



CENTRAL COALFIELDS LIMITED
(A subsidiary of Coal India Limited)
Office of the Project Officer, Churi Benti UG
North Karanpura Area, P.O: Dakra 829210,
Dist: Ranchi (Jharkhand).



Ref. No.: PO(Churi)/Forest/2023-24/ 2772

Date: 06/03/2024

To
Divisional Forest Officer
Chatra(S) Division
Van Bhavan- Chatra

Subject: Compliance of the observations raised in respect of Forest Diversion proposal of 281.17 ha Forest land (including G.M.J land) in respect of Churi Benti UG, CCL

Ref no: letter no 381 dated 22.02.2024

Dear Sir,

In compliance to the above mentioned the revised cost benefit analysis report on the updated NPV rates is being submitted.

Additionally the details of the NPV paid by Churi Benti project for the total forest land involved in the project is also enclosed for kind reference.

This is for kind information and further needful.

Thanking You,
Yours faithfully,

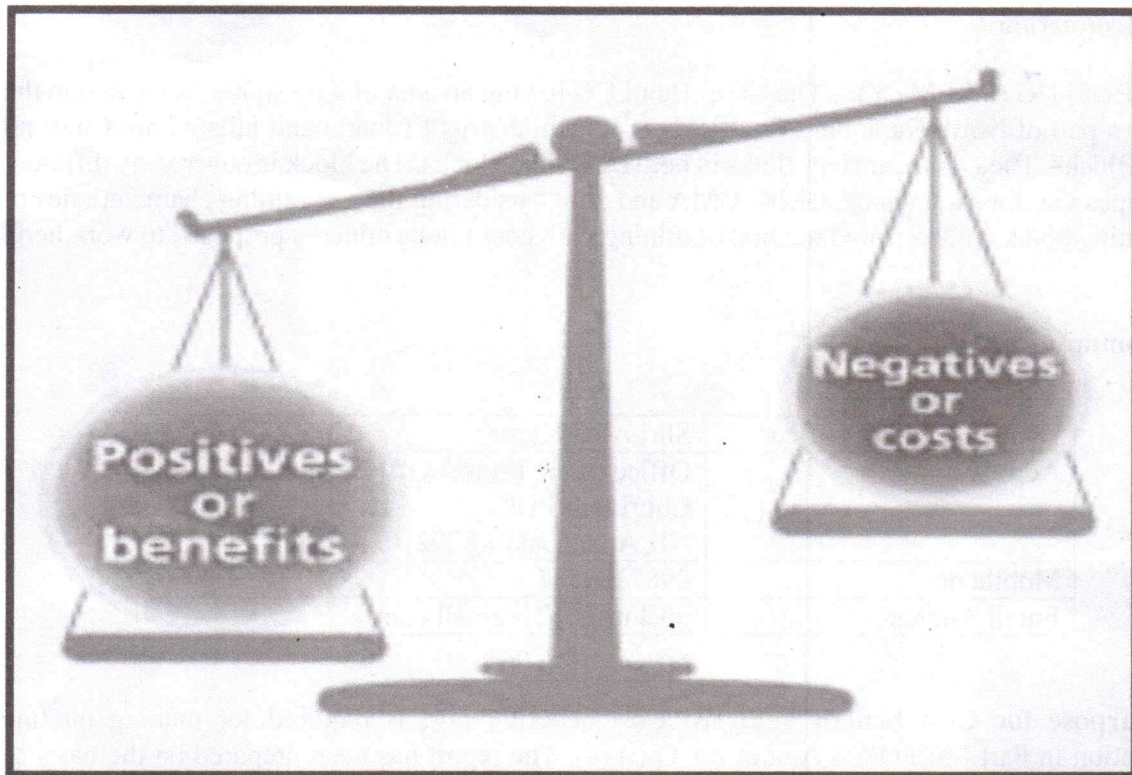
Ami
Project Officer
Churi Benti UG
NK Area, Dakra

Project Officer
Churi Project (CCL)

Enclosure – As mentioned above

Copy to: -

- 1) General Manager, NK Area: for kind information
- 2) O/C



COST BENEFIT ANALYSIS REPORT

[As per MoEF &CC Guideline 7-69/2011-FC (Pt.) dtd. 01 August, 2017]

