Seeping Through the Cracks
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Run-of-the-river hydropower projects dotting Himachal Pradesh are not as environmentally benign as they are touted to be. A report on the impact of the Karchham Wangtoo Project, in the Kinnaur district, on the surrounding areas by a Himachal Pradesh based NGO.

The website of a leading hydropower producing company Satluj Jal Vidyut Nigam Limited features an interesting piece of writing under the section “Success Stories”. The article titled, “Hydro Tunnels in Himalayas – A Challenge for Man and Machine”, is a rather boastful note about how “channelling a mighty Himalayan river into a tunnel for generating hydro-electricity is more than an engineering adventure”. The concluding lines refer to tunnelling for hydro projects as a “tribute to the genius of man”.

Most development projects reek of this kind of technological and scientific snobbery, drowning out many voices that question the claims of efficacy and relevance in the context of public interest or that of the environment. In the name of hydropower development in the Himalayan region the run-of-the-river technology is being shoved deep into the very belly of the mountains and down the throats of people. The technology falsely gives the impression that the natural flow of the river is being tapped to make electricity as against creating a dam based reservoir. The river is literally picked up from the riverbed and put into a mountain through a tunnel. The flow is diverted and dropped into the source river (or, in some cases, a different river/stream) later where the power house has been built. Today, hundreds of such run-of-the-river hydro projects are coming up bumper to bumper on the major streams and rivers of Himachal Pradesh, a leading producer of hydropower. If the engineering adventures go as per plans, most rivers of the region will be flowing in tunnels in a decade or two. But the question is that can a river be contained and trapped and that too by hollowing out the mountains that are fragile to the core? What will be the fallout of the tampering on such a scale?

Tunnel Leakages: Karchham Wangtoo Project
In December 2012, during an inspection of the 1200 MW Karchham Wangtoo project by the officials of the Central Water Commission, Department of Energy and Central Electricity Authority profuse leakages were found in the surge shaft of the 17 km long tunnel possibly due to cracks and fissures that may have developed over the course of time. The response to the right to information (RTI) application filed by Himdhara, an environment research and action collective based in Himachal, revealed that the letter issued to the project proponent by the authorities who found the leakage provided no details of the exact nature and extent of the leakage. A news report which appeared in The Tribune on 27 January, 2013, mentioned the quantum of the leakage to be between 5 to 9 cumecs, a substantial amount which could trigger landslides. Even today, local communities from the villages around the Karchham Wangtoo tunnel are reporting leakages from some portions of the tunnel. Furthermore, this is not the first time that safety issues have been raised regarding a hydro project. Another news report in The Tribune, dated 17 April, 2012, spoke of a similar leakage from the head race tunnel of Chamera III Hydroelectric Project. The report stated that “Apprehension prevails among residents of an outlying Mokhar village about the imminent danger of soil erosion to their village and the cultivable land beneath the hillside as a sequel to the reported seepage in the headrace tunnel of the 231-MW Chamera hydroelectric project, stage III”.

**Landslide on right bank of Baspa river near Baspa Dam damsite**

Photo, courtesy Sumit Mahar
The RTI response in the Karchham Wangtoo case also clearly states that so far there is no authority in the state to control and monitor the safety and water flows as required by the Hydropower Policy 2006 of the state of Himachal Pradesh. In the meanwhile, several hydropower projects have been or are being constructed, and some are ready for commissioning even in the absence of any monitoring authority. Even the Environment Impact Assessment studies have overlooked the issue of tunnel related impacts. In fact, villages located on the mountainside through which the tunnel passes are not even considered as affected villages. These villages now face increased risk of severe erosion, landslides, cracks and damages to houses as a result of the blasting activities. What has irked the locals most, however, is the disappearance of natural springs and seepages when tunnels were bored underneath their habitations. In response to a series of RTI applications filed by Himdhara, the Irrigation and Public Health department has revealed that in villages located in the area affected by the Karchham Wangtoo project, by 2009 almost 43 out of 167, i.e. almost 26% of water sources had dried up and in 67 sources, i.e. almost 40%, the discharge had reduced. Similar data has been provided for four other project sites in different parts of the state—all revealing that villages located above the tunnel are indeed being affected by the construction of these hydropower projects.

The issue of tunnel leakage becomes even more critical in the light of the devastation that
this region saw in June 2013, as result of the excessive and intense rainfall over three days with the Satlej and its tributaries in full spate. While Uttarakhand had to deal with a high casualty rate, the Kinnaur district in Himachal Pradesh escaped with comparatively minor damages. It seems now that in Kinnaur the engineering feat will not take too long to turn into a nightmare if nature decides once again to counter its attempted conquest.