VISHNUGAD PIPALKOTI HYDRO ELECTRIC PROJECT (444 MW)
SOCIAL IMPACT ASSESSMENT AND RESETTLEMENT ACTION PLAN

EXECUTIVE SUMMARY

INTRODUCTION

Tehri Hydro Development Corporation Limited (THDC) has been given the responsibility by the Government of Uttarakhand (GOU) to develop, commission and operate Vishnugad Pipalkoti Hydro Electric Project (VPHEP) in the district Chamoli, Uttarakhand. The project has been designed as a 444 (4 x 111) MW, run-of-river hydropower generation scheme on the Alaknanda River in the north Indian state of Uttarakhand. The project is proposed for World Bank assistance.

The major civil works required by VPHEP include a 65-meter diversion dam, a 13.4-km headrace tunnel and a 3-km tail race tunnel, and an underground power house. All water diverted from the river will be returned to the river approximately 18 km after the point of diversion. The project involves acquisition of public (government and forest land) and private land from titleholders located in 19 villages. The present report comprises the findings of the Social Impact Assessment (SIA) and presents a Rehabilitation Action Plan (RAP) for the population affected by land acquisition. The RAP is prepared in conformity with the provisions of the Resettlement and Rehabilitation Policy for the VPHEP and the requirements of World Bank’s OP 4.12 on Involuntary Resettlement. THDC will implement the RAP through its own staff assigned to this task and with the assistance of a contracted non-governmental agency (NGO).

The overall objective of the RAP is to ensure that all project affected persons (PAPs) improve or at a minimum regain the status of living they had prior to implementation of the project. The specific objectives are to:

- Identify the PAPs by the type of loss and extent of damage.
- Categorize entitled persons according to the eligibility criteria of the R&R policy of THDC.
- Work out entitlements for each entitled person based on the criteria laid down in the R&R policy of the project.
- Ensure that all entitled persons are aware of their entitlements under the policy and participate actively in the project.
- Identify the preferences of the PAPs for their relocation.
- Develop institutional support for implementation of the R&R process.
- Evolve a suitable mechanism for monitoring and evaluation of the R&R process and indicate the parameters for monitoring.
- Phase the implementation of the RAP so that it is coordinated with the phasing of construction activities to make the acquired land available when needed.

The sections of the RAP are:

- Introduction and methodology
- Legal Framework and Resettlement Policy
- Census Results
- Public Consultations
- Land Acquisition
- Income Restoration
- Institutional Arrangements
- Grievance Redress Mechanism
• Monitoring and Evaluation
• Implementation Schedule
• Estimated Budget for implementation

While the R&R policy document describes what needs to be done, why and how, the RAP describes in more detail how, when by whom the activities will be carried out.

METHODOLOGY

The RAP was informed by a Social Impact Assessment (SIA) which was completed in April 2008. The SIA draws on a review of available secondary literature and project related documents together with consultations with project officials. Relevant national and state legislations and regulations pertinent to the land acquisition and resettlement were reviewed. Post review and consultations, rapid preliminary field visits were conducted. The SIA included consultations with stakeholders, information on socio-economic and cultural features of the population, and baseline data on land acquisition impacts. For the RAP a census of project affected households and families was undertaken. This information together with consultations with communities in the project area regarding their concerns, and subsequent verification and updating by THDC of the SIA data on impacts have informed the measures to ensure that negative impacts are mitigated and that people receive benefits from the project.

PROFILE OF PROJECT AFFECTED PERSONS (PAPs)

Of the directly affected households, the SIA conducted socio-economic survey for 361 households as others were either not available for the survey since they were no longer resident in the affected villages or since they refused to respond. Of the total persons surveyed, 57% are males and 43% are females. The sex ratio (female to male per 1000) of the affected population is 968. Of the total affected population about 12% are non-residents and have over the years migrated from the area. A large section of the population (56%) is in the working age group of 19 to 59 years.

The majority of the households belong to the General Castes (61.5%) followed by the Scheduled Caste (34.06%). The Scheduled Tribal (STs) population constitutes only 3.84% of the total, and are Bhotia. In Haat the affected population includes 11 Bhotia families (8 households) who migrated from Malari near the Hindu pilgrimage site of Badrinath on the upper reaches of the Alaknanda river 15 years ago and settled in the village. Another project affected Bhotia household resides in Batula. Of the Bhotia families settled in Haat and Batula, some have acquired marginal landholdings while others are tenants, and some hold government jobs. They still hold land in their original home area. The Bhotia families do not speak a separate language from that of the majority population (Garhwali and Hindi) and are Hindus.

