

COMPLIANCE AND MONITORING OF ENVIRONMENT CLEARANCE CONDITIONS OF PARBATI STAGE II HYDRO ELECTRIC PROJECT IN HIMACHAL PRADESH

A CASE STUDY¹

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In order to harness Himachal Pradesh's projected hydro-electric potential of 20,000 MW, it is envisaged to have 450 big and small hydro-electric projects in the three major river basins of Beas, Ravi and Sutlej. This pursuit for power has accelerated the construction of hydro-electric projects in the remotest of valleys each with its own set of roads, tunnels, power houses and transmission lines. In such a scenario, monitoring of environmental parameters for these projects is a crucial mechanism for ensuring the health of the local ecology and sustainability of local life support systems. This study tries to examine the diligence with which environmental and forest clearance conditions are being monitored during the construction of the 800 MW Parbati Hydro-electric Project II, one of the large projects in the state.

1. WHAT IS THE PROJECT?

The National Hydro Power Corporation (NHPC) Ltd is presently in the process constructing the Parbati Hydro Electric Project (PHEP) Stage II (4 x 200) MW in Kullu District of Himachal Pradesh. The project involves the construction of a 91 meter high concrete diversion dam on the Parbati River at Pulga, about 49 kilometers upstream of its confluence with Beas River. A 31.23 Km long concrete headrace tunnel on the left bank of the Parbati River conveys the water to a surface power house located on the right bank of Sainj River which is also a tributary of the Beas River.

This project has gone through the process of seeking environment clearance (EC) as per the Environment Impact Assessment Notification, 1994. It has simultaneously been granted forest clearance for diversion of forest land for non-forest use as per the procedures laid down under the Forest Conservation Act, 1980.

The EC for the project was granted on 4th June 2001 specifying a detailed set of Special and General Conditions. It was stated while providing EC that no population will be displaced due to this project. The EC letter states that the forest clearance for diversion of 87.795 ha forest land was issued on 11th August 1999.

According to the NHPC website, for the purpose of the PHEP, the flow of river Parbati has further been augmented by utilising the water of Jigrai Nala², Hurla Nala and Jiwa Nala by constructing trench weirs, de-

¹ This case study is based on field investigation at the Sainj, Raila, Jiwa Nal, and Sheelagarh construction sites of the dam, along with conversations with labourers and villagers living around the construction sites, conducted between 25th and 29th July, 2007. Substantial observations have been drawn from official documents (letters, Monitoring Reports) from the Northern Regional Office (NRO) of MoEF, HP State Environment Protection and Pollution Control Board (HPSEPPCB), HP Forest Department (HPFD), HP Department for Science and Technology (DST), Minutes of Environment Monitoring Committee and compliance/progress reports submitted by NHPC to MoEF. Interviews were also conducted with representatives of HPPCB as well as with local journalists and NGOs in Kullu.

² Nala: Stream feeding into the river

silting works, interconnecting feeder tunnels and drop shafts (see figure 1 below). This water is adequate for running the power house at its full installed capacity for four hours even during the lean periods (<http://www.nhpcindia.com/english/parbati2.htm>).

The website also adds the project will generate 3108.66 Million Units in a 90% dependable year and the power generated shall be fed into the Northern Grid. The Project is proposed to be operated as a peaking station. The project has been approved by the Government for an estimated cost of Rs. 3919.59 crores at December 2001 price level. The Project is under active construction stage and is scheduled to be commissioned by September, 2009 (ibid). When clearance was granted, the project was proposed to be completed by September 2007.

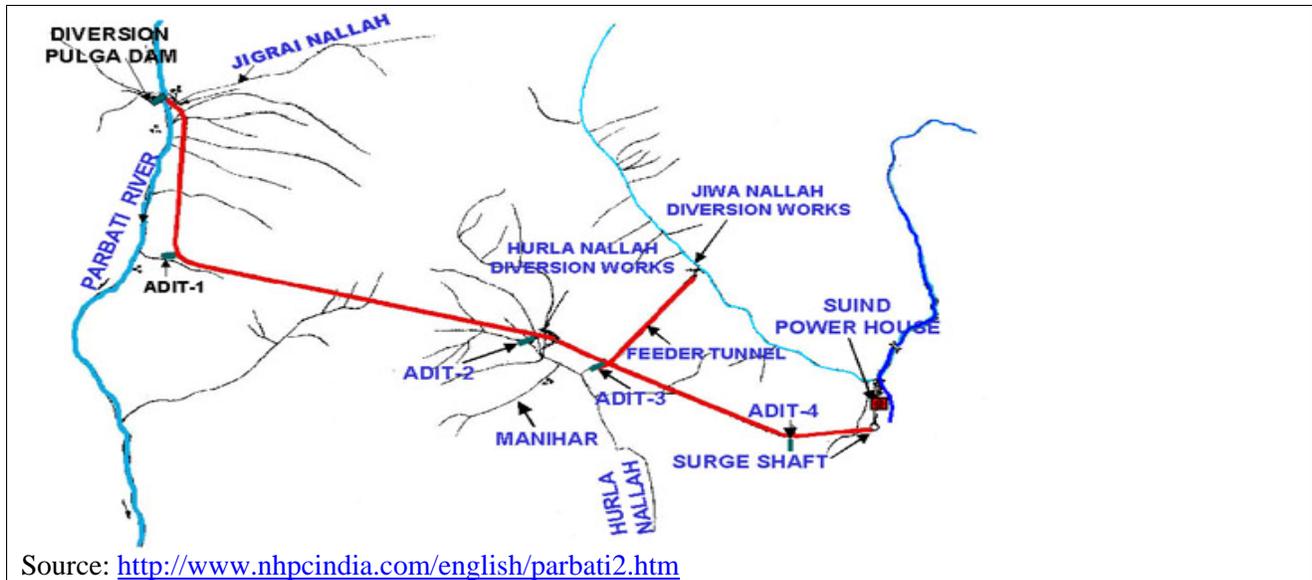


Fig. 1

2. THE EC PROCESS AND MONITORING

As of 1994, all river valley and hydro electric projects³ needed to seek mandatory environment clearance as per the procedures laid out under the Environment Impact Assessment (EIA) Notification issued under the Environment Protection Act, 1986. While granting EC, the nodal impact assessment agency i.e. the Ministry of Environment and Forests (MoEF) puts down a set of conditions based on which clearance is granted. In the case of river valley and hydro electric projects like PHEP, these conditions include parameters around muck/debris disposal, road construction, catchment area treatment, fuel supply to labourers, conservation efforts etc. These conditions are to be mandatorily adhered to by the project authority; in this case is NHPC, and its sub contractors.

Therefore NHPC needed to submit six monthly compliance reports to the MoEF. The Northern Region Office (NRO) of MoEF, situated at Chandigarh, needed to regularly monitor the compliance/adherence of these conditions by NHPC, along with independent field verification. Notices can be issued, and cases filed against the project authority by NRO in case the conditions are not complied with.

In case an area involves the diversion of forest land for non-forest use, as in the case of PHEP II, the project authority also needs to seek forest clearance (FC) from the MoEF. The FC is granted with another set of

³ This was mandatory for a set of industrial and development activities which had an investment limit above Rs.50 crores. It was increased to Rs.100 crores as per an amendment in 2002. As of today a new EIA notification, 2006 is under implementation which is not based on investment limits. However in the case of PHEP, the conditions laid as per the 1994 notification will be applicable.

conditions, the compliance of which is monitored by the State Forest Department. Both the FC and EC are provided by different divisions within the MoEF.

