

A RIVER UNDER ARREST

**A critique of the Luhri Hydro-electric Project on
the Sutlej River**

Himachal Pradesh



HIM DHARA, Environment Research and Action Collective

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I. Introduction

1 The Sutlej in Crisis

Descriptions of the Sutlej, a glacial river originating from Kailash Mansarovar in Tibet traversing through the Himalayas and Punjab plains in India and meeting the Indus in Pakistan, never fail to boast of its magnificence, speed and depth. The Sutlej crossing a variety of landscapes, geological regions and mountain habitations has been a symbol of nature's diversity from time immemorial. Over the last few decades, however, this perception has been challenged, as the Sutlej has been reduced from this transcendent symbol of the natural ecosystem to a mere 'water body' to be exploited for generation of electricity. This process began in the 1950s. The Bhakra Dam, the world's highest gravity dam was built at Bhakra village in Himachal Pradesh, just before the Sutlej enters Punjab, at a height of 740 feet submerged thousands of hectares of land and forests. Fishing, agriculture and forest based livelihoods of more 40,000 families were lost¹.

There has been no looking back post Bhakra, especially in the state of Himachal Pradesh where the river flows for a stretch of 320 kms. There has been shift from large reservoir based dams to tunnel based projects (known as 'run of the river') and over the last decade almost several such large and small hydro-electric projects (HEP) have been under various stages of planning and construction on the river. Apart from Bhakra, the four operational projects Nathpa Jhakri, Rampur, Baspa II and Karchham Wangtoo have proven to be severely damaging both environmentally and in terms of their socio-economic impacts in Kinnaur. The tunneling of the river has led to drying up of the river bed; tunnel construction has had other impacts – soil erosion, landslides, changing climatic conditions, drying up of water aquifers further affected livelihood activities like apple cultivation.

While the government, private developers and even the technocrats are yet to accept the linkages between dams, ecological flows (river flow) and climatic changes there is no doubt that disappearance of large sections of the river, formation of reservoirs, increasing construction activities and diversion of forest lands for the hydro projects in ecologically sensitive and fragile mountain ecosystem are contributing to the phenomenon of climate change.

¹ Asher.M, Andar Se Solid? The making of a fugitive river 7th April 2010, The Arunachal Times

There are also several concerns related to violation of environmental norms, short circuiting of clearance procedures and other illegalities in these projects. This is also evident in the local opposition that these projects have met and the number of court cases lined up against them. But the existing projects are less than 30% of the estimated 10,000 Mega-watt (MW) of power potential of the Sutlej. Starting from Kinnaur to Shimla, Mandi and Bilaspur has been broken down into pieces, more than 30, – each allotted to private and public hydropower developers. The Luhri Hydro Electric Project coming up in the Shimla and Mandi districts of the state is one and a very significant such piece of the valley.

Salient Features of Luhri HEP

- **Height of the project:** 86 meter concrete gravity dam
 - **Location:** Districts - Shimla, Kullu, Mandi.
 - **Head race Tunnel** - 9 meter dia circular (twin tunnels) or 11.75 meter dia circular (single tunnel)
 - **Installed Power Capacity :** 775 MW
 - **Length of reservoir :** 6.8 km
 - **Submergence Area:** 153.05 hectares
 - **Total Area to be acquired:** 368.67 hectares (Forest - 181.54; Private - 109.58; Underground - 89.62; 77.99 - Riverbed)
 - **Total Villages to be affected:** 24 (direct) and 164 (in 10 km radius)
 - **Total Project Affected Families:** 9674
 - **Total affected landowners** - 2337
 - **Total displaced families** - 37
 - **Total Cost of Project:** 4232 crores (single tunnel option); 4795 crores (twin tunnel option)
 - **Project Proponent:** Sutlej Jal Vidyut Nigam Limited
- (Source: From documents like EIA, EMP prepared by SJVNL)*

2 ABOUT THE PROJECT

The Luhri HEP to be located in the Shimla, Mandi and Kullu districts of the state has been under planning for several years. However, there were several uncertainties around the fate of the project as the Congress government at one stage had decided to allot it to another corporation. The Memorandum of Understanding with SJVNL (Satluj Jal Vidyut Nigam Limited) a public sector company was finally signed in October 2008 after the current BJP government came to power. SJVNL has also executed the Nathpa Jhakri and Rampur Projects in the state, but the 775 MW Luhri HEP is considered important because the state government's equity share in the project has been increased from 25% to 49%. This 5000 crore project is also part funded by the World Bank (again along the lines of the Rampur Project).²

² 28th October 2008, The Tribune Chandigarh

Another characteristic feature of the project is its 38 km long twin tunnels. Not only is this the first time that twin tunnels (of 9 m diameter) are being built in Himachal Pradesh for a HEP, but the length of the tunnel is also apparently longest in the world³. The project will involve construction of an 86 m high concrete gravity dam.

