

SONAM HYDRO POWER PVT. LTD.

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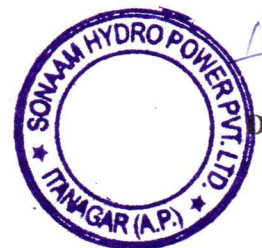
COST BENEFIT ANALYSIS

Project: Diversion of 6.95 Ha of forest land for constructions of Papum HEP (15 MW) being developed by M/s. Sonam Hydro Power Pvt. Ltd. under, Banderdewa Forest Division, Papum Pare District, Arunachal Pradesh

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

S.No	Nature of Proposal	Applicable/ not applicable	Remarks
1	All categories of proposal involving forest land upto 20 Ha in plains and upto 5 Ha in Hills	Not Applicable	
2	Proposals for defence installation purposes and oil prospecting (Prospecting only)	Not Applicable	
3	Habitation, establishment of industrial units, tourists lodges complex and other building construction	Not Applicable	
4	All other proposals involving forestland more than 20 Ha in plains and upto 5 Ha 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 centers, TV towers etc	This is a Hydro Electric Project of Installed Capacity of 15 MW and the total land required is 6.95 Ha . (Including River bed 0.90 Ha and Under Ground area=0.79) Hence, a cost-benefit analysis is necessary to determine when diverting the forest land to no- forest use, in the overall public interest. The cost benefit analysis as per prescribed format is enclosed in the subsequent pages.	

For Sonam Hydro Power Pvt. Ltd



Director

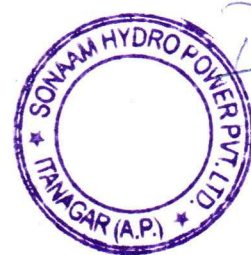
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Table B –Estimation of cost of forest diversion (as per MoEF &CC Guideline date 1st Aug 2017 related to cost benefit analysis)

SI No	Parameters	Remarks
1	Ecosystem Services losses due to proposed forest diversion	NPV of the forest land being diverted i.e Reserve Forest = 6.95 ha X 7.30 lakh = Rs 50.74 lakh
2	Loss of animal husbandry productivity, including loss of fodder	NIL However, Afforestation and other conservation measures would be taken up.
3	Cost of human resettlement.	NIL There is no displacement or any outsee involved in the project & hence cost of resettlement is not applicable
4	Loss of public facilities & administration infrastructure (Road, 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 Loss of any facility or existing infrastructure in the project land is NIL
5	Possession value of forest land diverted.	NIL
6	Cost of suffering of oustees	NIL Loss of house/Habitat/Structure is NIL, hence not applicable
7	Habitat Fragmentation Cost	NIL
8	Compensatory Afforestation and Soil & Moisture Conservation cost	Compensatory afforestation cost (Area 6.16 ha*2=12.32*2.5 Lakh=30.80 Lakh. Soil and Moisture Conservation cost included in Compensatory Afforestation Cost
Total Loss (Against the proposed forest land diversion)		Rs.81.54 Lacs

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Table C –Estimation of Benefit of forest diversion (as per MoEF &CC Guideline date 1st Aug 2017 related to cost benefit analysis)

Sl No	Parameters	Remarks
1	Increase in Productively attribute to the specific project.	The Project with an installed capacity 15MW can add 40.5 Million Unit (MU) of clean energy to the national grid annually, estimated based on the 90% dependable year. This shall be equivalent to revenue Generation 40.5 MU Per Year X 50 Years = 2002.5 MU. Power Growth = 2002.5MU X 4/Unit= 80100 Lakh. Would be generated over a period of 50 Years and hence there would be direct benefit to the state and the nation.
2	Benefit to economy due to the specific project	Benefits: Income- Project Cost Income= 40.5 X 4 X 50 = 80120 Lakh Project Cost = Rs.11270 Lakh (As Per draft DPR) Benefits= 80100 Lakh -11270 Lacs =68830 LaKh
3	No of population benefitted due to specific project	Yadang and Byate villages which will be directly benefitted by the project in addition people residing in Papum Pare district and entire population of the state i.e about 11.0 lakhs will also reap the indirect as well as overall benefit of the project.
4	Economic benefit due to direct and indirect employment due to the project	The State Government would be getting free power @10% per Year of power generated from this during the entire operation period of 50 years under M/s. Sonam Hydro Power Private Limited. In addition to above. Sonam Hydro Power Private Limited would also continue 1 Paisa per unit of power sold for local area development fund during 50 years. Thus total free energy revenue to the Arunachal Pradesh in operation phase of 50 years will be the tune of 4.05 MU per annum X 4/Units X 50 Years = Rs. 8100 Lacs. After operation of 50 Years by Sonam Hydro Power Private Limited. The project will be surrender back (In running Condition) to the state Government at free of cost.
5	Economic benefits due to Compensatory afforestation	C.A for 12.32 Ha of degraded forest land =30.80 Lakh
Total		Rs.68800 Lacs

Cost Benefit ratio = Project Benefit/Forest Loss = 68830/81.54=844 Hence the project has very high benefit to the country as compared to the forest loss.

For Sonam Hydro Power Pvt. Ltd.

 **Director**