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Lead Piece

INDIA'S MAN MADE FLOOD DISASTERS

Why are we 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.

A detailed account appears in this issue of *Dams, Rivers & People* as to how this disaster happened only due to wrong operation of the Hirakud dam. 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. The dam operators should also have kept in mind the fact that the rule curve is outdated due to huge siltation in the reservoir.

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. A detailed account of this also appears in this issue of *DRP*. The flood disaster in Subamarekha 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, as we had shown in 2006 itself.

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.

SANDRP

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ORISSA FLOOD DISASTER

WRONG OPERATION OF HIRAKUD DAM RESPONSIBLE
THE DISASTER COULD HAVE BEEN AVOIDED / REDUCED

From the History books:

"The Hirakud project is a work which will not cause more misery to the people but it will bring about an end to their miseries".

Prime Minister Jawaharlal Nehru on April 12, 1948,
while laying the foundation stone for the Hirakud Project

"Sage Valmiki, author of the immortal Epic Ramayana, in his own unique way, declares that people who always sing praises in sweet and soft language are easily found, but those that give, or listen to, wholesome but unpleasant advice are rare… it (the Hirakud project) will not bring about the anticipated miraculous transformation of the province but… would bring about bankruptcy of the province of Orissa."

Chief Engineer (Mysore) M G Rangaiya in August 1947

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. 20 lakh people of 2960 villages in 110 blocks and 870 gram panchayats in 17 districts including Kendrapara (18 embankment breaches), Jagatsinghpur (16 breaches), Puri (4 breaches) & Cuttack (30 breaches) have been affected, 15 lakh are marooned, 1.8 lakh people are evacuated, hundreds are feared killed, embankments have breached at 78 places by 3 pm on September 22, 2008. 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.

The Full reservoir level of the Hirakud dam is 630 feet and the dam was already at that level a day before the flood disaster started in Orissa. After the dam reaches FRL, the dam operators have no option but to release all the water that flows into the dam. So the Hirakud dam operators released all the water that was flowing in.

Now let us see what caused this flood disaster? According to the Report (Aug 2007) of the High Level Committee on Hirakud Dam (HLCH) appointed by Orissa Government (see: http://www.dowrorissa.gov.in/NEWS/Hirakud%20HLC/HirakudHLC.htm), 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 did reduce there after, but 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.

The 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 HLCH 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 destroyed the flood control role of the Hirakud dam and thus brought an avoidable flood disaster on the people of coastal Orissa districts.

So what caused such high flows? Part of the explanation lies in high rainfall in the Mahanadi basin area in Orissa, but the real story lies in the upstream. Upstream of Mahanadi, 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 (see: (see: http://www.dowrorissa.gov.in/FLOOD/DailyFloodBulletin.htm). 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 flow at Mundali comes down below 10 lakh cusecs. (All the figures quoted above are from the Orissa government's daily flood bulletins.) 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 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 not keep this in mind when they knew that the releases from the dam are creating the worst flood disaster in Orissa since 1982, creating all the damages described above? Well, for the simple reason that the dam was already filled to the capacity by Sept 18, 2008. The Full reservoir level (FRL) of the Hirakud dam is 630 feet and the dam was already at that level a day before the flood disaster started in Orissa. After the dam reaches FRL, the dam operators have no option but to release all the water that flows into the dam. So the Hirakud dam operators released all the water that was flowing in, and in fact on Sept 20, they were releasing *more* water that the inflows into the reservoir.

The story so far seems very straight, logical. The problems start now. 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 HLCH 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, which is in the first week of Oct. 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.

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.

Moreover, ever since Aug 1, 2008, when the rule curve for current year came into operation, the Hirakud dam operators have kept the water level at the Hirakud Dam way above the rule curve recommended for the dam, which is currently supposed to be followed.

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 this year 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.

Moreover, ever since Aug 1, 2008, when the rule curve for current year came into operation, the Hirakud dam operators have kept the water level at the Hirakud Dam way above the rule curve recommended for the dam. The rule curve itself is outdated in view of the siltation of the reservoir, making it all the more imperative that the water level in the reservoir should be kept *below* the level recommended in the rule curve.

In fact, similar incidents had happened in 1982 and 2002 and it seems no lessons have been learnt from those disasters, says well known flood expert Dinesh K Mishra of *Barh Mukti Abhiyan*. The 2006 flood in Surat was 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 no bothered to follow the rules.

Need for reassessment In fact, considering that a significant portion of the live storage capacity of Hirakud has already been silted up, there is need for a review of the 1988 rule curve of the Hirakud dam operation (currently supposed to be followed), so that the reduced live storage capacity is reflected and the levels are appropriated adjusted for the various dates. Here it may be noted that when the Hirakud dam was commissioned, the dam filling was supposed to start only on Sept 1, as against Aug 1, as per the rule curve adopted in 1988. As HLHC has noted, "As per the original project report (1953), the reservoir was to be maintained at Dead Storage level to utilize the full live storage space for flood control up to 1st September and impoundment was to commence thereafter for filling up to full reservoir level by the end of October." It is clear from the experience of this year, as well as the experience of earlier years after 1988, that the 1988 rule curve needs a review as it is leading to greater flood disasters.

Dubious Data of CWC Here it may be added that the Central Water Commission (CWC) of the Government of India has been using completely outdated figures of reservoir capacities. For example, for Hirakud, while the HLCH has said that the live storage capacity of Hirakud in 2007 was down to 4.647 Billion Cubic Meters (BCM) (down from 5.818 BCM at the time of start up in 1957), CWC's reservoir storage website (http://www.cwc.gov.in/Reservoir level.htm) says the Hirakud's live storage capacity is 5.378 BCM. It is also shocking to note that CWC's flood forecast site for the first time (during the current phase) mentioned the Mahanadi floods only on September 19, 2008, *after* the news was already out in the media. What is the value of such forecasts of CWC?

Will those responsible be held accountable? The Orissa government needs to answer to the people of Orissa and the nation, why this shocking manmade disaster was allowed to happen and what it would do to ensure that those who are responsible for the wrong operation of the Hirakud dam are held accountable? The minimum that needs to be done is to institute a credible, independent enquiry with suitable open ended terms of reference into the role of operation of Hirakud dam in inviting flood disaster for Orissa. The enquiry should also go into the issue of scores of breaches of the embankments. It should hold the responsible officers and ministers accountable and recommend the quantum of exemplary punishment.

In the meantime, it is the duty of the government of Orissa to ensure that proper relief, compensation for all the losses and resettlement is provided to the affected people in a dignified manner. Orissa government won't be doing a favour to the people in doing that, it would be their duty to do that.

(An edited version appeared in Tehelka, Oct 3, 2008)

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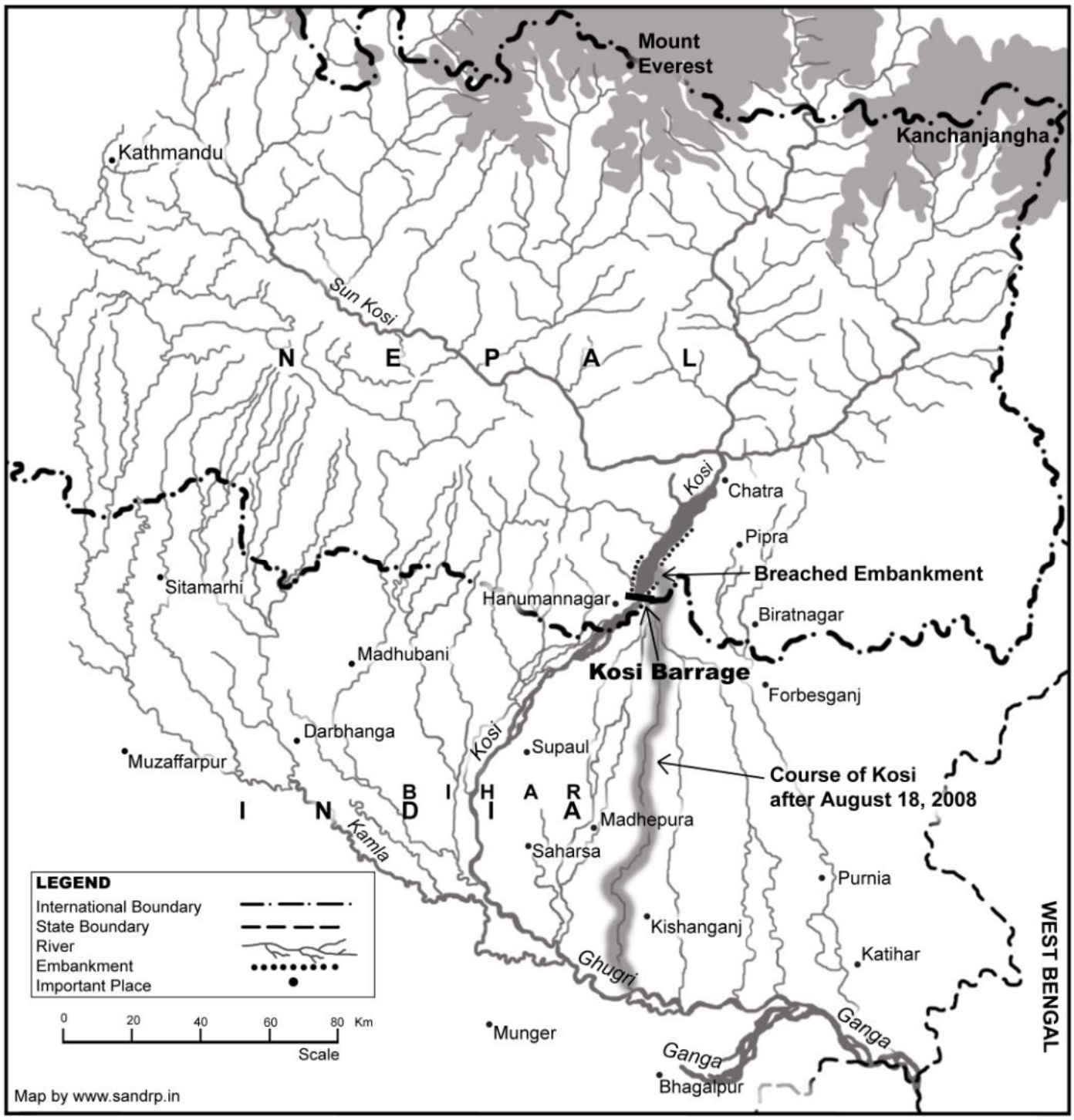
Kosi's Man made tragedy: Blunder after blunder



The Kosi river basin in Bihar is facing its biggest flood disaster ever in Independent India, and that disaster has come about completely due to the neglect of the Government of India and the government of Bihar. It is a manmade disaster which could have been avoided.