The SIA found pronounced land fragmentation with 82% of the land holdings below 0.5 ha, 96% were below 1 ha, and 98% of the cultivated land was un-irrigated. Despite this, levels of income were found to be fairly high. Only about 7% of a sample of 182 project affected households were found to have annual incomes below INR 15,000 (the state poverty line being INR 16,400 for a family of 5 persons), while 75% had annual incomes ranging from INR 25,000 to 200,000.1 The average annual income is INR

---

1 The Social Impact Assessment has attempted to assess the net value of the agricultural subsistence production as an element of the overall family income. Since informal tenancy arrangements involving land owned by families that have emigrated from the area are common, the actual cultivated area is often larger than that owned by a particular family. This would be one of the factors accounting for the discrepancy between the findings on income levels by the Social Assessment compared with official figures on Below Poverty Line (BPL) families, which use land ownership and social group as the basis for classification. Of the sample families, 55% are classified as BPL and possess a ration card.
103,000 whereas average annual expenditure is INR 68,000. Two fifths of the total households are in debt. About 29% of families are joint family households with an average size of 5.7 persons, and there is a correlation between high family incomes and the number of economically active adults in the family unit. Most families have multiple sources of income. Thus, 94% of the sample households were engaged in agriculture on own and leased land combined with non-farm wage labor for 21.5%, government service for 17.5%, and various business ventures for 31% (e.g. shops, businesses, small-scale contracting). An estimated 80% of the agricultural produce is consumed by the households themselves, and most of the affected households also own cows or buffaloes.

**EXPECTED PROJECT BENEFITS**

The development objectives of the project are: (i) to improve the reliability of India’s Northern (Electricity) Grid/Network through the addition of renewable, low-carbon energy from the Vishnugad Pipalkoti Hydro Electric Project, and (ii) to improve the effectiveness of Tehri Hydro Development Corporation (THDC) Ltd. with respect to the preparation and safe implementation of economically, environmentally and socially sustainable hydropower projects.

In the project area, implementation of the project and the resulting access to reliable electricity are expected to contribute to creation of new job and service opportunities and of a larger market for commodities and consumer goods, which is likely to bring greater levels of prosperity to the region. When operational, one percent of the profit from the company will be used for benefit sharing with local communities in ways that will contribute to their development.

**NEGATIVE IMPACTS**

As a run-of-river project, VPHEP has comparatively limited land acquisition impacts which affect a total of 1,223 households (1,477 families with 5,159 persons) in 19 villages. The project will require a total of 141.53 ha of land comprising 31.62 ha of private land, 90.09 ha of government forest/grazing land, 10.3 ha of *van panchayat* land (community held grazing and forest land), and 9.54 ha of state land owned by the Public Works Department.

<table>
<thead>
<tr>
<th>Project Component</th>
<th>Area to be acquired (in ha.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Dam and reservoir</td>
<td>29.95</td>
</tr>
<tr>
<td>2 Access roads</td>
<td>21.66</td>
</tr>
<tr>
<td>3 Quarry</td>
<td>11.71</td>
</tr>
<tr>
<td>4 Excavation dumping sites</td>
<td>5.04</td>
</tr>
<tr>
<td>5 Colony, power house, switchyard &amp; TBM assembly</td>
<td>63.65</td>
</tr>
<tr>
<td>6 PWD roads</td>
<td>9.54</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>141.53</strong></td>
</tr>
</tbody>
</table>

The acquisition of private land affects 769 families in seven villages, while 708 families in the remaining 12 project-affected villages will lose partial access only to government forest/grazing and/or *van panchayat* land. Of the private land required, 60% is purchased from willing sellers in one of the seven affected villages - Haat. The transfer of land and houses in Haat is based on land acquisition procedures to ensure complete recording of ownership and on the compensation and assistance provisions in THDC’s Resettlement and Rehabilitation Policy. A total of 265 families will have to resettle, and 92% of these are families from Haat who requested THDC to purchase their land.

**Haat village:** After protracted negotiations THDC agreed to a demand from the village Haat, that the company acquire land and houses from anyone in the village who wished to relocate. THDC agreed to
consider buying the additional land in recognition of the disproportionate impact on the village of land acquisition and construction disturbance from the powerhouse, switchyard, a surge shaft, and access roads. A total of 136 households (242 families) from Haat agreed to sell their land and houses amounting to 18.91 ha to THDC. Of the 136 households whose houses are acquired, only 95 reside in the village and are entitled to the grant of INR 1 million that THDC provides to households that chose to resettle on their own.² Only in the hamlet of Hatsari 8 of the households (11 families) did not agree to this arrangement, since unlike the other 136 households they did not have alternative land or houses outside the main Haat village. To limit land acquisition impacts on Hatsari, THDC has therefore shifted the location of the switchyard from land to be acquired from this hamlet to already acquired government forest land, and has also realigned an access road. The land acquisition impacts on the 8 households were reduced to 1.63 ha, and the total amount of private land obtained from Haat is 20.27 ha. With the recent choice of using a tunnel boring machine for excavating the head and tail raise tunnel instead of blasting, THDC will make use of all the land acquired in Haat, since a substantial area will be needed to assemble the machinery.