In addition to this the State Pollution Control Board independently monitors the conditions and requirements laid out while granting consent under the Water (Prevention & Control of Pollution) Act 1974, Air (Prevention & Control of Pollution) Act 1981.

[Note: The purpose of this case study is to primarily look at the compliance and monitoring of the EC conditions. However the monitoring carried out by the other agencies like the Forest Department and State Pollution Control Board provide substance to the arguments and observations around non compliance of the EC conditions.]

NRO Monitoring: Lack of Capacity, Procedures and No Surprise Checks

In response to a Right to Information application filed by Rahul Saxena, the response received on September 17th 2007 states, “The thumb rule applicable to all Regional Offices of MoEF is that all projects accorded Environmental Clearance should be visited ONCE A YEAR. However highly polluting industries as identified by CPCB are to be monitored twice a year. This office has/had only TWO field officers for inspection of projects to monitor environmental compliance conditions in our jurisdiction against sanctioned posts of FOUR. Hence project visits are done barely once a year.”

It further adds, “the authorities, NRO, MoEF do not make surprise visits for monitoring the projects, however this office participates with the concerned Zonal office of Central Pollution Control Board (CPCB) for joint surprise visits based on units shortlisted by MoEF HQ and CPCB HQ.” The list provided by the NRO of such shortlisted units consists only of chemical and pharmaceutical units.

The documents for PHEP II indicate that no such surprise checks have happened.

The same letter indicates towards a complete lack of procedures prescribed by MoEF for its inspecting officers.

3. PRELIMINARY OBSERVATIONS



Pic1: Aerial view of Power House Construction, Sainj



Pic 2: Dumping of muck near Sheelagarh

- Discrepancy in information about the height of the dam: According to the NHPC website, the project consists of an 85 m high concrete gravity dam across river Parbati. This stands in contradiction to the EC letter issued by MoEF which says that the height of the dam is 91m.
- Discrepancy in date of forest clearance: The EC letter states that the forest clearance was granted on 11th August 1999 for 87.795 Ha of forest land. However on 26th July, 2001 the NRO wrote to NHPC, seeking information on action taken towards final forest clearance. The subsequent correspondence between NRO and NHPC indicated the date of the forest clearance to be 4th September, 2001. The amount of land mentioned for both these dates is the same. The EC letter did not mention the 1999 clearance as being a Stage I clearance. If that was the case then EC would have clearly stated that construction should begin only after final forest clearance.
- Preliminary work before grant of forest clearance: In a letter dated 5th August, 2003 NHPC wrote to NRO that the infrastructure works for the project started on 20th July 2001. If one is to go by the admission that the forest clearance was granted on 4th September, 2001, then such construction becomes illegal since no construction can begin on a project before the forest clearance is obtained. It also links to next point on the revision of forest clearance to include much more land, which was not in the initial estimation and project design.
- Revision of forest clearance, changing the scope of the project: In the letter dated 5th August 2003, from NHPC to NRO it was indicated that NHPC had submitted an application for revised forest clearance for additional 126.1249 Ha forest land on 8th April, 2003. A revised forest clearance was granted by MoEF for 145.6207 Ha on 17th March, 2004, which included the 87.795 Ha forest land diverted earlier. The NRO in its monitoring reports dated 8th September, 2003 and 23rd July 2004 observed that such a large increase in forest area had led to the change in scope of the project. The revised proposal for clear felling after this new forest clearance meant that 8124 trees were to be felled, up from 3677 trees earlier. The NRO requested MoEF, Delhi to please consider this fact and impose stricter conditions on the project authority. Despite this plea of the NRO, MoEF provided the revised forest clearance to the project without imposing any additional/stricter environmental conditions on it.
- Insufficient emphasis on the ecologically fragile area denotified from the Great Himalayan National Park during EC: While listing the specific conditions regarding the precautions to be undertaken during the construction of the project in the diverted forest areas, there was little emphasis on the Jiwa Nal area vis-à-vis the Sheelagarh, Pancha Nal and Manihar Nal area. This diverted Jiwa Nal area is the one that involved the controversial denotification of a portion of the Great Himalayan National Park (GHNP) adjoining the villages of Kundhar-Majhan.⁴ This denotified area was an extremely fragile ecosystem with rich forests, rare, endemic and endangered fauna and was a key habitat for the breeding of Western Tragopan Pheasant, for the conservation of which the National Park was created in the first place⁵. This clearance also meant that the Jiwa Nala, a primary source of water for the wild fauna of the area, would run dry below the site of its diversion into the project's

⁴ “And this is where the Parbati Project encountered the Wildlife Protection Act. The viability of the project is critically dependent on the water from the Jiwa river. This is to be tapped by diverting the water through a weir at Majhan village, located inside the Park. Within the overall design, the weir on Jiwa river cannot be below Majhan, the site being determined by the gradient required for the water to get to the top of the powerhouse. There was no question of permission under the Wildlife Act for carrying out blasting and construction activity for the Parbati Project. The National Park, at least the part of it critical to the Parbati Project, had to go.” (Source: Politics, Democracy, and Visions of Nature: Conflicts around conservation in the Western Himalayas by Ashwini Chhatre and Vasant Saberwal www.duke.edu/~ac43/ChhatreSaberwalJPS2005.PDF)

⁵ Sanjeeva Pandey, IFS, the then director GHNP, wrote in his letter to NHPC dated 5.06.2006, " The Jiwa Nal trench weir site of the Parbati Hydrel Project Phase II is the most sensitive part of the natural habitat of endangered species Western Tragopan and Serow. Hence, there is need to take extra precautions by the NHPC staff and workers. "

tunnel⁶. Despite these factors, no additional safeguards or conditions were added while providing EC in order to ensure that minimum damage occurred to the ecosystem in this area.

