Dams, Rivers & People

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Lead Piece

Allain Duhangan HEP to get credits under CDM

The 75 million dollar fraud

Climate change is the buzz word for everyone these days and one of the most important efforts of the world in tackling this problem is supposed to be the projects taken up under the Clean Development Mechanism (CDM). The controversial 192 MW Allain Duhangan hydropower project (ADP) (under construction in Himachal Pradesh, India) is the largest among all the hydropower projects from all over the world registered to get credits under CDM. It is also slated to get the largest number of credits, at around 4.94 million CERs (Certified Emission Reduction credits). At the current market rate of around USD 16 per CER, the project is slated to get around USD 75 M in the name of reducing the impact of climate change. So what is the problem? The trouble is that this is complete fraud on the world. This project does not deserve to either be called clean or green project, nor does it deserve to get any of these credits. Let us see how.

But first let us understand what this is all about. The CDM projects are taken up under the United Nations Framework Convention on Climate Change (UNFCCC), following the agreement at Kyoto, Japan in 1997. The agreement than was supposed to be ratified by countries and the convention came into force when sufficient number of countries ratified it. The idea was that through this convention, the developed countries will have to achieve certain reduction in the emissions of gases that lead to global warming, compared to the level they had in 1990. In this effort, the developed countries can also fund projects in developing countries that will help reduce emission of such gases. The developed countries would get the credits for the reduction that would become possible through such funding. To certify if certain project qualifies for such credits, the UNFCCC was set up. The process of considering the projects for CDM started in mid 2004 and the first ever project was registered in Nov 2004.

UNFCCC has certain criteria that it follows to see if a certain project is eligible to get the credits. One of the criteria is that the project must be additional, that is, it would be unviable to take up the projects in absence of such credits. There were other criteria, if the project was employing a new technology and hence costs were high. Also if the project was making extra efforts to take care of the social and environmental impacts of the projects, it may require extra funding.

Now let us examine the ADP under construction in Beas River basin near Manali in this context. Here are some relevant dates in that regard:

⇒ 1993: The project developer signed the memorandum of Understanding with the HP govt.

⇒ 1996: The Environment Impact Assessment conducted

⇒ March 1996: The Central Electricity Authority (CEA) gives in principle Techno Economic clearance (TEC). This means that the project is economically viable.

⇒ Aug 2002: The CEA gives final TEC, following an application by the project authority in May 2001.

⇒ Oct 2003: The project was supposed to go to the board of the World Bank for approval for funding.

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This series of events spread over more than a decade, all before the UNFCCC started considering projects for CDM, shows that the developer was interested in this project well before the issue of CDM became a reality. Secondly it also means that the developer considered it a viable project. The developer also applied for and got the in principle and final Techno Economic clearances, without mention of necessity of CDM credits for making the project viable. Such projects are taken up in India (as elsewhere) without CDM credits. The ADP developer himself had taken up the Malana HEP in the nearby area without the CDM credits, completed it and declared that it was a very profitable project.

Here it is also interesting to know that ADP is India's first merchant hydropower project. This means that the project developer will not have any power purchase agreement with any electricity board or distribution company. It would rather sell the project based on short term contracts based on spot market prices. What this implies is that the project developer found the project so economically viable that he decided to forgo the relative safety of PPA and was ready to take up the risk of merchant sale. The project was thus more viable than most other hydropower projects that require PPA. This should again be a factor in disqualifying the project from consideration of CDM credits.

Moreover, in the Environment and Social Impact Assessment for the project done in May 2003, it is stated (page 7), "The project would be one of the cheapest sources of power generation in the Northern Region as compared to alternative of thermal and nuclear generation." Why should a project that is supposed to be the cheapest source of power, be even considered for CDM credits that are supposed to help make relatively unviable projects viable?

All this should prove beyond doubt that the ADP did not need CDM credits to make it viable and the project should have been failed on the additionality criteria. Unfortunately, that did not happen.

Let us look at a couple of other relevant issues here. If the project was using a new technology that would involve additional costs and risks, than again there is a possibility of consideration for CDM credits. Is this relevant in case of ADP? No, because the ADP is not using any new technology.

Next, is ADP taking any extra efforts to ensure that social and environmental issues are properly taken care of and the local people are also made beneficiary of the development project? Again the answer is BIG no. In fact, worse, the ADP developers have been found to be completely callous on social and environmental issues right from the time of assessing the impact and informing the people about the impacts of the project. In fact, in response to SANDRP's application under RTI, the Union Ministry of Environment and Forests has agreed that the project developers have been found to be guilty of scores of violations of the laws and have been fined for the same. At the local level, a strong movement has been ongoing against the project since the project consideration started in 2003.

Why then did this project got these fraudulent credits? Basically because UNFCCC has neither the mechanism to credibly assess the projects, nor the will it seems, to ensure that only eligible projects get credits under CDM. We have seen in our dealings with UNFCCC on several projects that this is not the only instance of its kind. What we have written about ADP is true for practically every hydro project that has been accepted for CDM credits. None is additional, none is using new technology, none is making any extra effort to address the social and environmental impacts and make the local people beneficiaries.

UNFCCC has basically two ways of ascertaining the eligibility of the projects for CDM credits. Firstly, there are the designated National Authorities. These are typically the environment ministry at the central level, which certifies if the project falls under the definition of sustainable development or not. The govts see CDM credits as free gifts and they are not interested in bothering too much (or rather at all) if the projects that are submitted to them are indeed sustainable or not. So this is practically a useless avenue for UNFCCC. Then there are supposed to be independent agencies called Designated Operational Entities. These are some registered global consultancy organisations that are supposed to act as validators and verifiers of the appropriateness of the projects. These are commercial entities and they can sustain only if they get more work for validation and verification. If they start becoming particular about appropriateness of the project, they would rather lose all business. Moreover, they know that UNFCCC has no way of cross checking whatever they write in their reports. So this has also proved to be a failed mechanism.

We (and many other individuals and organisations) have written to the UNFCCC about the serious nature of these problems. But this global organisation has yet to respond in a way that will inspire any confidence.

What this means is that under current circumstances, projects like ADP getting such sums like 75 million dollars for doing *nothing*, for projects that are positively harmful for the environment and for the local people, is fraud on the whole world. If this is how we are going to tackle climate change, there is no hope. Either for the climate or for the poor people who are dependent on the natural resources that would be affected by the climate change. Worse, the environment and the poor people are again asked to suffer in the name of tackling climate change.

