

Lessons not learnt in Uttarakhand from Past Disasters or Reports

In the context of June 2013 Uttarakhand disaster, it should be noted that over the past months and years, Uttarakhand had several warnings, recommendations from many different authentic sources and many official sources. Uttarakhand has been consistent in ignoring all such warnings and prudent recommendations. Here we provide details of various reports and sources that gave warnings about impending disaster as well as recommendations which could have avoided it.

Warnings of impact of climate change ignored There is little doubt that the climate change played significant role June 2013 flood disaster in Uttarakhand. Ministry of Environment and Forest's 2010 4X4 climate assessment report that had identified Himalayan region as one of the four most vulnerable regions of India from climate change perspective and had warned of increased floods, including flashfloods, landslides, glacier melt and Glacial Lake Outburst Floods in Himalayan region. However, there was no impact of these warnings on decision making or even impact assessment in Uttarakhand.

DMMC after Aug 2012 Uttarkashi disaster: *"It is therefore highly important to strictly regulate developmental initiatives in close vicinity of streams and rivers. Appropriate legislative interventions would be required for formulating a policy in this regard and firm executive action in accordance with letter and spirit of this policy would be required to ensure compliance of the same."* Nothing was done about this recommendation.

This is major failure of Uttarakhand government, MoEF, Prime Minister's Council on Climate Change. The Inter Ministerial Group report on Upper Ganga basin hydropower projects (for detailed critique see cover story in April May 2013 issue of *Dams, Rivers & People*) submitted in April 2013 or the note from Sunita Narain from Centre for Science and Environment in the report did not even mention climate change. All these show failure of taking climate change into account while looking at development in Uttarakhand.

Past disasters and their lessons ignored: August 2012, Uttarkashi

In August 2012, Uttarkashi district (one of the epicentres of current tragedy) saw similar tragedy which left 29 dead and many more missing and extensive damages. The Uttarakhand State government's Disaster Mitigation and Management Centre (DMMC) report of this disaster in Oct 2012 concluded, *"It is therefore highly important to strictly regulate developmental initiatives in close vicinity of streams and rivers. Appropriate legislative interventions would be required for formulating a policy in this regard and firm executive action in accordance with letter and spirit of this policy would be required to ensure compliance of the same."* **Nothing was done about this recommendation.**

September 2012, Okhimath, Rudraprayag Similarly in Sept 2012, Okhimath in Rudraprayag District (another of the epicentres of current tragedy) saw monsoon induced landslides killing 69 people among other damages. The state DMMC report of this tragedy in Oct 2012 made a number of recommendations to reduce the risks of landslides in landslide prone state, one of them read, *"Use of explosives in the fragile Himalayan terrain for infrastructure developmental works introduces instability in the rocks and therefore use of explosives should necessarily be banned."* And *"This provision would automatically ban habitation in the close proximity of seasonal streams and rivers. In case people are already residing in such areas provision has to be made for their timely relocation."* **Again nothing was done about these recommendations.**

In fact Rudraprayag has faced monsoon related major disasters seven times in last 34 years, including in 1979, 1986, 1998, 2001, 2005, 2006 and 2012, each involving death and destruction.

If implemented, these recommendations could have saved many lives. Each of the hydropower project in the state involves blasting on a massive scale, but there are no regulations in place about this, even after clear warning from State DMMC.

Geological fault lines ignored Prof KS Valdiya, an honorary professor at Bangalore's Jawaharlal Nehru Centre for Advanced Scientific Research, said the heavy loss of life and property in the deluge was a result of "criminal oversight" over the decades of the state's geological features and water channels by various authorities. These features are well-mapped and documented. But engineers and builders choose to overlook them, said Valdiya. The geologist identified four major ways in which constructions flouted scientific norms. First, he said, the seismic fault-lines of this earthquake-prone state were not kept in mind while building roads (and other infrastructure). "These tectonic fault-lines, which are active and see back-and-forth movements, have been cut in many places by roads. More dangerously, roads are built along

the fault-lines at many places. As a result, tiny seismic movements in the fault-lines weaken the rocks at the base of the roads, making these stretches susceptible to cave-ins and slides,” Valdiya said.

The second area of rampant neglect, he pointed out, was drainage. “I have never seen road engineers provisioning for draining out all rainwater that can possibly enter the stretch. Where one to two metre bridges are required, they build small culverts. At places where drains have been provided for, these are usually filled with debris.” Buildings have been constructed over old drains and streams, blocking the natural pathways of rainwater, he said. “One of the reasons for the devastation at Kedarnath was that people had constructed houses **on the stream of the Mandakini river that had been dry for decades. When the river returned to its old course following the deluge, these constructions were washed away**,” he added.

Valdiya said another type of transgression, similar to the previous one, was construction taking place on river flood ways. A flood way is the area covered by the river at the time of its biggest flooding in the past 100 years. “In places along Alakananda/ Ganga such as Karnaprayag and Rishikesh, constructions have taken place on the lower terraces which are part of the flood way. Sooner or later, water would get to these places,” the expert said.

Prof K S Valdiya: “I have never seen road engineers provisioning for draining out all rainwater that can possibly enter the stretch. Where one to two metre bridges are required, they build small culverts. At places where drains have been provided for, these are usually filled with debris. One of the reasons for the devastation at Kedarnath was that people had constructed houses on the stream of the Mandakini river that had been dry for decades. When the river returned to its old course following the deluge, these constructions were washed away”.