**Private land:** An analysis of the loss of agricultural land shows that 32% of the affected landholders are losing less than 10 percent of their total holdings. Five landowners will be rendered landless and 264 landholders are losing more than 75% of their land. About 30 landowners will be left with less than a *Naali* (the basic local unit of land = 1/50th ha = 200 sq.m) after land acquisition, and therefore all their land will be acquired. Even if the amount of agricultural or residential land acquired is less than one *Naali*, the minimum compensation will be equivalent to 1.5 *Naali*. The majority of the affected land owners (about 96%) across various impact categories were marginal farmers with holdings below 1 ha prior to the land acquisition. In the village of Lungsri farmers along an existing PWD road, which needs widening as a project access road, have encroached into the right-of-way, and a total of 5.92 ha are utilized by 46 farmers who will be compensated for the value of their standing crops when the land is repossessed.

**Grazing and forest land:** Villages use both government land and *van panchayat* land for grazing and fodder collection. *Van panchayats* were formed from 1921 onwards for the use and management of forest and grazing land by village communities. A total of 11 villages will lose access to an average of 2.5% of the government forest land that they use at present for grass collection and grazing, and a total of 8 villages lose access to an average of 0.9% of the *van panchayat* land they use for grazing and collection of grass and firewood. Of these villages, 3 lose access to both government forest and *van panchayat* land.

**Buildings and resettlement:** A total of 139 private structures and 31 community properties will be acquired under the project. Of the private structures, 99 are residential, 5 are residential and commercial, 3 are only commercial, and the remaining 32 are cattle sheds or dilapidated structures. Of the families losing their houses, three are non-titleholders, who will nevertheless receive the minimum land compensation of INR 100,000. Of the 104 residential and residential / commercial houses to be acquired, 94 are in Haat, and the remaining are in the villages of Jaisal (6) and Batula (4). All the families that will be resettling have chosen to move to locations of their own choice. In addition to the house compensation – which the case of Haat equals the agreed selling price – all the relocating households that are resident in the houses acquired (including the non-titleholders) will receive the additional INR 1 million for self-resettlement to substitute for the infrastructure they would have access to in a resettlement site.

² The other 41 households who own houses or are part-owners of houses in Haat have already migrated and settled elsewhere over the years. Such out-migration due to pressure on land has been characteristic of the area for at least a century (Gazetteer of Garhwal Himalaya, Government Press, Allahabad 1910, p. 74). Since the agricultural land in Haat is of low productivity, land is fragmented into un-viable holdings, and there is no functioning land market in the area (except along the highway on the other side of the river), those who have migrated from Haat or have alternative houses and land elsewhere had a strong interest in having THDC acquire their land and houses.
Most of the households in Haat own either a house or land in the adjacent villages of Maina, Daswana, and Mayapur on the other side of the river. There are 17 Scheduled Caste households (29 families) from Haat most of whom hold agricultural pattu land – granted by the government and allocated by the Gram Panchayat to landless families – in Daswana. A special permission is required from the District Magistrate to build houses on this land, and THDC will facilitate this. Whereas the NRRP of 2007 does not provide for compensation for pattu land, THDC is paying compensation equivalent to land held as private property (Naap land). This enables the three Scheduled Caste households, who do not have land outside Haat, to buy replacement land with the payment they receive for their pattu land.

Non land acquisition impacts

People in villages affected by land acquisition as well as those in the 12 non-affected villages situated on the mountain above the head and tail race tunnels expressed concern over the possible impacts on their houses of blasting or blasting-induced landslides during construction and/or soil subsidence after construction of the tunnel. To address these concerns, THDC has: (i) commissioned a study by the Department of Earth Sciences, IIT Roorkee (planned for dissemination to the concerned villagers in local language by December 2009); (ii) provided for an insurance scheme to cover such impacts (which are not anticipated); (iii) established a baseline of the current condition of all habitations against which damage assessments can be made; and (iv) mapped and measured all water sources to enable assessment and mitigation of any future decrease in water availability caused by project construction activities. While not entirely doing away with the need for blasting to construct the head-race tunnel, the decision to use a tunnel boring machine means that the bulk of the tunneling will be done without blasting.

The project will not have downstream impacts on livelihoods since the water of the Alaknanda within the project area and downstream is not used for irrigation or livelihood dependent fishery. Agriculture is primarily rain-fed. Only 15 percent of the agricultural land in the entire district is irrigated, and about 2% in the affected villages. This irrigation is based on tributary streams and springs, not on intakes in the Alaknanda river. With no industries in the area, there is also no industrial demand for water.