The 412 MW Rampur HEP is immediately upstream of the Luhri project site, which will directly utilize water of existing 1500 MW Nathpa-Jhakri project. The 800 MW Kol dam hydroelectric project is downstream of the Luhri hydroelectric project which is under construction. As per the Environment Impact Assessment Report of the Luhri HEP, "It is a primary objective of the Luhri project to utilise to the greatest extent practicable the gross head of approximately 220 m between the tail water of the Rampur scheme upstream at 862.9 m and the headwater of the Kol dam project downstream at 642.0 m".

The total land requirement as per the EIA report stands at 301 hectares. This figure remains unclear – as the EIA report places the amount of Forest land required at 183 hectares where as according to the State Forest Department it is 271 hectares. While SJVNL estimates that 2,337 families in 24 villages may be directly affected by private land acquisition. of which 37) families will be directly displaced), the local people believe that more than 100 villages in the 3 districts will be impacted as a result of the project. In reply to a RTI, SJVNL gave a list of 78 villages which will be directly affected due to the construction of the head race tunnel, details of which are not included in the EIA report. These 78 villages are apart from the 24 villages mentioned in the EIA.



Pic 1 & 2 - Local people oppose the tunnel design of Luhri HEP at the Public Hearing on 7th May, 2011

³

30th April 2010, The Tribune Chandigarh

Considering that the local residents from Luhri dam project area which borders Kinnaur district were well aware of the fall-outs of Hydropower projects, they were keenly tuned in to the project activities from the start. From the time the Environment Clearance public hearing was announced in April 2011, many pro-active individuals from the area began collecting the relevant documents, including the EIA report and the detailed project report to study the details of the project. The apprehension that their concerns would not be given primacy and that the public hearing process would be a mere eye-wash came turned out to be real when the first two hearings took place on the 5th and 6th of May at Nirath (Shimla district) and Khegsu (Kullu district). The Public Hearing on 7th May faced stiff opposition by the locals who raised several inadequacies in the EIA report. The main concern was on impacts of the 38 km long tunnel on villages located above the HRT alignment which were not included in the EIA report, nor were the demographic details and names of the villages mentioned. The 7th May Public Hearing had to be canceled because of the opposition.

HPPCB organised a fresh Public Hearing on 9th August 2011, where the representatives and members of Sutlej Bachao Jan Sangharsh Samiti, District Mandi (a local platform formed to oppose the project) once again raised their objections, for not having included the above details in the EIA and the Public Hearing being organised in haste when most of the locals were busy because of the apple harvesting season. Despite objections the Public Hearing was conducted and the matter is now with the Ministry of Environment and Forests.



Pic 3 & 4 - Members of Sutlej Bachao Jan Sangharsh Samiti submit their objections to DC Mandi in the Public Hearing on 9th August 2011, which was organized under tight security and barricades.

SJVNL had also submitted its application for Forest Clearance for the forest land required to be diverted for the project, which was returned by