Churi Benti UG (0.81 MTY) (281.17 Forest Land)



**Churi Benti UG Project
NK Area
Central Coalfields Limited
(A Miniratna Company)**

Churi Benti UG (0.81 MTY) (281.17 Ha)

Aug
**Project Officer
Churi Project (CCL)**

1.0 Introduction:

Churi Benti UG (0.81 MTY): - The Churi Benti UG having an area of 7.65 sq km, is located in the northern part of North Karanpura Coalfields in Ranchi district of Jharkhand falls within Churi nd Benti Blocks. The Damodar river flows in between of the blocks. The block is covered by different land types viz. forest, tenancy, GMK, GMA and JJ. Considering the geo mining characteristics of the mining block, underground method of mining with continuous miner is proposed to work here.

2.0 Communication:

| | |
|-------------------------|-----------------------------------------------------------------------------------|
| Name of Project Officer | Shri Anuj Kumar |
| Address | Office of the Project Officer Churi Benti UG, NK Area, Dakra-829210, Ranchi |
| Mobile no. | 8987784587 |
| Email Address | pochuri2017@gmail.com |

3.0 Purpose for Cost benefit analysis: Cost benefit report is required for making on line application in Part I of FORM A at pt no. G (i) (a). The report has been prepared on the basis of MoEFCC circular no. 7-69/2011-FC(Pt.) dated. 01 August 2017. (Copy Attached as Annexure A).

| | Total Area as per forest Application | Total Area as per Forest application | Forest Land as per Application | Notified Forest as per Application | GMK JJ/Revenue Forest as per Application | Non Forest Land as per Application |
|----------------|--------------------------------------|--------------------------------------|--------------------------------|------------------------------------|------------------------------------------|------------------------------------|
| Churi Benti UG | 765.13 | 452.37 Ha | 281.17 Ha | 181.56 Ha | 99.61 | 171.20 |

Table 1(b): Detail of Household shifting

| No. of vill. to be rehabilitated | Name of village to be Rehabilitated | No. of Project affected person (Estimated) | No. of PAF to be shifted at R&R site |
|----------------------------------|-------------------------------------|--------------------------------------------|--------------------------------------|
| 1 | Churi | 69 | 69 |

Table 2 (a): Current NPV Rates

Eco Value Class: Class III

Forest type group: Tropical dry deciduous forest

| Current NPV rates (Rs. per Ha.) as per Letter No.5-3/2011-FC(Vol-I) Dt. 06.01.2022 | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|----------|
| Eco Value Class: | VDF | MDF | OF |
| Class III | 13,57,110 | 12,28,590 | 9,57,780 |
| Calculation rate for NPV in respect of Churi Benti UG (Rate of NPV Rs. 12,28,950 for Class III Medium Dense Forest (As reported by DFO)) | | | |

Anuj
Project Officer
Churi Project (CCL)

| Description | Amount in Rs. | Amount in Rs. Lakhs |
|--------------------------------------------------------------------------------------|---------------------------------------|------------------------|
| Total NPV @Rs.12,28,590 / Ha for 281.17 Ha of the forest land proposed for diversion | 12,28,590*281.17 = 34,55,43,871.50 | 3455.43 |
| 10% NPV Value | 3,45,54,387.15 | 345.54 |
| 30% NPV Value | 10,36,63,161.45 | 1036.63 |
| 50% NPV Value | 17,27,71,935.75 | 1727.71 |

CALCULATION AS PER MOEF&CC CIRCULAR NO. 7-69/2011-FC(PT.) Ddt. 01 AUGUST 2017.