Amidst the din of 'national calamity, catastrophe and river changing course', about two million people are facing forced submergence and displacement. The governments of India and Bihar are going about the relief work as if it is a favour they are doing for the people. That favour is being doled out in a totally haphazard, unplanned, callous way.

For immediate relief it is important that those being brought out from the waterlogged areas be given cooked

food for at least two days. There should be planned settlements for such people, with arrangements for shelter, fuel, fodder, medicines, hygiene etc, as they are likely to have to stay at these places for up to two months. The affected people need not be considered as victims as is the case now, but should be involved in the whole exercise. Two million people cannot be resettled by outsiders. And in the comparatively lax law and order situation of Bihar, the responsibility of the state and the Centre increases considerably in ensuring dignified relief and resettlement.

The Kosi river basin in Bihar is facing its biggest flood disaster ever in Independent India, and that disaster has come about completely due to the neglect of the Government of India and the government of Bihar. It is a manmade disaster which could have been avoided.

Here it should be noted that as per the Bihar government's figures, over 40 lakh people have been affected, out of which about 10 lakh were evacuated and about 3 lakh are staying in the relief camps, which too were getting dismantled after mid October. As a petition in the Patna High Court by Parivartan and others asked, what about the people who were not evacuated and who are not in camps? Are they getting any relief? The High Court, on Oct 17, asked the state govt file urgent responses by Oct 21.

The centre itself a guilty party in the breach, did not institute any inquiry to identify and punish the guilty and when Bihar instituted an inquiry, the centre said the state has no role. The Bihar government wrote back to the centre, saying that it can go to the Supreme Court if it wants to, but the inquiry commission would continue to function.

In the relief effort, another very important aspect seems to be totally ignored. Most (about 85 per cent) of the 1.5 lakh cusecs (cubic feet per second) of Kosi water is flowing through the breach in the embankment that started with a small, few metres-wide breach on the eastern side, 12.9 km upstream of the barrage in the afternoon of August 18. This water is flowing through three of the 15 old streams of the Kosi river, namely Sursar, Mirchaiya and Belhi, says Dinesh Kumar Mishra, possibly the most well-informed person in India on Bihar floods, from his camp at Khagaria. This water entered an area that does not have the capacity drain so much water. People had identified bottlenecks like the National High Way 31A, where it crosses Kosi River, where the culverts are silted up, but nothing is being done to remove such bottlenecks.

Vijay Kumar of Nagrik Pahal, Patna, says an urgent assessment is needed to identify the bottlenecks in the drainage of this water into the Kosi river at Kursela, and assess what viable steps are possible to remove those bottlenecks. For, the longer the water remains in this zone of flooding, more damaging would it be for the people and the state. Similarly, it is important to ensure that the Kosi is able to drain out its water into the Ganga. But the Ganga has been flowing above the danger mark at Sahibganj (Jharkhand) and Farakka (West Bengal), as per the Central Water Commission's (Government of India) flood forecasting site for almost two months now and is further rising. Efforts would have to be made to see how this can be reduced.

Coming to how this all started, let us look at some facts. The barrage on the Kosi river, just before it enters India in Supaul district of Bihar from the upstream Sunsari district of Nepal, was built under the 1954 Indo-Nepal Treaty. The responsibility for the proper operation and maintenance of the barrage and the embankment on both sides of the river is the Government of India's. In the afternoon of August 18, when the embankment breached, the flow of water was about 1.44 lakh cusecs, when the embankment and the barrage are supposed to have a designed capacity of 9.5 lakh cusecs. The fact that the embankment breached at such a low flow compared to the design capacity speaks volumes about the silt accumulation on the Kosi riverbed and about the abysmal state of maintenance of the embankment and about the accumulation of silt between the embankments. The statement from the Indian embassy in Kathmandu that Nepal did not cooperate in ensuring timely maintenance is adding insult to the grave catastrophe. Indian government won't accept that they were sitting over procedures and not taking urgent steps to ensure that *all necessary* steps are taken to stall the breach of embankment. But that is the case in reality.

The monsoon in this part of Bihar starts in early June. And the repair and maintenance of the embankment is supposed to be completed before the onset of the monsoon. So it is clear that firstly, the maintenance be done by the required date and the Government of India could have ensured, at least for the sake of the two million people of Bihar and Nepal in the risk zone, that all measures were taken to ensure timely maintenance was done by June. That was not done.

Moreover, the pressure on the breached site on the embankment was apparent from August 5 onwards. Even at this stage, if the Government of India had used

all its powers to ensure proper maintenance, the disaster could have been averted. That too was not done.

When the news of the breach broke on August 18, the governments in Delhi and Kathmandu could have woken up to see that the water flowing out of the breached portion cannot re-enter the Kosi river since the river is embanked at least 135 km downstream from the site of the breach. That water was bound to take the path of least resistance, and the possibility of it going into the old Kosi streams was the strongest. However, neither government woke up even on August 18.

Thus, precious time was wasted. If the government had woken up on August 18, then a more planned evacuation was possible and most of the lakhs of people marooned today would not be there.

It is clear that there has been a series of grave and criminal blunders that have led to this disaster of huge proportions. The trouble is, even now we do not know who people are whose neglect caused this disaster, and going by our track record we may never know who they are.

The flow of the Ganga River remains obstructed due to Farakka Barrage, downstream from Kursela, where Kosi meets Ganga. So as long as the water level at Farakka remains high (which is the case most of the days during monsoon), Kosi would find it difficult to drain its water into Ganga River.

the Kosi River has to drain its water into the Ganga

Among other things, the prime minister after visiting the area declared that resources would be made available to repair the breach in the embankment. The government may even succeed in doing that and bringing the Kosi back to its pre-August 18 course. But we must remember that the bed level of Kosi all along the embanked portion of about 150 km has risen, and there is no way this embankment strategy can go on for long. The frequency of such disasters would only increase in the years to come.

Repair and Maintenance of the Kosi Embankment As per the Indo Nepal Treaty of 1954 (amended in 1966), the responsibility of repair, maintenance, operation of the Kosi Embankment in Nepal is that of the Government of India. Let us see how this was not done by the various due dates.

- **March 31, 2008** In the first place, since Kosi is a glacier fed river, the flow in the river increases with the onset of summer. Hence, ideally the work should be completed well before March 31, 2008. *This was clearly not done.*
- **June 2008** The repair and maintenance work should have been completed at least by the onset of monsoon, which is around mid June in this area. *This too was not done.*
- **Before August 5, 2008** The work could have been done even during the monsoon. *This too was not done.*
- **Between Aug 5-18 2008** The first signal about the pressure on the breach point came on Aug 5, 2008. The repair and maintenance, if taken up with due urgency, could have been taken up even during this period. *This too was not done.*
- **Between Aug 18-22 2008** Even when the news of the breach first came on Aug 18 afternoon, if the responsible agencies in Bihar or Union of India government has woken up about the implications of the breach, and alerted the communities that were to be threatened, a lot of the damage could have been reduced. Here it should be remembered that once the embankment breached and water started flowing out from the breach, that water would not be able to get back to the river, since about 150 km stretch of the river downstream from the breach is embanked. The water, as is its nature, found the path of least resistance, which was likely to be some of the old streams of Kosi River.
- **After Aug 22, 2008** The concerned authorities needed to do a lot of things on urgent basis after Aug 22, many of which were not done. For example, assessing the bottlenecks in draining the flood water and ensuring that this is drained out as soon as possible. Similarly taking a referendum among the people, if the breach should be plugged and so on.

The Terms of Reference of the Judicial Commission clearly indicate that this is a political move. While the TOR included the period 1991-2005, when the Rashtriya Janata Dal, the political opponent of the current Bihar Government lead by Janata Dal (Secular) was in power, the TOR does not include the latter phase of 2005-2008 when the current govt has been in power.

Here it should also be remembered that the Kosi River has to drain its water into the Ganga River. Now the flow of the Ganga River remains obstructed due to Farakka Barrage, downstream from Kursela, where Kosi meets Ganga. So as long as the water level at Farakka remains high (which is the case most of the days during monsoon), Kosi would find it difficult to drain its water into Ganga, and this back water effect of Farakka barrage increased the duration of flood disaster in Kosi basin in Bihar.

Who are responsible for the neglect? There is no doubt that the Kosi disaster is a man made disaster, which happened because of the neglect of the maintenance of the embankment. So who all were responsible for the maintenance of the embankment?

- Union Govt: Under the Indo Nepal Treaty, it is the responsibility of the Govt of India to maintain the barrage and the embankment on Kosi in Nepal.
  - ✓ Union Ministry of Water Resources
  - ✓ Central Water Commission
  - ✓ Ganga Flood Control Commission, a sub-ordinate office of the Union Ministry of Water Resources
  - ✓ Kosi High Level Committee, chairman of the GFCC is ex officio chairman of the KHLC. It is the responsibility of the KHLC to assess each year what maintenance work is required, and ensure its timely and proper implementation. The GFCC and KHLC have clearly failed in its duty, as has their reporting authorities in Union Ministry of Water Resources and Central Water Commission. The current (Oct 2008) chairman of the CWC was the chair of the GFCC and KHLC during Feb 2007 to June 2008, and it is during this period (and upto Aug 18) that the neglect of maintenance has happened.

- Bihar State Govt: The Union of India has given the actual implementation task to Bihar Water Resources Department, which does not reduce the responsibility of the Union of India, but make Bihar govt also responsible for the neglect of maintenance.
  - ✓ The Chief Minister and other concerned ministers
  - ✓ Water Resources Dept
  - ✓ Engineer in Chief, Chief Engineer and down wards who were in charge of the maintenance.
- Nepal Govt: Under the treaty, the Nepal govt is responsible for providing logistics, labour and other such support and to the extent this was not provided, those responsible should be identified.

Bihar's Judicial Commission The Bihar government, on Sept 11, 2008 has instituted a one man judicial commission to enquire into the causes of the breach (see the box for terms of reference of the commission). Rajesh Balia, a former chief justice of the Patna High Court, formally began the probe Sunday, Sept 21, 2008. However, a controversy was created when the Union Water Resources Secretary wrote to the Bihar Chief Secretary, that Bihar has no *locus standi* in this matter; the matter is only between the governments of India and Nepal. This was indeed a strange move by the centre. The centre itself a guilty party in the breach, did not institute any inquiry to identify and punish the guilty and when Bihar instituted an inquiry, the centre said the state has no role. The Bihar govt wrote back to the centre, saying that it can go to the Supreme Court if it wants to, but the inquiry commission would continue to function.