SANDRP

DAMS

NO WATER IN KABINI RESERVOIR FOR CHAMALAPURA TPS

In an important development, the Karnataka Electricity Regulatory Commission held the second Public Hearing on the desirability of establishing 1000 MW coal based power projects at different locations in Karnataka, including one at Chamalapura, Mysore District. In the hearing on April 3, 2008 in Bangalore, Environment Support Group (Bangalore) deposed before the Commission and made a detailed written submission arguing that Chamalapura is an inappropriate site for the location of a thermal power plant.

The Kabini Reservoir has failed to meet even agricultural needs consistently over the past decade. Allocation of water to Chamalapura Thermal Power Project would aggravate the water stress and create multiple problems.

This Public Hearing is a part of the broader process initiated by the KERC based on the petition filed by Mysore Grahakara Parishat (Mysore Consumers Union) questioning the rationale behind siting TPS at Chamalapura & 3 other locations in Karnataka. KERC relies on its power u/s Section 86(2) of the Indian Electricity Act, 2003 to advise Govt agencies in such matters.

The first hearing was held on March 06, 2008. This was followed by a visit to Chamalapura by the members of the KERC on March 20, 2008. As with the March hearing, the April 03 hearing was also very well attended by farmers from Chamalapura & other affected villages, ecologists and energy experts, and social, consumer and environmental action groups.

In the hearing Leo Saldanha, Coordinator of ESG, strongly contested and questioned the Karnataka Govt's rationale for granting in-principle clearance to the allocation of 3.9 TMC (Thousand Million Cubic Feet) of water for use by three power plants from the Cauvery River Basin. Relying on data accessed from the Karnataka Water Resources Dept and the Cauvery Neeravari Nigam Ltd for the decade of 1997-2008, he demonstrated that the Kabini River (which is in the Cauvery Basin) simply does not have 1.56 TMC of water for the 1,000 MW Chamalapura power plant and its ancillary facilities. The situation would get worse if the project expanded its installed capacity in future.

This data was always available to the Govt, and if only any of its agencies had cared to review such information, the proposal could never have been advanced. The fact that the proposal has moved through various stages including a Global Invitation for Expression of Interest and subsequently Request for Proposal stages, is indicative of the cavalier approach that has been adopted in deciding critical issues of concern.

Presenting the inflow, outflow and utilization of water from the Kabini Reservoir, it was pointed out that over the past decade there has been a gradual decrease in the level of inflows into the Kabini reservoir. In addition there has been decreasing availability of water for irrigation of summer crops, including nil releases into the canal for irrigation during Jan - May in 2003 and 2004.

Water releases to power projects ought to be made from surplus available after meeting drinking water and agricultural needs. This principle would be fundamentally violated if the power project was advanced relying on waters from Kabini. The Kabini has failed to meet even agricultural needs consistently over the past decade. The Karnataka Govt's commitment of Kabini waters to the power plant would further aggravate the water stress in the region.

Any allocation to industry or infrastructure development from the Kabini would have disastrous consequences to wildlife populations, particularly in the Nagarahole National Park. Further, it would accentuate the distress amongst farmers downstream and also pollute and limit drinking water for Nanjangud, Mysore and Bangalore and other urban centres. This would result in the needless development of conflict between the project developer and downstream farming and urban communities.

The allocation of water for power plants from the Cauvery River basin in the context of highly contested claims to the rivers' waters from the riparian states of Karnataka, Tamil Nadu, Kerala and Pondicherry is also questionable.

Given that the Govt has committed to 85% Plant Load Factor for the power project, the serious impediments of not having water during the summer months would greatly increase the risk of the Govt abrogating its commitments.

Considering the widespread implications of this decision, the Govt should have been more transparent in its approach before taking a decision to call for international bids. Shockingly, the only piece of information that the Karnataka Govt and its agencies had shared with the public, especially affected communities, was the one page advertisement calling for EOI and RFQ. Clearly, this form of secrecy is not healthy.

ESG urged the Commission to strongly advise the Govt from moving ahead with plans for the Chamalapura power project and to initiate *suo moto* proceedings against the relevant agencies of the State for irresponsibly advancing a massive power project without in any reasonable manner surveying the required factors or assessing the impacts. (ESG PR 040408)

Displaced 85 years back, still fighting for R&R People displaced by (& the next generation family members) the Murum-Silli Dam, built 85 years ago, by Dudhawa dam 45 years ago, by the Gangrel Dam (this dam submerged 52 villages) 30 years ago and by Sondur dam 20 years ago sat together on road in hot summer days in Dhamtari in Chhattisgarh, demanding just rehabilitation promised to them. The over three thousand protestors were demanding land for land and sat in protest for six days. They demanded that for the 964 families about 5000 ha of land is required, but the govt said that the govt has only about 11 ha land for them, which the govt is ready to distribute! The affected people had protested before the collector office two months ago, when the collector had promised to provide land to them soon. The affected people have been active demanding their rights for many years and have met the former and current Chief Ministers in the past. (Deshbandhu 250308)

Hirakud, Rengali and Samal R&R still pending Rehabilitation of the population displaced by some of Orissa's big irrigation projects has hung fire for decades. On April 18, the Govt declared that rehabilitation of all those displaced by Hirakud, Rengali and Samal irrigation projects would be complete by Dec '08. Each displaced family would be given four decimal land. Four departments - Revenue, Water Resources, Energy and Forest - would meet within a fortnight to discuss all rehabilitation related problems so as to remove administrative bottlenecks. Revenue Minister who reviewed the dam displacement matter at a meeting said, all the districts collectors have been asked to hold grievance courts for oustees on forest Monday of every month. The collectors have to wrap it within six months. The villages earmarked for rehabilitating the displaced would be accorded revenue village status soon. In fact, the oustees have been demanding 10 decimal land each and State Govt is seriously considering their claim, the Minister said and added that the affected families should apply for compensation immediately so that they can get their due within three months. It is amazing that the govt has no sense of guilt for not resetting people displaced over five decades ago and is asking them to apply for resettlement now! (Indian Express 190408)

Bhakra displaced thirst for water The 200 families of Khulwi village, displaced for Bhakra dam over five decades ago, has no source of drinking water. People have to walk for five kilometers to get water from a stream. They can see the giant Govind Sagar reservoir from the top, but that water is too far for them. Some 15 standposts were set up for them many years ago, but water has never come to those stand posts. Same is the situation at the village school. (Dainik Bhaskar 230408)

Polavaram to displace 6315 persons in Orissa As per the information provided by the project authority to Ministry of Environment & Forests at the time of seeking environmental clearance, 6315 persons from Orissa are likely to be affected by this project. The area of Orissa likely to be submerged is 1200 ha. MEF has said that the Expert Committee of the MEF had examined this issue and suggested to provide rehabilitation and resettlement as per Andhra Pradesh Govt's Resettlement and Rehabilitation Policy 2005 which was better than National Policy on Resettlement & Rehabilitation 2003. The Ministry of Environment and Forest claimed that the Govt of Orissa did not raise any objection till the project was accorded environmental clearance. (PIB 210408)

SC directs MP to file details of land for Omkareshwar oustees The Supreme Court on April 7, 2008 directed the Narmada Hydro-Development Corp and the Govt. of Madhya Pradesh to produce details of agricultural lands to be given to the oustees of the Omkareshwar Project and to file the same by the 15th of April, '08.

