

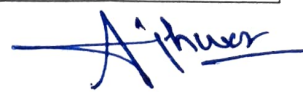
Cost Benefit Analysis Guidelines for forest land diversion – 2017

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

No	Nature of proposal	Applicable / non-applicable	Remarks
1	All categories of proposals involving forest land upto 20 hectares in plains and upto 5 hectare in hills.	NA	-
2	Proposal for defence installation purposes and oil prospecting (prospecting only)	NA	-
3	Habitation, establishment of industrial units, tourist lodges complex and other building construction.	NA	For Airport Development
4	All other proposals involving forest land 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 like micro-wave stations, auto repeater centres, TV towers etc.	Applicable	Expansion of Rupsi Airport is for Domestic Air Connectivity purpose and for Defence purpose.

Table-B: Estimation of cost of forest diversion

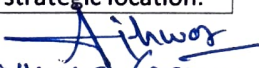
SN	Parameters	Remarks	Response
1	Ecosystem services losses due to proposed forest diversion.	<p>Ecosystem value of loss of Ecosystem services due to Diversion of Forest shall be the Net Present Value (NPV) of the Forest Land being diverted as prescribed by the Central Govt. (MoEF & CC).</p> <p>Note: In case of National parks the NPV shall be ten (10) times the normal NPV and in case of Wildlife Sanctuary the NPV shall be five (5) times the normal NPV or otherwise prescribed by the ministry or any other competent authority.</p>	<p>Type of Forest along the proposed land for Rupsi Airport expansion is tropical moist deciduous forest (ECO-Class I) (Very Dense)</p> <ul style="list-style-type: none"> Approx. NPV value of forests*:Rs.15,95,790 / Ha Forest land proposed to be diverted: 43.79 ha <p>Loss of ecosystem: Rs.15,95,790 / Ha x 43.79 ha = 6,98,79,645 / Rs.6.99 Crore *Based on NPV values calculated by Govt. of India vide MoEF * CC File No.5-3/2011-FC(Vol-I) dtd. 6th January, 2022.</p>
2	Loss of animal husbandry productivity, including loss of fodder.	To be quantified and expressed in monetary terms or 10% of NPV applicable whichever is maximum.	10% of Rs.6.99 Crore (NPV) =Rs.69.90 Lakh


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3	Cost of human resettlement.	By Respective Deputy Commissioner	As there is no human habitation, the question of resettlement does not arise.
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 the project.	By Respective Deputy Commissioner	Nil
5	Possession value of forest land diverted	30% of environmental costs (NPV) due to loss of forests or circle rate of adjoining area in the district should be added as a cost component as possession value of forestland whichever is maximum.	30% of Rs.699 Crore (NPV) =Rs.2.097 Crore
6	Cost of suffering to oustees.	By Respective Deputy Commissioner	Nil
7	Habitat Fragmentation Cost	While the relationship between fragmentation and forest goods and services is complex, for the sake of simplicity the cost due to fragmentation has been pegged at 50% of NPV applicable as a thumb rule.	50% of Rs.6.00 Crore (NPV) =Rs.349.50 Lakh / Rs.3.495 Crore
8	Compensatory Afforestation and soil & moisture conservation cost.	The actual cost of compensatory afforestation and soil & moisture conservation and its maintenance in future at present discounted value.	To be calculated after submission of part – I Proposal (By the User Agency)

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

Sr. No.	Parameters xcvvb	Remarks
1	Increase in productively attribute to the specific project.	Will increase economy and easy transit for tourist / pilgrimage.
2	Benefits to economy due to the specific project	Development of Tourism and boost in the trade, economic activity and connectivity with other parts of the country. Advantages due to its strategic location.
3	No. of population benefited due to specific project.	Detailed project report yet to make.
4	Economic benefits due to of direct and indirect employment due to the project.	Detailed project report yet to make.
5	Economic benefits due to Compensatory afforestation.	Development of Tourism and boost in the trade, economic activity and connectivity with other parts of the country. Advantages due to its strategic location.


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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 of 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.


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Guidelines for conducting 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 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 ration (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 Afforestation accruing over next 50 years monetised and discounted to the present value should be included as cost and benefits respectively of compensatory 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.



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**Cost Benefit Analysis for forest land diversion against Rupsi Airport under
Parbatjhora Forest Division, Suparighat, Kokrajhar**

Table B: Estimation of Cost of Forest Diversion

Sl No.	Parameters	Remarks	Response
1	Ecosystem loses due to proposed forest diversion	Ecosystem value of loss of Ecosystem services due to Diversion of Forest shall be the Net Present Value (NPV) of the Forest Land being diverted as prescribed by the Central Govt. (MoEF & CC). <i>Note: In case of National Parks the NPV shall be ten (10) times the normal NPV and in case of Wildlife Sanctuary the NPV shall be five (5) times the normal NPV or otherwise prescribed by the ministry or any other competent authority</i>	Type of Forest along the Proposed Land for Rupsi Airport Expansion is Tropical Moist Deciduous Forests (Eco-Class I) (Very Dense) <ul style="list-style-type: none"> • Approx. NPV value of forests* : Rs. 1595790 / Ha • Forest land proposed to be diverted: 43.79 ha Loss of ecosystem: Rs. 1595790 / Ha x 43.79 ha = Rs. 6,98,79,645 / Rs. 6.99 Crore * Based on NPV values calculated by Govt. of India vide MoEF & CC File No.5-3/2011-FC(Vol-I) Dtd. 6 th January, 2022.
2	Loss of animal husbandry productivity, including loss of fodder	To be quantified and expressed in monetary terms or 10% of NPV applicable whichever is maximum	10% of Rs. 6.99 Crore (NPV) = Rs. 69.90 Lakh
3		By Respective Deputy Commissioner	
4		By Respective Deputy Commissioner	
5	Possession Value of forest land diverted	30% of environmental costs (NPV) due to loss of forests or circle rate of adjoining area in the district should be added as a cost component as possession value of forestland whichever is maximum	30% of Rs. 6.99 Crore (NPV) = Rs. 2.097 Crore
6		By Respective Deputy Commissioner	
7	Habitat Fragmentation Cost	While the relationship between fragmentation and forest goods and services is complex, for the sake of simplicity the cost due to fragmentation has been pegged at 50% of NPV applicable as a thumb rule.	50% of Rs. 6.99 Crore (NPV) = Rs. 349.50 Lakh/ Rs. 3.495 Crore
8	Compensatory Afforestation and soil & moisture conservation cost	The actual cost of Compensatory Afforestation and soil & moisture conservation and its maintenance in future at present discounted value	To be calculated after submission of Part – I Proposal (By The User Agency)

Table C, Sl. No. 5 will be provided after submission of Part-I Proposal by the User Agency.

Submitted,


Divisional Forest Officer,
Parbatjhora Division, Suparighat

Cost Benefit Analysis for forest land diversion

Table-B: Estimation of cost of forest diversion

SN	Parameters	Remarks
3	Cost of human resettlement.	As there is no human habitation, the question of resettlement does not arise.

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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 the project.	Nil
6	Cost of suffering to oustees.	Nil

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

Sr. No.	Parameters	Remarks
5	Economic benefits due to Compensatory afforestation.	Development of Tourism and boost in the trade, economic activity and connectivity with other parts of the country. Advantages due to its strategic location


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