- Issue of displacement: The EC letter states that the project will not lead to any displacement. However, the first compliance report by the NHPC dated 1st October, 2003 indicated that an R&R plan for affected families is being worked upon and a final R&R plan of Rs. 2.374 Crores was prepared to benefit 386 families effected by the project. Why was this critical data not disclosed at the time of clearance? The subsequent compliance and monitoring reports gave a differing break up of affected people.
- Irregular reporting on compliance: For a period of 13 months from 20th February, 2002 to 13th March, 2003, there was no correspondence between NHPC and NRO. In fact there was no substantive response from NHPC after 26th July, 2001 till NRO wrote to NHPC seeking details in 2003. It clearly appears that no monitoring took place during this phase by NRO. The submission of compliance reports has also been irregular and often only in response to monitoring reports submitted by NRO.
- No monitoring for first two years: The date of the first monitoring of the project by the NRO is 8th September, 2003 which was after two years of the project being granted clearance. The infrastructure works of the project are reported to have started from 20th July, 2001 onwards.
- Work carried on, no action despite strong observations of non-compliance by NRO: Despite very strong observations by the inspecting officer of the NRO in his report of 2nd April, 2007 on issues of improper muck disposal, unregulated discharge of effluents in the natural water sources, non provision of free fuel to labourers etc., no action was taken by MoEF, Delhi or NRO. NHPC repeatedly denied allegations of non-compliance and monitoring NRO officials continued to report the complete non-compliance of some very critical conditions. It may be borne in mind that PHEP-II is being constructed in a highly fragile area, adjoining the Great Himalayan National Park.
- Despite violations recorded by Pollution Control Board and Forest Department, NHPC continues work on project: The disposal of muck and water pollution were critical violations that have been repeatedly recorded by the HPSEPPCB. Letters and show cause notices have been issued from August 2003 onwards, repeatedly pointing out instances of muck disposal and damage to retention walls etc., in different locations. This has been in gross violation of Air and Water Acts. Three divisions of the State Forest Department (Parbati, Seraj and GHNP) have, since August 2003, have been issuing damage bills against irreparable damage to trees due to dumping of muck and debris both from tunneling and road construction. A letter as late as 18th October, 2007 pointed to dumping in the river/nala and damage to retaining walls where muck was being dumped. Violations to the Forest Conservation Act, 1980 have repeatedly been observed and regular fines imposed. While NHPC has paid fines in crores of Rupees (approximately Rs. 3, 43, 50,036 from three forest divisions), illegal activity has continued and **not once have the violators been taken to a court of law.**
- NRO relying on the data provided by the project authority rather than field evidence: In most of the monitoring reports by the NRO, only data provided by the project authority has been reported as a proof that an EC condition has been complied with. The NRO stated in its monitoring report of 28th November, 2005, " The PA (*project authorities*) have informed they have made it mandatory in the arrangement with all he contractors that free fuel shall be provided. ...Expenditure (*on free fuel*) incurred for the period October 2004 to March 2005 by M/s Patel Engineers was reported as Rs. 34,33,540 (includes operating DG sets)....." This claim by the PA is disproved by the observations of NRO of 2nd April, 2007 and those of the officers of HPFD from time to time. Incidentally, the DG sets are being operated at the project sites for operating lighting and machinery used during the construction of tunnels and roads and not for own use by labourers.

⁶ The HP government, through a government notification, has directed all power projects operating in the state to allow at least 15% of the available water in a stream to flow below the points of diversion/dams at all times. However, NHPC has challenged this notification in the HP High Court.

- Lack of coordination by the NRO officers with the agencies of the state government which are monitoring the same project: Independent monitoring of the project is being carried out by the NRO, HPSEPPCB, HPFD and Department of Science and Technology. In the case of the PHEP II strong observations were made by each one of the agencies but strict enough action was not taken to deter the violators from repeating the violations. The NRO, which is the farthest monitoring agency from the project site, needed to take cognizance of the monitoring/investigation reports of the other agencies. This would have only strengthened the monitoring process but, unfortunately, this did not happen in the Parbati II case. Though the unscientific and illegal dumping of muck was observed by the NRO as well, it was only the Department of Science and Technology which ordered the stoppage of work by the project on one occasion on the basis of unscientific disposal of muck/debris.
- NRO lacks adequate staff for monitoring of projects: The NRO has admitted the lack of personnel to carry out regular monitoring in a response to a Right to Information Application, on 17th September, 2007. This letter informs that there are only two officers at the NRO against the sanctioned posts of four people and hence "the project visits are done barely once a year."
- No protocol for monitoring prescribed by MoEF: The same letter informs that ".....there are no norms and protocols recommended by the MoEF for inspection of projects to monitor EC conditions." As a result, "...the authorities of NRO do not make surprise visits for monitoring of the projects." On the contrary, in the case of Parbati II, they have been requesting NHPC for favours like vehicle for transportation and arrangement for stay during the inspection visits.
- No reporting on some conditions: Neither the monitoring nor the compliance reports have any substantial reporting on conditions like, no noise and construction during night or the socio-eco plan of Kalga-Pulga or the conglomerates at Pulga etc. Sites like Pulga are very remote and difficult to reach.

4. COMPLIANCE OF ENVIRONMENT CLEARANCE CONDITIONS AND RELATED IMPACTS

[Note: This section does not look at all the conditions (specific and general) as laid out in the EC letter but provides details of non-compliance on a few critical ones and violation of relevant Acts. This non-compliance has led to irreversible ecological damage in the project area but ironically the project continues to be constructed with violations and non-compliance rampant. These violations have been observed in the MoEF's own monitoring records and those of GoHP's agencies including HPSEPPCB and HPFD. This has also been verified by researchers through field visits and interviews.]

a) Excavation and Disposal of Muck/Debris

Key points

- *Continued dumping in rivers and down the hill slopes observed in monitoring reports and site visits (observations in reports from September 2003 onwards till April 2007). Denied by NHPC*
- *NRO monitoring report of April 2007 observed massive violations, including impact on GHP buffer zone Reserve Forests near Adit 4 and 5. Clearly stated that muck disposal sites were not properly selected. Left dumping site is in the river itself. Monitoring Report questions how this can be allowed*
- *Repeated and unabated muck disposal violations recorded by NRO, HPSEPPCB and HPFD*
- *Alternate dump site proposed in 2004 following a notice from the Department of Science and Technology, Government of Himachal Pradesh. Was to be completed by February 2006*
- *NRO monitoring reports from July 2006 to January 2007 are sketchy reports and don't give details of the situation on the site, but only about functional and filled up sites etc.*
- *No strict action taken/revocation of clearance/stay on construction despite repeated violations*
- *Violations denied by NHPC throughout compliance reports*

- *Continuous observation of serious, widespread, illegal dumping in the forest land in HPFD's documents - little action taken except raising damage bills that amount to Rs. 3.43crores, paid by NHPC*
- *Local people complain about dumping; observed during field visit of researchers in July 2007*
- *Overall recommendation made by NRO, "Ministry may like to impose restriction on allowing dumping sites very near the river bed."*

When it comes to a run of the river project like PHEP-II, there is extensive generation muck and debris, both through 31.23 Kms of tunnelling and 88 Kms of road construction, which are the two major components in the construction of the project. The disposal of this muck and debris needs to be done at designated dumping sites identified in the EIA and EMP. These dumping sites need to have proper breast and crate walls (which need to be maintained regularly) in order to check the spillage of the muck down the slope and into the rivers. The muck has to be dumped at these sites in a way that 23-30 cm thick layer is formed and the dumping sites have to be levelled and restored once filled to capacity. While the EIA and EMP of the project identified an initial set of dumping sites and the quantum of the muck that would be generated (27.68 lakh cubic metres as per the EMP), NHPC and monitoring agency letters indicate the complete inadequacy of these dumping sites. Over the last 7 years, there have been instances where it has been reported that dumping sites have been filled to full capacity, and additional sites have to be allotted/procured. In practical terms this implies acquisition of more land (often agricultural and forest land) by NHPC. Many instances of illegal and unscientific dumping have also been recorded. Improper muck dumping assumes enormous significance since the dams of two power projects are situated in close downstream vicinity of the PHEP. The retention capacity of their reservoirs is bound to diminish due to the flushing of muck/debris from the activities at PHEP.

Further, the EC conditions for PHEP clearly state, that restoration of construction area including dumping sites of excavated materials at dam site should be ensured by levelling, filling up burrow pits, landscaping etc. It needs to be "properly afforested" with suitable plantations.