These directions of the SC were given in appeals filed by the MP and the NHDC against the judgment of the MP High Court of 21st Feb '08, which directed the MP Govt. to allot land for land with a minimum of 5 acres of irrigated agricultural lands to each land-holder, adult son and encroacher family affected by the Omkareshwar Project. In the case filed by the Narmada Bachao Andolan, the High Court had permitted even those oustees who had been given cash compensation by the Govt. without offering them agricultural land as was required under the R&R Policy, to claim allotment of land on the return of 50% of the compensation amount.

The Govt. of MP and the NHDC had filed separate Special Leave Petitions against the HC judgment in the Supreme Court. The SC observed that the oustees should have been provided land so that they do not become paupers or landless after displacement. In response, the MP Govt stated that it was prepared to give land to the oustees, and that it had a land bank of 5000 ha in this regard. On hearing this, the SC directed them to produce the list of lands available for allotment to the oustees. Permitting the NBA to file its response, the SC set the date of next hearing on the 21st April '08.

The SC also observed that if the State had promised to allot land to the oustees at the time of the clearances to the Project, they could not retract from their assurance when the time to provide lands has come, and the dam is built. It may be noted that the MP govt had made a R&R Plan in 1993 wherein it had stated that it would obtain land from the 1.5 lakh ha command area of the Project to give to the oustees, with a minimum of 2 ha, to each landholding or encroacher family. This R&R Plan was approved by the Union Ministry of Welfare in 1993, and the Ministry of Environment and Forests and was required to be complied with five GOI clearances and several other binding legal agreements. The NBA welcomed the development, and stated that the people of the area and the democratic institutions will have to ensure that every eligible family is given a minimum of 2 ha of irrigable and cultivable land, well before submergence, as held by the Supreme Court in several cases. (NBA PR 070408)

NVDA admits it missed counting hundreds of oustees, but says it was technical mistake

The Govt of Madhya Pradesh's Narmada Valley Development Authority admitted that it missed counting hundreds of families affected by the Indira Sagar project on Narmada River in Madhya Pradesh as project affected, but is shameless in calling it technical mistake and funny thing is there will be no consequences for those responsible for these mistakes. Pradip Bhargav, Vice chairman of NVDA says, "Only 800 new families have come up in the survey… We agree it was a technical mistake… Anyway, with a jagged outline of submergence in such a topography, it's very difficult to be precise." (The Hindustan Times 060408)

SSP water to Rajasthan: Reality bites The reality behind the drama of taking SSP water to Rajasthan seems to be getting exposed now. The 50 cusecs water that was released is not able to go beyond 29 km length of the main canal and Rajasthan awaits the flow to increase to 100 cusecs. Rajasthan will have to wait at least year before it gets its share of 500 cusecs, as the siphons to be created for canal to cross the Khari and Banas Rivers are yet to be completed. The unfiltered water is presently being piped to a dozen villages for supply for animals. (Dainik Bhaskar 230408)

Case against 1898 farmers for stealing water The irrigation department in Mahoba district in Uttar Pradesh have filed a complaint against 1898 farmers of 11 villages for stealing water from Arjun Dam during the night on March 21-22, 2008. The water was reserved for drinking water needs during the summer. (Jansatta 010408)

Four Dams on Ghaggar Rover in Haryana The Haryana CM laid foundation stone for the Rs 118 crore Kushalya dam in the Pinjore block of Panchkula district on April 13, 2008, for supply of drinking water to Pinjore and Panchkula. Fisheries and tourism would also be developed at the dam on Koshalya tributary of Ghaggar river. It will store 13.68 MCM water. Three other dams proposed in the Ghaggar basin are: Diwanwala, Dangrana and Chhamla. (The Tribune 100408, 140408)

INTERLINKING OF RIVERS

MoWR misleading Parliament on ILR? The Union Minister of state for water resources, while answering a question in Rajya Sabha on April 29, 2008 said on interlinking of Rivers, among other things, "At present, no interlinking project under NPP is under implementation." However, it is well known that work on Polavaram Project is going on in Andhra Pradesh, which is part of the NPP (National Perspective Plan) under the Godavari-Krishna (Vijaywada) link. The Chief Minister of AP has been saying publicly that the work on the project is going on and hundreds of crores has already been spent. It seems that the MoWR is misleading the Parliament on ILR. (PIB 290408)

WATER OPTIONS

Basin approach in Saurashtra succeeds

The Aga Khan Rural Support Programme has adopted the river basin approach in Meghal river basin in Maliya Taluka in Junagadh district in Gujarat, one of the environmentally challenged regions to address the issues of water salinity due to sea water ingress, over use of ground water & dependence on forest. The river basin is formed by four streams: Lathodariya, Meghal, Brajmi & Kalindri. With a length of 45 km & catchment area of 58 sq km, Meghal River originates in the Kanada Dungur of Mendarda taluka & flows into the Arabian Sea at Chorwad. The basin supports the people of Maliya, Mendarda, Keshod and Mangrol talukas. The groundwater situation in the basin is very precarious.

Three-pronged approach was adopted here:

⇒ Spreading awareness and knowledge through basin-wide teams of villagers regarding the revival of streams. Strengthening of the village institutions at the sub village, village & supra village level for the implementation of the strategies with a pro poor focus. Emotional attachment for the rivers was used to ensure massive community participation across communities. Street plays based on traditional characters & folk songs were widely used.

⇒ Construction of various types of Water Harvesting Structures along with traditional Soil and water conservation measures. More than 140 big /small structures like check dams, percolation tanks, river deepening and widening undertaken.

