% of the net present value (NPV) of forest land diverted or market rate of adjoining area in the district should be added as a cost component as "possession value of forest land" in addition to the environmental costs due to loss of forests.


District & Sessions Judge,
Mandi, Distt. Mandi (H.P.)