Figure 7.2 in the EMP (also see fig. 1 in this document) lists 6 dumping sites which are: at inlet portal of Head Race Tunnel (HRT); at Adit 1 of HRT near Shila village; at Adit 2 of HRT near Pancha Nal; at Adit 3 of HRT near Pulia Nala; at Adit 4 of HRT near Raila village; and at Surge Shaft near Adit 5. However additional dumping sites were added as has been indicated in the subsequent sections. Also the quantum of muck generated also increased considerably as construction progressed.



Pic 3: Dumping on Sheelagarh-Manihar Road



Pic 4: Muck Spilling over broken retention wall near Majhan

Violations recorded in NRO Monitoring Reports

Evidence, both in the **monitoring reports** of the NRO and field investigation confirm that NHPC has, at no stage of the project development, complied with this condition.

In the first monitoring report of the NRO on 8th September, 2003, the project authorities were asked to carry out the muck disposal properly. On 23rd July, 2004, following a site inspection, the NRO observed that facial treatment in the construction areas was not taking place and debris is being dumped on hill slopes. The report added that no proper care is being taken and muck is dumped in Sainj river and it is in direct contact with water (which is in the power house area). It said, "muck/debris is disposed on hill slopes as usual." This is a serious offence as by now it was three years since the project was granted clearance. The report added that none of the dumping sites had been reclaimed.

More critically, the left dump site of the project was in river itself. It said "it is not clear how this can be allowed... River has become narrow because of dump site and may cause flooding during monsoon and ultimately may carry all the muck/debris along with river water under pressure. Project authorities may be asked for the alternate site for the left dump site due to its location in river bed...."

In the NRO third monitoring report dated 7th January, 2005, the issues of muck raised in previous report were reiterated. It was further recommended that, "Ministry may like to impose restriction on allowing dumping sites very near the river bed".

The NRO monitoring report of 28th November, 2005 referred to a notice issued under Section 5 of Environment Protection Act for setting up of new muck dumping site on 13th October, 2005.⁷ This notice was served by the Department of Science and Technology, Government of Himachal Pradesh. According to monitoring report, the new proposed dumping site was approved by the Secretary, Science and Technology. The development of the site was to be completed by February 2006 at a cost of Rs.4 crore. A visit was to be undertaken in March-April 2006.

The NRO monitoring report of 11th July, 2006 only stated that the project authorities had assured to comply with the conditions related to muck disposal and the joint inspection report of NRO and MoEF, Delhi of 17th July, 2006 (inspection on 18.6.2006) does not refer to this condition at all. NRO and Monitoring Committee Inspection on 31st January-1st February, 2007 indicated that out of 17 dumping sites, 9 had been filled to capacity, and 8 were functional.

The Monitoring Report as late as 2nd April, 2007 noted that "Muck and rock cuttings are not being handled properly. Dumpers loaded with debris, muck or rock cuttings are emptied from hill top leaving behind dust clouds. Even flora and fauna in Buffer Zone of Reserved Forest near Adit 4 & 5 is being destroyed by this action of contractors. It observes that the muck disposal sites have not been properly selected. Those are on convex side of river meanders and below high flood level."

⁷ According to NRO there was a cloud burst in July which impacted the protection measures. Dept. of Science and Technology, GoHP inspected the site on 16-17 Aug 2005 and has passed adverse remarks and issued notice under section 5 of EPA



Pic 5: View of dumping having destroyed forest in Jiwa Nal area



Pic 6: Muck Spilling into forest at Garsa-Sheelagarh Road

Violations recorded in Documents Forest Department's documents

As a part of the research for this case study, documents from three divisions of the Forest Department were reviewed: Parbati Forest Division (looking at Pulga, Barshaini, Hurla, Manihar, Sheelagarh etc.), Seraj Forest Division (looking at Raila and Sainj areas) and GHNP (looking at Raila and Kunder-Majhan areas). This was primarily to substantiate the fact that compliance of the EC conditions was not taking place. Besides this it also has a direct bearing on the monitoring of forest clearance conditions. Damage to trees, encroachments due to muck/debris etc. have been repeatedly recorded in the documents of all these divisions.

"NHPC and its subcontractors are causing severe damage to forest growth. You are requested to issue suitable instructionsto minimize damage otherwise strict action will be taken.....If damage is not controlled by NHPC, machinery will be seized and work will be stopped." This is the standard text found in the letters issued by the HPFD officials of the GHNP division to the NHPC regarding the damage caused due to dumping. The Range Officer of Jiwa Nal in his letter of 27th March, 2004 observed, " Unauthorised dumped material (Seund to 1Km) is unguarded and flowing into Jiwa Nala. Newly dumped material can flow into Jiwa Nala during rainy season. This is against FC Act. You are causing huge damage to the forest wealth by creating illegal ramps which is against the IFA Act. Stop all these illegal activities otherwise legal action will be taken against the company not by raising damage bills but by taking matter in the court of laws." The Director, GHNP also stated in his letter of 25th May, 2004 to NHPC that water sources and soil of villages in Eco-zone of GHNP has been seriously damaged due to road construction. He noted in his letter of 7th May, 2005, "Excavated material will be properly utilized for construction or stabilised and will not be thrown on the slopes or inside the forest lands. In complete violation of the same all the rocks, boulders, debris etc. is being slid down the slopes causing destruction to forest."

If one looks at the damage bills and letters from the Parbati forest division, it is evident that the damage caused has been irreparable, but undeterred. Letters have been written to NHPC as well as to the contractors like Gammon India, SSVJ, Patel Engineering since August 2003. On 1st June, 2006 the Divisional Forest Officer (DFO), Parbati Forest Division wrote to NHPC stating that, " It is to intimate you that the project authorities are dumping recklessly the muck generated from the tunnel in Garsa valley which is destroying forests and effecting the lives of local peoples. The un-authorized muck dumping according to Damage Reports issued is going unabated. The haphazard throwing of debris across the road in 1/31- Katrani forests is still going on recklessly."

The violations and payment of damage bills is a continuous observation. The letters from HPFD to NHPC continue pointing to repairs required for retention walls, new dumping sites and so on. On 10th May, 2007, the DFO Parbati wrote to the General Manager NHPC stating, " It is astonishing to point out here that the

unauthorized muck dumping and damage to forest wealth is still going on unabated, despite issuing repeated verbal and notices by this office, but no attention to prevent the such operations/illegal activities has been given by your office so far...This will be treated as last opportunity. Non compliance shall be followed by show cause notice under FCA 1980 to proceed further.”

And on 18th October, 2007, following a field visit by the DFO, Parbati on 18th September, 2007, it was observed that " ...retaining wall constructed on left and right bank of Jagrai Nala near Dam site has been damaged and muck dumped on both sides of the nalla is rolling down to the Jagrai nala and flowing into the Parbati River. NHPC is requested to construct RCC retaining wall. Do it before snow fall else in summer season muck will flow into the Parbati river for which the responsibility lies on project authorities."

Despite such numerous warnings and damages recorded approximately upto Rs. 3.43 Crores, no other penal action has yet been taken by the monitoring agencies. The HPFD officers even suggest that NHPC and its contractors be educated on issue of environmental protection rather than taking stricter action. That these damage bills are not a sufficient deterrent for NHPC and its contractors taking up ecologically destructive shortcuts is demonstrated by the fact that improper dumping and the consequent damages continue to this day as do the damage bills raised by the Forest Department.