⇒ Minimizing the use / withdrawal / effective use of GW by adopting improved irrigation devices, drips, sprinklers & change of crops. Promoting economically sustainable safe drinking water sources & schemes.

The interventions have been taken on a comparatively small scale but the result it has given is in terms of revival of the stream, increase in the GW level, increased productivity and income of the farmers and availability of quality drinking water.

The impact has been great. According to Jivanbhai Waljibhai Bhanwadiya, member core group, Maliya, "I have 30 bigha's of farm. I used to cultivate groundnut. Towards the end of the season, the water used to dry up and I fell short of 2 irrigations. My production was 45 khandi (1khandi = 400 kgs.). The quality of the product suffered and the selling price was also affected. After the construction of bori bund, I am able to save the water. With this water I am able to provide the last two irrigations to my crop. The production was 60 khandi and the quality of product was also good. This gave me an extra profit of Rs 45 000 which could be possible just because of this bori band. Now I devote most of my time motivating others for the construction of Bori bund." The people in the area have seen that the flow of water in river Brajmi has been extended by 4 months due to the construction of these bori bunds. (AKRSP report)

HYDROPOWER PROJECTS

Tehri Pump Storage Project delayed The 1000 MW Tehri pump storage project was supposed to be commissioned in 2011-12 as per the original schedule when the foundation stone was laid in July 2006. Now it is likely to be delayed by at least 18 months due to "constrains". Delhi is supposed to get 600 MW peak hour power from the project. (The Hindu 230408)

HYDROPOWER PROJECTS – HIMACHAL PRADESH

The World Bank funded Rampur HEP:

Labourers, residents protest unsafe conditions

Over a thousand labourers and residents staged a protest against the Satluj Jal Vidhut Nigam Ltd, in Rampur, Himachal Pradesh, demanding protection of their rights. Labourers working with the SJVN gathered outside the Bayal Tunnel office on April 6 and decided to stop the work till the administration meets their demand. About 1,500 labourers working at the 412MW hydropower project in very difficult conditions felt concerned over the project authorities overlooking their safety.

"We have been repeatedly pleading with the authorities to implement labour laws, but no arrangements for safety have been done so far. The laborers are being exploited by contractors appointed by the administration," said Ranjeet, a labourer. Labourers and villagers, demanding prompt action from the administration, said that the construction work at two sites of the project would resume only after their demands are met.

Villagers of the Poshana Panchayat in the Satluj Valley are also protesting against the Goshai tunnel construction as the tunnel is posing threat to their source of drinking water near the village. "The power project passes through Panchayat and the SJVN had given us an assurance that the areas affected because of the project would be provided water facilities. But SJVN has not implemented any water scheme, in fact the money allocated for the purpose has been spent at some other place in Rampur," said Deep Dayal, president of Panchayat. There was no response from the World Bank. (ANI 070408)

New HP govt pleased with Bhilwaras! It seems the new BJP govt in Himachal Pradesh is very happy with the Bhilwaras. The new govt approved allocation of the 114 MW Bardang HEP in Feb 2008 and has now approved allocation of the 200 MW Bara Bhangal and the 140 MW Changi Yang Thang HEP to the same company. This company has been found guilty of violations of law on environment and forest issues for over 100 instances in implementation of the Allain Duhangan HEP and earlier the Malana HEP. It is strange that this is happening even as the HP forest minister said that they will take the company to task for the illegal felling of trees for the ADP. (Divya Himachal 040408, Indian Express 150408)

Power companies responsible for deforestation Besides Bhilwaras, a number of other power companies have been caught indulging in illegal felling of trees. The National Hydroelectric Power Corporation has been found guilty of illegal felling of 136 trees in case of Parbati HEP and had to pay a fine of Rs 19.51 lakh. The Om Hydropower company was found guilty of felling of 253 trees and had to pay a fine of Rs 2.17 lakh. (Indian Express 150408)

CAT money used for school building! In reply to a question by Roop Singh Thakur, the Chief Minister said Rs 35 lakh had been given for construction of a school building at Jwali in Kangra from the catchment area treatment (CAT) plan money received under Chamera-III. This is a strange situation where the money for the CAT is being used for school building, that too in an area far away from the project for which the CAT money was given. (The Tribune 090408)

Govt puts brakes on Brakel's HEPs The Himachal Pradesh govt has asked M/s Brakel Kinnaur Power Pvt Ltd to prove its credentials to show that they will be able to complete the 480 MW Jangi Thopan and the 480 MW Thopan Powari hydroelectric Power projects, awarded to them in Dec 2006 after a competitive bidding. The state govt agreed to the company's proposal to take up the project as a single one rather than two stage one. The company promised to pay Rs 173.42 crores as 50% of the upfront payment agreed at the rate of Rs 36.13 lakh per MW. However, company paid up the amount only in January 2008 after repeated show cause notices. Now the state govt is also asking interest for the delayed period and considering whether the company should be allowed to take up the project or the deal should be cancelled. The state govt, while agreeing to the deal had agreed to refer any dispute to the International Council of Commerce Arbitration. (Indian Express 260408, The Economic Times 290408)

HYDROPOWER PROJECTS – JAMMU & KASHMIR

Baglihar delayed again, Costs go up The Baglihar hydropower project has been delayed again, the previous delay was announced just six months back (see page 23 of Nov-Dec '07 issue of DRP). According to the new schedule now announced, the three 150 MW units will be commissioned, starting with the first unit in Sept 2008. The cost of the project has also gone up to Rs 5200 crore, which means pew MW cost of this project would be Rs 11.56 crore, one of the highest in India. The project cost in 1998 was Rs 3595 crore and was supposed to be commissioned in Dec 2004. It first got an 18 months extension to June 2006. Another 21 months extension to March 2008 was granted in the name of flood damages. The cost of the power would be Rs 4.7

per unit if the project is commissioned in June 2008. Also, half of the power generated would have to be sold to the Power Finance Corp at the pre negotiated rate of Rs 3.25. This will be loss to the J&K Power Development Corporation, but PFC has refused to renegotiate the rate. As per the monitoring report from the Central Electricity Authority, as on March 31, 2008, 88% of the concrete work on the dam and 94% of the concrete work on intake structure is complete. These figures have gone up by 3% and 1% in the last eight weeks, which means it may take another 32-48 weeks to complete.