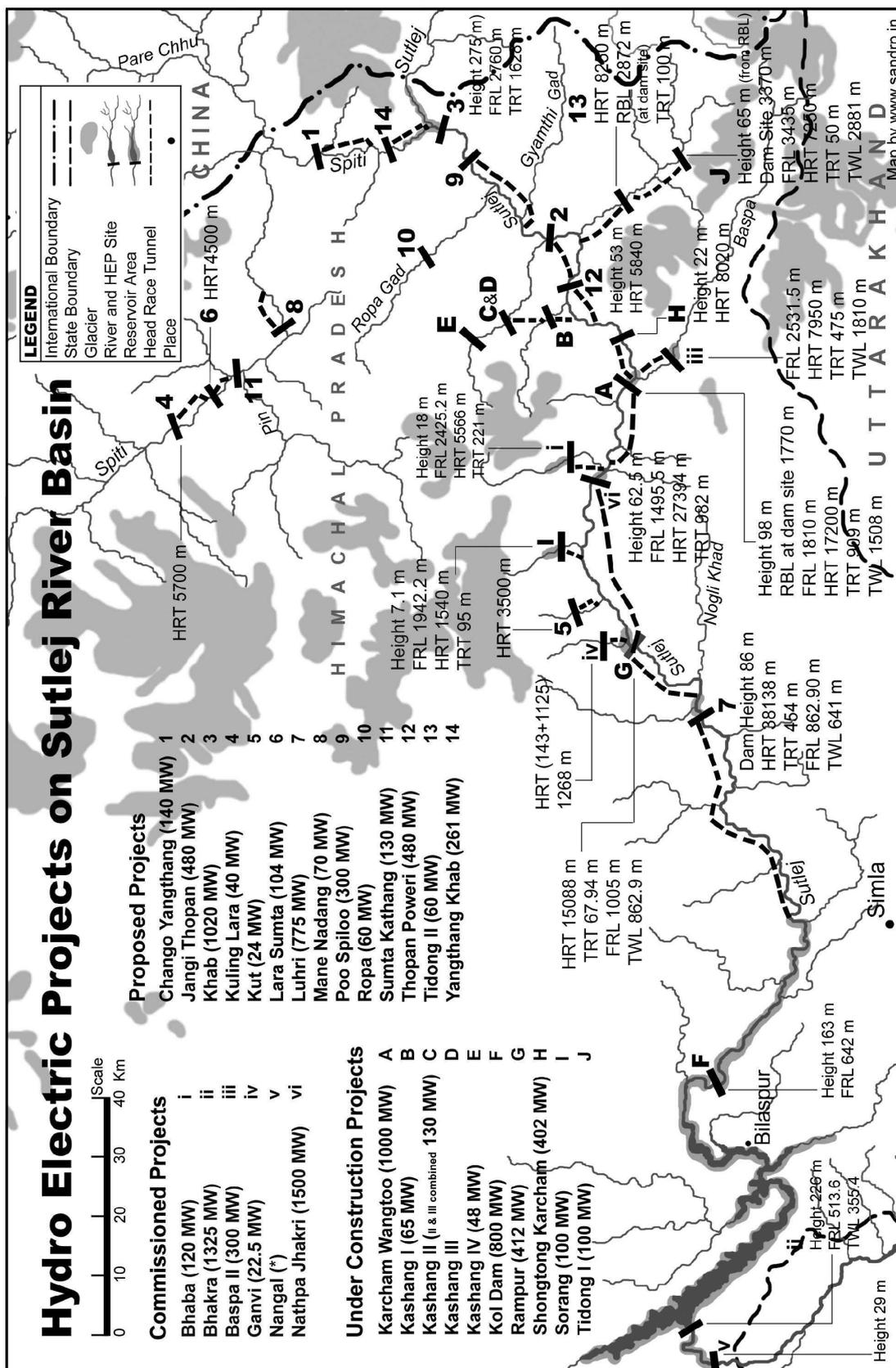
the HP government with the observation that forest land required for the Transmission Line component was missing from the report. After a presentation made to the MoEF, Chandigarh and their inputs incorporated, the application was forwarded to MoEF by the state government.

Interestingly, even before the Environment and Forest Clearance applications have come through, notices have been issued under section 9/10 of the Land Acquisition Act for private land acquisition.

It is important to note that in this period the public sentiment against the project has gained momentum, especially in the Mandi and Kullu districts. This document looks at the severe shortcomings of the EIA report and the key concerns and demands of the local population who are opposed to the project. Before we look at the probable impacts of the project and critique the EIA, it is important to have a broad picture of the project location and landscapes.

Fig.1: A map of projects on the Sutlej River

Source: South Asia Network on Dams, Rivers and People



3. PROJECT AREA

The project area is vast, as the area covered under various components falls along nearly 40km stretch of the Sutlej.

The right bank is characterised by grassy slopes all along, as this side is east and south-east facing. Forests are characterised by scrubs and grasslands, which are used by the local people to provide fodder for their livestock. The villages located on this side have scarce water sources and each and every water source is crucial for their everyday survival. There are irrigation channels which run for several kilometers and are the mainstay of the rich agriculture in this area. The villages located in the impact zone of the Luhri project constitute one of the most backward and far flung areas of Mandi district, with hardly or no connectivity with road. There are only 2 motorable bridges over Sutlej, in this stretch and nearly 4 cable cars, which are used by locals to cross the river. Overall the right bank gives a picture of an extremely difficult to access, devoid of basic infrastructure and a rough terrain area.



Pic 5 & 6 - Villages like Marola (left) and Shaut (right) on the right bank lack basic infrastructural facilities and are located in a rough terrain

The left bank on the other hand, is characterised by a very good network of roads and other infrastructural facilities. Its proximity to the state capital, Shimla, gives the people various livelihood opportunities apart from agriculture, which is still the mainstay of their household economy. The forests constitute species like oaks, rhododendron etc signifying significant ground moisture. In general the area appears to be "well-off" compared to the "poorer" right bank, offering comparatively more opportunities for cash earnings. The availability of infrastructural facilities also indicates to the political astuteness of people living on the left bank as against the right bank.