TERMS OF REFERENCE:

BIHAR JUDICIAL COMMISSION ON KOSI

The State Govt is of the opinion that the causes of breach in 'Kosi Afflux Bund' in Aug '08, resulting in disaster in Kosi region because of change in the course of the river is a matter of definite public importance, which is required to be inquired by a Commission of Inquiry. Now, therefore, the Govt of Bihar has decided to appoint a Commission of Inquiry for making inquiry and performing the functions enumerated hereafter:

I. Whether there was any negligence by any individual, institution, Govt officials in preventing the breach in 'Eastern Afflux Bund' (EAB) in Aug 2008, causing change of course of river Kosi? The Commission shall also consider remedial measures to prevent occurrence of such disaster in the future.

II. Whether anti – erosion work on embankment of Kosi particularly Eastern Bund was completed by the concerned officials of the Govt of Bihar, before on-sent of monsoon season, 2008 and whether the recommendation made by the field Engineers of the State Govt of Bihar for undertaking major restoration work, on being accepted by Kosi High Level Committee, could have prevented breach in EAB?

III. Whether any follow-up action was taken by the Govt of Bihar during 1990-2005 for strengthening spur, Bund, dams & reservoirs commissioned in the year 1963, particularly after breach in Kosi bund, in July 1991, which led to public protest.

IV. Whether due to change in morphology of river Kosi, in the year 1979, due to occurrence of massive land slide inducing eastward slide of the course, was adequately taken care of for prevention of damages in future and whether the agency responsible for preparing flood proofing schemes took precautionary measures after satellite imagery showed that the river Kosi was flowing very close to the EAB?

V. Whether the High Level Kosi Committee constituted in the year 1978 made recommendations for restoration of spurs, construction of studs, edge cutting works etc. and whether the recommendation made by the Kosi High Level Committee was cleared by the Government of India and implemented by the Government of Bihar and whether the recommendation made by the KHLC was adequate to prevent breach of EAB?

VI. Whether at the time of clearance of Kosi Project in 1953, by the Central Water and Power Commission comprising of Sri Kanwar Sain, Chairman, CWPC & Dr KL Rao, Director, Dams, in CWPC, the Project was envisaged to provide temporary relief only for a period of 25 years & whether the Kosi Project was implemented in accordance with recommendation by the CWPC and its life was limited to a period of 25 years, with the benefit extending beyond 25 years, by developing technique of silt control and whether the Project envisaged in 1953, interalia, provided for construction of dam across Kosi, as well as some check dams across tributaries, to be followed in consequence of construction of Kosi Project, 1953.

VII. Whether the 1st & 2nd State Irrigation Commissions constituted by the Govt of Bihar have made any recommendations for strengthening of embankment, bund, spur etc. & if so, was any follow-up action taken by the concerned dept of the Govt of Bihar.

The Commission of Inquiry, headed by a retired high court judge shall inquire into the above and submit its report within 6 months from the date of notification.

However, it should be added that the Terms of Reference of the Judicial Commission, clearly indicate that this is a political move. While the TOR included the period 1991-2005, when the Rashtriya Janata Dal, the political opponent of the current Bihar Government lead by Janata Dal (Secular) was in power, the TOR does not include the latter phase of 2005-2008 when the current govt has been in power. The political nature of the terms, thus reduces the credibility of the commission.

At the proposed multi purpose Kosi High Dam, for maximization of hydropower and water supply functions, the water level in the dam has to be kept at the highest possible level. But for the most effective flood control, the water level in the dam should be as low as possible. Thus these purposes work against each other and flood control function always loses out. On every count, the Kosi High Dam Proposal would invite greater disaster.

No role for people? It is important, though not surprising to note that in the entire planning, decision making, construction, operation, maintenance and monitoring, there is no role for people in whose name the embankments have been created.

- Before the decision about the embankment is taken
- Before considering flood as a disaster
- During the phase of operation of the embankments
- Now when decisions are taken about the "repair" of the embankment is being taken….

WHY THERE IS NO ROLE FOR PEOPLE – IN WHOSE NAME ALL THIS IS BEING DONE - AT ANY STAGE?

What about the people trapped between the embankments? Over a million people are trapped between the Kosi embankments, they face the wrath of Kosi floods when the embankments do not breach, which is the case for 37 of last 45 years since 1963 when the embankment and the barrage work were completed. There has been no just and proper rehabilitation for them till date. They were marching in October 2008, demanding that the breach not be repaired till justice is provided to them.

Over a million people are trapped between the Kosi embankments, they face the wrath of Kosi floods when the embankments do not breach, which is the case for 37 of last 45 years since 1963 when the embankment and the barrage work were completed. There has been no just and proper rehabilitation for them till date.

- Nearly 10,000 people trapped within the two embankment of the Kosi demonstrated on 20th October before the Collector of Supaul for the step motherly treatment meted out to them for nearly 50 years. They are seeking justice and one of the demands that they are putting is not to plug the breach at Kusaha.
- As Dinesh Kumar Mishra says, "If there is any disaster management in the country, the space between the Kosi embankments is the best place to try it out in case the breach is plugged at Kusaha."

High Dam on Kosi would invite greater disasters The option of the proposed big reservoirs is also a false hope. According to the documents prepared right in 1937, when the big storage reservoir on the Kosi was proposed, that dam would silt up in 40-60 years, keeping in mind the silt carried by the river. By now the catchment is further degraded and the proposed dam would silt up in even less time. No economically viable strategy for desilting the river or the reservoir is available. So this is completely false hope.

- It will be an invitation to Greater disaster, considering the issues like: Silt, geology, seismic issues and other issues.
- It is interesting to note that those who were saying that the proposed High Dam on Kosi is the permanent solution, on being confronted, now agree that "it is the only long term solution" without specifying the length of the long term. This was indeed the situation at a meeting called by Barh Mukti Abhiyan and Asian Development Research Institute in Patna on October 17, 2008.
- The proposed dam is a flood transfer programme: It proposed to transfer the floods From Bihar to the submergence area in Nepal: People in Nepal asking, why should Nepal accept this?
- It should also be noted that the proposed dam is to be a Multi purpose project: Hydropower and water storage maximisation (Nepal would have much greater interest in these since these functions bring cash revenues for the upstream country, flood control won't) would work in contradiction with the flood control function (largely supposed to be for Bihar's interest, but the flood ravaged people are not going to have *any* say in the operation of the dam.) For maximization of hydropower and water supply functions, the water level in the dam has to be kept at the highest possible level. But for the most effective flood control, the water level in the dam should be as low as possible.

- In this regard, Experience with the operation of some of the other dams with flood control function would be educative: Ukai (2006), Chandil (June 2008), Hirakud (1982, 2002, Sept 2008). In all these (and many other) instances, the wrong operation of the dam was actually responsible for the floods. See the detailed story on Mahanadi floods this year in this issue.

The trouble is, no engineer has ever been punished in India for such wrong operations. It would be no different in case of Kosi, to expect the dam to help control floods would be an invitation to greater disasters.

Real Solutions So the perennial questions that the nay-sayers face: What is the alternative?

- INVOLVE people right from planning, decision making stages, under the principle of free, prior and informed consent of the people.
- Institute mechanisms (with participation of people) to fix accountability
- Adopt catchment or basin approach
- Protect local water systems, wetlands, forests, use groundwater during non monsoon months recharge aquifers during monsoon; create more systems where feasible.
- Flood forecasting, adaptation, preparedness, again with INVOLVEMENT of people
- There could be some role of local selective protection works, not large scale, basin level works.

Firstly, the government's notion that floods equals disaster would have to be given up.

Secondly, the water that flows through the Kosi does not fall on that river. It is the accumulation effect of rainfall and glacier melt along the whole of its huge catchment. That catchment would have to be treated at micro and macro levels. Wetlands, forests, local water systems, aquifers would have to be protected, their destruction stopped, and additional capacities created where possible.

Else, we might remember what Nepal Prime Minister Prachanda said after a visit to this area, one of his first tasks as PM, that the Indo-Nepal Treaty of 1954 was a historical blunder. That phrase actually applies to the whole embankment strategy.

Lastly, those calling the Kosi as the sorrow of Bihar need to know that the people living along the Kosi do not consider it their sorrow, but as their mother and worship the river like their mother. This rather stupid phrase was possibly coined by a British tax-collector who found it difficult to collect his quota of revenue from this area. Is it not high time we stopped using the colonial phrase for a river?

(An edited version appeared in Rediff.com in Sept '08)
SANDRP

The Kosi Project

Pathetic Balance Sheet

IRRIGATION

Eastern Kosi Main Canal

Promised Irrigation:		712 000 ha
Slashed Down Target (1975)		374 000 ha
Actual Irrigation:	2003-04	141 970 ha (19.94%)
	2004-05	91 560 ha (12.86%)
	2005-06	149 170 ha (20.95%)
	2006-07	124 130 ha (17.4%)
	2007-08	136 180 ha (19.13%)
Max ever:	1983-84	213 133 ha (29.93%)

Western Kosi Canal

Promised Irrigation:		325 000 ha
Actual Irrigation:	2003-04	13 750 ha (4.23%)
	2004-05	17 390 ha (5.35%)
	2005-06	21 620 ha (6.65%)
	2006-07	25 310 ha (7.79 %)
	2007-08	23 770 ha (7.31 %)

It is clear that neither of the canals have provided even a third of the promised irrigation. The western canal has provided less than 30% of the promised irrigation at the maximum. The eastern canal is performing at worse level of below 8% of the promised irrigation at the maximum over the last eight years.

Cost The Canal that was estimated to cost Rs 13.49 Crores in 1963 has consumed Rs. 1009 Crores till March 2008 and the construction still continues.

Flood Protection

Promised Protected Area	214 000 ha
(a) Land Waterlogged on the east of the Eastern Embankment	182 000 ha
(b) Land waterlogged on the west of the Western Embankment	123 000 ha
(c) Land permanently exposed to flooding / erosion/ sand casting between the embankments	110 000 ha
Sum of (a), (b) and (c):	415 000 ha

So on flood protection front, the conclusion is clear: in attempt to protect 214 000 ha, about double that land has been put at new and enhanced risks and damages. Moreover, the promised protection has not been achieved; the Kosi embankment breached at least eight times in last 45 years. It should also be noted here that a substantial part of the claimed protected area is included in the land water-logged on both sides of the embanked river. It is clear embankment has a flood protection measure has proved to be a disaster.