⇒ **JP Associates warned** JP Associates, the controversial contractor company, has been warned, however, that if they do not commission the project by June 30, as agreed earlier, they would face the penalty of Rs 81 crores and also lose the contract for Phase 2. However, it seems the contract papers are so drafted that the contractors cannot be penalized. The state govt had signed one sided contract papers. (Indian Express 170408, The Economic Times 230408, The Hindustan Times 280408)

NHPC to form JV with J&K PDC The National Hydroelectric Power Development Corporation and the Jammu & Kashmir Power Development Corporation have decided to launch a joint venture Chenab Valley Power Projects for taking up three hydropower projects with total capacity of 2120 MW in the Chenab basin in J&K. The proposed JV, an MOU for which is likely to be signed on April 26, 2008 during PM's visit to dedicate the Dul Hasti Power project to the nation, will include 51% holding from NHPC and the rest from J&K PDC. The three projects it is proposed to take up are: 600 MW Kiru, 1000 MW Pakal Dul, 690 MW Ratle and 520 MW Karwa HEP. The non political Chairman of the JV will be nominated by the JKPDC and the Managing director by NHPC. The members of the 12 member board will be equally shared by the two bodies. (The Economic Times 140408, The Hindu 150408)

Kishanganga HEP costs UP The cost of the proposed 330 MW Kishanganga HEP near Bandipur in Baramullah district in Jhelum basin in J&K has gone up from Rs 2238 crores (approved by the cabinet in June 2007) to Rs 3700 crores (yet to be approved, as per the lowest bid received for the turnkey project, largely due to the risk premium, including due to geological risks). Since Pakistan has moved ahead with its Neelaum Jhelum project by giving the contract to a Chinese company, there is pressure for the Indian counterpart project to be pushed ahead and NHPC is trying to get the increased cost approved by the cabinet. However with the new costs, the cost of the project per MW installed capacity goes up to Rs 11.21 crores, which is very high and questions are bound to arise if the project with such high cost at the outset is viable. (Indian Express 150408)

Costly Dul Hasti HEP dedicated The high cost and much delayed 390 MW Dul Hasti Hydroelectric project of NHPC on Chenab river in Kishtwar district, 240 km from Jammu, was dedicated to the nation by the Prime Minister on April 26, 2008. The project whose foundation stone wad laid by the then Prime Minister Indira Gandhi in April 1983 has only now been completed at very high cost, a lot of the cost was unjustified as per the Comptroller and Auditor General of India. The project involved 65 m high and 186 m long concrete gravity dam, a 10.571 km long head race tunnel, a 7.46 m dia 307 m long tail race channel and an underground power house. (The Times of India 260408)

HYDROPOWER PROJECTS – NORTHEAST INDIA

Sikkim: Lepchas set off on protest pilgrimage About 650 Lepchas from the Darjeeling hills today set off on a "pilgrimage" to North Sikkim's Dzongu. Although the marchers chose not to be vocal about their protest against the setting up of hydel power projects in the Lepcha reserve, the real purpose of the exercise was not lost on anyone.

"We are basically going on a pilgrimage to our holy land. Hopefully, the march will also raise awareness about the significance of the place to us. Every Lepcha will be hurt if people violate the sanctity of the place," said Azuk Tamsangmoo, an adviser to Rong Ong Prongzom (a Lepcha youth association). The association and other Lepcha organisations have been leading a sustained campaign against the decision of the Sikkim govt to set up hydel projects in Dzongu.

Amid cries of "mutanci rumkup (children of God)", the Lepchas started their long trek which is expected to end at Dzongu on April 17. The marchers entered Sikkim after crossing the Rangpo Bridge. A group of about 350 Lepchas from Sikkim have joined the march at Rangpo. According to govt sources the marchers will not be allowed to pass through Gangtok. Affected Citizens of Teesta (ACT), an organisation spearheading the anti-hydel power project protests in Sikkim said that the govt was making all efforts to obstruct the rally and was not letting the marchers stop and meet people. Meanwhile on April 16, 2008, Medha Patkar visited the agitators of ACT and declared support to their struggle. The affected people also joined the protests in Delhi during April 28-30 when thousands of people from all over India gathered to protests against the current drafts of the R&R Acts and Land Acquisition Amendment Acts. (The Telegraph 150408, The Statesman 170408)

Investors shying away Union Power Minister said that due to lack of infrastructure and insurgency, the hydropower investors were shying away from the region. He claimed that during the 11th Plan, the region will add 4261 MW installed capacity to meet the requirement of the region. This claim does not seem correct and most of the power generated is likely to be exported. His claim that even with current installed capacity of 2561 MW, there is 20% peak shortage is also questionable, considering that most of the installed capacity is not generating power at the design projections. Why are these projects not able to generate at design levels is a question that he chose not to raise. (Indian Express 050408)

TEESTA WILL FLOW THROUGH DAMS AND TUNNELS

Like in the case of Bhagirathi (see DRP Jan-March 2008), Teesta would also flow through dams, reservoirs and tunnels. If all the projects planned by the Sikkim and the downstream W Bengal govt were to be realised, there would be no river by the name of Teesta as we know it. The Indian or the Sikkim govt has no policy of allowing minimum flows in the river when such projects are taken up. Nor are they bothered about the impacts of the projects on the people, environment, culture, religion or future generations. They are not even particularly bothered about how much energy the proposed projects would generate. The projects are not likely to generate the promised power and the local people will get only the adverse impacts. The governments' single minded objective is implementation of the projects. The project would also be in violation of the recommendations of the carrying capacity study done. An agitation is going on in Sikkim for several months now, but the attitude of the govt is not just callous towards them, but it is positively dismissive.