TABLE 1 - Details of Project Affected Area

Project component	District	Project Affected area			
		no. of villages	Population	no. of households	% of total district population
CATCHMENT AREA	Shimla		1,47,198	32,232	20.39
DAM SITE & PART OF HEAD RACE TUNNEL	Nirmand and Ani tehsils of Kullu district	36	47,016	9,725	12.37
POWERHOUSE & PART OF HEAD RACE TUNNEL	Mandi	89	22,431	4,424	2.49
RESERVOIR	bordering Shimla and Kullu	5	not available	not available	not available

Source: EIA report of Luhri HEP.

Table 2: Land to be acquired for various project components

S.No.	Description of component	Land to be acquired (ha)		
		Forest Land	Private Land	Total Land
1	Reservoir area	38.12.13	35.16.76	73.28.89
				77.99 (River bed land)
2	Dam Site	2.45.29	1.18.01	3.63.30
3	Realignment of NH 24 at Nirath	6.03.73	-	6.03.73
4	Adit I (Moin) + dumping site	4.36.58	8.07.83	12.44.41
	Quarry Site II (Moin)	2.36.01	2.31.72	4.67.73
5	Adit II (Khegsu) + dumping site	22.80.77	0.36.83	23.17.60
6	Adit III (Shush) + dumping site	10.46.75	2.29.72	12.76.47
7	Adit IV (Bal) + dumping site	5.71.01	2.51.41	8.22.42
8	Quarry Site I (Bal)	6.14.35	-	6.14.35
9	Adit V (Kenu) + dumping site	3.94.95	1.70.75	05.65.70
10	Quarry Site III (Koel)	3.69.65	-	3.69.65
11	Explosive Magazine Site	2.93.69	0.23.55	3.17.24
12	Power House Complex	43.04.56	23.03.21	66.07.77
13	Adit VI (Manju) + dumping site	4.41.48	3.86.07	8.27.55
14	Adit VII (Ogli) + dumping site	11.27.06	7.69.40	18.96.46
15	Adit VIII (Shotara) + dumping site	2.33.71	1.01.51	3.35.22
16	Quarry Site (Khera)	11.35.43	1.49.49	12.84.92
17	Approach road to Basantpur Colony	00.06.54	-	00.06.54
18	Underground components (notional land)			89.62.08
	Grand Total	181.53.69	109.15.98	290.69.67 + 89.62.08

Source: EIA report of Luhri HEP

II Issues of Concern

1. PROBLEMS WITH PROJECT CONCEPTION

- **A Project of Obscene Magnitude and Disastrous impacts**

As mentioned above, the Luhri Dam project will be spread over a length of 40 kilometers which includes a 38 km long twin tunnels, 86 meter high dam, 10 bridges (while the government deemed fit to build only 2 motorable bridges on the river for use by the local people since independence!), 8 adit points, massive infrastructure construction including a helipad. More than 360 hectares of land will be usurped by the project of which a large percentage will be forest. 6 tehsils of 3 districts will cover the affected area. The sheer magnitude of this project is obscene and more so when one locates it in the fragile and ecologically sensitive Himalayan landscape which is already reeling under the impacts of deforestation and heavy construction activity it is clear that this project will spell doom for the region.

- **Irreversible Impact on the Sutlej River**

One of the most critical impacts of this project which involves the diversion of the river for a stretch of nearly 45 kms into tunnels is the disappearance of the river itself.

The subsequent impacts of this on the riverine ecology, moisture regime, climate patterns and populations in the downstream regions have not been studied in the EIA report. The EIA report should have carried out a detailed carrying capacity study for the Sutlej river. To quote the EIA report (Page 84), "The damming of Sutlej river would alter the river profile of the area because other projects are also proposed/commissioned in the downstream and upstream sections". The EIA report also states "The altered profile would have long term effects on the fauna, flora and livelihoods of people. The regular fluctuation in the downstream section would lead to instability in species assemblages and increases the bank erosion due to creation of reservoir" -The EIA report, however, does not go beyond saying this.

There is almost no distance between Rampur project upstream and the Kol Dam downstream of the Luhri Project, making it a choc-a-bloc situation. But instead of looking at the environmental impacts of this the EIA report (on Page 12) justifies the project on the grounds that it wants to "utilise to the greatest extent practicable the gross head of approximately 220 m between the tail waters of Rampur and head water

of Kol Dam". Thus a live river has been reduced to a resource to be squeezed to the last drop and even the EIA looks at it from the economic angle only.