This year's flood has hit 5 districts, 35 blocks, 412 Gram Panchayats, 1026 villages, a population of 33.56 lakhs killing 162 persons and 767 cattle (Official Report 25th September 2008).

Dinesh Kumar Mishra

NEW PUBLICATION FROM SANDRP & PSI

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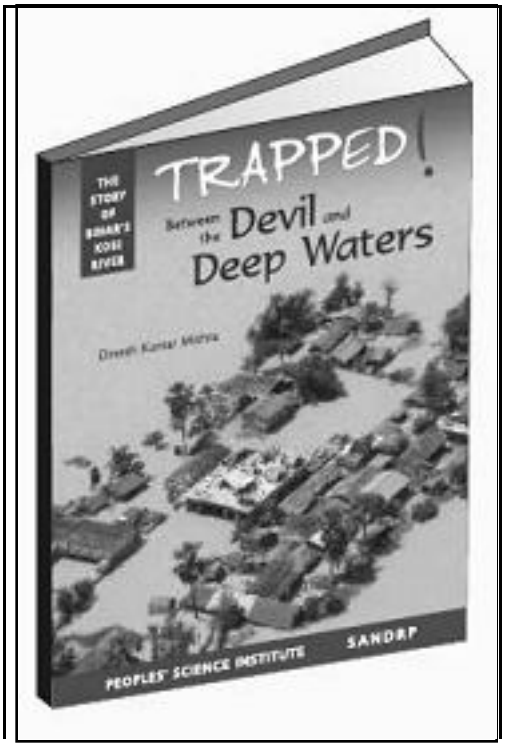

By Dr Dinesh Kumar Mishra

Published by: South Asia Network on Dams, Rivers & People and the People's Science Institute, September 2008, pp 224, Rs 595 (in India and South Asia), USD 40 (rest of the world).

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The Subject The Kosi floods in Bihar stunned the world this year. But the real tragedy is that the disaster had been predicted. It was simply waiting to happen. The Kosi embankments were completed in 1963 with a designed life span of 35 years. Successive Bihar Governments slept over this impending catastrophe!

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Authors: Marcus Moench & The DRR Study Team, Institute for Social and Environmental Transition, International Institute for Applied Systems Analysis (http://www.proventionconsortium.org/?pageid=37&publicationid=158#158)

Book Review

A Product of the World Bank's politics on BIG DAMS

Book *Indirect Economic Impacts of Dams: Case Studies from India, Egypt and Brazil*, Editors: Ramesh Bhatia, Rita Cestti, Monica Scatasta, RPS Malik, The World Bank and Academic Foundation, 2008, pp 371, Rs 995/-

There is no doubt that this is a very interesting book. The title, the profiles of the authors and first nine of the ten chapters give an impression that this is a book about economic issues related to big dams. An unsuspecting reader is likely to go away with that impression if the reader either does not read the last chapter or does not know a bit about the background history of the evolution of this book and the issues connected with it.

Thanks to chapter ten of the book, written by John Briscoe, the point man in the World Bank on the issues around politics for large dams over the last decade, it becomes clear that "the current book is an important part" in pushing for bringing back the Big Dams into the investment portfolio of the World Bank.

But thanks to chapter ten of the book, written by John Briscoe, the point man in the World Bank on the issues around politics for large dams over the last decade, it becomes clear that "the current book is an important part" in pushing for "re-thinking of the role of infrastructure in development", or in simpler language, in pushing for bringing back the Big Dams into the investment portfolio of the World Bank. That chapter actually provides hints how Briscoe and his team played a central role in ensuring that the World Bank does not accept the report of the World Commission on Dams (WCD) and in stead pushed for bringing back funding of big dams into the agenda of the World Bank. The whole story of how this was achieved by Briscoe and his team is out there in the last chapter, if read carefully.

It needs to be added however, that the World Bank (and everyone concerned with large dams) participated in and funded the work of the WCD right from its inception to the end and even follow up work, the World Bank President publicly said that the WCD process was the most unique, open, inclusive participatory and exemplary process in the entire global development history. The World Bank had promised that when the report is out it would ensure that the recommendations would be taken into consideration for adoption into its own policy. Unfortunately, after the release of the WCD report in November 2000, the Bank officials, armed with considerable clout of the institute, actually went around the world lobbying with some of the vulnerable developing country governments to ensure that the governments speak up in the Bank meetings against adoption of WCD recommendations.

Now this books makes it clear that the whole exercise of taking up the study of the indirect benefits of large dams has been initiated and funded by the Bank at huge expense (USD 75 000 per case study, see p 116), a large part of the work has been done by the World Bank staffers or consultants and now it has been published by them. In fact, this whole exercise was initiated soon after the WCD report was released in Nov 2000 and was aimed at countering the WCD report, as Briscoe accepts in this book.

Coming to the contents of the book, let us take them on their merit, for a moment forgetting the politics behind the study. Firstly, none of the four individual studies include comprehensive evaluation of all the economic, social and environmental impacts of the dams in their assessments; they crucially leave out most of the adverse impacts of the dams from their calculus. They only try and evaluate the indirect economic *benefits* of the dams, with a view to justifying the big dams.

But, this is clearly a biased exercise. The World Bank has already done many exercises in estimating the benefits of large dams. The gap in their work which actually requires more study is in estimating the impacts of social and environmental *costs* of these projects. This study is thus not helpful in filling the gap in the Bank's work.

Looking at the studies themselves, they are full of inaccuracies, exaggerations and omissions. To illustrate, the Bhakra study keeps claiming that the project generates 14000 Million Units power, when the average annual generation at the project over the last 23 years has been just 12000 MU. This is straight 16% exaggeration.

Looking at the studies themselves, they are full of inaccuracies, exaggerations and omissions. To illustrate, the Bhakra study keeps claiming (e.g. p 87) that the project generates 14000 Million Units (kilowatt-hours) power, when the average annual generation at the project over the last 23 years has been just 12000 MU. This is straight 16% exaggeration. Similarly, on the issue of irrigation benefits from the Bhakra project and the contribution of the Bhakra project in foodgrains

production of the region, the book is guilty of gross exaggerations and some basic errors. In fact, this book, published in 2008, could have hugely benefited from the fascinating account of the real performance of the Bhakra project through the 2005 publication *Unravelling Bhakra: Assessing the temple of resurgent India* by Shripad Dharmadhikary.

Dharmadhikary shows that in Punjab 43-46% and in Haryana 35% of all agricultural production is based on unsustainably mined groundwater. But the Bhatia-Malik case study in the book under review attributes no production to the groundwater depletion and thus erroneously exaggerates the contribution of Bhakra project. Bhatia-Malik fail to even refer to the Dharmadhikary's book.

Similarly, on the issue of irrigation benefits from the Bhakra project and the contribution of the Bhakra project in foodgrains production of the region, the book is guilty of gross exaggerations and some basic errors. Shripad Dharmadhikary shows that in Punjab 43-46% and in Haryana 35% of all agricultural production is based on unsustainably mined groundwater. But the Bhatia-Malik case study in the book under review attributes no production to the groundwater depletion and thus erroneously exaggerates the contribution of Bhakra project.

The Bhakra case study also claims that due to the Bhakra dam, Punjab and Haryana have achieved 100% electrification. However, the latest official figures (Ministry of Power) show that 5.74 lakh rural households of Haryana and 4.05 lakh rural households of Punjab are yet to be electrified. Here a quote from the autobiography of KL Rao, India's then irrigation minister, after a visit to the dam full 11 years after commissioning of the Bhakra project is educative: "The village of Bhakra on the bank of the river Sutlej was submerged. The Dam resulted in great suffering to the people of the village, but nobody took note of the people's representations. I found that the new village of Bhakra had neither drinking water nor electricity though surrounded by blazing brilliant lights." But the authors' account of the social impacts of the projects does not mention any of these and is on the contrary full of gross errors and omissions.

In conclusion, the book aimed "to go further than previous attempts, including the WCD Report, and evaluate… the 'direct' and 'indirect' economic impacts of dams". The authors have clearly failed to achieve that objective, largely because of their pronounced bias in favour of large dams. In fact the book *ends* up exposing the politics played by the World Bank in ensuring rejection of WCD report by some of the countries and in pushing large dams.

Such gross errors and omissions put question marks over the credibility of the multipliers and other conclusions that the book arrives at.

Ok, to strike a *balance*, let us look for some bright spots. The study of the Bunga dam, (the only study of a smaller dam in the book) in Northern India does show that it achieved a multiplier (multiplier is defined as a ratio of net direct and indirect benefit over only direct benefits of the project) of 1.41, which is *higher* than the multiplier of 1.22-1.4 achieved by Aswan dam of Egypt, both Bunga and Aswan are subjects of case studies in this book. This assessment in fact helps to negate Briscoe's contention that smaller projects necessarily have "smaller indirect benefits than large dams", the comparison of performance of Bunga and Bhakra won't be appropriate for the inaccuracies in the Bhakra study.

The Aswan study is slightly more detailed than Bhakra case, but since it uses a different unit of land (feddan), it does not help, the book should have used uniform units. The last study in the book, on the Sobradinho and the cascade of dams in Brazil estimates higher multiplier, but is likely to be a result of some distortions; the limited length of this review won't allow further elaboration here. This study agrees that the project had negative distributional impacts, "local communities suffer the adverse impacts for project whose main benefits are appropriated by industries and urban area dwellers" located far away. The description of the adverse social impacts in this case study should also be an education for the authors of other two large dam case studies.

In conclusion, the book aimed "to go further than previous attempts, including the WCD Report, and evaluate… the 'direct' and 'indirect' economic impacts of dams". The authors have clearly failed to achieve that objective, largely because of their pronounced bias in favour of large dams. In fact the book *ends* up exposing the politics played by the World Bank in ensuring rejection of WCD report by some of the countries and in pushing large dams.

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(An edited version of this article appeared in www.businessworld.in in October 2008)

Gundia Hydro Electric Project: Issues of contradictions and contentions

(Synopsis: The proposal to set up a 400 MW capacity hydro electric project in evergreen forests of Western Ghats in Hassan district of Karnataka has met with a lot of opposition from the locals and environmentalists. The Detailed Project Report of the proposal poorly backs up the project with many contentious issues. The Public Hearing on environmental issues on 26.7.2008 at the project location was a stormy one with many people vehemently opposing the proposal. When a manipulated minutes of the public hearing was sent by the District Commissioner, strong protest letters were sent. This article highlights many contentious issues of the proposal.)