Meghalaya: New govt yet to cancel private Hydro The parties that came to power under the leadership of Meghalaya Progressive Alliance has yet to cancel the MOU signed by the previous govt for hydro projects given on Build, Own Operate and Transfer after 40 years, with private companies like the JP Group, Satyapal Dharmapal,, Athena and ETA Star Infrastructure Limited. The new CM is saying that they will study the report given by the review committee headed by the Chief Secretary and then take a decision. On April 10, 2008, the state power minister said that the state govt has asked the six power companies not to start their power projects until the special review committee headed by the Chief Secretary submits its final report. The committee submitted first report to the previous govt in Dec 2007 after taking legal opinion from Abacus Legal Group based in Delhi. (Indian Express 080408, 110408)

Arunachal: Govt statement The Arunachal Pradesh Chief Minister, in full page advertisements in the newspapers on the occasion of the first anniversary of the new govt counted among its achievements, "53 Hydro Power projects with installed capacity of 24087 MW allotted to Public Sector Units and Private Power Developers and enactment of Hydro Power Policy 2007 and new Policy on Mini Hydropower Projects". (Indian Express 150408)

HYDROPOWER PROJECTS – NHPC

IPO in August '08? NHPC has appointed four independent directors and the names of three more directors have been forwarded to the govt. Once these are appointed, NHPC would have fulfilled the SEBI requirement of having at least 50% of independent directors. It intends to file the fresh draft Red Herring Prospectus n June-July and come out with an Initial Public Offer to divest about 15% of its holding in the first phase and 9% more before the end of the current five year plan. Union Minister of state for Power accepted that the progress of NHPC has not been satisfactory for the last several years. Meanwhile on April 22, 2008, the govt of India gave mini ratna status to NHPC. (The Economic Times 070408, The Hindu 150408, Indian Express 230408)

JV with L&T NHPC is likely to form a joint venture with L&T, in which NHPC will hold 51% stake. It will take projects in a special purpose vehicle mode. This is an attempt to push hydro sector growth in public private partnership mode. (The Times of India 230408)

HYDROPOWER PROJECTS – INDIA ABROAD

Tata to build Itezhi-Tezhi HEP in Zambia The Tata Africa Holdings, a Tata Group company of India has entered into a joint Venture with the Zambia govt's ZESCO for the 120 MW hydropower project on the existing Kafue Dam on the river of the same name. The project involves two 60 MW units on right side of the dam. An MOU was signed for this in India in Nov 2006, General Procurement notice for this project was floated in Sept 2007 and request for pre qualification for the civil and hydro mechanical works has been floated in Feb 2008. The project is to be completed in 42 months. (www.sapp.co.zw , others)

Uganda: Jyoti Gets $139 m transmission contract The Uganda Electricity Transmission Company has signed a $138.9 m contract with an Indian firm, Jyoti Structures Africa, to construct the Bujagali interconnection project. The project will evacuate power from the 250 MW Bujagali hydro-power plant to the national grid. The UETCL chief executive officer, and the Jyoti vice-president, signed the deal in Kamapala. The project includes 97 km of new power transmission lines and a sub-station. The project to be completed in 24 months is funded by the African Development Bank and the Japanese International Bank. Jyoti would partner with Siemens, to manufacture and supply equipment. (http://allafrica.com 100408)

Mangdechu HEP DPR by NHPC India's NHPC has prepared the detailed project report for the 360 MW Mangdechu hydropower project in Nepal and would submit it soon. (Mint 140408)

SOCIAL & ENVIRONMENTAL ISSUES

SC: Use objective of acquired land cannot be changed without sound reasons The Supreme Court has said that the acquiring authority cannot use land acquired under the Land Acquisition Act, for a purpose other than those stated in the Land Acquisition Notice, without sound reasons. This was in a case where Gujarat govt wanted to use some land near Surat for setting up a University. However, since the land was acquired in the name of residential purpose, the affected farmers challenged this change of purpose in the High Court, where they lost, but then in SC they won. SC said that such change cannot be permissible since nowhere is it stated what were the reasons that necessitated this change. (Bhaskar 170308)

Una SEZ opposed over land, water issues The proposed SEZ in Gangret block in Amb Tehsil in Una district in Himachal Pradesh over 8000 acres land is in trouble of the land and water issues. The SEZ is to be developed by the Maharashtra based Nikhil Gandhi's SKIL infrastructure Ltd and is supposed to include an air port. The SEZ is also expected to lead to channelisation of the Swan River, which is also opposed by the people. (The Tribune 110408)

SMALL HYDROPOWER PROJECTS

Punjab to buy 250 MW from small hydro The Punjab Energy Development Agency has signed memorandum of understanding with several developers of 21 small hydro power projects in Himachal Pradesh and Uttarakhand to buy about 250 MW power from them. On April 10, 2008, an MOU was signed with the General manager of 20 MW TOSS mini hydro power project, being developed near Kullu. These projects are expected to be completed in 2009-10. (The Hindu 110408)

POWER OPTIONS

Punjab's potential in energy efficiency According to Virinder Singh, former chief engineer of Punjab State Electricity Board, Punjab has huge potential in achieving energy efficiency in the state. Firstly, Punjab's canal system is capable of irrigating 31 lakh ha, i.e. 76% of the 43 lakh ha net cultivable area. The canal system is not able to achieve this because of neglect. If the canal system can achieve its potential, this can reduce the number of tubewells required to 3.5 lakh from the current 10 lakh and reduce the annual power consumption for agriculture from 8200 million units to 2870 million units. Secondly, if the existing pumps are replaced by energy efficient pumps at a cost of Rs 15000 per set, this can lead to annual saving of 455 million units on the 3.5 lakh pumps. Thirdly, all the pumps need to be connected with 11 kv lines and each tubewell can be provided with independent step down transformer, as is being done since last two years for new connections. This can help save 1100 MU for the 3.5 lakh pumps. All these efforts can also claim credits for reduction in emission of global warming gases. (The Tribune 100408)

Advances in LED The technology of lighting through Light Emitting Diode is developing fast and it is already USD 15 billion size market. London has decided that all streets will have LED lights by 2012. Austin, Raleigh and Ann Arbor in US and Toronto in Canada have also embarked on plans to be LED cities. Beijing Olympics will be using it and China has developed manufacturing capacity for this, India has yet to achieve that. (The Hindu 050408)

4 free CFLs to each user in HP The Himachal Pradesh govt has launched a new scheme to give four CFLs free to each user. It hopes to save about 60 MW of power in the process and recover the money spent on CFLs from sale of saved power. (The Tribune 160408)

CFLs no longer compulsory in Gurgaon The Haryana govt has withdrawn the circular, making use of Compact Fluorescent Lamps in Gurgaon, following protests by people. (The Times of India 070408)

Renewable Energy Farm in Satara The Gurgaon based RS India Group, with 37% equity partnership with Power Trading Corp is setting up a Renewable Energy farm at Patan, in Satara District in Pune over 560 ha of land. This will include 100 MW wind power, 5 MW solar power and jatropa cultivation over 225 ha. The second phase will add 200 MW wind power and another 225 ha of jatropa cultivation. PFC is providing lease financial assistance of Rs 487 crores. It is not clear if the land being used for this is agricultural land. If the land being used in this project is indeed agricultural land, than that would be against the interest of food security of the country. (Projects Info 300308)