- **Advocating Twin tunnels and more adits to reduce revenue losses**

The EIA report accepts that the area from where major portion of 38.138 kms long HRT is going to pass is geologically poor. It then goes on to justify (on Page 25) the building of twin tunnels on the same grounds - so as to avoid losses in case of collapses in the tunnel during construction and operation. Similarly, 8 adits (plus two) have been justified on the grounds of poor geology. Surprisingly, the report is completely silent on the impacts of these massive constructions on the villages located in the alignment of the Head Race tunnels (HRT) and adits. The EIA refers to the 'poor geology' only when it advocates the case for the twin tunnels and the adits but evades this issue when referring to the ecological implications of the project. Further, the EIA states that this is a probable design - where the twin tunnels may or may not be built. A single tunnel will be of 11.5 m (in diameter) and twin tunnels will be of 9.2 m each (total 18.4 m diameter) almost twice the size. It is shocking that the EIA has been carried out on the basis of this 'probable' design where as the impacts will be far reaching. And further, if poor geology can pose such a threat to the project then what threat would it pose to the local habitations located along the tunnel can also be imagined. But the EIA report is only biased towards the impact of the fragile landscape on the project rather than the local environment and people.

2. Problems with the Impact Assessment

- **Double Standards in assessing impacts**

One of the most glaring oversights and contradictions in the EIA report remains on the issue of the location of the HRT and its impacts versus the location of the rest of the project ancillary activities. Firstly the EIA report justifies locating the HRT on the right bank to avoid the environmental and social impacts which they claim will be more if the same is built on the left bank. (Page 26). Considering that the report is so concerned about the impacts of the HRT on the left bank it is shocking that it conveniently forgets to talk about the impacts on the villages, forests, land and water on the right bank where it claims that impact will be 'lesser'. It also does not go on to do a detailed comparison of the left and right bank socio-economic and ecological profile. The EIA report merely states that "There are only 78 villages above the HRT alignment on right

bank" (Page 26). This is the only section of the report where they refer to these 78 villages in Mandi and in Kullu district. For the rest of the Impact Assessment study the report has no information on these villages, their names, the populations residing here, the socio-economic baseline or demography of this area. Despite repeated requests and RTI applications requesting for this information, it was only after the Public Hearing organized on 9th August 2011 that SJVNL provided a list of these villages still withholding information about the demographic details.

On the other hand the proponents chose to locate the ancillary activities, which include the project colony and other infrastructure, on the left



Pic 7 - Site for Helipad near Basantpur which is currently used as grazing land by the local people

bank. It is important to note that the demographic and socio-economic profile of the left bank indicates that the population residing there is more economically well off and politically more influential. This includes villages like Basantpur which are located closer to Shimla, the capital city and have large horticultural and agricultural farms.

Residents of Basantpur (on the left bank) have formed Basantpur Land Affected and Welfare Union to represent their issues related to private land acquisition being carried out by SJVNL. Phulma Devi, President of this union listed various grievances in this process:

1. The compensation is being calculated based only on the flat area of the land being acquired and not the vertical portions. *"How will we access these vertical areas when we don't have access to the flat lands? They will be rendered useless, while we are not being paid compensation for it."*
2. There is discrepancy between the area of the surveyed lands for acquisition (as told by the surveying Patwari) and the area notified to families under Section 9 (of the Land acquisition Act) notices.
3. Land owners have not been informed about the rates of compensation being offered for standing trees on the land.

4. Landowners are not happy with the compensation being offered for the land being acquired. There have been several meetings with SJVNL but no agreement has been reached so far, whereas the process of serving notices continues.

Voice from the left bank

BR Sharma, Lunsu, Chhebri Panchayat (left bank), Jan Kalyan Samiti,

"Lunsu has totally irrigated agriculture land which fetches up to Rs.85000 per bigha, so we don't accept the compensation rates being offered. This village was known for its basmati rice production, which no longer exists because the water supply was cut off after PWD road went through the village. Now we have adapted to grow a variety of vegetables and don't want to lose our agricultural lands."

On the other the tunnel affected communities on the right bank are located in the Mandi and Kullu District are poorer, socially more backward and have a stronger dependence on forests and natural resources based livelihoods – but are not included in the list of Project Affected Families.

- **No Impact Assessment of core project activity which will be more destructive in nature: Tunneling and Reservoir**

From the above point we arrive at the conclusion that the EIA for this project needs to be rejected completely on the grounds that it does not study the impacts of the e core project activity which is the tunneling. The building of the tunnel does not involve private land acquisition. The EIA report only studies the impacts of the project on those families/villages whose private land is to be acquired. It completely overlooks the 78 or more villages on the right bank that stand to lose their natural sources of water for drinking and irrigation permanently, will be affected by cracks in their houses due to heavy blasting carried out for tunnel construction, reduced agriculture and horticultural produce due to dust from mining and dumping activities and overall weakening the foundation of these fragile mountains. Experiences from Nathpa Jhakri, Karchham Wangtoo and Rampur HEP's are evidence enough for the argument that the impacts of the tunneling are disastrous. These villages are the worst sufferers as they have nothing to gain while they lose their natural resource based livelihoods.