Preface The Western Ghats in Karnataka are the source of about 30 small and major rivers including Cauvery, Tunga, Bhadra, Sharavaty, Netravthy, Hemavathy etc. and are the main sources of water in the plains, in addition to being the life line of people of the state. In this scenario any more destruction, submersion and fragmentation of the Western Ghats will be suicidal, and hence any additional hydro electric project is not in the best interest of the people of not only Karnataka but also of the entire South India. Western Ghats are also an important and sensitive ecological area in the world, and already several hydro electric projects, mining, road and rail have destroyed these unique forest ecosystems reducing the natural forests. It is very pertinent to note that any Environmental Management Plan (EMP) as may be proposed by project developers will not be able to compensate the loss of bio diversity.

The project proposal The proposal is to set up two hydro turbines of 200 MW each and use the stored waters of few rivers and streams including the river Gundia in thick rainfall forests of Western Ghats in Sakaleshapura Taluk, Hassan district in Karnataka. The Detailed Project Report (DPR) prepared by Karnataka Power Corporation Ltd. (KPCL) contentiously says that the project is to be developed as a run-of- river scheme but also to be used for peak load support. A cursory look at the costs mentioned in the DPR indicates that the costs are very high compared to the meager benefits of 400 MW of peak load and annual energy of 1,136 MU at annual Load Factor of only 32.42%. The costs of forest destruction and that of R&R of the Project Affected Families, which have not been included in the cost estimate, themselves may push the overall cost of the project to a high level.

The issues

1. Whereas the generally accepted norms require an effective cost benefit analysis for any project of such societal importance, no such analysis has been shown by KPCL. Without such an analysis the DPR has failed to demonstrate that the proposed project is the best solution available to the society in the present circumstances.
2. A cursory look at the costs mentioned in the DPR indicates that the costs are very high compared to the meager benefits of 400 MW of peak load and annual energy of 1,136 MU at annual Load Factor of 32.42%. The costs of forest destruction and that of R&R of the Project Affected Families, which have not been included in the cost estimate, themselves may push the overall cost of the project to a high level.
3. The societal value of the thick rain forests of highly sensitive Western Ghats alone, which are proposed to be submerged, itself may be many times more than the project cost of Rs. 1,200 Crores.
4. The annual revenue to the forest department from this forest itself may be more than the monitory value of the energy estimated from the project. In addition, the real value of the livelihood it is providing to the locals, the value of herbs, of water source etc. will be very huge.
5. Some of the value additions the thick rain forests of Western Ghats can provide are: Production of oxygen; Control of soil erosion & maintenance of soil fertility; Recycling of water and control of humidity; Sheltering of animals, birds, insects & plants; Control of air pollution.
6. I understand that as per an indirect estimate of value of forests by Mathur and Soni in 1983 it is about 1.27 Crores per hectare per year. With about 490 Hectare of forests to be submerged under this project, the total value loss per year itself would work out to be about Rs. 620 Crore per year.
7. The value of annual energy production by this project @Rs. 1.27 per unit works out to Rs. 144 Crores. Even if we consider the replacement value of hydel energy by gas energy @ Rs. 4.00 per unit, the value of annual energy production by this project works out to be about Rs. 450 Crores. The economic value accruing to the society from these forests, hence, is much more than the projected revenue from the electricity generation.
8. Whereas the revenue from a live forest is much more than quantified above and is perpetual, the energy production from the proposed hydel station is only for a limited period say, 50 years.
9. Because of this simple economic analysis alone the project appears to be unacceptable to our society.
10. Whereas the National Forest Policy stipulates 33% forest cover of the land for a healthy environment, Karnataka's and national forest cover is understood to be below 20%. Hence the proposal

to submerge 490 Hectares of thick rain forests of highly sensitive Western Ghats will be against the letter and spirit of the said National Forest Policy, and hence should not be acceptable to our society.

11. KPCL, as project proponents, has not considered any alternative to this project in order to meet the electricity demand of the state. Even if we agree for a minute that there is electricity shortage in the state, the first thing any company /organization would do under such a situation is to analyse all aspects of the situation. One should ask the question why there has been shortage: whether the existing infrastructure including the generating stations is being put to maximum use; identify all the relevant issues; study various options available etc. If the officials care to analyse the situation objectively the following issues will become crystal clear.

- The Transmission and Distribution losses in Karnataka have been very high of the order of about 28% against the international norms of less than 10%; if these losses are brought down to 10% there will be virtual addition of more than a thousand MW to the available power; this will be more than treble the capacity addition possible through the proposed project;
- As of today the total available power for the state from various sources, including the share from the central sector is about 8,000 MW (as per MoP website). If this capacity is used to the optimal level, as per Central Electricity Authority (CEA) norms, a peak hour demand of more than 6,500 MW can be met. But the peak hour demand met for the year 2005-06 was reported as 5,600 MW only. This shows that the infrastructure including the generating stations is not being put to maximum use.
- Similarly, the annual energy deficit reported for the year 2005-06 was less than 1%. Even if we take the unrestricted demand into consideration, which was not very high during 2005-06, the same for the reason mentioned above was easily avoidable;
- There is huge scope for adopting various efficiency improvement measures like Demand Side Management (DSM) and utilization at users' end. As per the Planning Commission the peak load can be reduced by more than 10% at the national level. The replacement of even 50% of all the incandescent lamps in the state by CFL can result in the reduction of about 1,000 MW of peak hour demand, and about 1,500 MU of energy demand per year. This can be achieved without any expenditure to the state if the cost of replacement is passed on to the consumers in small installments.
- The agricultural loads in the state, which are consuming about 38% of the total electrical energy of the state, are known to be wasting about 50% of this consumption which is techno-economically avoidable. Efficiency improvement in this sector alone can release about 19% of the total energy of the state for productive purposes, which is hidden in the system.
- It is also a well known fact that the potential for the saving in non- agricultural loads in the state is huge. As per the Planning Commission such savings can be more than 20% of the total energy being consumed at the national level. At the state level this comes to about 15 to 20 % of the total energy sold in the state.
- The potential available in the state for harnessing the new and renewable energy sources is immense. As per conservative estimates provided by the Ministry of new and renewable energy sources, more than 12,000 MW of production capacity is feasible from these sources. Solar energy potential alone is immense and is known to be capable of meeting all the energy requirements of the state.
- In summary, an objective analysis of the present scenario of the electricity industry in the state will reveal that the deficit that has been experienced in the state for many decades is just due to the gross inefficiency in the system, and generally not due to the shortage in generating capacity.

12. Without objectively analyzing all these issues and without taking the best course of action most suitable to our state, if the state encourages additional dam based stations it will not only lead to gross wastage of our natural resources, but will also lead to serious environmental degradation and to many serious social problems.
13. The state is already having about 50% of the total power availability through hydro capacity. So even from the system operation point of view this additional hydro power station is not essential.
14. All these issues clearly establish that the ideal solution to the artificial power deficit being faced by the state is not going to be the blind addition of dam based power stations.

Taking all these facts into consideration the energy experts of the state are of the view that such dam based power stations are not in the best interest of the state, and hence should be rejected. The Western Ghats in the state, which are identified as one of 12 mega biodiversity area of the world by UN, have already been subjected to massive abuse in the name of various so called 'developmental projects'. Most of the hydro electric projects of the state (about 3,000 MW out of a total hydel capacity of about 3500 MW) are in Western Ghats. The destruction, submersion and fragmentation of the Western Ghats due to hydel projects alone have been so massive that its sensitive ecology has been irreversibly damaged.

The following are additional concerns expressed by a retired IFS officer on Rapid Environmental Impact Assessment (REIA) / Environmental Management Plan submitted by KPCL.

- The legal status of forest land (774.26 ha) and grass land (107.21ha) as stated in the DPR are not clear. It should be mentioned either as Reserved Forests or as Revenue lands. Land value differs for each category. If it is a RF then compensatory afforestation has to be done in non- forest lands of equal extent identified by government. The cost per ha is about Rs. 50000. This has to be paid by KPCL to Forest department.
- In addition, environment value at the rate of Rs 124 lakhs per ha has to be paid by the beneficiary to government.
- Supreme Court has fixed forest value/growth (Net present value) for tropical Evergreen forests like that of Gundia Reserve Forests at Rs 9.2 lakhs per ha and has to be paid by the beneficiary to government.
- No forest land will be released for rehabilitation purposes (KPCL has earmarked 5 ha for this purpose) as per recent guidelines of GoI.
- There is no identified safe site for land fill, as it is expected to dump about 36 lakh cum of rock muck and there is no comment on their impact. 40 ha of forest area are indicated as required but the government of India has made it clear that no forest land should be used for such activity.
- The project site is covered on all sides by protected areas, like Pushpagiri, Brahmagiri and Kudremukh sanctuaries and therefore movement of wild animals like elephants will be expected. If their corridors are blocked, the man animal conflict, crop damage etc will increase. Therefore it is **not insignificant** as indicated in the REIA.
- Rehabilitation and Resettlement cost has to be included in the project cost for calculating Benefit / Cost ratio. The project affected families may accept money as compensation but may encroach other forested areas and therefore equal extent of land from non forest areas may be considered for resettlement.
- Green felling in forest areas are banned by government and therefore it is not possible to earmark 1 ha of forest every year for fuelwood, as indicated in DPR. The contractor has to provide alternate energy sources like gas, fuelwood depot, bio gas, wind energy etc. It is difficult to assess the real impact of labourers as several other activities like shops, houses etc are bound to increase in the project area.
- The loss of forest cover as stated in DPR, is 1.93% in Sakaleshapur taluk only, and not the total forest cover after release.
- During the floral studies, only economically important timber species are considered and listed. The area is important for non-timber forest products including medicinal plants and detailed floral and faunal studies should be carried out.
- Western Ghats are an important and sensitive ecological area in the world, and already several hydro electric projects, mining, road and rail have destroyed these unique forest ecosystems reducing the natural forests. It is very pertinent to note that any EMP will not be able to compensate the loss of bio diversity.

The opposition for the project from the locals has been massive since two years. The detailed site survey has not been carried out due to the opposition from the locals. Many protest marches and meetings have been held. The local bodies are understood to have passed resolution opposing the project. Project area is located in the sensitive Western Ghats covered with thick forests; involves the loss of both forest land and cultivated land.