Pic 7: Dust on the road to Raila, no water spraying



Pic 8: Spillage from Adit IV polluting water stream above village Raila

Violations as per HSEPPCB documents:

Dumping of muck from Adits and Road construction is something that has been a repeated observation in HSEPPCB documents. For instance, on 18th June, 2007, the Assistant Environment Engineer, HSEPPCB, Kullu observed violations which included dumping in Sainj river at RD 13000, below Adit 5 at RD 14000, and also says, ..." the frequency of water spray on the roads is almost nil. With reference to Garsa valley it is stated that unauthorized dumping continues near Manihar nala bridge; no protection works around Hurla nala and also at the crusher site near barrier; some crates are damaged and the excess quantity of muck at that site for crushing is spilling out and likely to cause water pollution during heavy rains; noise level of DG (*diesel generator*) at Adit II is found to be high; and height of (DG's) chimney is not proper. The letter also states that at Adit III dumping site, the protection work is damaged at some places, and muck is spilling out. Also crates provided at this dumping site are not stable. Finally, at Manikaran at Adit I, excess quantity of muck is dumped here and height of retaining structure not enough; muck is spilling out; DGs are facing the trees which are becoming black."

On 10th July, 2007, the Environment Engineer clearly stated the following facts that indicate that violations and illegal dumping have continued. It is stated that "...no operation is being carried out at Adit II due to non-functioning of TBM (See box on Geological Surprises; pg. 11); therefore no dumping (*is taking place here*). However the capacity (*of the dumping site has been*) exhausted and seepage water is being discharged without any proper channelisation. The toe wall and wire crate structures below Adit III on Pulliah nala are damaged and no effective steps (*have been*) taken to repair these. At Adit III a retaining wall on right bank of Pulliah nala, below crusher is required, and height of already existing concrete walls needs to be raised. At Adit III and IIIa: overburden of muck causing environmental damage; their capacity has been exhausted. An additional dumping site has been acquired at village Jeoni but no action has been taken so far on transportation of additional muck there."

[Also see section on Road Construction below.]

Observations from Site Visit (also relevant to the findings on road construction below):



During the visit to Sheelagarh-Manihar Nal-Hurla Nal construction site in late July 2007, the researchers observed that road construction had led to massive dumping of debris into Manihar Nala flowing towards Garsa. Trees were uprooted or hanging on the edge due to dumping of debris, or choked with excavated muck from the tunnels. Construction had led to substantial destruction of neighbourhood forests as well.

A similar situation was observed during the visit to Jiwa Nal construction site. At some portions debris were thrown into streams or in the middle of the forests, which would eventually surely flow down during the rains. The protective walls around the disposed debris near village Majhan (possibly at a designated dumping site not in the original design) were observed to be broken. As a result debris was flowing into the water. At one site near the diversion tunnel near village Majhan, muck had been casually dumped next to the river and there were no protection measures taken for preventing muck from flowing into the Jiwa nala (see Pic. 9).

Pic. 9 : Dumping near diversion tunnel near Majhan without any protection and muck flowing into Jiwa Nala

Villagers in Sainj village (near the power house construction) informed that there is massive dumping taking place from a stone crusher above Bhupan village. Indiscriminate dumping by contractors is also taking place at Raila and other villages in the area.

The NHPC compliance report of 5th July,2007 indicated that muck dumping was taking place in proper in designated areas. However, the field investigation of July 2007 (i.e. the same month), clearly indicates the above claim to be false. This is also evident in the reports of the same period of the Forest Department and HPSEPPCB.

Geological Surprise: Tunnel Boring Machine Stuck at Sheelagarh

The TBM at Adit 2 (Sheelagarh) got stuck while constructing a tunnel in November-December 2006. A lot of water with silt/mud came out making the TBM un-operational. The SSJV and NHPC staff are still continuing to try and retrieve the TBM (Tunnel Boring Machine). This was reported during the field investigation in Garsa and Sheelagarh to the authors of this report in July 2007. The status of Hydro Electric Projects Under Execution as on 5th September, 2007 as available on the website of the Central Electricity Authority (CEA) states, "Slow progress of excavation of HRT due to poor geological strata especially in Face- 4 where heavy ingress of slush caused serious damage to TBM. TBM refurbishment under progress." (http://www.cea.nic.in/hydro/project_monitoring/Status%20of%20Hydroelectric%20Projects%20under%20Execution.pdf).

b) Impact of Road Construction



Pic 10: Impact of road construction on forests in Sheelagarh



Pic 11: Damage due to Road construction from Sainj to Raila

Key points

- *Special condition on care to be taken in Sheelagarh and Jiwa Nal areas as these are in the forests. No mention of Pulga area in this regard*
- *Site inspections and monitoring reports have not observed this condition. It is evident that the site inspection to Sheelagarh and Jiwa Nal have not taken place regularly by NRO*
- *Documents of HSEPPCB and Forest Department have indicated the damage caused to rivers, forests and violations of law, repeatedly and unabated. Monitoring strict, apt observations made, but no penal action*
- *NRO monitoring Reports of 2007 have strong observations and comments*
- *Impact of dust due to heavy traffic in Sainj area*
- *Denied by NHPC throughout in compliance reports*

A significant part of the construction of the PHEP Stage II is in areas adjoining the GHNP which is an extremely fragile ecosystem. Therefore, at the very outset, the EC conditions stated that “care” (*is needed*) to be taken in the construction of roads in general and in Sheelagarh and Jiwa Nala in particular, as these are in the forest. Although the word "care" is extremely broad and does not specify any specific measures, simply put it means that the road construction should not cause irreversible damage to the ecologically sensitive area, including the forests and the streams.

The previous point on muck disposal has a direct bearing on this condition too. A large part of the dumping of muck/debris which was causing damage to the forests and streams came from road construction. This was clearly observed during the field visits, details of which have been mentioned in the point on muck disposal. The researchers witnessed one of the contractors with a JCB machine, being operated during the widening of the Majhan road, getting debris thrown directly down the hill slope. The kind of impact that the sliding of debris down the hill side does, can be gauged from the images of the area upwards of the road and downwards of the Majhan road (see Pics. 12 and 13). The impact of the non-compliance of this condition can also be seen in the form of dust flying in the area and settling on the trees (see Pic. 7).



Pic 12&13: The damage done to the forest downwards of the road due to dumping of debris in the area denotified from GHNP. This area that was originally heavily forested, as seen above the road and also on the opposite side of the river, is now beyond redemption, even the soil from the hill slopes having been lost along the majority stretch of the 10 km long (approx.) 0 point to Kunder road.

The monitoring reports of the NRO had some specific observations to make.

NRO and Monitoring Committee Inspection on 31st January-1st February, 2007 stated, "... water sprinkling not being done on the roads. This has resulted in dust flying in the Sainj area due to heavy traffic movements on the roads." The monitoring report of 2nd April, 2007 observed that “proper schedule and latest technology for associated road work are not being followed by NHPC. Bituminous road is planned at farthest point where cement is locally available. Cement road is a better option than bituminous road at such location. NHPC is constructing 88 km road length through petty contractors. A lot of dust is generated because water is not sprinkled on those project roads. Surface finishing is not planned for haulage roads.”

Violations in HSEPPCB document:

The HSEPPCB has, since August 2003, observed that dumping of debris into the river or its spillage has caused extensive water pollution. Strong observations have been made and approximately 14 show cause notices have been issued to NHPC and its sub-contractors. Violations continue till date as was evident during the field visit by investigators and discussions with villagers during that time.

