

FULL TITLE OF PROJECT :-DIVERSION OF 8.0678Ha. OF FOREST LAND FOR CONSTRUCTION OF SIUL-IV SHEP 4MW TEHSIL SALOONI DISTT. CHAMBA HP.

CHECK LIST SERIAL NUMBER - 29

**COST BENEFIT ANALYSIS
SIUL-IV SHEP (4MW)**

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

S.No.	Nature of Proposal	Applicable/ Not Applicable	Remarks
1.	All categories of proposals involving forest land upto 20 ha in plains and up to 5 ha in hills.	Not applicable	---
2.	Proposal for defense installation purposed and Soil prospecting	Not applicable	---
3.	Habitation, establishment of industrial units, tourist lodges complex and other building construction	Not Applicable	---
4.	All other proposals involving forest land more than 20 ha in plains and more than 5 ha in including hills transmission lines minor medium and major irrigation projects, hydel projects, mining activity, railway lines, location specific installations like micro-wave stations, auto repeater centers, TV towers etc.	Applicable	It is the 4MW SHEP being constructed in the hilly area of District Chamba (H. P.) for which barest minimum 8.0678ha forest land for various components of the project has been taken. Meticulous exercise has been carried out for the minimum use of the forest land and tree to be cut which has been accepted after the site inspection by the forest officers on dated 25/07/2017 of the area and keeping the public interest intact.

Table B -: Estimation of cost of forest diversion

S.No.	Parameter	Remarks
1.	Ecosystem services losses due to proposed forest diversion	As per MoEF Guidelines 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. Also as per GoI new Guidelines No. F.No.11-438/15-FC (Pt) dated 17 th April, 2018, 50% of the normal NPV. Total Forest land Proposed for diversion is 8.0678ha. NPV Rates to open forest of class-VI @ Rs. 6, 99,000/- ha. i.e. 8.0678 X 6,99,000 = Rs. 5639393-00 as per New Guidelines =5639393-00X50% total NPV cost is Rs. 2819700-00
2	Loss of annual husbandry productivity including loss of fodder.	As per MoEF Guidelines- To be quantified and expressed in monetary terms or 10% of NPV applicable whoever is maximum. The 10% of the Total NPV cost i.e. Rs. 2819700/-
3	Cost of human re-settlement	MoEF Guidelines States- To be quantified and expressed in monetary terms as per approved R&R Plan. There is no displacement involved due to the construction of the proposed project. Hence no cost of re-settlement involved.
4	Loss of public facilities and administrative infrastructure (Roads, building, schools, dispensaries, electric lines railway etc) on forest land or which would require forest land if these facilities were diverted due to the project.	As per MoEF Guidelines- To be quantified and expressed in monetary terms on actual cost basic at the time of diversion. These are cases where a cost-benefit analysis is necessary to determine when diverting the forest use in the overall public interest. The development of the project will not hamper any public facilities and administrative infrastructure. Infrastructure (Roads, building, schools, dispensaries, electric lines railway etc) Therefore no such losses will occur.

5.	Possession value of forest land diverted.	MoEF Guidelines-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 values of forest land whichever is maximum. Total Forest land Proposed for diversion is 8.0678ha. NPV Rates to open forest of class-VI @ Rs. 6, 99,000/- ha. i.e. $8.0678 \times 6,99,000 = 5639393/-$ As per Gol new Guidelines No. F.No.11-438/15-FC (Pt) dated 17 th April, 2018, 50% of the normal NPV. $= 5639393-00 \times 50\% = \text{Rs. } 28,19,700.00$ <u>30% of Total NPV Cost = Rs. 845910.00</u>
6.	Cost of suffering to oustees	There is no resettlement and rehabilitation is taking place due to the construction of proposed Project. <u>There is no displacement of peoples.</u>
7.	Habitat Fragmentation cost.	MoEF Guidelines- 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. Total Forest land Proposed for diversion is 8.0678ha. NPV Rates to open forest of class-VI @ Rs. 6, 99,000/- ha. i.e. $8.0678 \times 6,99,000 = \text{Rs. } 5639393-00$ As per Gol new Guidelines No. F.No.11-438/15-FC (Pt) dated 17 th April, 2018, 50% of the normal NPV. $= 5639393-00 \times 50\% = \text{Rs. } 28,19,700.00$ <u>50% of Total NPV Cost = Rs.14,09,850.00</u>
8.	Compensatory afforestation and soil & moisture conservation cost.	<u>Cost of Compensatory afforestation is Rs. 3362864/-</u>

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

S. No.	Parameters	Remarks
1	Increase in productivity attributable to the specific Project	Applicable as in case of Hydel projects irrigation not an intended benefit hence the State Govt get free power in shape of Royalty. i.e. Qty of benefit 1.43MU for 12 years =62.63 Lakh per annum and 2.65MU for rest of 28 years =116 lakh per annum
2	Benefit to economy due to the specific project	MoEF Guidelines- the incremental economic benefit in monetary trms due to the activities attributed to the specific project. Revenue from the sale of power i.e. 1. The annual energy benefits from the project have been estimated at about 1.43MU for 12 years. 2. Av. Cost of saleable net design energy @ Rs. 4.38 per unit per annum $(4.38(18.97 \times 12 + 17.75 \times 28)/40 = 80.224 \text{ million Rs} = 8.0224 \text{ Cr (Rs. } 8022.4 \text{ lakh)}$ 3. Development works to be done through LADA @ 1% of project cost =38Lakh. 4. Adding more employment opportunity and giving boost to economic growth. Thus the state of H.P shall get free power worth of on Crores rupees in 40 years from this project.
3	No. of Population benefit due to Specific Project.	During Construction: Project Engineer-1 , Civil/Electrical=3 , Mechanical Engineers-2 , Trained Supervisors=5 , Other Allied staff=14 Skilled Total=25 Unskilled Workers-As per the requirement of construction Total=50 During Construction Skilled/ Unskilled Total man days = 75X 2 year =54750 man days. Population benefits due to specific project: as per the Detailed Project Report.

4.	Economic benefits due to of direct and indirect employment due to the Project.	MoEF Guidelines- as per the Detailed Project Report. Direct Employment for a period of 2 years during construction period 50 persons for 2 years at minimum wages @ 6,Lakh =12Lakh Direct employment for a period of 40 years (post construction phase) 12 persons 30Lakh per annum =Rs. 120 lakh.												
5.	Economic benefits due to compensatory afforestation	Cost to be incurred on compensatory afforestation= 3362894/- Benefits to be accrued during next 50 years from CA. No. of plant to be planted 1100 X 17 ha. = 18700 Nos. Expected survival% = (60%)..... = 11220 Nos. Cost monetized during next 50 years <table><tr><th>Name of species</th><th>Survival of plants as 50%</th><th>Market high rate applied as approved by forest department</th><th>Total Cost</th></tr><tr><td>Conifer</td><td>5610</td><td>65495</td><td>367426950</td></tr><tr><td></td><td></td><td>Total =</td><td>367426950.00</td></tr></table> Benefits to derived during next 50 years = 367426950-3362894 = 364064056.00 <i>The above calculation is based on the current market rates as approved for the year 2018-19. Besides above benefit, intangible benefits will also be derived from above plantations.</i>	Name of species	Survival of plants as 50%	Market high rate applied as approved by forest department	Total Cost	Conifer	5610	65495	367426950			Total =	367426950.00
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Dated..28/1/21

Place, Salooni


 Nitin Ram Chandra
 Friends Him Energies
 M/S Friends Him Energies
 Authorised Signatory