Facilities: Since the affected families that will have to relocate have chosen to move individually to locations of their own choice where most already own an alternative house, THDC will not establish resettlement sites. In the case of Haat, the relocation will be across the river where people will be closer to the schools and health facilities that they already use. For the Scheduled Caste families from Haat who are moving to Daswana and building new houses there, THDC will provide a road connection to the site and access to electricity and water.

Entitlement Framework

The Resettlement and Rehabilitation (R&R) policy prepared by THDC is based on National Resettlement and Rehabilitation Policy, 2007 and World Bank’s Operational Policy 4.12 on involuntary resettlement. The resettlement action plan has been prepared based on the broad outlines laid down in the policy.

Under THDC’s R&R Policy, those who lose private land have a choice between two compensation options. Option 1 is based on NRRP 2007, whereas Option 2 is based on negotiated settlement. Of the 769 families from which land and/or houses will be acquired, 301 have chosen Option 1 while 468 have chosen Option 2. The following is a summary of the two options:

Option 1 includes:

- The “land for land” option, which is not being applied since there is no available replacement government land, and since the absence of a functioning land market in the area renders it
impossible for THDC to furnish land losers with adequate replacement land. Furthermore, all affected families have chosen to obtain possible replacement land themselves.

- Land compensation based on the LA Act. The Circle Rate in the project area ranges from INR 18,000 to 102,000 per Nali (one fiftieth of a hectare equivalent to 200 sq.m). The amount paid for land would include the compensation amount, solatium (30% of the compensation amount), interest (12% from the date of award), and R&R assistance.
- As per the category of affected families (refer Table 4 below), eligible families are entitled to a Rehabilitation Grant ranging from Rs. 50,000 to Rs. 100,000 plus a Subsistence Grant of 300 days of minimum agricultural wages (MAW).

**Option 2** which is based on negotiated settlement involves the following:

- THDC will seek a negotiated settlement with the affected community. The unit of negotiation is a Nali. The negotiated amount will be based on the prevailing market rate and will also consider the post project value of the land, and interest of 12% from the date of award.
- Any negotiated land compensation amount above the government Circle Rate will be paid by THDC as R&R assistance. Even if any project affected person (PAP) has a landholding of less than a Nali or is a landless, he/she will be entitled to an R&R package equivalent to the value of at least 1.5 Nali.

**Option 1 and 2** share the following features:

- The minimum compensation for agricultural land will be for 1.5 Nali even if the PAP holds less than a Nali.
- THDC will pay the replacement value of a structure based on PWD's latest Schedule of Rates (SOR). Compensation for homestead land will be calculated as per the process followed for agricultural land. The minimum compensation for homestead land will be for a Nali even if the PAP holds less than a Nali.
- THDC will pay the replacement value of a structure based on PWD's latest Schedule of Rates (SOR). The compensation for the land will be calculated as per the process followed for agricultural land. The minimum compensation for homestead land will be of 200 sq.m even if the PAP holds less than 200 sq.m of homestead land.
- In case an entire village is displaced, THDC may in consultation with the PAPs construct a new resettlement colony which will include (i) individual developed plots of 250 sq.m; (ii) basic amenities such as roads (access and internal), electricity, storm water drains, drinking water and sanitation facilities.
- Any community property that will be affected by the project will be replaced by THDC before the demolition or acquisition of such properties. In case of grazing land and van panchayat land, THDC will provide access roads to the residual van panchayat and/or grazing land. In addition, each affected household will be paid 100 days of MAW per year for a period of 5 years. The amount will be paid as a grant towards the loss of fuel and fodder.
- Employment in the project will be provided subject to suitability and availability, and all adult PAPs will if they so chose be included in activities to assist income generation.

The table below presents the different categories of project affected families (PAFs) as per THDC's R&R policy based on the severity of loss.
### Entitlement matrix