Lastly, Valdiya said roads have been built over the debris of previous landslides because it’s costlier to build paths higher up on the hills where the rock is firmer. “Sadly, **the department geologists are often no more than rubber stamps**, okaying everything the engineers say. Independent geologists are never consulted,” he said. “Scientific engineering has very low priority in the state,” he lamented. Unfortunately, the state pays with human lives and huge property losses because authorities do not pay attention to basic scientific principles.¹ Prof Valdiya repeated many of these warnings when he spoke at Gandhi Peace Foundation on July 20, 2013 at a meeting organised by Uttarakhand People’s Forum, where Himanshu Thakkar of

SANDRP was also invited to speak on impact of hydropower projects in Uttarakhand floods.

Reports from Comptroller and Auditor General (CAG), India ignored: 2009 CAG Report

CAG performed an audit of Hydel Projects in Uttarakhand and concluded that:

- “Audit scrutiny of project records revealed that no specific measures had been planned/ designed in any project to cope with the risk of flash floods. The adverse consequences of such floods are acute as they can not only damage the project structures but can cause loss of life in low-lying down stream areas. Civil construction in projects is required to factor in this natural threat. Also the bigger the project, the greater should be the efficacy of the preventive measures.”
- “Given the current policy of the State Government of pursuing hydro-power projects indiscriminately, the potential cumulative effect of multiple run-of-river power projects can turn out to be environmentally damaging.”
- “Negligence of environmental concerns was obvious as the muck generated from excavation and construction activities was being openly dumped into the rivers contributing to increase in the turbidity of water. The projects seemed oblivious of the gross negligence of environmental concerns.”
- “The plantation activity was highly deficient, as 38 per cent of projects reported hardly any plantation; posing severe hazards both for natural ecology and stabilization of hill slopes”.
- “Audit analysis revealed that, negligence in applying appropriate construction norms and structuring the project without appropriate technical counter measures may expose projects to enhanced seismic vulnerability”.

“In conclusion, the above also shows inadequate construction practices being followed by project developers who failed to cater for such eventualities which are common place in the region. Additionally, it also highlights the ineffective monitoring by the GoU and the nodal agency

¹ <http://timesofindia.indiatimes.com/india/Geologist-explains-why-Uttarakhand-tragedy-was-man-made/articleshow/20780742.cms>

as a result of which the slapdash approach of the project authorities towards project execution has gone on unchecked”.²

CAG report on Uttarakhand Hydro power projects in 2011 again repeats many of these warnings, but none of them were heeded.

2013 CAG Report on Disaster Management in Uttarakhand In April 2013, a CAG report said that Uttarakhand State Disaster Management Authority, (SDMA) which was formed in Oct 2007, has never met till date. Nor has it mandatory “rules, regulations, polices or guidelines”, first step for the authority to have functional existence.

Doppler Radar not installed Several equipment like Doppler Radars, which were approved by Government of India as well as Indian Meteorological Department were not installed by the State Government. This was because of lack of coordination between National Disaster Management Authority, India Meteorological Department and Uttarakhand government.³

CAG on Uttarakhand Hydro: “Audit scrutiny of project records revealed that no specific measures had been planned/ designed in any project to cope with the risk of flash floods. The adverse consequences of such floods are acute as they can not only damage the project structures but can cause loss of live in low-lying down stream areas. Civil construction in projects is required to factor in this natural threat. Also the bigger the project, the greater should be the efficacy of the preventive measures.”

WII recommendations ignored The report of the Wildlife Institute of India in 2011 recommended that at least 24 hydropower proejects in Bhagirathi-Alaknanda basin should be dropped, but MoEF, Uttarakhand government, Expert Appraisal committee of MoEF have all been ignoring this recommendation.

Expert committee on Uttarakhand glaciers As noted earlier in this issue, the Expert Committee on Glaciers formed by the Uttarakhand government in their report in Dec 2006 made a number of short and long term suggestions including monitoring of the

glaciers, formation of five study groups and action plan. Unfortunately, none of these recommendations were implemented.

Recommendation of National Mission for Sustaining the Himalayan Ecosystem This report of this mission document⁴ under India’s National Action Plan on Climate Change was supposed to take a number of measures that would have helped reduce the damages significantly in current disaster. For example under “Enhanced implementation of guidelines for Priority Action” it listed: “A comprehensive inventory of key pilgrimage sites in each State would be drawn up, which would include analyses of the ecological capacity of each site, based on its location and fragility.” The document noted the recommendation of the Chief Ministers’ conclave in Oct 2009 that recommended among other recommendations, “the need for evolving methods for comprehensive impacts of projects at a basin-level”. However, no action was taken on any of these recommendations even as over half of the the NAPCC’s implementation period (2009-2017) is over.

Consistent advocacy and protests related to impacts of dams on hydrology, communities ignored Numerous organisations, notably the Matu Jan Sangathan, Himal Prakruti, Ganga Avhan, SANDRP, People’s Science Institute, individuals like Prof G D Agarwal, Bharat Jhunjunwala, have been raising questions about the impact of unbridled hydel power development in Uttarakhand. Their concerns have gone largely unaddressed and ignored.

Bigger than Uttarakhand disaster? It is amazing to see this consistency of Uttarakhand in ignoring all these warnings and recommendations. There is of course no hope for any accountability here. What is even more disturbing is the fact that over a month after the disaster, there is not even a begining of thinking of an course correction in terms of rethinking what was happening before the disaster including the hydropower projects. There is no movement in this direction on the part of Uttarakhand government, central government or even media. This means we are happy with the risk of more such disasters, but refuse to learn anything from this disaster. This may turn out to be bigger disaster than the one Uttarakhand just saw.

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² http://www.cag.gov.in/html/cag_reports/uttranchal/rep_2009/pa_cont.htm

³ <http://www.indiatogether.org/2013/jun/gov-disaster.htm>

⁴ Available as draft document: http://www.dst.gov.in/scientific-programme/NMSHE_June_2010.pdf, accessed on July 24, 2013