DPR says that the forest land does not contain any rare or endangered species of plants. It is unacceptable that such rich evergreen rain forest does not contain any rare or endangered species of plants. The Western Ghats have been damaged heavily in the last few decades and many of the plant species that have been eliminated in other parts of Western Ghats may be available in these forests.

The cost estimates does not include the rehabilitation & compensation for the loss of agricultural lands, and is without provision for compensation for the landless laborers, who depend on these lands and forests. There is no calculation of the perpetual financial /economical loss of revenue from the forests. The cost estimates in DPR does not include objective analysis of the total costs to the society.

Keeping in correct perspective all the above mentioned points, it is safe to aver that the proposed Gondia Hydro Electric project is ill conceived and it is not in the overall interest of the society. The concerned people are, therefore, demanding that the project proposal should be denied all clearances, including the environmental clearance.

People from various walks of life, under the banner of Malnad Janapara Horata Samithi, have opposed the proposed 400 MW (earlier installed capacity was 300 MW, has now been increased to 400 MW, without providing credible reasons for this increase) Gundia Overhead HEP at Sakleshpur taluk of Hassan district in the Western Ghats. The MJHS Convenor said Karnataka Power Corp is to set up a HEP across the tributaries of Netravati River. The project will comprise three major dams, 16 bunds, and a 21-km-long tunnel. Thousands of ha of forest and revenue land will be submerged. This will affect the environment of Dakshina Kannada, Hassan and Kodagu districts, which are benefited by the Netravati and its tributaries. Water supply to the

Netravati from its tributaries may stop, intensifying water scarcity in Dakshina Kannada district. MJHS charged KPCL with not disclosing all the necessary information about the project.

Table 1: Electricity Demand, supply and shortage in Karnataka

(Last 5 years)

	2003-04	2004-05	2005-06	2006-07	2007-08
PEAK POWER					
Demand (MW)	6213	5927	5949	6253	6583
Availability (MW)	5445	5612	5558	5811	5567
Shortage (%)	12.4	5.3	6.6	7.1	15.4
ANNUAL ENERGY					
Demand (MU)	36,153	35,156	34,601	40,797	40,320
Availability (MU)	31,145	33,687	34,349	39,948	39,230
Shortage (%)	13.9	4.2	0.7	2.1	2.7

(Source: CEA Website as on 21.10.08)

TABLE 2: Some salient features of the Gundia HEP components

Sl.no	Particulars	Yatthinahole Barrage	Kereholi Barrage	Hongadahalla Barrage	Bettakubri Dam	Hongadahalla Storage Dam
1	Project Place: Longitude	75° 43' 20"	75° 42' 44"	75° 42' 23"	75° 40'10"	75° 42'44"
	Altitude	12° 51'40"	12° 50'03"	12° 49' 29"	12° 47' 09"	12° 48' 00"
2	catchments Area (Sq.km)	60.50	27.00	8.50	36.60	47.50
3	coverage area (sq.km)	0.10	0.18	0.39	0.99	5.43
4	Average Inflow (Million Cubic Meter)	163	86	28	119.29	150
5	Barrage/dam model	Barrage Made from Soil and Concrete				
6	Length.(mts)	90	65	152.5	514	1090
7	Height (mts)	15	9	31.5	63	90
8	Average river depth (m)	742	757	716.4	681	745
9	Full Reservoir level (m)	750	765	745	740	830
10	Barrage / Dam Complete Height (m)	753	766	747	744.5	833
11	Storage Capacity(Million Cubic Meter)	0.356	0.025	1.91	21.71	132.33
12	Submerged Area (ha)	12.73	0.092	30.93	85.5	556.79

(Source: http://www.mjhs.org.in/controversialprojects.html)

Malenadu Janapara Horata Samiti is leading the agitation against the project for many years now.

A letter was sent on Oct 15, 2008 by me to the Deputy Commissioner, Hassan about the minutes of the environmental public hearing for the project held on August 6, 2008, "The Video cassette DVD copy of the proceedings of the above said meeting clearly establishes that there were very cogent, scientific and rational arguments against the project, whereas the views expressed by those who spoke in favor of the project were all in the nature of personal benefits without any community/societal concerns. But the minutes of the meeting has failed to notice this, but instead projected the proceedings of the above said meeting as though there was a preponderance of support for the project as against opposition. In this respect also the minutes have failed in their objectivity." Though the public hearing was originally scheduled for 26.7.08, it was actually held on 6.8.2008 at the proposed location of the project. This change was done without adequate notice to the concerned.

"The Video copy of the proceedings of the above said meeting clearly establishes that there were very cogent, scientific and rational arguments against the project, whereas the views expressed by those who spoke in favor of the project were all in the nature of personal benefits without any community/societal concerns. But the minutes of the meeting has failed to notice this, but instead projected the proceedings of the above said meeting as though there was a preponderance of support for the project as against opposition. In this respect also the minutes have failed in their objectivity."

The letter went on to state, "Keeping all these points in mind I would like to state that the minutes of the above said public hearing are not the true reflection of the proceedings, failed in its objective and hence should be rejected. Hence I would request you to re-issue the minutes in an objective way to correctly project what has been recorded in Camera."

Similar letters were sent to The Chairman, Karnataka Pollution Control Board, and the Expert Appraisal Committee on River Valley Projects at the Union Ministry of Environment and Forests, requesting the project be denied environment clearance.

Shankar Sharma (shankar.sharma2005@gmail.com)

BOOK REVIEW

Devastating Implications of displacement in the North East India

Interrogating Development: State, Displacement and Popular Resistance in North East India
By Monirul Hassain, Sage Publications, New Delhi, 2008

The title is remarkable, arresting for all concerned with *Development*, one of the dominant cults of our age. The subject of displacement in North East India is also very pertinent today and will remain so in the coming decades. The author is quite familiar with the subject and seems to be involved in these issues for over a decade. The book itself is a well researched effort, including a lot of data and also field visits. And there are not too many books on this subject.

All these ingredients should make the book a successful venture. Well, it indeed is mostly successful.

The book has its share of problems: referencing is improper some of the references cited in the book do not figure in the reference list; the book uses different spellings for the same words like Guwahati (without any explanation why this is being done), table 3.12 repeats as table 3.22, there is repetition of the analysis, etc. Most of these can be described as rather minor irritants and for some of these, publishers and the author are equally responsible.

The book is an effort at documenting the displacement caused by the various developmental and other projects in the North East and the responses from the various quarters to the displacement. The author achieves this very well. The story of displacement has mostly gone "unnoticed, unattended and unaddressed" and even "undocumented". The story of displacement is not just alienation from land, but also from livelihood, culture and community. And the common universal thread among them all is that there has been no example of just resettlement or rehabilitation for a single project. In fact the government has the legal power to displace people, that too through the colonial law of land acquisition act (the current proposal to amend it could make it worse), but no legal obligation to resettle or rehabilitate the people. Again the current proposed law on Resettlement and Rehabilitation is complete eye wash and totally unacceptable.

But the author does not stop at displacement and lack of rehabilitation. He shows that most such BIG projects fail to perform the task they were built to perform. Hence the author rightly says that it may be more beneficial to decommission projects like the Dumbur Hydropower project in Tripura since it is generating very little power and distribute the land thus made available among the tribals who were displaced due to the project. Another very pertinent issue raised by the author is that while the local people face adverse consequences in every case, they almost never get any benefits from the projects. Secondly, he has shown through figures how overwhelming proportion of the cost of displacement is paid by the tribals.

Similarly, he shows how wrong operation of hydropower projects leads to flood disaster in the downstream areas, which are completely avoidable. This is very relevant this year when the flood disaster was brought about in the Lakhimpur district in Assam in June, in which the sudden release of water from the Ranganadi dam played significant role, as highlighted by the Chief Minister of Assam. Similarly the author shows how embankment as flood control measure has failed in the North East, something that should remind everyone, even as the nation experiences the catastrophe in the Kosi basin in Bihar, due to the failure of the embankments.

The story of how 45 000 Mizo tribals were forcibly displaced in 1950s in the name of fighting insurgency reminds one of the Salwa Judum campaign going on in the Chhattisgarh today, which is disaster from every angle.

The author sees some hope in the action of Arunachal Pradesh government at one stage declaring that it will not allow any big storage based hydropower projects, in spite of the contrary wishes of the centre. He notes that the Arunachal govt had to go back on this decision, when it started signing slew of MOUs (Memorandums of Understanding) for large number of big hydro projects. More recently, the Chief Minister and Governor of Assam have declared their opposition to the big hydro projects in Arunachal Pradesh government, due to the flood fury that the downstream Assam faced in June 2008 due to the sudden release of large quantities of water from the Ranganadi Hydro project. However, it may be noted that water is state subject in India's constitution. Power is a concurrent subject, but as far as hydropower projects are concerned, state can decide which projects to take or not take. If Centre is getting away with imposing its wishes on unwilling states in spite of this constitutional arrangement, that is another big problem with our democracy. The author is hopeful that the "popular politics of New Social Movements will eventually lead to de-ethnicization politics of identity in the North East". That hope seems a bit far fetched though.

On the issue of democracy in development, the author notes, "There exists a significant deficit in the popular participation of citizens in Indian democracy". It must go down as one of the grand understatements of the book.

The book is a recommended reading for all concerned on the issue of development, particularly government officials and politicians at all levels.

SANDRP

Questions over Development Planning

A strong plea for district level policy planning

What is normally described as "development planning", has elements like – needs assessment, resource assessment, consultative strategic planning, and the outcomes expected – a "clear vision" in the plan, "specific, achievable outcomes and outputs within a given timeframe", "clear performance indicators", identification of target groups for each intervention, or each set of interventions", etc. seem logically to belong more to the realm of policy planning, than development planning.

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The whole process of development planning at district level has assumed immense complexity due to the absence of clear state policy in the first place. There is an immense lacuna in the policy framework at the states' and central level on a wide variety of subjects.

No state in India has, so far as we are aware, enacted a separate a Decentralization Policy, which establishes a functional linkage with all developmental sectors that local bodies are to be involved in. Many states still do not have a Water Policy, Forest Policy or Agriculture Policy. Not a single state in India has a Land Use Policy.