<table>
<thead>
<tr>
<th>PAF Category</th>
<th>Severity of loss/impact</th>
<th>Mitigation measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>PAFs who own agricultural land that has all been acquired.</td>
<td><strong>Option 1:</strong> Land compensation based on the LA Act.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rehabilitation Grant of 1,000 days of minimum agricultural wages (MAW) plus subsistence grant of 300 days MAW.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Option 2:</strong> INR 100,000 per Nali with minimum area compensated of 1.5 Nali.</td>
</tr>
<tr>
<td>B</td>
<td>PAFs owning agricultural land who lose partial land and become marginal farmers (left with un-irrigated land holding up to 1 ha or ½ ha. irrigated land).</td>
<td><strong>Option 1:</strong> Land compensation based on the LA Act.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rehabilitation Grant of 750 days of MAW plus subsistence grant of 300 days MAW.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Additional INR 30,000 if losing &gt; 50% of land.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Option 2:</strong> INR 100,000 per Nali with minimum area compensated of 1.5 Nali.</td>
</tr>
<tr>
<td>C</td>
<td>PAFs owning agricultural land losing partial land and becoming small farmer (left with un-irrigated land holding up to 2 ha. or irrigated holding up to 1 ha.).</td>
<td><strong>Option 1:</strong> Land compensation based on the LA Act.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rehabilitation Grant of 750 days of MAW plus subsistence grant of 300 days MAW.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Additional INR 30,000 if losing &gt; 50% of land.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Option 2:</strong> INR 100,000 per Nali with minimum area compensated of 1.5 Nali.</td>
</tr>
<tr>
<td>D</td>
<td>PAFs owning agricultural land and losing partial land but not covered in either category B or C.</td>
<td><strong>Option 1:</strong> Rehabilitation Grant of 750 days of MAW plus subsistence grant of 300 days MAW.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Option 2:</strong> INR 100,000 per Nali with minimum area compensated of 1.5 Nali.</td>
</tr>
<tr>
<td>E</td>
<td>Agricultural laborer PAF including squatters and encroachers who does not own land in the acquired area but who earns his/her livelihood principally by manual labor &amp; have been deprived of his/her livelihood due to acquisition.</td>
<td><strong>Option 1:</strong> Rehabilitation Grant of 750 days of MAW plus subsistence grant of 300 days MAW.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Option 2:</strong> INR 100,000 per Nali with minimum area compensated of 1.5 Nali.</td>
</tr>
<tr>
<td>F</td>
<td>Non agricultural laborer PAF including squatters and encroachers who are not an agricultural labor PAF, who earns his livelihood principally by manual labor or as a rural artisan or having any client relationship with the PAF community, immediately before acquisition and has been deprived of his/her livelihood due to acquisition.</td>
<td><strong>Option 1:</strong> Rehabilitation Grant of 750 days of MAW plus subsistence grant of 300 days MAW.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Option 2:</strong> INR 100,000 per Nali with minimum area compensated of 1.5 Nali.</td>
</tr>
<tr>
<td>G</td>
<td>PAFs losing partial land in case of linked projects/schemes, such as connecting approach roads &amp; bridges outside the project and its associated area etc., wherein only a narrow stretch of land extending several kilometers is being acquired.</td>
<td><strong>Option 1:</strong> Rehabilitation Grant of 500 days of MAW plus subsistence grant of 300 days MAW.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Option 2:</strong> INR 100,000 per Nali with minimum area compensated of 1.5 Nali.</td>
</tr>
<tr>
<td>H</td>
<td>Occupiers i.e. PAFs of STs in possession of forest land since 13th December 2005.</td>
<td><strong>Option 1:</strong> Rehabilitation Grant of 500 days of MAW.</td>
</tr>
<tr>
<td>I</td>
<td>PAFs who are Homestead Oustees (HSO) or totally displaced and whose house has been</td>
<td><strong>Option 1:</strong> House compensation based on PWD’s Schedule of</td>
</tr>
</tbody>
</table>
PUBLIC CONSULTATIONS

THDC has undertaken extensive consultation on social issues with both directly and indirectly affected villagers. In order to ensure wider participation, all consultations were carried out in local “gharwali” language. Local facilitators were hired to conduct consultations who understand and speak local dialect. There have been 72 local level consultations as part of the process to update the SIA and RAP. On an average 35 people attended these consultations to discuss the land acquisition and resettlement issues. The specific issues discussed include: compensation procedures, employment opportunities, resettlement options, and the relocation of the entire Haat village. Consultations with affected communities will continue during RAP implementation. The Borrower has set up two Project Information Centers (PIC), one at Haat village, and the other in the project office in Pipalkoti. The PICs are stocked with all project-related documents to allow the local people access to project-related information. The PICs have also been used for disclosing all safeguard-related documents. The key findings of the consultations are:

- An important area of concern for all the villagers is the impact of blasting leading to development of cracks in their houses. They consider it to be unsafe and demand for complete relocation of their villages. To allay such fears, THDC has made the provision of insuring all structures in the habitations that are over the alignment of tunnels and adits. While not entirely doing away with the need for blasting to construct the head and tail race tunnels, the decision to use a tunnel boring machine means that the bulk of the head and tail race tunnel will be constructed without blasting.

- Another major impact perceived from blasting and construction of roads and others structures is the loss of natural water springs (Sroth). In Haat village some claimed a drop in the water levels due to the blasting activities as part of the initial testing activities under the project. They also were of the opinion that blasting will disturb the layers of water and result in loss of moisture in the soil and affect their agriculture production. In order to establish baseline data on natural sources of water, the NGO contracted for implementation of RAP, has recorded and visually captured all such water sources in the affected zone. THDC will provide alternative water sources if any of the recorded natural water sources dries up during the implementation of the project.