Similarly, the EIA report completely remains silent on the impacts of the reservoir (6.8 kms long and 86 meters high spread over an area of 153 hectares) and related submergence. For instance, Shna and Satevan villages (Kullu District) which will lose their agriculture and forest land in the reservoir but their details are absent in the EIA.

Village at Dam site on the Left bank

Joginder Singh (69), Aannas village and Lal Dass (70), Jannas village, Nithar Panchayat., Kullu.

Upstream of dam, there are 2 villages called Shna and Satevan on the left bank and Nirath on right bank. Shna has seasonal settlements called *dogris*. There is agriculture land that will be acquired as this land will come under submergence of the dam reservoir. *"We have been told that Nithar will not be impacted by tunnel construction as the tunnel is not being constructed right under the village. The tunnel will be constructed under the villages of Shakroli, Danah, Garoli and half of Annas - all under Nithar Panchayat. We believe that this dam is going to benefit only the contractors, not for local people. Besides, it will cause environment pollution as well. The reservoir will cause fog in the winters which is not good for the local environment. It might give opportunities for income in the initial years, but in the long run people stand to lose as they will lose their agriculture land. Baba Balaknath temple is located less than 50 meters above the dam reservoir markings. The forest land that is marked for submergence, adjacent to the Balaknath temple is used by Aannas and Mauni villages as gochar."*

Impacts of Construction on Water Sources

SJVNL in its Cumulative Impact Assessment (CIA) report, which was carried out to assess the impacts of the projects built in the Sutlej basin (especially Nathpa Jhakri HEP and Rampur HEP) states, in section 5 of the report on Water & Environment states: (emphasis added)

Water Availability: *As mentioned earlier, the river Sutlej is not the main source of water in the area. The natural springs and 'chashme' are the key sources of water for people living in the area for their own domestic consumption, livestock use and irrigation purposes. In most of the villages except those situated on high hills, IPH Department has laid down the pipelines to connect the natural springs (at upper reaches) to the households through storage tanks for water supply after providing primary treatment. The villages those are located on higher reaches depend directly on natural springs or khads flowing in vicinity. Hence, massive hydropower development in the area, which is causing diversion of flow from river for power generation, will not directly put an impact on availability of water for consumption purpose for village population. However, complete drying of natural springs (at its original location) has been reported by the villagers due to construction and blasting activities. It has been reported that more than 30 chashme have dried up in Yangpa village due to the construction works for Sanjay Vidyut Pariyojna. Also, it was found out during primary surveys conducted for the study that more than 8-12 chashme have dried up in Nathpa-Jhakri areas due to NJHEP project. Considering a post project measure, SJVNL has conducted a monitoring campaign for examining the flow of springs. It was established that blasting/digging activities can cause building up of excessive water pressure at particular location, which may lead to shift in the position of a spring or reduction in the flow rate of spring, but complete drying of springs is not likely. Due to construction of NJHEP, the IPH water supply scheme was badly affected in following villages...* (goes on to list the names of villages).



Pic 8 - Baba Balaknath temple (top right corner) is close to dam site (near the bridge) and is likely to be impacted by the reservoir

- **Ignoring the impacts on private/forest lands adjoining quarrying and muck dumping sites**

Most of the dumping sites are adjacent to private lands, with rich agriculture or horticulture or forest lands being used by locals as grazing lands or for collection of fuel wood and fodder for their daily needs. The EIA report fails to mention the impacts of pollution from hundreds of trucks moving daily with dumping material and the dust from dumping sites impacting agriculture and horticulture.

Settlement to be impacted by dumping site at Kotlu khud

Bhajan Lal, Diwan Chand, Kot village, Panchayat Tebban, Mandi.

The 50 households that are settled in Kot, are actually *dogris* of people from 6 different villages (Phirnu, Jaai, Chahaha, Kotti, Malog and Sarahan) located higher up on the mountain side, as this area is served by a *kuhl* coming from the Kotlu Khud. The approx 80 bighas of irrigated land in this settlement is extremely fertile and yields a mix variety of crops throughout the year, which includes grains like wheat and rice; vegetables like tomatoes, cauliflower, lady finger, peas; and a variety of pulses. The year round crops grown on this land are worth a whopping Rs. 26.5 lakh (approx.) which divided among the 50 households is a sizeable income of Rs. 50,000 per family on an average.

