

# ENVIRONMENT AND ECOLOGICAL IMPACT & ASPECTS OF JIWA-II SHEP (1.75 MW)

## GENERAL

Jiwa-II Small Hydro Electric Project is sparsely populated and there is practically no habitation in the area between weir site and forebay, keeping in view the ecological setting of the area, the site is selected for the construction of above scheme. It is a small run-of-the-river hydel scheme and land use for the project is agricultural and barren forest land. Being a run-of-the-river scheme, land submergence is not involved. The components of the scheme are mostly on the flat firm ground and there is no danger of any erosion. In view of the small scale of construction activities, most of the labour will be employed from the local areas and impacts such as demand of fuel wood to the labourer's will not arise at all. Alternative arrangements such as provision of Kerosene oil will be done by the construction agency to keep this in check.

The proposed project, Jiwa-II small hydroelectric project is a run-of-the-river scheme, as no reservoir is being involved and hence ground water table in the area will not be affected at all. Therefore, there will be no impact on public health scenario in the area. Natural resources in the area aquatic wildlife or fish wealth will not be affected.

However, the following safeguards will be implemented for maintaining the environmental and ecological balance of project area.

Controlled blasting operations shall be carried out during the construction of components so that excessive loosening of the land is prevented. On completion of the road and excavation work of the project suitable trees and shrubs shall be planted in the project area to stabilize land against slides.

## BASIC INFORMATION

The environmental and ecological information on prescribed proforma is as under: -

For BEHL MOTORS  
*Darab Jhura*  
Auth. Signatory

Predominant existing land use pattern (agricultural land reserve and other forests etc.) in project area and up to 100 km upstream.	There is only forest land except for 0.18 hectares for power house, road, switchyard and other components which is cultivated.
Break up of submerged area	Nil
Total. Submerged Area	Nil
a) Forest type in catchment and submerged areas (indicate the type of trees whether sparse or thickly wooded and other details).	The project being very small there will hardly be any forest to be cut for it.
b) Extent and nature of forest to be cut for the construction of roads and other appurtenant works.	24 months.
Duration of project construction stage.	Skilled labour 20 nos Unskilled labour = 70 Nos 100% unskilled labour and 50% skilled labour to be recruited from the local area subject to availability of the labour.
Estimated peak labour strength.	Nil
Number of villages and population to be displaced.	Nil
Occupation of the effected people. Industrial labour.	Nil
Owner-cultivators by size of land holding.	Sparsely populated.
Population density in the area/sq km.	Not applicable
Is rehabilitation committee being constituted?	Nil
a. No. of ousted families likely to be settled in existing villages.	Nil
b. No. of ousted families likely to be settled in new settlements.	Nil

For BEHL MOTORS  
*Deepu John*  
 Auth. Signature



<p>c. Size of proposed new settlements.</p> <p>d. Layout plan/ master plan for new settlements.</p> <p>Number and type of facilities (e.g. school, post office, banks, panchayat ghar, police Station, approach road, drainage and water supply etc.) proposed to be provided</p>	<p>I. The project being very small and 100% labour will be deployed from the local areas. Hence they already have the mentioned facilities.</p> <p>II. A link road from existing HPPWD road near diversion of Jiwa-I up to Power House will be constructed.</p>
Is the affected area covered by development programme like RD, SFD drought prone area, tribal Development?	Nil
Any proposal to provide/create employment for oustees ?	N/a
Nature and quantum of employment to be provided.	It is a small project about 15 persons as permanent employment.
Vocational training programme envisaged, if any ?	Nil
What is the expected rate of siltation and details of how the siltation problem is proposed to be handled.	It is a run of the river scheme, there won't be any siltation problem as the entire siltation shall be passed d/ s of the intake works.
Is down stream area subject to flooding ?	No
Wind rise at Dam site (diagram giving statistical information concerning the direction and speed of the wind at the site)	No This is small project with only diversion weir.
Hurricane tornadoes, cyclones, frequency of occurrence, wind velocity : average/ maximum.	Though no observations are being made in the area but cyclone of very little duration and frequency occur over here. No damage has been occur. N/a
Plan of area on the reservoir periphery subject to erosion, slides and slips.	
The depth of ground water table maximum, minimum and quality of ground water.	It is a hilly area and no static water table possible.

