

INDIA'S MAN MADE FLOOD DISASTERS

Why we are not bothered about accountability?

Look at the contours of the disastrous consequences of the current Orissa floods in Mahanadi River basin: According to Engineer in Chief, Water Resources Department of Orissa, this is the worst floods in Orissa since 1982. 41.33 lakh people of 19 districts including the worst affected Kendrapara, Jagatsinghpur, Puri & Cuttack have been affected, 8 lakh in 740 villages are cut off from the rest of the world, over 2 lakh people are evacuated, hundreds are feared killed. Over 15 lakh ha of cropped land is submerged, destroying all the crops on those lands, destroying the possibility of next crop in most of those lands.

Now let us see what caused this flood disaster? According to the Aug 2007 Report of the High Level Committee on Hirakud Dam appointed by Orissa Government, safe level of flow in Mahanadi at Mundali barrage (located at the delta end of the Mahanadi river basin) is 10 lakh cusecs (cubic feet per second). This means that if the flow in Mahanadi at Mundali is below 10 lakh cusecs, there won't be any flood disaster in the lower Mahanadi districts. The disaster started this year on Sept 19, when by 0900 hours, flow at Mundali was already at 13.83 lakh cusecs. This flow increased to 15.81 lakh cusecs by 1200 hours on Sept 20. It remained above the safe limit of 10 lakh cusec till 0900 hours on Sept 23, by when the flow had reduced to 7.84 lakh cusecs.

So what caused such high flows? Part of the explanation lies in high rainfall in the lower Mahanadi basin area in Orissa brought by the Tropical Storm 2 formed over the Orissa coast on Sept 16, but the real story lies in the upstream. Upstream on Mahanadi River, as the river enters Orissa from Chhattisgarh, there is a huge dam called Hirakud Dam. This dam was releasing huge quantities of water throughout the high flood period in Orissa. The releases from Hirakud were 4.63 lakh cusecs at 1200 hours on Sept 19, 7.91 lakh cusecs on Sept 20, 5.72 lakh cusecs on Sept 21, 3.79 lakh cusecs on Sept 22 and 1.13 lakh cusecs on Sept 23. At each stage, when the flow in Mahanadi River at Mundali was above the safe limit of 10 lakh cusecs, if the releases from Hirakud were subtracted from the flow at Mundali, the remaining flow at Mundali comes down below 10 lakh cusecs. (All the figures quoted above are from the Orissa government websites.) So it is clear that if Hirakud had not made releases during this period, the flow at Mundali would have been below the safe limit of 10 lakh cusecs (even after taking into account the time that water takes to travel from Hirakud to Mundali) and there would have been no flood disaster in Orissa, in any case, the flood would have caused much, much less damage.

So then why did Hirakud dam operators made such high releases from the dam, creating the disaster described above? Well, for the simple reason that the dam was already filled to the capacity by Sept 18, 2008. The Full reservoir level of the Hirakud dam is 630 feet and the dam was already at that level on Sept 18. After the dam reaches full level, the dam operators have no option but to release all the water that flows into the dam. So from Sept 18 onwards the Hirakud dam operators released all the water that was flowing in.

But Hirakud dam is one of the few dams of India where flood control cushion has been provided in its storage capacity. In fact, as the report of the Hirakud High Level Committee notes, "Hirakud Dam Project is primarily planned for flood control/ management." The idea is that the flood cushion portion of the storage should not be filled right till the end of the monsoon. By filling up the reservoir to full capacity before the end of the monsoon, the dam operators have destroyed the flood control role of the Hirakud dam and thus brought an avoidable flood disaster on the poor people of coastal Orissa districts. This disaster could have been avoided or hugely reduced, had they operated the dam keeping in mind the flood cushion role of the reservoir and made

substantial releases from the dam before Sept 18, when the flow at Mundali was way below the safe limit of 10 lakh cusecs.

Shockingly, ever since Aug 1, 2008, when the rules for the operation of the Hirakud Dam for the current year became relevant, the dam operators have kept the water level at the Dam way above the recommended level.

For example, on Aug 1, 2008, the recommended water level at Hirakud dam was 590 feet (this is the dead storage level of Hirakud dam), but the actual water level on that date was already way high at 607.5 feet. On Aug 13, 2008, the water level was 618.5 feet, against the recommended level of 606 feet. On Sept 10, 2008, the water level was 627 feet, just three feet below the full level, when the recommended level was 623 feet. And by Sept 18, the dam was full to the brim.

This year's Kosi flood disaster in Bihar is also proved to be a man made disaster, entirely due to the neglect of the government of India and the government of Bihar. The flood disaster in Subarnarekha basin in Jharkhand, W Bengal and Orissa in June 2008 was also due to the wrong operation of Chandil reservoir in Jharkhand. In fact, incidents similar to those this year had happened in 1982 and 2002 at Hirakud and it seems no lessons have been learnt from those disasters. The unprecedented 2006 floods in Surat were also entirely due to the wrong operation of the Ukai dam on Tapi River, upstream from Surat in South Gujarat.

Unfortunately, no dam operator ever gets punished in India for wrong operation, and so they are simply not bothered to follow the rules. It is high time we form credible norms for fixing accountability of the dam operators, else we will be inviting more such disasters in the age of climate change, where conditions for such disasters would be more frequent.

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