The lifeline for this extremely rich agriculture land is the *kuhl* which stands to be damaged by the proposed dumping site, for which the project proponents have claimed there is no displacement being caused. The *kuhl*, which is older than the Himachal state itself, runs across the road before going over the road to reach the fields in Kot and with multiple trucks of dumping material plying across the road, the future of the *kuhl* is seriously challenged.

It is to be noted, that this particular dumping site not only challenges the existence of these 50 households who depend on agriculture in Kot village but another 12 households, residents of Samaj village with approx. 40 bighas of irrigated land, located right under the dumping site; 3 households of Bunna village with approx. 10 bighas of highly remunerative fruits orchard (annual income of Rs. 1 lakh approximately) located adjacent to the dumping site; and 8 households of Rauti village with 50 bighas of irrigated land which is located right across, in the middle of two dumping sites, less than 100 meters away - one on the bank of Kotlu khud and the other on the bank of Sutlej.

While none of these 200 odd bighas of fertile irrigated agriculture land (which gives an approximate income of Rs. 35,000 per bigha) will be acquired, it is anybody's guess as to its fate after seeing multiple trucks loaded with dumping material bringing muck near these fields everyday.

There are irrigation channels that run across lands demarcated for dumping sites. The irrigation channel in village Kot of Mandi district irrigates approximately 150 *bighas* of agriculture land in this village. There are two dumping sites near this village which can impact the irrigation channel, which is the only source of irrigation for this village.

The EIA report has no information on the impacts of the quarrying activities. On Page 232 of the EIA report there is a mention that these will lead to a "significant" increase in the Suspended Particulate Matter (SPM)/ dust in the air. But there is no quantitative and qualitative analysis of this and what it implies. Again, experiences from the Rampur project have shown that dumped muck has become a nuisance for villages living near these dumps. Yet the EIA makes no mention of how much population will be affected by these activities.



Pic 9 & 10 - Dumping site pillars next to a house and orchard in village Kot (left) and agricultural fields in village Magaan (right) opposite dumping site in Bharada village - people fear they will lose their agriculture and horticulture without being considered for any compensation

- **No mention of Forest Rights and Forest based livelihoods and impacts in EIA**

More than 60% of the land to be acquired for the project is forest land which is used by the local people as grazing land, to collect fuel wood and other natural resources for their subsistence. But there is no break up of the forest area to be diverted on the right and left banks. Neither does

the EIA talk about the importance of these forests for the ecology and people. The HP government has failed to implement the provisions of Forest Rights Act, 2006 in this area, thereby making the local population vulnerable to such onslaughts by large projects. The government should implement the Forest Rights Act, before implementing any such project, so that people can exercise their legal right to safeguard their environment and natural resources. None of these issues have been covered in the EIA report. The legal framework given on page 33 and 34 makes no mention of Forest Rights Act, 2006, which is the key Act defining the rights of local people in managing and conservation of their forest resources.

Ignoring impacts on forest based livelihoods.

Nooru, Naayi Baag village, Tebban Panchayat, Mandi.

Nooru is an 18 year old Muslim Gujjar who lives next to the confluence of Kotlu khud with Sutlej. His hamlet has 3 households of Muslim Gujjars, who are dependent on animal husbandry for their livelihood, since they have very little agriculture land. But the land being marked for dumping, though categorized as Forest Land is crucial for their survival, as they get most of their fodder and grass to feed their buffaloes and cows from this area. Nooru has 3 buffaloes, 4 bulls and 4 cows and his daily income is approximately Rs. 200 from the sale of milk. On the small un-irrigated agriculture plot of 2 *bighas*, he is able to grow enough maize and wheat to last him and his family an entire year.

Belonging to a marginalized community, with meager means to support himself, he says, "*Our land is not being acquired for dumping, but we will be forced to evict our land, once they start dumping the muck. Where will we go? We don't even have a large enough piece of land for which we can demand compensation, but along with the forest next to it, it's enough for our survival. We won't be able to live anywhere else, if we are forced to evict from here.*"

- **No mention of the impacts of Transmission Line Component in the EIA**

In a reply to an RTI from the PCCF, Shimla that the Forest Clearance application for the project was returned by the state because it did not include details of land required to be transferred for the Transmission Line of the project. The environmental impacts of the Transmission line component should have been included in the EIA as well since it involves diversion of forests and subsequent deforestation. But this has not been done.