Energy Efficiency Potential It is estimated that potential saving of electricity through efficiency is about 20% of the electricity generation today. Our average aggregate technical and commercial loss is 33%. So a reduction in demand by 20% translates into effective 30% gain in capacity. Our average plant load factor is around 72%, which means the effective gain goes up further to 42%. So the potential of reduction in the capacity addition requirements is around 42% through energy efficiency efforts. (The Economic Times 170308)

Grid connected renewables A grid interactive power generation installed capacity of 11449 MW has been set up in the country till March 31, 2008. This comprises of 7939 MW wind power, 2062 MW small hydropower, 1446 MW bio power and 2 MW solar power. (PIB 210408)

Methane capture from Urban Waste An agreement has been signed on April 8, 2008 between the Municipal Commissioner of Navi Mumbai and Senior Project Manager of EcoMethane for capture of methane from the Turbhe landfill site and ultimately convert it into electricity through a 1.5 MW project. UK generates 700 MW power this way, it was said, and plans to raise that capacity to 10 000 MW as it generates about 30 million tonnes of urban waste. India generates over 40 million tonnes of urban waste. Methane being one of the six gases responsible for global warming, this is expected to help tackle global warming. (The Hindustan Times 100408)

Wind Power Capacity Goes Past 100 000 MW Global wind power capacity rose by 27 % in 2007 to over 94,100 MW. In April '08, the capacity went past 100 000 MW. India added 1,730 MW of new capacity and continues to rank fourth overall for total installations, with an estimated 8,000 MW. In China, 3,449 MW of wind turbines were added last year. The addition of a record-breaking 5,244 MW of wind capacity in the United States in 2007 was driven by the federal production tax credit and by renewable energy mandates in 25 states. US's wind capacity now totals 16,818 MW, second only to Germany. Germany remains the world leader in wind power capacity, with almost 24 % of the global total (22,247 MW), but it experienced a lackluster year in 2007. Still, renewable energy resources now generate more than 14 % of Germany's electricity needs, with about half coming from wind. Spain led Europe in new installations in 2007, now ranking third worldwide in total wind capacity (15,145 MW). France, Italy, Portugal, and UK all experienced significant growth last year as well. In all, EU wind power capacity rose 18 % in 2007, and the region is home to 60 % of global installed capacity.

China ranked fifth in total installed capacity (6,050 MW). Wind power will become increasingly competitive with coal as more countries put a commodity price on carbon. The global wind market was worth an estimated $ 36 billion in 2007, accounting for almost half of all investment in new renewable electric and heating capacity. These numbers will only rise in the coming years as the EU seeks to meet aggressive 2020 targets for renewables and as the United States, China, and other nations realize their enormous potential for wind power. (http://www.worldwatch.org/node/5448)

SOLAR POWER

Punjab: 4 firms selected The Punjab Energy Development Agency has short listed four firms and issued allocation letters to them for the establishing Solar Photovoltaic projects with combined capacity of 17 MW. These firms are: Moser Baer, Power Quality and Electrical Systems Inc (USA), India Bulls Electricity and Azure Power. These projects are to be commissioned in 630 days and are given the project on Build Own Operate basis for 30 years. The tariff would be Rs 8.93 per KWh, with an escalation clause of 5%. They were selected on the tariff based competitive bidding. The govt also intends to invite EOI for setting up large scale solar thermal power projects. (The Tribune 0408)

10th plan: 0.9 MW grid connected solar During the Tenth Five Year Plan period, the Ministry of New and Renewable Energy had sanctioned projects for installation of 1.5 MW capacity of grid connected solar photovoltaic power plants in the country and projects for a total capacity of 0.9 MW have been installed. Total of 33 grid connected solar photovoltaic plants have been installed in the country with total capacity of 2.125 MW as on March 31, 2008, they produce about 2.5 MU power. (PIB 250408, 280408)

CLIMATE CHANGE AND WATER

GOI study Realising the need for proper assessment of the effect of climate change on water resources and flow characteristics, studies have been taken up by Central Water Commission, Brahmaputra Board and National Institute of Hydrology with participation of academic institutes. The study is being coordinated by Central Water Commission. The objective of the study is to examine the effect of climate change on water resources with a view to (a) assess the extent of likely changes in the water availability and the flow characteristics, (b) evaluate the effect of such changes on the performance of the water resources system, and (c) to identify appropriate measures to address the effect of climate change on water resources. (PIB 210408)

CLEAN DEVELOPMENT MECHANISM

CDM Hydro Pipeline The number of hydropower projects from all over the world in pipeline seeking CDM credits under UNFCCC in recent times are given in the table below, including the number of Carbon Emission Reduction (CER) credits issued for hydro projects and the number of hydro projects for which these CERs have been issued.

Dates (2008)	No of HEPs in CDM pipeline	Millions CERs issued for HEPs	No of HEPs for which CER issued
March 16	810	3.52	50
March 23	816	3.65	51
March 29	824	3.65	51
April 5	828	3.69	51
April 19	852	3.73	52
April 26	862	3.96	53

(International Rivers Updates)

Bhoruka Plans The Karnataka based Bhoruka Power Corp Ltd has a portfolio of 14 projects of total installed capacity of 100 MW, comprising of wind and small hydro projects. Six of these operating projects (55 MW) are registered with UNFCCC and the 10 MW Rs 60 crores Manjadka project would be operational in June. It plans to announce 11 more projects with total capacity of 200 MW (equal proportion of hydro and wind) during 2008. (The Economic Times 240308)

Futures trading of Carbon credits The futures trading of carbon credits earned under the CDM projects has been started on the National Commodity and Derivative Exchange on April 10, 2008. The futures trading of the CERs started on the Multi Commodity Exchange of India (MCX) in January 2008. The December contract was trading up by 1.21% at Rs 1007 per CER. A govt notification on Jan 4, 2008 paved the way for the futures trading n CERs by brining carbon credits under the ambit of tradable commodities. (The Economic Times, Mint 110408)

POWER SECTOR

Rs 50 000 crores for APDRP The Union Finance Ministry has approved a new Rs 50 000 crore plan under Accelerated Power Development and Reforms Programme to bring down the Aggregate Technical and Commercial losses to 15% by the end of the 11th five year plan in the urban and high population density areas. (The Times of India 090408)

