

Dams without responsibility

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The devastation in Uttarakhand had already happened much before the cataclysmic events of June 2013. The unprecedented rainfall and floods and loss of life drew attention to the alarming situation in a State known for its pristine forests and rivers. It also drew attention belatedly to the "bumper to bumper" dams in the mountains.

Construction on all dams in Uttarakhand was halted by the Supreme Court in August 2013 and on its instructions, the Ministry of Environment and Forests (MoEF) appointed an expert body which said that 23 hydropower projects out of the 24 it was asked to examine would have an irreversible impact on the biodiversity of the Alaknanda and Bhagirathi basins and should not be constructed.

In May, the Supreme Court reiterated its orders stopping work on the 24 hydropower projects examined by the body. While all this amounts to shutting the stable door after the horse has bolted, it is a measure of recognition of the man-made destruction wrought by unplanned hydel power projects in a sensitive and fragile ecosystem.

Endangering the Ganga

The body's report said, "The problem with the dams is their location in a high or very high biodiversity value area, some of them at elevations above 2,200-2,500 metres. These altitudes come in the paraglacial and glacial zones and in these zones, the rivers are capable of mobilising tremendous amounts of sediments, under intense rainfall conditions, from the moraine left behind in the past by receding glaciers. In such situations, they cause havoc in the vicinity of dams as witnessed at the Vishnuprayag barrage site and below during the June 2013 disaster."

The State of Uttarakhand is a part of the Ganga basin and rivers suffer from several deprivations apart from dams in high places, including extensive pollution from untreated sewage. Despite huge amounts of money be-

ing spent, plans to clean up the river have failed miserably. An IIT-led consortium has been set up to prepare a master plan for the National Ganga River Basin Authority (NGRBA), to restore its "wholesomeness," as the extended summary of a draft Ganga River Basin Management plan says. Citing anthropogenic activities, it says dams and barrages have snapped her "longitudinal connectivity."

While the recent Ganga Manthan event in Delhi attracted more than its fair share of sadhus, there were a few who spoke against dams and said that they were a threat to the river's existence. But the focus was on keep-

ing both terrestrial and aquatic, and economic and social life. Crucially, it says that in the upper reaches of the river — where the oxygenating abilities of the river are the highest — there are growing signs of contamination. This suggests that even here, water withdrawal for hydroelectricity is endangering the health of the Ganga. Implementation of the 69 hydro power projects will lead to 81 per cent of the Bhagirathi and 65 per cent of the Alaknanda getting affected. The IMG had considered the need to have portions of the river free of hydro projects and recommended that six rivers should be kept in pristine form.

“The environment management plans of individual projects do not address the cumulative impacts of multiple projects in a river valley.”

ing the river Ganga "aviral and nirmal" (continuous and unpolluted flow). Activists said only cleaning up the river will not restore it. Some pointed to the lack of studies of the entire river system and hydrological data which was a secret. Since the Ganga is glacier fed, the climate change impact in the Himalayan ecosystem and on the receding Gangotri and other glaciers are also of paramount importance.

In its report of March 2013, the Inter-Ministerial Group (IMG) on Issues Relating to River Ganga says that the development of new hydro power projects has an impact on the environment, the ecology, the biodiversi-

Cumulative impact

In the Alaknanda and Bhagirathi basins, the report said that 17 dams have been commissioned with a total installed capacity of 1,851 MW. Fourteen projects of 2,538 MW capacity are in different stages of construction and 39 projects with an installed capacity of 4,644 MW are in different stages of planning. The expert body report said that if all the 450 dams in the State are completed, about 252 projects will each have an installed capacity of 5MW or more. The vast majority of them will divert rivers through tunnels to power houses downstream. Their combined

impact will affect the landscape of Uttarakhand. The environment management plans of individual projects do not address the cumulative impacts of multiple projects in a river valley.

With dams proposed on major rivers for every 20 to 25 kilometre stretch, large fragments of these rivers could be left with minimal flow as almost all the river water is extracted for producing hydroelectricity, the body's report has said. Prof. Ravi Chopra, chairperson of the body said that tunnelling is also controversial and leads to damage with natural springs being diverted and homes developing cracks. The government has only looked at the need to generate power and not the impact on the environment. On field visits, the body noticed scarred landscapes, dry river beds and a complete disappearance of riverine ecosystems due to submergence at existing and under construction large hydropower projects such as Tehri Stage I and Koteshwar on the Bhagirathi basin and the Srinagar dam in the Alaknanda basin.

Deforestation

If all the dams are built, studies indicate a loss of biodiversity. A National Environmental Engineering Research Institute (NEERI) report, quoted by the body, has highlighted the effect of the Tehri dam on the unique self-purifying ability of Gangajal. It attributed this property to river sediments; data indicated that the blocking of sediments behind the Tehri dam diminished this property.

Extensive deforestation and diversion of forest land too has posed problems. The body found that 80,826.91 hectares of forests have been diverted for non-forest use in Uttarakhand since 1980. The diversion for hydropower production is 5,312.11 ha. Most of the diversion for roads and hydropower has been in Uttarkashi, Rudrapur, Chamoli and Pithoragarh districts, the areas most affected in the June 2013 disaster.

Hearings

People have been agitating against dams for years in the region, notably Tehri. In 2010-11, and for the first time for any project, there were three public hearings on the Devsari hydel project on the Pinder. After two hearings, the third one was accepted by the government, according to Vimalbhai of the Matu Jansangthan which led protests along with the Bhu-Swami Sangharsh Samiti. He says this was the first major protest after the ones against Tehri. A public hearing was also organised where many voiced their opposition to the dams and on the need to keep the undammed tributary of the Ganga that way. He referred to the pathetic status of the catchment area, and the lack of studies on water flows and climate change impacts. The people displaced by the Tehri dam are still to get land rights or basic amenities in their relocated homes, he added.

Local people who have borne the brunt of the devastation due to dams and floods and environmental groups have questioned the feasibility of dams. By all accounts there is cause for concern as reflected in many reports. Even as the Uttarakhand government proposes to approach the Supreme Court in a bid to get a green signal for dam construction, it must remember this. It has to ensure that the quest for hydropower cannot come without a responsibility to preserve a region that is limping back to life after a calamity aggravated by unplanned human interventions neither scientifically assessed nor endorsed by the people of the region.

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