For BEHL MOTORS

*Jedha Sharma*  
Auth. Signatory

<p>Present ground water use pattern in the command Area under irrigation/ surface ground water. Based on the experience of similar projects in the area, specify the interaction between the altered surface water patterns and underground aquifers and their recharges.</p>	Not required.
<p><b>ENVIRONMENTAL STATUS</b></p> <p>a. Indicate known/ pollution sources in the region.</p> <p>Industries like chemicals, textiles</p> <p>and others thermal power units, mining operations etc.</p> <p>b. Indicate the industrial and other development project likely to be taken up in the area during the next five to ten years.</p> <p>a) Does the area support economically viable aquatic life fish/crocodile</p> <p>b) Are there any fish/crocodile breeding grounds in the river tributaries in the submergence area.</p> <p>Does the site contain a wild life (including birds) habitat breeding area/ feeding area, migration route. Indicate the number of wild life available in the area.</p> <p>Is the site a potential wild life sanctuary?</p> <p>Specify and rate or endangered</p> <p>species of flora and fauna found in the affected area along with their approximate number of measures to salvage/rehabilitate-them.</p> <p>Is the area a tourist resort?</p> <p>Area any monuments/sites of cultural, historical, religious archeological or recreational importance including wild life sanctuaries and national parks etc. likely to be affected by the proposed project? If so, details thereof.</p>	<p>Nil</p> <p>i) a. flour mills (small b. Saw mills</p> <p>ii) Small cottage industries</p> <p>No</p> <p>N/a</p> <p>Only sheeps, and birds etc. Forest.</p> <p>No</p> <p>Nil</p> <p>Nil</p> <p>No</p>

FOR BEHL MOTORS  
*Jeetendra Sharma*  
 Auth Signatory



Does the proposed area suffer from endemic health problems due to water/ soil borne disease? If yes, specify the problem (s) and give detail ?	No
<b>ENVIRONMENTAL</b>	
<b>IMPACTS:</b>	
What measures are planned to develop the site to enhance its aesthetic aspects (i.e. recreation and water sport facilities and picnic sites etc.)	After having approach road, bridle paths to different components, only small parks at different sites and rest places would be constructed.
Will the project help in flood control reduction of over eradication of flood havoc downstream?	N/a
Are any changes in water salinity expected? If yes details of proposed measures to contract this.	N/a
Are problems of water logging envisaged in the command area if so, give details of proposed steps to combat the problem.	N/a
Will the reservoir be used for fisheries development (fish culture as well as fish breeding), crocodiles farming etc.?	N/a as no reservoir is contemplated.
Will fish ladder lifts and like arrangement be provided to allow movement of important migratory fish population.	N/a
Measures proposed to prevent grazing and cultivation on reservoir slopes to avoid erosion and premature silting up to the impoundment.	N/a
Will important natural resources (minerals, commercial timber etc.) be loss of their use precluded because of the presence or operation of the project ?	No
What potential loss in aquatic production on site, up to and down stream? (fish and other useful aquatic animals and plants)	Nil
Will the formation and use of the water body result in the introduction or enhancement of water borne disease?	

For BEHL MOTORS  
*Jeepal Shrivastava*  
 Auth Signatory

Will the impounded reservoir leads to	No
i) Noxious aquatic weeds like salvania water hyacinth etc.	
ii) Intermittent host (vectors) like snail's mosquitoes etc.	Nil
How will aquatic weeds be controlled in submerged areas so as to provide an improved habitat for fishery exploitation?	Nil
Will the project induce adverse climatological changes (regarding temperature, humidity, wind and precipitation including modifications to micro and climate)?	N/a
What impact is expected on geological factors 5? e.g. seismic impact of reservoir loading.	N/a
Indicate the magnitude of impact due to population pressure on	
i) Falling of trees for firewood.	Nothing adverse expected.
ii) Forest fires.	
iii) Over grazing leading to depletion of the pastures and iv) Visual pollution and damage to scenic values.	Nil, as the labour force would be local inhabitants.
What arrangements are being made?	Nil
i) To meet fuel requirement of the labour force during construction period to prevent indiscriminate falling of trees for firewood.	Nil
ii) For compensatory afforestation.	No special arrangement are Needed as most of the construction force would be local. However, alternative arrangements like kerosene oil, LPG etc. would be provided to the labour free of cost
iii) To enforce anti-peaching laws.	
iv) To control flow of sediments and pollutions due to fertilizer and pesticide run-off from cultivated areas.	Not required since no forest cutting would be involved. However, a small provision has been made against this head. These laws are already in force in the area.
v) For restoration of land in construction areas (filling, grading and re-forestry etc. to prevent erosion and to erase the scars),	
vi) For soil conservation in the catchment.	N.A

For DEPT. MOTORS

*Jafar Khan*  
Auth. Signatory



**COST OF ENVIRONMENTAL STUDIES & MONITORING**

Provision for environmental studies surveys needed for this project.

Cost of proposed remedial and mitigative measure, if any to protect the environment.

Has the cost of environmental studies/protection measures been considered in the cost benefit analysis of the project ?

Retaining structures would be constructed as per actual site conditions.

N.A. However, a small provision has been made against this head.

Project management.

It is a very small project and no environmental changes are expected and as such no specific provision for environmental studies is proposed. However, a provision of R s. 40,000 will be made in the estimate for free fuel wood to the labour.

For DEHL MOTORS

*Jeet Dhawan*  
Auth. Signatory