I. Estimation of cost of forest diversion

| S. No. | Parameters | Remarks | Annexure/Reference |
|--------|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| 1. | Ecosystem services losses due to proposed forest diversion | Rs. 3455.43 Lakhs Total NPV @Rs.12,28,590/Ha for 281.17 Ha of the forest land proposed for diversion= Rs. 34,55,43,871.50 Economic value of loss of ecosystem services due to diversion of forest = Net present value (NPV) of the forest land being diverted = Rs. 3455.43 Lakhs. | As per Cost Benefit Analysis Guidelines for forest land diversion published vide MoEFCC7-69/2011-FC(Pt.) Dt 01-08-2017 |
| 2. | Loss of animal husbandry productivity, including loss of fodder | Rs. 345.54 Lakhs 10% of NPV is to be taken which is Rs. 345.54 Lakhs. | As per Cost Benefit Analysis Guidelines for forest land diversion published vide MoEFCC7-69/2011-FC(Pt.) Dt 01-08-2017 |
| 3. | Cost of human resettlement | Rs. 815.28 Lakh a. Monetary Compensation to PAFs = Rs. 750.81 Lakh b. Compensation to Homestead as Subsistence Allowance = Rs. 49.47 Lakh c. Compensation to landless Tribal family = Rs 15 Lakh Total: a+b+c = 815.28 Lakh | As per R&R policy |

| | | | |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| 4. | Loss of public facilities and administrative infrastructure (roads, buildings, schools, dispensaries, electric line, railways, etc.) on forest land which would require forest land if these facilities were diverted due to the project. | Nil | -- |
| 5. | Circle rate of adjoining area, land cost paid to Govt of Jharkhand for obtaining NOC of GM-JJ land or Possession value of forest land diverted | Rs. 235620.46 Lakh As per the circle rate the possession value = Rs. 2,35,620.46 Lakh As per MoEFCC guideline 30% of environmental cost (NPV) due to loss of forest = Rs. 1036.63 Lakhs As per the MoEF&CC guideline the higher cost is to be considered as such Possession value of forest land = 2,35,620.46 Lakh | Circle Rate as per records of District Registry Office. |
| 6. | Cost of suffering of oustees | Rs. 11030 Lakhs As per MoEFCC guideline the social cost of rehabilitation of oustees (in addition to the cost likely to be incurred in providing residence, occupation and social services as per R&R plan) be worked out as 1.5 times of what oustees should have earned in two years has he not been shifted. As per letter no. 2/MW-2071/2010,L&T-684 Ranchi, dated 10.04.2023 minimum wage is Rs. 352.38 (Rs. 274.81 +77.57) w.e.f. 01.10.2023. Therefore, Total Cost of suffering of oustees = $352.38 * 330 * 2 * 69 * 1.5 =$ Rs. 240.71 Lakhs | As per Cost Benefit Analysis Guidelines for forest land diversion published vide MoEFCC7-69/2011-FC(Pt.) Dt 01-08-2017 |
| 7. | Habitat Fragmentation cost | Rs. 1727.71 Lakhs Cost due to fragmentation has been pegged at 50% of NPV applicable as a thumb rule. | As per Cost Benefit Analysis Guidelines of forest land published vide MoEFCC7-69/2011-FC(Pt.) Dt 01-08-2017 |

| | | | |
|-------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8. | Cost of Compensatory Afforestation, Soil & moisture conservation cost and Wildlife management Cost | Rs. 529.36 Lakhs Compensatory Afforestation: $214190.11 \times 2 \times 281.17 = \text{Rs } 120.84 \text{ Lakhs}$ Soil Conservation cost = 0.5% of the Project Cost = $0.005 \times 16341 \text{ Lakh} = 81.70 \text{ Lakh}$ Cost of Wildlife Management Plan = 2% of the Project Cost = 326.82 Lakh Total Cost = 120.84 Lakh + 81.70 Lakh + 326.82 Lakh = 529.36 Lakh | Rate of CA as per demand note issued in recent years by State Forest Department. WLMP and SMC Cost is as per the MoEf&CC guideline dated 07.06.2022 |
| Estimated Cost of Forest Diversion | | 2,42,734.49 Lakh | |