In a notice on 13th February, 2007, the Environment Engineer, HSEPPCB stated in his letter to NHPC, "Muck generated from the road construction is being directly rolling down into the Sainj River causing water pollution besides obstruction of flow of river near village Bhueli by muck dumped which has resulted in the formation of artificial lake and is causing natural flow of river disturbed and polluting the river. Also no water spray on the haulage roads is being carried out for control of dust pollution. So the environmental measures being implemented are not satisfactory, which is violation of Water (Prevention & Control of Pollution) Act 1974, Air (Prevention & Control of Pollution) Act 1981 and Environment Protection Act, 1986. Hence you are directed to take effective steps within 15 days. In addition to the above the turbid water from the TRT (Tail Race Tunnel) is also directly discharged into river without provision of settling pit is also



violation under Water (Prevention & Control of Pollution) Act" Though, at least 14 such notices citing violation of Air and Water Acts have been issued by the HPSEPPCB to NHPC, it has taken no penal action against NHPC.

On 7th August, 2007, the Environment Engineer following a site inspection at Sheelagarh on 3rd August, 2007 clearly indicated, "...there is no protection work near the bridge, due to which excavated material from the road is directly going into the nala. Further, muck for crushing at crusher site has no proper protection. Protection wall of dumping site at Adit II is not repaired yet."

Pic 14: Water polluted due to construction in

It needs to be stated that in July 2007, the NHPC compliance report to the NRO had stated that they were complying with all EC conditions, thereby indicating that no muck was being disposed improperly and there no damage was being caused due to road construction etc.

[See also section on muck disposal above.]

Violations in Forest Department documents

[See section on muck disposal above]

c) Catchment Area Treatment(CAT)

Key points

- *NHPC transferred money to Forest Department, delay in undertaking CAT by FD*
- *CAT money spent on purchase of equipment, vehicles, repair of rest houses etc.*
- *NHPC troubled as siltation effecting dam/construction - this is amazing as no construction is supposed to happen upstream of the dam/diversion sites*
- *Suggestion in monitoring report that project authorities need to be part of CAT plan progress for all power projects*

This condition has only partially been complied with till date. The EC conditions clearly indicated that the degraded catchment area is to be treated within 8 years from the start, at a cost of Rs.2569.22 lakhs. 980 Ha area was proposed for undertaking biological measures. While NHPC had given the money to the Forest Department soon after the clearance was granted, no action was taken on it. In September 2003 a committee was also set up to monitor the CAT plan progress.

From the second NRO monitoring report dated 23rd July, 2004 (i.e. almost three years after clearance) it was informed that the CAT plan was not being implemented according to the time schedule. Further, it said that there was no physical and financial progress on CAT plan despite reminders and money having been given by NHPC to the (Forest) Department. NRO monitoring report of 28th November, 2005 highlighted that there was slow progress on CAT plan. It also highlighted that the MoEF needed to make it possible for project authorities to be part of the CAT plan progress for all power projects. It observed that the slow progress may cause early siltation of reservoir, which is a concern also for the project authorities (PAs). It also stated that the Forest Department had claimed that 15,000 saplings had been burnt in fire on January 2003, but these were not shown to NHPC.

The situation has not changed much by the time the monitoring report of 17th July, 2006 was submitted. It was observed, that "it is a sorry state of affairs that NHPC gave Rs.22.66 crores to the Forest Department and progress is only of Rs.1.11 crore." A sub committee for CAT plan inspection was set up. The monitoring of 31st January-.2nd February, 2007 gave further details of non-compliance. It stated - "the project authorities already released Rs.2568.92 lakhs for CAT plan. But Forest Department has submitted utilization of Rs.190.64 lakhs. Additional CAT plan money of Rs.101.75 lakhs approved and towards office support, repair of forest rest house, water supply system of nurseries etc. Rs.50.48 lakhs has been spent. But the bottom line is that progress of CAT plan needs to be accelerated and need for proper monitoring mechanism is stressed."

d) Constitution and Working of the Parbati Valley Conservation Cell (PVCC)

Key points

- *PVCC was proposed to be set up in the light of the sensitivity of the region and proximity to GHNP*
- *PVCC not set up and objectives not fulfilled*
- *2 Studies on Biodiversity and Livelihoods commissioned to Wildlife Institute of India (WII); one completed, 20 crores transferred for implementation but nothing implemented*
- *Conservation objectives of EMP not furthered*

Yet another EC condition laid out but not implemented wholly is the setting up of a Parbati Valley Conservation Cell (PVCC). The composition and purpose of the PVCC was laid out in the EMP. It said that "...the PVCC will be set up under the Chief Wildlife Warden(CWLW)/Director, Great Himalayan National Park (GHNP). It would include 2 members from State Forest Department, 2 renowned ecologists/conservationists, 2 representatives from local NGOs and 1 central government representative of MoEF. It will be housed in the office of the CWLW and will receive funding support for 8 years." Rs.453.28 lakhs was allocated for this purpose.

The main tasks of the PVCC were to look after the conservation areas, monitor and enforce regulatory provisions, document existing biodiversity, publish checklist of flora/fauna, ensure that the land use, frozen at the beginning, is not changed and no anthropogenic activities from private or public agencies occur within the Protected Area (PA), prevent forest fires with local participation and also implement anti-poaching laws. A Monitoring committee for conservation measures, including members of the PVCC and representative of NHPC, was also to be set up.

Given the proximity of the project construction to the GHNP and the extremely fragile valleys that the project spans, it was critical that the PVCC have been set up and taken through its objectives. However,

NRO and Monitoring Committee Inspection of 31st Jan.-1st Feb., 2007 indicate that the PVCC had not been set up even by that time. Similar observations had also been made in previous NRO monitoring reports.

A part of the money that was released for setting up of PVCC and conservation measures was used to commission a study to the Wildlife Institute of India (WII), titled 'Sustainable Livelihoods Based Approach to Biodiversity Conservation in Great Himalayan Conservation Landscape' with a projected outlay of Rs. 15.40 Crores.

The first report was completed and submitted to the HPFD. After this report was completed, there was discussion on a new project on similar lines titled 'Conservation of Endangered Species in Himachal Pradesh' with a projected outlay of Rs. 20.00 crores, submitted to the Wildlife wing of HP government. MoEF questioned justification of this new project when WII one already existed. This was mentioned in the monitoring report of 17th July, 2006.

NRO and Monitoring Committee Inspection of 31st Jan.-1st Feb., 2007 indicates the allocation of Rs.15 crores for conservation of flora and fauna in EMP. Accordingly, the Additional PCCF cum CWLW submitted the WII report that mentions a budget provision of Rs.17.41 crores. The NRO report also indicated that Rs. 593.33 lakhs has also been released for conservation purposes.

It is evident from the NRO monitoring reports that the PVCC had not been set up and most of the functions had not been carried out till April, 2007 indicating a non-compliance of this important condition. The main activity accomplished so far has been the completion of the WII report, which can be attributed to the objective of documentation of existing biodiversity. There is no evidence of the adherence and furtherance of the other objectives.