No state in India has, so far as we are aware, enacted a separate a Decentralization Policy, which establishes a functional linkage with all developmental sectors that local bodies are to be involved in. Many states still do not have a Water Policy. Many states – such as for example Uttarakhand, a hill state – do not have forest policies, even if their economy is to a great extent dependent on forests. Many states do not have agricultural policies. Not a single state in India has a Land Use Policy. The situation with respect to education, health, and other social sectors needs to be assessed. In fact, very little cumulative assessment has been done on the level and quality of policy making by states. Most 'development' seems to take place on the basis of 'programs and schemes' that keep getting repeated year after year, and modified incrementally, without much connection to clear policy frameworks. The absence of clear policy probably results in the iniquitous patterns of 'investments' in development. The data bases that exist with respect to most sectors of development also reflect the programs- and schemes-approach in development, rather than a law-and -policy approach to development. In the absence of policy [and supportive legal frameworks], such data bases also are devoid of vision, logic, authenticity or accountability.

Public participation seems to be expected only in the "planning" and implementation of 'schemes and programs'. In fact, even the Constitution of India clearly limits the role of local elected bodies to "planning and implementation of programmes and schemes for economic development and social justice" [Art 243G]. Yet, the situation on the ground – the vastness of development needs, the immensity of population, the bewildering variety of local environmental, social, economic and political conditions – all call for more than what prevails at present - the mere identification of programs and schemes locally, coupled with a highly prescribed and constrained model of 'participation' in implementation that most local government law provides for.

The dilemma arises from mistaking development planning for policy planning, or vice versa – how to combine the specifics of development planning with the strategic approach of policy planning? It seems that what we need is not integrated development plans at district level, but:

- state policy on all subjects with a district approach, to account for dissimilarities, with a sufficient level of integration of policy,
- or in the alternative, *district policies enacted at district level* on a wide variety of subjects, but at the same time achieving integration, facilitated by the consolidation of district funds.

This could be followed with developing appropriate, authentic and scientific data bases, and development

plans based on the information so derived, through participatory approaches. Needless to say, such a policy framework either at state level or district level, itself needs to be derived through consultative processes.

The above remarks emerge from the experience of our organization – the Development Centre for Alternative Policies- in attempting to evolve a Water Policy for Uttarakhand based on public participation. A conventional consultative exercise in mobilizing and consolidating public opinion from dispersed sets of stakeholders did not seem satisfactory, as some lacunae were observed.

It seems that what we need is not integrated development plans at district level, but: state policy on all subjects with a district approach, to account for dissimilarities, with a sufficient level of integration of policy; or in the alternative, *district policies enacted at district level* on a wide variety of subjects, but at the same time achieving integration, facilitated by the consolidation of district funds.

Firstly, the "representative-ness" of public opinion sought did not fulfill any stated norms- and is generally arbitrarily decided on the basis of time and financial resources available to the consulters or seekers of public opinion. As such, the totality of public opinion cannot be realistically achieved.

Secondly, and perhaps as a result of the first, the outcome is rarely successfully accepted by Government. Or, it is accepted in a truncated manner that often defeats the objectives of garnering public opinion for systemic reform. The lack of institutional strength of the public, specifically on a stakeholder basis, obstructs the development of bargaining power in policy making.

The outcome of the public consultation is rarely successfully accepted by Government. Or, it is accepted in a truncated manner that often defeats the objectives of garnering public opinion for systemic reform. The lack of institutional strength of the public, specifically on a stakeholder basis, obstructs the development of bargaining power in policy making.

Thirdly, and most important, such public consultations are inadvertently drawn into supporting centralized decision making on policy and legal frameworks, whereas in fact, the objective should be the decentralization of this exercise right down to the local level, in order to promote and strengthen political democracy.

Therefore, our conclusion was that policy making should reflect a bottom up approach, whereby policies are developed at the lowest level and cumulatively integrated at higher and higher levels, so that finally, the State level and National level policy will reflect the realities and needs on the ground. Such policies should progressively be adopted into law that empowers various institutions at all levels.

This concept was attempted to be implemented in a second phase, wherein Panchayat representatives from village, block and district level from 12 of the 13 districts of Uttarakhand were involved in informal groups to discuss and debate law and policy on water resources in Uttarakhand, and to attempt to draft district water policies. The year long exercise involved the collection and analysis of district data on water resources by the Panchayat representatives, and the preparation of draft district water policies. The following briefly summarizes the outcome of the exercise.

1. Given sufficient and appropriate capacity building, Panchayat representatives have shown that they are entirely capable of developing policy.
2. While the results were mixed in terms of quality of the draft, and extent of participation, 9 of the 12 district groups prepared draft district water policies, each containing a Background of the Water sector in the District, Goals, Principles, Objectives, Policy Measures and Strategies [in Hindi].
3. All the districts groups were unanimous in their finding that the district and state level data base on water resources was inadequate and did not reflect situations on the ground.
4. All the drafts included a policy measure of preparing a scientific and reliable data base through participatory processes.

This exercise was conducted on an experimental basis to explore and demonstrate PRI capacity for governance. More work is required to strengthen the exercise from all sides.

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POWERLINE QUESTIONS SANDRP ANSWERS

Strategy for Hydropower Development in India

For the October 2008 issue of Powerline magazine, the editors had asked questions to a few persons, including the SANDRP coordinator. Here are the Powerline questions and SANDRP response.

QUESTIONS: What should be India's strategy for the development of hydro power? Should it promote more dam-based storage hydro projects or opt for run-of-the-river hydro projects?

What are some of the issues (economics, environmental, etc) related with these two kinds of hydro projects?

Firstly we need to understand that Hydropower sector in India is under governed and under regulated. Whatever governance exists is in bad shape, with little by way of transparency, accountability or participation of the local people. This will need to be changed in a very big way.

SANDRP RESPONSE: Firstly we need to understand that Hydropower sector in India is under governed and under regulated. Whatever governance exists is in bad shape, with little by way of transparency, accountability or participation of the local people. This will need to be changed in a very big way.

The existing Hydropower capacities are under performing. We have analyzed generation from hydropower projects and found that 89% of the projects generate power at below the 90% dependability generation as promised at the time of clearances. And yet the developers face no consequences, all the costs are passed on to the consumers.

Moreover, over the last 15 years, the generation per MW installed capacity at all India level has dropped by about 20%. There is in fact a clear downward trend line. The cost per MW installed capacity is also increasing almost across the board. The cost of 450 MW Baglihar project now being commissioned is already over Rs 9 crore per MW. This is in spite of a large number of social and environmental costs not included at all or under estimated. These issues affect all kinds of Hydropower projects. Under the circumstances, the best strategy would be to address these issues, beginning with understanding why this is happening.

Specifically on storage based hydro projects, we need to ensure that the storage capacity loss due to siltation is minimized. Today precious little is happening on this on ground. So old capacity equal to about two thirds of the new storage capacity we are adding each year is getting silted up. Secondly, 26% of the monitored (by Central Water Commission) storage capacity does not get filled by the end of the monsoon each year on an average, based on last 15 years' figures, majority of these years had average or above average monsoon. Moreover, if we subtract the water already stored at the beginning of the monsoon, the effective use of the storage capacities come down by further 14%. We need to see how we can improve this performance. Studies show that if there is better coordination across the states at river basin level, the storage capacities can be better utilized. Lastly, 90% of India's existing storage dams do not have hydropower component. We need to explore what is the potential of adding hydro capacities at existing storages.

The poor appraisal affects not only the environmental and social aspects, but even the hydrological, geological, geomorphologic and river basin level aspects. Needless to add, the appraisals are silent or sound illiterate as far as climate change issues are concerned. This is proving to be very costly for the society; it would become even more scandalous in the days to come.

Poor appraisal of the hydropower projects is leading to underperforming hydro projects. The 1500 MW Nathpa Jhakri project and the 510 MW Teesta V are two prominent examples in this regard. Similarly lack of incentives for ensuring maximum peaking hours power generation from the operating hydropower projects mean that many of them are not prioritizing generation during peaking hours even when they can. Even the Central Electricity Regulatory Authority has noted this. This would be appalling in any other economy.

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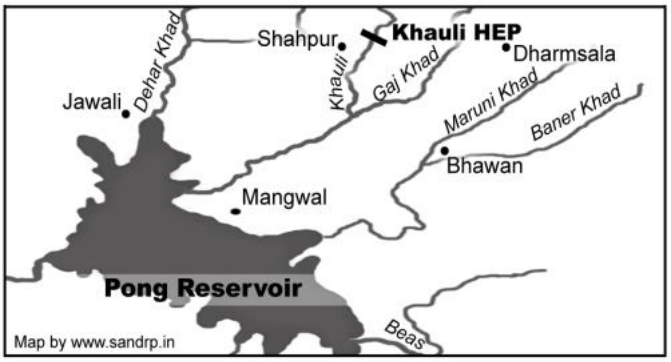
HYDRO PROJECTS



Khauli HEP cost overrun: Probe ordered The Himachal Pradesh State Electricity Regulatory Commission has ordered an inquiry into the huge time and cost overruns in 12 MW Khauli HEP. Retired chief engineer of the BBMB KK Khosla will conduct the enquiry and submission of report is scheduled within 60 days. Khauli HEP has been conceived as a run of the river scheme on Khauli, a tributary of Gaj Khad in the Beas basin in Shahpur Tehsil of Kangra District. At the project designing stage the cost was estimated as Rs 72.07 crore at June, 1999 price level and date of completion was scheduled in March, 2004. The commission was forced to carry out investigations to determine the reasonable cost after the HPSEB filed a cost of Rs 146 crore for determination of tariff. The generation cost on its basis works out to Rs 7.23 per unit, almost double the average sale price of Rs 3.68 per unit. For the second time the commission has been forced to do so. Earlier, a similar inquiry instituted in case of the 126 MW Larji HEP had uncovered gross financial irregularities and serious shortcomings in the implementation of the project. (Tribune 170908, http://himachal.nic.in/finance/bud0203/ecosurv/eco7.htm#4 170908)

ISSUES ABOUT RIVERS

Drainage scheme at Singur The West Bengal Govt had taken urgent steps to care for the (now abandoned) Tata Motor car project site at Singur from water logging. In January 2008 in a meeting the state govt had decided to spend Rs 170 crore to expedite 35 years old the Ghiya-Kunti irrigation project which would channelise the accumulated water at the project site through the Ghia and Kunti rivers. The state commerce minister, Mr Nirupam Sen has clarified, "This irrigation project is not just for the Tata unit- it's for the low-lying region around it. It's a master scheme for the entire region." Before the 2009 monsoon the work was to be completed, it was assured. In the 2008-09 state budget Finance Minister announced that the State Govt has decided that a demand will be urgently made to the Central Govt for inclusion of Ghia-Kunti Basin Drainage Scheme under the Centrally Sponsored Programme, where the Central and the State Govs would share the expenditure for the project in the ratio of 75:25. (http://www.expressindia.com 200908, http://timesofindia.indiatimes.com 200908, http://www.wbfin.nic.in/2008-Speech2.htm 200908)