II. Estimation of Benefits of forest diversion

| S. No. | Parameters | Remarks | Annexure/Reference |
|--------|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Increase in productively attribute to the specific project | Rs. 200285.05 Lakhs | Approved Project Report of Churi Benti UG (0.81 MTY) |
| 2. | Benefits to economy due to specific project | Rs. 175586.17 Lakhs | As per MoEFCC guidelines these benefits are incremental economic benefit in monetary terms due to activities attributed to specific projects. These benefits may include benefits due to expenditure made on account of CSR activities as per company's Act 2012, Royalty to the exchequer, contribution to District Mining Fund (DMF), contribution to National Mineral fund, amount collected as Coal cess, Stowing cess where ever applicable and any other benefits. |
| 3. | No. of population benefitted due to specific project | 2068 (Direct Employment = Permanent + Contractual) | |
| 4. | Economic benefits due to direct and indirect employment due to project | Rs. 42482.66 Lakhs Economic benefits due to direct employment = 40420.09 Lakh | |

| | | | |
|-----------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| | | Economic benefits due to indirect employment due to project = 2062.57 Lakh | |
| 5. | Economic benefits due to Compensatory Afforestation | Rs. 3791 Lakhs Area of CA land X (NPV value of Moderately dense Forest – NPV value of Open forest) 562.34 X (1228590-957780) = 1522.87 Lakh | NPV value of the CA land so identified will increase from that of an open forest to that of Moderately dense forest |
| Estimated Benefits of Forest diversion | | 4,22,144.88 Lakh | |


The Cost to benefit ratio is the ratio of estimated cost and estimated benefits,

The cost to benefit ratio for this forest proposal comes out as under:


| Total estimated Cost due to diversion of forest in Rs. lakhs | Total estimated benefits due to project in Rs. Lakhs | Cost to benefit Ratio |
|--------------------------------------------------------------|------------------------------------------------------|-----------------------|
| 2,42,734.49 | 4,22,144.88 | 1:1.74 |
| | | |

PROFORMA TO BE FURNISHED FOR REMMITANCE OF FUND IN AD-HOC CAMPA

| Sl.No. | Particulars | |
|--------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| 1 | Name of the Regional office | MOEF, Ranchi |
| 2 | State/District/Forest Division to which the proposal related | Jharkhand/Ranchi , Jharkhand / Chatra (S) |
| 3 | Name of the User agency, Nature of the proposal | Churi - Benti UGP |
| 4 | Extent of forest area involved | 312.76 ha + 281.17 ha |
| 5 | Whether original, or extension | Original |
| 6 | If extension of lease, please clarify if proposal involves additional forest area, and if so, specify | Not Applicable |
| 7 | Date of 1 st stage clearance | 23.02.2009 |
| 8 | Extent of CAMPA charges, head wise | |
| a. | Compensatory Afforestation | 1073490.00 |
| b. | DFO | D.F.O. Ranchi |
| c. | Penal CA | 1883316.96 |
| d. | Wildlife management plan (for safety purpose) | Not applicable |
| e. | Additional charges for diversion area falling under notified/protected area (i.e. block plantation 5 times of tree to be felled) | Not applicable |
| f. | Net present value | 583178750.00 |
| g. | DFO | Ranchi East |
| h. | Any other charges/levies (PL Specify) | 1404242.00 |
| i. | Lease transfer fee | Not applicable |
| 9 | Details of bank Draft (Bank draft No. date & amount), head wise against items indicated in the paragraph 9 above | |


 Project Officer
 Churi Project (CCL)

| | | |
|----|------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10 | Whether deposited by RTGS, if so, the particulars and date of remittance | <p>An amount of Rs 134049564/- was paid in respect of 312.76 Ha as part payment of Rs 171842604 in Adhoc CAMPA maintained at corporation Bank Lodhi Road New Delhi through RTGS 05.08.09 (171842554) and 10.08.09 (Rs. 50) respectively paid in 2009-10.</p> <p>An amount of Rs. 121449735/- 312.75 Ha (50%) has been deposited as a part payment of Rs 220,50,00,000 to CAF AC JHARKHAND ACCOUNT NO. 037100101025212, IFSC Code CORP0000371 and NEFT for Rs 41,439 to CAF AC JHARKHAND ACCOUNT NO. 037100101025212, IFSC Code CORP0000371 on 31.03.2016, for thirteen different projects.</p> <p>Further an amount of Rs. 159122480/- has been deposited for 198.16 Ha as a part payment of Rs 220,50,00,000 to CAF AC JHARKHAND ACCOUNT NO. 037100101025212, IFSC Code CORP0000371 and NEFT for Rs 41,439 to CAF AC JHARKHAND ACCOUNT NO. 037100101025212, IFSC Code CORP0000371 on 31.03.2016, for thirteen different projects.</p> <p>An amount of Rs. 17, 29, 18,020/- has been deposited as a part payment of Rs. 85,12,37,560.00 in CAMPA account, Jharkhand vide RTGS UTR No. SBINR52017032400036825-CAF Account Jharkhand from SBI Bank, for NPV of nine different Project of CCL on 24.03.2017. The NPV payments for Rs. of Churi-Benti Project are the part of above payment against the demand of concerned DFO.</p> |
| 11 | Bank (corporation Bank, Lodhi Complex/Union bank of India, Sunder Nagar) in which Deposited, with Deposit, with date of Deposition | Mentioned in point no 10 |
| 12 | Any other remarks | |