**Inadequate Environment Management Plan (EMP) Measures
for Conservation of Sensitive Habitats**

One of the EC conditions states that to minimise the damage to the natural ecosystem between Sheelagarh and Pancha Nal and Sheelagarh and Manihar Nal, the project authorities need to follow the suggestions in the EMP:

When one looks into page 19-20 of the EMP the mitigation measures limit themselves to restricting the movement of labour to the forest areas; one day orientation and also providing free fuel to the labourers. With the frequency of movement of labour into and out of the project area and the lack of facilities at the remote places they are staying at, a one-day orientation is not adequate to ensure compliance of this condition. There is no evidence of whether these orientations are taking place, on what issues and the affectivity.

It was also said that these areas should remain "hands off" for the public. The entrance to the Sheelagarh site has a barricade which restricts entry to the area, except with permission.

The areas mentioned in the EC conditions and also the Jiwa Nal area are highly fragile ecosystems adjoining the GHNP. Many more/stricter conservation measures were required to be included in the EMP, if fragility of the area was to be respected. Unfortunately, this was not the case. No conditions were added for the Jiwa Nal side, so the question of non-compliance did not arise on record! Moreover, non-compliance of the condition related to free fuel to labour has been reported by the NRO; their movement into the forest clearly indicates that these limited mitigation measures were also not followed. Further, it is not understood why restrictions were not put on the movement of petty contractors/sub-contractors into the forests and why did the focus lay only on the labourers.

e) Fuel Supply, Medical Facilities and Medical Examination of labour before work permit is issued

Key points

- *Monitoring reports relying on data from NHPC for this condition, except in 2007*
- *Field visit and conversation with labour in Sheelagarh indicated that no free fuel was being supplied*
- *Evidence of labourers using wood collected from forest in Manihar and Majhan*
- *No medical examination before work permit to labourers; system never followed in PHEP*
- *Monitoring reports observe that if fuel is not provided, labourers may damage forests. Specifically M/s Gammon mentioned*
- *No medical facilities as indicated by monitoring report as well as conversation with labourers*



Pics 15 and 16: No free fuel for labourers near Manihar Village. Fuelwood collected from nearby forests

The construction of a project of the nature of PHEP requires a lot of manual labour to live in the area of operation over a long period of time. There are labourers who are brought in for short term basis in temporary shelters, and those who live in permanent labour colonies for longer stretches. PHEP II is being constructed in areas adjoining thick and vulnerable forests. The entry of large amount of labour can put tremendous pressure on the forests of any area. Therefore the EC conditions mostly specify that the project authority need to ensure that there is free fuel arrangement for labourers to avoid felling of trees. This was acknowledged in the EMP of the project as well. A format was provided by the MoEF to the NHPC authorities according to which the quantum of free fuel supplied to the labourers by each of its sub-contractors was to be reported. Further, health examination of labourers was required to be done before issuing work permits.

Fuel Supply/ Arrangement

The first two NRO monitoring reports of 2003 and 2004 relied only on the data provided by the project authority and stated that “it has been gathered that the fuel is being provided to the labourers”. A format for reporting on this condition in six monthly compliance reports by NHPC was provided, including details of quantum of fuel supplied to labourers by NHPC and its sub-contractors. Following this, the NRO monitoring reports till 2007 did not report substantially or at all on this particular condition. But the 2007 monitoring revealed some interesting observations. The report of the field visit of 31st Jan.-1st Feb., 2007 stated that in order to avoid illicit cutting it had been made mandatory in contract agreements (*of NHPC's sub-contractors*)

that free fuel is provided to labourers. Further, monitoring committee members observed that free fuel was not being provided, and recommended that fuel depots be opened.

What is interesting to note is that this site visit included areas other than Sainj, which is the only construction area where labour and fuel arrangements are more organised. Our conversations with villagers in Sainj gave the impression that kerosene was being provided to the labourers who were staying in and around the town, on payment basis. But this was surely not the case in Sheelagarh and the labour camp near Majhan, where the researchers spoke to a few labourers' families/labourers. These people indicated that they received no free fuel or medical facilities. Wood from the forests was stashed up near the tents and was being used for cooking (see Pics 15 & 16).

The NRO monitoring report of 2nd April, 2007 clearly stated that there was no supply of fuel by M/s Gammon who are one of the biggest contractors in the construction. The report stated that labourers were buying kerosene, even though NHPC has a budget for this. It concluded clearly by saying that if fuel is not provided then it may compel labourers to damage nearby forests. This observation has virtually been refuted by NHPC in its letter of 5th July, 2007 which 'as usual' gives the quantum of fuel provided to labourers by its sub-contractors. The NRO stated in its monitoring report of 28th November, 2005, "...Expenditure (*on free fuel*) incurred for the period October 2004 to March 2005 by M/s Patel Engineers was reported as Rs. 34,33,540 (includes operating DG sets)....." There is a real possibility that a part of the money budgeted for providing free fuel to the labourers was being spent by the sub-contractors for work related fuel requirements like running of diesel generators and other motors.

Work permit and Medical Examination

The NHPC compliance reports mention that the project authorities have conducted medical camps etc. in the area, but no specifics are mentioned on the medical facilities for the labourers. The researchers' conversation with the labourers and villagers in Sheelagarh side indicated that there were no onsite medical facilities available. NHPC did take care in case of accidents but not for other ailments.

Most of the monitoring reports are silent on this issue or rely on data in compliance reports which do attempt to highlight that the condition is being complied with. Even in the compliance reports submitted by project authorities to MoEF, the first details of the fuel supply and labour settlements are mentioned in the report of 5th October, 2004, which was 3 years after the project was granted clearance.

Further, the monitoring in 2007 reveals clearly that potable water, sanitation facilities were still needed to be provided to labourers. The monitoring committee had observed that proper medical facilities were not there and the subsequent NRO monitoring (2nd April, 2007) indicated the same conditions as had been reported during visit to labour camps by the monitoring committee.

Moreover, the monitoring report of 2nd April, 2007 mentions, "NHPC as project authority have not introduced work permit system on Parbati II HEP. Pre-employment health check up has not been carried out either by NHPC or contractors on this project so far. Worker, if any, suffering from AIDS or TB has not been identified and isolated. Anti TB or Anti-AIDS slogans & posters are not available in labour camps." The report recommended, "Health check up of all workers is to be undertaken in batches and system of work permit may be introduced as of now so as to comply with the conditions of environmental clearance."

Pollution of Streams/Drinking Water

The 2nd April, 2007 monitoring report of the NRO makes a pertinent observation on effluent due to mechanical operation and seepage. It states that "10 to 50 litre/minute effluent is being discharged on all Adits. It is due to cooling water, rock cuttings and seepage. It is laden with oil & grease and silt. A small oil-and-grease trap cum sedimentation tank with 30 minutes retention time is required to be provided on all Adits separately so as to stop the water pollution of streams."

Refuting the serious and specific NRO observations of April, 2007, NHPC has claimed in its compliance report dated 5th July, 2007 that oil and grease is not discharged in the nalas.

The researchers received the same observation during visits to Sainj, Jiwa Nal, Raila and beyond towards the Adits where heavy construction activities were going on. Villagers have written umpteen letters to the local and district level authorities as well as NHPC, without any action being taken. They have complained on water pollution, deteriorating health of livestock and human beings due to the drinking of the water. Pritam Singh of Raila village shared several of these written complaints.