- Loss of grazing land is another common concern expressed by most of the stakeholders. As their will be scarcity of fodder in the months of November and December they see a shortage of fodder due to land acquisition of government and van panchayat land. The SIA estimated that the average annual loss of income per household from restrictions in access to grazing, fodder and fuel wood collection would be around INR 10,000. Under THDC’s R&R Policy, these households will each be provided with compensation equivalent to 100 days per year of minimum agricultural wages (INR 100/day) for a 5-year period, which will provide supplementary income until re-plantation of fodder and trees on vacant government forest and van panchayat land have matured.

- Some of the participants were apprehensive about the loss of access and restriction to forest panchayat during and after construction activities. They observed that particularly women will not be able to access these areas due to the presence of construction labor. They are also apprehensive about the safety of the women. THDC in response to their concern promised to provide alternative routes by way of developing pathways to the van panchayat land.
Noise and dust pollution during construction activity is also one of the impacts identified by the local people. In addition health and hygiene and spread of various diseases due to lack of sanitation facilities for construction labor is also seen as a problem area. These issues will be addressed under the Environment Management Plan.

Increase in landslides due to blasting and construction activities is another area of concern for the affected people. As their region comes under seismic zone -5 they observed that the blasting and other activities lead to massive landslides and loss of land. THDC has conducted an independent study to assess the likely chances of landslides, and the results of the study were disseminated to the communities.

Non-availability of sufficient water in the river for performing last rites of their dead is a major impact identified by the stakeholders. Loss of cremation place for the villages coming under submergence area. A detailed Managed Flow Study was carried out covering river flow measurement, water usage survey, aquatic ecological studies, pollution load studies and an assessment of water-borne diseases. The regularity of flow in these tributaries was ascertained by periodic observation, supplemented by consultations and surveys with local communities. Based on the data available through the Study, THDC has, with the advice of experts, evolved an effective strategy to deal with the challenge of maintaining adequate flows in the river downstream of the diversion barrage.

Loss of access to river side quarry material and sand for house construction is observed by few people of some villages like Helang and Nawligwad. They demanded for alternative sites for getting these materials.

People have also demanded a benefit share of 2.5 percent of the total revenue to be given to villagers to develop infrastructure facilities in the village. As per the provision of peripheral development in the R&R Policy, THDC will provide 1% of their revenue for local area development. Apart from this, THDC has earmarked INR 9 Crore towards local area development to be utilized by the affected villages as per the Corporate Social Responsibility framework during the construction stage.

The provisions for affected families under R&R Policy of the project are considered somewhat satisfactory but not adequate to improve the standard of living. PAPs have demanded assured employment for one person per family and creation of employment opportunities for youths. PAPs demanded rehabilitation assistance to all eligible male members above 18 years of age. Special provisions for SC families were also demanded but not specified. The R&R Policy considers all male members above the age of 18 years irrespective of their marital status as separate family. The policy has additional provisions for all vulnerable families. There are provisions for self employment in the project.

Most people preferred market value compensation for their lost assets. Land for land option was demanded by some PAPs but they would only accept such land if they were located at Dehradun or Rishikesh. This would not be possible. If land is acquired through negotiated settlement, THDC has offered Rs. 100,000 per nali and minimum compensation would be of Rs. 150,000 even if PAP owns less than 1.5 nali.

Some of the PAPs from Haat (242 families) have demanded for acquisition of their remaining land as they consider it unviable. Given the size of land holdings and location of these left of land their concern is observed to be genuine. THDC agreed to relocate the entire village of Haat. However, one hamlet, Hatsari has refused to move out forcing THDC to shift the location of the switchyard from Hatsari to transferred forest land.

Training and income generation programs for educated youth and women are also demanded by the local people. The NGO contracted to assist in RAP implementation will provide such assistance.
The local community appreciated the formation of Village Development Advisory Committees (VDACs) under the project. The communities have demanded written agreements between the project officials and the VDACs.

The locals expressed their lack of confidence in the implementation of the community development activities and demanded for a role in monitoring of the implementation process. THDC has now sanctioned community development works worth INR 5 million under CSR. Tenders have been invited for some of the activities sanctioned.

Apart from these local level consultations, THDC also conducted a two workshops namely (i) to share the lessons in managing social issues with other developers on April 9, 2008, attended by 8 developers working in the state; and (ii) dissemination workshop to disseminate the findings of SIA and provisions made in the final RAP on September 13, 2009, attended by PAPs from all the 19 project affected villages, public representatives and district officials.

INSTITUTIONAL ARRANGEMENTS AND IMPLEMENTATION SCHEDULE

Land acquisition and relocation activities will have to be completed ahead of the start of construction activities so that the land is available for the contractors. Rehabilitation activities such as income restoration will continue through the project period.