 Project Officer
 Churi - Benti UG Project
 3/24
 Project Officer
 Churi Project (CCL.)

Payment – Major Heads Churi-Benti

| SI No. | Forest Proposal | Payment Status | | Remarks |
|--------|----------------------------------------------------------------|----------------------------------|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | Payment Under Different Heads | Amount | |
| 1 | 312.76 Ha (Already diverted) | 1) Compensatory Afforestation | 1073490 | Rs 134049564 was paid alongwith Rs 171842604 in CA No. 01001587 of AdHoc CAMPA maintained at corporation Bank Lodhi Road New Delhi through RTGS 05.08.09 (171842554 Rs) and 10.08.09 (50 Rs) respectively |
| | | 2) Penal CA | 1883316.96 | |
| | | 3) Others | 1404242 | |
| | | 4) NPV Paid 1 st Time | 129688515 | |
| | | NPV Paid 2 nd Time | 121449735 | |
| 2 | 281.17 Ha (Applied Vide FP/JH/MIN/23021 /2016 on 29.12.2016 | NPV | 159122480 | On dated 31.03.2016, RTGS for Rs 220,50,00,000 to CAF AC JHARKHAND ACCOUNT NO. 037100101025212, IFSC Code CORP0000371 and NEFT for Rs 41,439 to CAF AC JHARKHAND ACCOUNT NO. 037100101025212, IFSC Code CORP0000371 was made for thirteen different projects. The NPV payment for Rs. 121449735 of Churi UGP project is a part payment at the rate of 8.03 Lakh per Ha. Area Of Forest Land 312.75 Ha (50%) |
| | | | 172918020 | On dated 24.03.2017 ,an amount of RS 85,12,37,560.00 has been deposited in CAMPA account, Jharkhand vide RTGS UTR no. SBINR52017032400036825-CAF ACCOUNT JHARKHAND from SBI bank ,for NPV of nine different projects of CCL. The NPV payment for Rs 17,29,18,020.00 of Churi-Benti Project are the part of above payment against the demand raised Demand of concerned DFO. Demand of concerned DFO, 2704 dt. 04.10.2016. Area of forest land 215.34 ha |
| | | | Total Amount Paid for ChuriBenti Leasehold Area | |

Project Officer (CCL)

No. 7-69/2011-FC(Pt.)
Government of India
Ministry of Environment, Forest & Climate Change
(Forest Conservation Division)

Indira Paryavaran Bhawan,
Jorbagh Road, Aliganj,
New Delhi-110003.
Dated: 01st August, 2017.

To

The Principal Secretary (Forests)
All States / Union Territories Governments.

Sub: **Guidelines for conducting Cost Benefit Analysis for projects involving diversion of forest land under the provisions of the Forest (Conservation) Act, 1980.**

Sir,

I am directed to inform that in supersession of all earlier orders / guidelines including that referred to at 2.6 of the Handbook of Forest (Conservation) Act, 1980 for conducting Cost Benefit Analysis of projects involving forest diversion, a revised set of guidelines has been prepared by the Ministry and shall be applicable for all projects involving diversion of forest land under the provisions of the Forest (Conservation) Act, 1980, which are required to be undertaken as per Table A of the new guidelines, from the date of issue of this letter. These guidelines will be applicable for all such projects which are yet to be recommended by the State Government on the date of issue of this guideline.