- **Impacts on sites of religious and cultural importance completely missing**

The entire stretch of villages under which the tunnel is proposed to be constructed has ancient temples which are places of historical importance because of their exquisite architecture. Sarahan temple, temple of Behni Mahadev, Khegsu temple, Tebbani Mahadev temple, Deo Badyogi are few

such temples on the right bank of Sutlej. There is a historical Baba Balaknath temple in village Neethar (Kullu district) which is located less than 50 meters above the reservoir, near the dam site. There is no mention of the impacts on this historical site.

Objection against the project from local religious leaders

Keshav Ram, Mukhya Kaardar of the Devta and Retd. Panchayat Adhikari, Village Naanj, Panchayat Naanj, Mandi.

Gulab Singh Thakur, Secretary, Sahakari Sabha and Member, Mandir Committee.

Karam Dass, Oracle of the devta.

"The project proponents have not bothered to take permission from the residents of this area before starting to construct. This valley will be devastated with so many projects being built over the Sutlej. They are playing with nature."



Pic 11, 12, 13 - The temples at Behna (left), Sarahan (middle) and Khegsu (right) not only have religious significance but symbolize integration of religious, cultural, archaeological, environmental and social values of the local people, which are threatened by the proposed tunneling activity

3. Public Hearing in Absence of Complete Information

While the public hearing organised on 7th May 2011, in the Mandi district had to be withdrawn due to local opposition we had made submissions to your department as well as the DC that we have serious objections about the current draft of the project proposal. Subsequently, we received a letter from DC (dated 6th June 2011, copy enclosed), Mandi informing us about the fact that he had issued orders to all the SDO's of Mandi district to investigate issues mentioned in our memorandum by conducting site visits and submitting a report in a week's time. If such a process is on-going then why is it that the public hearing is being conducted without including the findings of the DC report or fresh surveys in the EIA report? This indicates that the District Collector's orders were a mere formality and/or that HPPCB and SJVNL have not taken seriously the concerns of the public.

Before the Public hearings, SJVNL was requested, through an RTI, to provide the details of the said 89 villages of Mandi district and 78 villages above HRT alignment (as mentioned on Page 15 of EIA) and 168 villages within 10 km radius of the project. SJVNL replied (vide letter dated 31 May 2011) that the requested information was being compiled and would be made available to us "shortly". This information should have been included in the EIA report and made publicly available at least one month before the Public Hearings. The same was not done for the earlier hearing and was not done even for the 9th August Public Hearing. Organising a Public Hearing in such a scenario is a violation of the EIA notification 2006 and the Terms of Reference issued by the Expert Appraisal Committee of the MoEF which make it mandatory that detailed information about impacts of the project be included in the EIA and made available publicly one month ahead of the Public Hearing.

III. Concluding observations and recommendations

It is clear that the Luhri Hydropower Project is likely to have irreversible impacts and will only exacerbate further the process of destruction of the Sutlej valley that has come with hydropower development. Several loopholes are inbuilt in the very design of the Luhri Project – the location of the tunnel being the most problematic. It is also obvious that the EIA report submitted by SJVNL has failed to carry out a fair and detailed assessment of the environmental and socio-economic impacts and more so the impacts of the twin tunnels. The Public Hearings have been carried out without providing the affected people the full implications of the project and despite the fact that the locals kept demanding the complete EIA report. Based on the above we would place the following recommendations before the Ministry of Environment:

- That the current EIA should be considered as incomplete on the grounds that it does not factor in the impacts of the 38 km long twin tunnels. As a general policy the EAC must make a study of the impacts of tunneling a mandatory part of the TORs of any hydro-electric project
- That the Public Hearing held on 9th August 2011 cannot be considered as valid when the EIA was incomplete and did not have the relevant information on the populations to be affected by the project, especially the tunneling. Further the Public Hearing was held at the time of apple harvesting and a large number of people could not participate. This public hearing should be held again after providing the full EIA

- That the EAC take into account the cumulative impacts of the project on the Sutlej River basin, which again have not been studied in detail by the project proponents in the EIA. The Luhri project will divert a large stretch of the river and this needs to be taken into account in the impact assessment
- That the grievances of the tunnel affected villages should be taken on board on priority because the impacts on their livelihoods – horticulture and livestock rearing as well as water sources will be enormous and are not covered in the EIA report
- That the Forest Clearance for 271 hectares is also involved and has taken into account the Transmission line component of the project. The Environment Impact Assessment on the other hand does not include the impacts of the Transmission lines for the project. Again the EAC needs to make the study on transmission lines and their impacts a mandatory component of the TORs on hydro-electric projects to get an assessment of the cumulative impacts of the projects.
- That the EAC before making any recommendations related to the project should make a site visit to the proposed power house as well as tunnel area and interact with the local and affected people to verify the information provided by the project proponents and State Pollution Control Board as well as to study the impacts of the project.