In line with the NRRP, 2007, the state government has appointed an Administrator for land acquisition, resettlement, and rehabilitation (LA/R&R), and established grievance redress arrangements. The Administrator for LA/R&R is the District Magistrate of Chamoli District stationed at Joshimath, and the resettlement and rehabilitation works are carried out under his directions and guidance. He will be assisted by officers and employees as the appropriate government may provide. The roles and responsibilities of the Administrator include the following.

- Approval of award passed by Land Acquisition officer
- Oversee the disbursement of compensation for land acquired
- Formulation of Resettlement and Rehabilitation plans/schemes
- Minimize displacement of persons and identify non-displacing or least displacing alternatives in consultation with the project authorities
- Hold consultation with the PAPs and ensure the interest of adversely affected PAFs of STs and weaker sections
- Verification and approval of PAFs eligible for various entitlements
- Issuance of individual certificates to the land less people and those loosing houses
- Review the implementation of RAP and community development works

The state government has also appointed the Commissioner, Tehri, as Commissioner for R&R activities as per the NRRP of 2007. The Corporate Environment and Social Group (CESG) at THDC’s Corporate Office is headed by a General Manager (Social and Environment) who is supported by a Senior Manager and a Manager at both the corporate office as well as at the project site. The team at project site also includes two social workers soon to be supplemented with two more. The responsibilities of this group include the following:

- Formulation and approval of policy matters on social issues;
- Providing guidance on resettlement and rehabilitation matters;
- Assist in approval of Rehabilitation Action Plan (RAP) of the project;
- Coordinate with the external agencies on R&R issues;
- Coordinate the implementation of RAP with Monitoring and Project Planning for regular monitoring through review meetings.
Need for NGO

While all tasks relating to implementation of the LA Act of 1894 is taken care by the Land Acquisition Officer and his staff, the implementation of the RAP is the responsibility of the CESG under THDC. A reputed NGO from the state has been contracted to help in implementing various components of the RAP, particularly verification of data on PAPs during RAP preparation, and during implementation the use of compensation and rehabilitation assistance for more productive purposes like purchase of land, self employment, etc. The involvement of the NGO is all the more important since there are no social community organizations among the PAPs which otherwise could have taken the lead in this regard. Being new to the area of working with PAPs, the selected NGO is working directly under the Project level social group headed by a Senior Manager. Thus implementation becomes joint responsibility of THDC and the NGO.

Role of NGO

Resettlement relates to human aspects and economic rehabilitation requires human resources development consisting of education, training, awareness generation, etc. The services of a local reputed NGO have been hired to assist THDC in this regard. The NGO will help educating PAPs on the proper utilization of compensation and rehabilitation grants and help them in getting financial assistance, if required, under various subsidy related government development programs. It will also organize training programs to impart the required skills for those PAPs who would prefer to go for self-employment schemes. Specifically, the tasks of the NGO will be to:

1. Develop rapport with PAPs and between PAPs and THDC.
2. Assess the level of skills and efficiency in pursuing economic activities, identify needs for training and organize programs either to improve the efficiency and/or to impart new skills.
3. Assist PAP in receiving the rehabilitation entitlements due to them.
5. Facilitate purchase of agricultural land by PAPs at a reasonable price.
6. Assist PAPs in obtaining benefits from the appropriate government development programs.
7. Help PAPs in increasing their farm income through provision of irrigation facilities or improved farm practices.
8. Ensure marketing of produce particularly for those PAPs under self-employment activities.
9. Complete the consultation at the community level and provide support by describing the entitlements to the PAPs and assisting them in their choices.
10. Accompany and represent the PAPs at the Grievance Committee meeting.
11. Assist the PAPs to take advantage of the existing government housing schemes and employment and training schemes that are selected for use during the project, and
12. Carry out other responsibilities as required and identified.

The monitoring of R&R programme will also include the performance of NGO. The NGO services will be required for two years for which provisions have been earmarked in the plan.

INCOME RESTORATION

All PAPs losing agriculture land or getting displaced or losing livelihood will be supported by THDC for restoration of income. For income restoration, the NGO contracted for RAP implementation along with the Environmental and Social Cell of THDC will take following steps: (i) conduct need assessment survey to identify trades; (ii) identify master trainers for training; (iii) establish backward and forward linkages for each of the trade selected; (iv) arrange for training logistics. The NGO will also monitor
each PAP and document the progress of income restoration. So far 151 PAPs have expressed an interest in receiving such assistance. A challenge facing the planning of income generation assistance is that PAPs from the General Castes, which constitute about 62% of the PAPs, are not willing to engage in ‘menial’ trades such as carpentry, masonry, electrical work etc. for which there is likely to be an increasing demand as the local economy grows stimulated both by the development of hydro-power and growth in tourism and pilgrimage.

However, in addition to the income restoration activities described above, implementation of the project will also provide income and employment opportunities for PAPs. Thus, contracts for small civil works will to the extent possible be given to eligible PAPs. Under the community development activities funded by the earmarked Rs 90 million and the subsequent benefit sharing, civil works will be carried out by contractors or by the gram panchayats with monitoring by the beneficiary community.