WATER SECTOR

Parliamentary Panel: why CPCB is incompetent The Parliamentary standing committee on science and technology, environment and forests has criticized that the Central Pollution Control Board is incompetent on its job because it is dominated by Central Govt nominated govt representatives and appointed without any fixed criteria. Out of the 15 members at present 12 of them hold additional charge. Of these 5 are Govt officials and 5 are nominated from the state pollution control boards. Committee also pointed out that CPCB works only at the pleasure of the Central Govt. (THE TIMES OF INDIA 221008)

INTER STATE DISPUTES

Punjab-Rajasthan Ghaggar water dispute Punjab has criticized the decision of Rajasthan on proposed Rs 101.69 crore scheme on Ghaggar River. In a letter Punjab has pointed out that the Bhakra Nangal Agreement (1959) prohibits it from utilising water from the Ghaggar River. The Chief Secretary of Punjab quoted from the agreement, "In consideration of the fact that the area of Rajasthan served by the Ghaggar River has been included in the project, Rajasthan shall have no claim whatsoever on the supplies of the Ghaggar River." The letter says during the third review meeting of the "Committee on Long Term Availability and Utilisation of Waters of Eastern Rivers" held by ministry of water resources in Nov 2006, Punjab has clarified its position. The chairman of the committee in that meeting has mentioned that it was up to the Ghaggar Standing Committee to take a decision on inter-state subjects. The chief secretary pointed this out at the meeting of secretaries taken by the cabinet secretary in July 2008 regarding the "Action plan on full utilisation of waters of western and eastern rivers flowing to Pakistan". He clarified that the flood control measures of Rajasthan on the Ghaggar had been approved by the Union Government in violation of the Bhakra Agreement. The chief secretary said in case Rajasthan wanted to utilise the Ghaggar waters, it should surrender its allocation of Sutlej waters under the Bhakra Nangal Agreement to the extent of the utilisation of Ghaggar waters done by it. (THE TRIBUNE 260908)

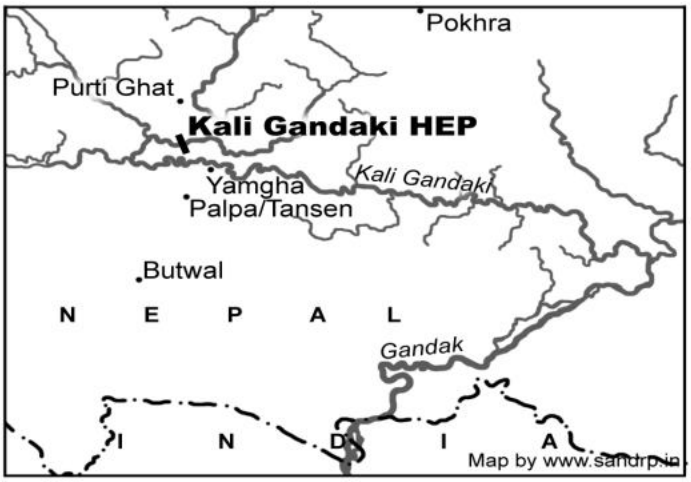
POWER OPTIONS

Agreement on solar power purchase Public sector power distribution companies of Jaipur, Ajmer and Jodhpur have signed a power purchase agreement with Reliance Industries Ltd for procuring electricity from its under construction 5 MW Solar power plant at Khimsar village in Nagaur district. Each unit selling cost has been fixed at Rs 15.78. According to agreement the power purchase rate would be Rs 3.67 per unit for ten years. 78 paise per unit will be paid by three discoms in accordance with a directive of the Rajasthan Electricity Regulatory Commission, the Indian Renewable Energy Development Agency will pay the rest i.e. Rs 11.33 per unit. The tariff and incentives will be paid to Reliance

only if its plant is commissioned by Dec 2008. The IREDA would pay the incentive of Rs 11.33 per unit for the first year of operation and reduce it by 4 paise per unit for each subsequent year. The agreement provides for an increase in the tariff by 4 paise per unit every year, enabling Reliance to get the same amount for each unit of electricity. (THE HINDU 170908)

SOUTH ASIA

Nepal Kali Gandaki 'A' HEP caused migration to India Bote youths of Darpuk located in Yamgha of Northern Palpa, Nepal are migrating to India looking for the jobs after the displacement from their ancestral fishing business. After the constructions of 144 MW Kali Gandaki 'A' HEP in Syangja District their economy is badly affected due to scarcity of fish in the river. The reason for such condition might be interruption of water flow downstream of the project and blockade of path of fish migration. A village downstream of the dam near the Kali Gandaki consists of nearly 75 Bote families only women, elderly people and children are left in the village.



A 44 m high dam with 3.1 mcm reservoir capacity the project was commissioned by Nepal Electricity Authority in January 2004. Total cost of the project was US$ 453 million out of which ADB has loaned US$160 million as loan. Government of Japan has also extended a loan assistance of same amount through the Japan Bank for International Cooperation. In an agreement in presence of ADB, the Nepal Electricity Authority and contractors of the construction works has agreed that to promote safety, NEA will install additional sirens downstream of the reservoir and powerhouse to warn people of sudden releases of water. In addition, NEA will release during the dry season 4 cumecs of water continuously from the reservoir, and 6 cumecs on religious holidays. (http://www.adb.org 200908, http://ueblacker.us/GEOTEC-1.pdf 220908, Kantipur Daily 180908)

AROUND THE WORLD

Japan Governor opposes dam Proposal of a concrete dam in Sagaramura on the Kawabegawa, the main tributary of the Kumagawa River, has been opposed by Mr Kabashima, Governor of Kumamoto Prefecture. The 330 billion yen project was originally announced 42 years ago. He expressed that people should shift from current flood-control measures that rely on Dams and said, "I believe the Kumagawa is a treasure that we should protect," The Kumagawa watershed area is rich in fish, represented by huge Japanese trout. Though, the quality of the stream is gradually deteriorating due to sewage and other dams that have been constructed along it. Keeping in mind all these factors the governor stressed the need to protect not only residents' lives and property, but also the Kumagawa's environment, which is the source of living. Kabashima apparently decided to oppose the dam project after taking into account local people's doubts about the efficacy of the project. Many residents believe water sluiced from existing dams that became full after torrential rains upstream have worsened flood damage in low-lying areas. In a report of 2006 by a group comprised of 10 prefectural governors have proposed comprehensive flood control measures that do not rely on dams. The measures included utilizing traditional methods such as encircling villages and farmland with embankments. Kabashima has proposed the concept of coexisting with floods, rather than trying to eradicate them. He said he will consider flood-control measures such as redirecting water that overflows from rivers to farmland and unused land. After Kabashima expressed opposition to the Kawabegawa Dam, the construction ministry adjusted its stance to consider alternative flood-control measures other than dam. (http://www.yomiuri.co.jp/dy/national/20080920TDY04304.htm 200908, http://www.yomiuri.co.jp/dy/national/20080912TDY02306.htm 120908)

New Guide on China's Overseas Dam Industry

International Rivers announces the availability of a new guide for concerned groups and dam-affected communities: *The New Great Walls: a Guide to China's Overseas Dam Industry*.

Chinese companies and financiers are key to hundreds of new dams around the world, particularly in Southeast Asia and Africa, but also in countries like Pakistan and Albania. With Chinese dam companies and financial institutions now outpacing their competitors overseas, we hope this guide will provide helpful tools for engaging with the Chinese dam industry on issues of social and environmental responsibility. With this guide, we address the question: what can communities impacted by these projects do to protect their rights, and advocate for rivers targeted for dams built by China?

The guide includes: A "who's who" among Chinese companies and financiers; Information about policies and commitments Chinese companies and financiers should follow; A map of China's major overseas dam projects; Analysis of the reasons behind the global expansion of China's dam industry; An action guide for how to address problematic dams built by Chinese companies and financiers, and who to contact for help. (http://internationalrivers.org/)

RNI No DELENG/2003/9562

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3. *Unravelling Bhakra*, Shripad Dharmadhikary, Manthan, 2005, pp 372, Rs 150/- (individuals); Rs 300 (institutions)
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5. *Water Private Limited* Manthan Adhyayan Kendra, 2006, pp 124, Rs 50/-
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9. *Conserving Raindrops a Much Better Option than Linking Rivers* by Bharat Dogra, pp 8, Rs 4/-.
10. *Alternative Power Planning: 20 Questions* Prayas and Kalpavriksh, Sept 2007 pp32, Rs 20/-
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7. *Bina Jaankari Kaisy Jan Sunvai?*, MATU (Delhi), 2004, p 32, Rs 15/-
8. *Kasbe Ka Paani* By Rehmat/ Mukesh Jat, Published by Manthan, pp 40, Rs 20/-
9. *Sudhar Ya Bazaar: Commodification of Water in MP by IFIs,* Manthan, pp 20, Rs 5/-
10. *Behtar Bijli Sewa ke liye Jagarukata aur Karyakram: Samuday ke liye agenda*, Prayas, 2008, pp 87, Rs 30/-
11. *Kosi Pralay: Bhayawah Aapada ki Aahat: Kosi Adhyayan dal ki report*, 2008, Ashoka Fellowships, Rs 100

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Alaknanda and Bhagirathi maps in DRP When ever I reach back to Nainital DRP volumes are on my table. Every time they give us new truths and information. June-July 2008 issue gives a very good map of hydropower projects on the Alaknanda and tributaries. Please attach both Bhagirathi and Alaknanda projects map to me. I want to use them in the lectures.

Shekhar Pathak, Pahar, Nainital

I thank you for a copy of *Dams, Rivers and People*, June-July 2008 issue. I went through it with lot of interest. I found the articles to be very informative and of much importance to the society from people's perspective. I appreciate your efforts in bringing out such an informative magazine on a regular basis. I wish the magazine all the success.

Shankar Sharma, Karnataka

Big irrigation projects in Andhra Pradesh Thanks to SANDRP for bringing out detailed reports on dam projects in *Dams, Rivers & People*. Many irrigation projects are taken up in Andhra Pradesh and the government is stating repeatedly that these projects of worth one trillion rupees approximately will be completed by next two years. Fortunately, the irrigation departments web site http://www.irrigation.ap.gov.in is very informative giving many details including latest quarterly projects progress. As per this website hardly 10% works are completed till last quarter. I request *DRP* to publish a detailed report on this subject exposing the government false claims.

N. Sasidhar, Andhra Pradesh

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