The guidelines for conducting Cost Benefit Analysis for projects involving forest diversion areas is enclosed herewith for further action.

This issues with the approval of competent authority.

Yours faithfully,

Encl: As above.

(Nisheeth Saxena)

Sr. Assistant Inspector General of Forests

Copy to:-

1. Prime Minister's Office (PMO)
2. Secretary, Ministry of Mines, Government of India
3. Secretary, Ministry of Coal, Government of India.
4. Secretary, Ministry of Steel, Government of India
5. Principal Chief Conservator of Forests, all States/UTs.

6. Nodal Officer, the Forest (Conservation) Act, 1980, all States/UTs.
7. All Regional Offices, Ministry of Environment, Forest and Climate Change (MoEF&/C)
8. Joint Secretary, In-charge, Impact Assessment Division, MoEF&CC.
9. PS to the Hon'ble Minister of State (Independent Charge) for Environment, Forest and Climate Change.
10. Chairman, State Environment Impact Assessment Authority, all States/UTs.
11. Member-Secretary, State Environment Impact Assessment Authority, all States/UTs.
12. All Directors/Assistant Inspector General of Forests in Forest Conservation Division, MoEF&CC.
13. All Advisors/Directors/Dy. Directors in the Impact Assessment Division, MoEF&CC.
14. Director, Regional Office (Headquarters), MoEF&CC.
15. Sr. Director (Technical), NIC, MoEF&CC with a request to place a copy of this letter on website of this Ministry.
16. Sr. PPS to the Secretary, Ministry of Environment, Forest and Climate Change.
17. Sr. PPS to Director General of Forests and Special Secretary, Ministry of Environment, Forest and Climate Change.
18. Sr. PPS to Addl. Director General of Forests (Forest Conservation), Ministry of Environment, Forest and Climate Change.
19. PPS to IGF(FC), MoEF&CC.
20. Guard File.



(Nisheeth Saxena)

Sr. Assistant Inspector General of Forests

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 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 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.

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 judgement |
| 2 | Proposal for defence installation purposes and oil prospecting (prospecting only) | Not applicable | In view of national Priority accorded to these sectors, the proposals would be critically assessed to help ascertain that the utmost minimum forest land is diverted for non-forest use |
| 3 | Habitation, establishment of industrial units, tourist lodges complex and other building construction. | Not applicable | These activities being detrimental to protection and conservation of forest, as a matter of policy, such proposals would be rarely entertained. |
| 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 like micro-wave stations, auto repeater centres, 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. |

Table-B: Estimation of cost of forest diversion

| SN | Parameters | Remarks |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Ecosystem services losses due to proposed forest diversion | Economic value of loss of eco-system 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). <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> |
| 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 |
| 3 | Cost of human resettlement | 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 the project | To be quantified and expressed in monetary terms on actual cost basis at the time of diversion |

Cost Benefit Analysis Guidelines for forest land diversion -2017

| | | |
|---|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 |
| 6 | Cost of suffering to oustees | The social cost of rehabilitation of oustees (in addition to the cost likely to be incurred in providing residence, occupation and social services as per R&R plan) be worked out as 1.5 times of what oustees should have earned in two years had he not been shifted. |
| 8 | 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. |
| | 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 |

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

| Sr. No. | Parameters | Remarks |
|---------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Increase in productively attribute to the specific project | To be quantified & expressed in monetary terms avoiding double counting |
| 2 | Benefits to economy due to the specific project | The incremental economic benefit in monetary terms due to the activities attributed to the specific project |
| 3 | No. of population benefited due to specific project | As per the Detailed project report |
| 4 | Economic benefits due to of direct and indirect employment due to the project | As per the Detailed project report. |
| 5 | Economic benefits due to Compensatory afforestation | Benefits from such compensatory forestation accruing over next 50 years monetised and discounted to the present value should be included as benefits of compensatory afforestation. *For benefits of CA the guideline of the Ministry for NPV estimation may be consulted. |

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.