The researchers' visit to the area clearly indicated that the streams were being polluted due to the blasting at the Adits as well as road construction and the water from these has been rendered undrinkable. The villagers used to use these streams for their daily use in the past. People from at least four village in two panchayats have complained that due to the discharge of untreated water laden with contents from tunnel construction into the local streams, all pregnant cows drinking from these sources suffered miscarriages. Affected villages in the Sainj area have come together as the Parbati Pariyojna Visthapit Evam Prabhavit Kalyankari Sangh (Parbati Project Displaced, Affected and Welfare Association) and have repeatedly written to the local authorities as well as NHPC, since 2003 onwards on issues of concern. This is when the impacts actually started being felt.

According to Pritam Singh, Raila village there were several streams in the area which had all dried up, as was indicated to the investigators.

The HPSEPPCB has been issuing show-cause notices under Air and Water Acts have since 2003 which have indicated the dumping of muck and its spillage till August 2007. Notices and letters to NHPC dated 7.8.07, 10.7.07, 8.5.07, 9.3.07, 13.2.07 and before have all pointed to these violations and pollution.

f) Issues of Forest Clearance⁸

The amount of forest land required for the PHEP project underwent a massive change with the inclusion of additional forest land in 2004. In fact, the first monitoring report in 2003 made an important observation on this and stated that there had been a change in scope of the project due to increase in forest land required for the project. NRO requested MoEF to consider this fact as an increase of forest land requirement of 40 Ha implies a change in the scope of the project (See Section 2 on overall observations for more details on this). However, no action was taken on this request and neither were any additional safeguards added. The proposal for clear felling of trees was revised after this revision in forest clearance. The revision led to 8124 trees to be felled, when earlier it was 3677, which is an increase of two and a half times. Ironically, neither MoEF nor the project authorities thought of this increase in area or the trees to be felled as amounting to a change in the scope of the project.



The monitoring report of 28th November, 2005 had observed that the conditions of forest clearance were not being followed. The DFO Parbati was part of the monitoring team that had visited the project area on 31st Jan.-1st Feb., 2007. He had observed that the boundary pillars for forest land diverted for the project were not there. Further the demarcation needed to be done to avoid confusion. It is important to note that the first forest clearance came way back in 2001 and a revised one in 2004.

Pic 17: Violations in the area denotified from GHNP for the project

⁸ This case study is not looking into the compliance of the forest clearance conditions; however some observations have been made as the violation of the environment clearance conditions have a direct bearing on the pristine forests in and around the project site.

There is bound to have been encroachments and illegal use, if no boundary walls or demarcation of the land diverted were constructed.

The Director, GHNP in his letter of 9th July, 2004 said that the wildlife of the area had to be protected from Nepali labourers. In his letter of 7th May, 2005 referred to the Forest Clearance conditions regarding no labour camps to be set up in forest areas. He said, "... at least ten camps have been established and many more are likely to be set up, inhabited mostly by Nepali labourers. While citing further violations of the FC conditions in the same letter, he said, "*(regarding FC condition that)* No habitation shall be allowed to come up within areas excluded from National Park but a number of patches have been cleared and tin sheds, storage godowns etc. have been created in the above mentioned area." The letter also added that "... a number of check posts have to be maintained at the cost of the user agency.



However, no such check posts have been established and tree felling is going on at full pace."

Pic 18: A labour camp in the denotified area. Fuel brought from the nearby forests is also visible

Three divisions of the HPFD and HPSEPPCB have pointed to the damage to trees due to dumping of muck, debris, spillage, road construction and also due to direction of DG sets' chimneys in Sheelagarh area. The violation of the Forest Conservation Act, 1980 under which the forest

clearance is granted has been mentioned in letters of the Parbati, Seraj and GHNP forest divisions to NHPC as well as its sub-contractors. The section on Muck Disposal and Road Construction has a mention of these (See points a and b of that section).

Inter-departmental coordination?

The compliance reports by NHPC do report on some of the forest clearance conditions including no blasting in the winter months i.e. 15 November to 15 March or that of setting up of checkposts. The monitoring reports of NRO, notices by the HPSEPPCB or damage bills issued by the State Forest Department, all point to similar issues of muck and debris disposal by project authorities. But none of these draw from each other or build on each others observations.

Discussions with HPFD officials revealed that they are not sent copies of the monitoring reports of the NRO nor are they informed about their inspection dates/schedules. It was also reported that NRO officials do not usually meet the HPFD officials during their monitoring visits.

The NHPC's progress or compliance reports also indicate that officials of the HPFD and HPSEPPCB have also visited the project area. However, discussions with each of these offices clearly indicate that there is no coordination between the various monitoring agencies despite overlaps in the impacts of non-compliance of clearance conditions⁹.

⁹ For example, the muck/debris disposed unscientifically on a river side would be infringing the Water Act (which the HPEPPCB monitors) as well as the Environmental Clearance condition regarding the disposal of muck at the designated dumping sites.

NHPC has given Rs.40 lakhs to the Pollution Control Board to monitor the EMP, but the officer at the regional office, Kullu, whom the researchers met, told that they were unable to carry out the tasks due to non availability of a vehicle. The one bought through the money from NHPC, had been based in the head office at Shimla.

Conclusion

The evidence from documents and field visit clearly shows major lapses in the monitoring of the PHEP II that have resulted in permanent losses to local ecology beyond what was projected by design. It is the primary responsibility of the project proponent, i.e. NHPC in this regard, to comply with all the conditions laid down in clearance letters. At the same time the onus lies on the monitoring agencies to keep a stringent check on NHPC's claims of compliance. While this has generally and regularly been done to the extent of reporting the damage or shortfalls in compliance, especially by the HPFD and HPSEPPCB, perhaps stricter action from the higher ups could have prevented most of the additional damage in the case of PHEP II. In this regard, we feel, that monetary penalties, unless substantial enough to make a dent in the balance sheet, would never be enough of a deterrent for a project of this scale to avoid environmental damage. Any other recourse like stopping the operations on the project till conditions are complied/damage is restored or pressing criminal charges against the repeat offenders would have been certainly more effective.

On the other hand, even on the rare occasions that monitoring officers from the NRO have reported glaring non-compliance of EC conditions, no action has been taken by the MoEF headquarters. This not only must be adversely affecting the morale of the monitoring officers but would also be making them to not take the monitoring activities seriously enough. Apart from this inaction, having an understaffed NRO in the face of a multitude and variety of projects to be monitored points to a serious lack of importance attached by MoEF's to monitoring activities.

As work on the PHEP II goes on, violations similar to those observed in the case of PHEP II go on to a varying extent in most of the projects under construction in the state. A part of the objective of this study would be achieved if it sets off a rethink among the state government and the various monitoring agencies in reconsidering their approach to environmental regulation of various projects in the state and the Himalayas in general.

List of Abbreviations

CEA: Central Electricity Authority	HPSEPPCB: Himachal Pradesh State Environment Protection and Pollution Control Board
CWLW: Chief Wild Life Warden	MoEF: Ministry of Environment and Forests
EC: Environment Clearance	NHPC: National Hydroelectric Power Corporation
EIA: Environment Impact Assessment	NRO: Northern Region Office
EMP: Environment Management Plan	PCCF: Principal Chief Conservator of Forests
FC: Forest Clearance	PHEP: Parvati Hydro Electric Project
FC Act.: Forest Conservation Act, 1980	PVCC: Parvati Valley Conservation Cell
GHNP: Great Himalayan National Park	TBM: Tunnel Boring Machine
Ha: Hectare	WII: Wildlife Institute of India
HPFD: Himachal Pradesh Forest Department	

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