Implementation of the project’s Environmental Management Plan, and specifically the Catchment Area Treatment Plan (CAT) will provide substantial income generation opportunities for PAPs. The CAT plan has a budget of Rs. 470 million to be used over five years. Activities under the CAT Plan to be implemented by the state Forest Department include tree plantation, soil and water conservation works, densification, and assisted natural regeneration in the area. A variety of soil and moisture conservation measures will be initiated, including constructing vegetative check dams, gully plugs, stone check dams, crate wire check dams, spurs and water percolation tanks. The CAT plan dovetails with and provides funds for certain livelihood support activities being launched under the project that will not only help local communities improve their incomes but will also facilitate eco-restoration as well as eco-development of the catchment area. Building awareness in the community for catchment development on a watershed development basis will be central to all these activities.

Grievance Redressal

A district level grievance redress mechanism headed by a retired zilla parishad CEO with a background in the law has been established with representation of a PAP from each of the 19 affected villages, an NGO representative, and THDC’s project level environment/social manager as secretary. THDC has also developed by-laws for the grievance redressal cell. Complaints must be processed with 15 days, and if the resolution proposed by this body is not accepted by the aggrieved PAP, the case can be referred to the Commissioner for LA/R&R. THDC will maintain a register of complaints, their processing, and their resolution. As of August 2009, the GRC had met once and resolved a complaint from a woman, who had recently become a widow, that female-headed families were not considered an entitlement entity. THDC has issued a Project Order to provide for this in the R&R Policy.

Monitoring and Evaluation

Since land acquisition and all relocation will have to be completed ahead of the start of specific construction activities, the process needs to be carefully monitored, so that problems are identified and dealt with on a timely basis. THDC will generate aggregate monthly reports with village specific information on the status of land acquisition and resettlement, compensation payments and assistance, and information on grievance redress. A committee for internal monitoring will be constituted headed by the Sub-Divisional Magistrate in Chamoli and with participation of project staff and PAPs. External monitoring will be conducted during the implementation period to provide independent verification that timely compensation payments and rehabilitation assistance are provided to those entitled, and that grievances are addressed in a prompt manner that brings resolution to the cases. An evaluation of the achievement of the objective of R&R activities – restoration or improvement of PAP living standards – will be conducted as part of the project midterm review and before project closure.
The key monitoring indicators for implementation of the RAP are:

- Living standards of >90% of the resident project affected families are no worse off or improved by the end of the project (Intermediate Outcome Indicator),
- All entitlements for property losses and restrictions on access fully delivered (Output indicator),
- Completion of scheduled resettlement including Haat villagers as agreed with the PAPs (Output indicator),
- 90% of PAPs who have opted for income generation support have sustainably restored their incomes,
- 90% of planned amount spent on small infrastructure under Corporate Social Responsibility and Peripheral Development in project affected villages (Output indicator),
- 80% of the small contracts estimated by THDC to be awarded under the project are implemented by PAPs and local villagers (Output indicator).

**Budget for RAP Implementation**

The costs of land acquisition, resettlement, and rehabilitation are part of the project’s capital costs. A budget of INR 615.5 million (about USD 13.4 million) has been earmarked for RAP implementation and monitoring.

**Local Development and Benefit Sharing**

While the project causes adverse impacts, it will also bring positive benefits to the local population. Two categories of local development funds will be available. The first includes dedicated funds of INR 90 million that will be used for the 19 affected villages over five years during the construction period. THDC has by August 2009 spent INR 5 million from other sources than the dedicated funds on minor infrastructure development projects in ten villages. The second category requires, as mandated by the National Hydro Policy, that one percent of the plant’s generation will be available for local development activities in a wider area comprising both directly and indirectly affected communities after the commissioning of the Project. The modalities for utilization of the one percent will be determined when the state Hydro Benefit Sharing Policy, which is currently being drafted, has been completed. However, for the first category, investment plans will be prepared by the communities. Civil works will be carried out by contractors or by the gram panchayats with monitoring by the beneficiary community. In addition, during the construction period, contracts for small civil works will to the extent possible be given to eligible PAPs. THDC will also provide 100 kWh of free electricity per month for a period of 10 years to affected households.

Apart from project specific R&R Policy and RAP, THDC has developed Corporate Social Responsibility Policy for the implementation of Community Development scheme. The scheme addresses the issue of “Community Development” in the neighborhood area of operating stations where construction has been completed and rehabilitation and resettlement issues addressed stand as per the R&R policy of Corporation applicable for Project under construction stage/planned for construction. To plan, execute, follow-up and monitor the CSR-CD schemes of THDC, “Society for Empowerment and Welfare Activities” (SEWA) was registered on March 24, 2009.