Capacity Addition The installed power generation Capacity addition in India during 2007-08 was 9300 MW, the target for 2008-09 is 11061 MW. Of this, 1097 MW is to come from hydro projects and 660 MW from nuclear and the rest from thermal projects. The equipment suppliers for the hydro project include: Voith Siemens – VA Tech consortium (450 MW), Fuji Electricals, Japan (250 MW), Bhel (280 MW) and CMEC, China (117 MW). The NHPC has outlay of Rs 4,385.19 crore for 2008-09 which would be largely used for ongoing schemes such as Subansiri lower, Uri II, Parbati II, Parbati III, Sewa II, Chamera III, Nimoo Bazgo, Chutak, Kishenganga and Teesta lower dam III & IV and new proposed projects of Kotlibhel 1A 1B and II. The outlay for the Power Ministry for 2008-09 is Rs 40460.1 crore. (The Hindu 090408, The Economic Times 100408, The Financial Express 120408)

TPS running without consent The Haryana Pollution Control Board has issued a show cause notice to the Deenbandhu Chhotu Ram Thermal Plant of the Haryana Power Generation Corp in Yamunanagar for running the first unit of 300 MW without the consent from the Board under sections 33-A, 43 and 44 of the water act as also violation of the air act. After getting the notice, HPGCL has applied for the consent. (The Tribune 090408, 220408)

E&Y removed as consultant for UMPP The Union Power Ministry has decided to remove Earnst & Young from the post of advisor to the government's Ultra Mega Power Programme. This is following the fiasco related to

the Sasan UMPP, which was earlier awarded to Lanco company. Later it turned out that Lanco had mislead the govt about its international partner and the project was taken away from Lanco and awarded to the second bidder Reliance after Reliance agreed to match the bid of Lanco. The role of E&Y was under cloud in this episode and the Central Vigilance Commission had asked the govt to review the role of the consultants.

⇒ **Lanco pulled up, E&Y out of all govt power projects** The vigilance unit of the Power Finance Corp has suggested that Ernst and Young should be fined and kept out of all future power ministry projects owing to "lack of professionalism" in detecting inconsistencies in Lanco's bids for the Sasan UMPP. The vigilance report also recommended action against three junior functionaries and two directors on the board of Sasan Power Ltd, but remains silent on the role of the top brass of PFC, that supervised the bids. About Lanco, the vigilance report says it had misled and misrepresented on its credentials. The report confirms that members of the committee evaluating the bids and members on the board of Sasan Power Ltd colluded with Lanco to omit and commit several lapses in evaluation of the Lanco's bid documents. The report, however, does not recommend strong steps against Lanco. (The Hindustan Times 120408, The Times of India 280408)

MEF asks Tata to use Reliance effluents The Union Ministry of Environment and Forests have asked Tata Power to use the effluents from the proposed Reliance Thermal Power Project near the Amba River for Tata's proposed power project in the downstream area. Tata had proposed use of saline water from the estuary of the same River & purify it through reverse osmosis, but has been asked to change its plans. (Mint 100408)

Sipat TPS: no proper R&R, no water NTPC's 2980 MW Sipat thermal power project in Chhattisgarh continues to face problems and power generation remains stalled. In Sept 2007, the state govt cancelled allocation of water for the project from the Hansdeo Bango reservoir on Mahanadi, as such an allocation would deprive some 24 000 ha of land from its irrigation. In stead, the state govt asked NTPC to lift water from Mahanadi River and lay pipeline for the same. The state govt has asked NTPC to make a fresh application for this. NTPC however, has agreed to explore the possibility of taking the water from Mahanadi River and the Central Water Commission has been asked to look into this option. During a meeting of Union minister of state for Power and Chhattisgarh CM in April 2008, the CM agreed to provide water to the project from the Hansdeo Bango reservoir temporarily (initially for 3 months) if NTPC agreed to develop the water supply from Mahanadi River. The state govt has also asked NPTC to provide 75 MW additional power from the project and also provide proper resettlement of the over 600 families that lost land for the project. This has meant stoppage of generation at unit 4 of the plant and delay in commissioning of unit 5 of the plant. On April 28, '08, Chhattisgarh released water for the project after extracting necessary promises. (The Hindu, Indian Express 280406, The Economic Times 290408)

WATER POLLUTION

JBIC criticised for funding failures: Yamuna

At the launch of the Phase II of the Yamuna Action Plan on April 15, 2008, the Japanese Bank of International Cooperation was criticised for its callousness in agreeing on fund Phase II when "YAP-I has become a textbook case, now internationally considered as a benchmark for failure in development projects. The model of cooperation, the proponents involved and the monitoring mechanisms have all been cited as the worst ever", as Sanjay Kaul of People'a Action said. (Indian Express 160408)

Yamuna toxins killed crocs in Chambal According to IUCN, the toxins in Yamuna, accumulated by Tilpia fish found in the river, which in turn was consumed by certain types of crocodile. Tilpia swims upstream from Yumuna to Chambal. The toxins get accumulated in the kidneys of the reptile, leading to their death. It is well known that Delhi is responsible for at least 80% of pollution of Yamuna. (Asian Age 200208)

Hindon Pollution: illegal dying units responsible The Regional officer of the Uttar Pradesh Pollution Control Board at NOIDA has identified 11 dying industries that are responsible for pollution of the Hindon River. These industries have neither the permission to operate, nor do they have effluent treatment plants, but the PCB has done nothing more than sending a report to Lucknow and now awaits response from there. (The Pioneer 290308)

Ankleshwar mess: Gujarat refuses to take action The industrial estates of Gujarat govt's GIDC at Ankaleshwar, Panoli & Jhagadia are known to be in a mess. The mess was partly exposed by the severe fire that engulfed the solid waste management facility on April 3, '08. However, Gujarat govt is yet to learn any lessons from this episode. As a token, the Gujarat Pollution Control Board has issued notices to 140 units for improper discharge of effluents. In the area where the inadequately run common effluent treatment facility has a capacity of 40 million litres per day, it is well known that effluent discharge is more than 52 MLD. GIDC itself is supplying 47 MLD water to the area. It is unlikely that Gujarat govt would take any effective measure before the time bomb there explodes. (Mint 120408)

GROUND WATER CONTAMINATION

UP districts affected by Arsenic In a recently conducted survey aided by UNICEF in Uttar Pradesh, arsenic contamination in groundwater in 62 blocks of 20 districts has been detected. 2610 handpumps in these blocks has been found to contain arsenic beyond permissible limit. The affected Districts include Ballia, Ghazipur, Bahraich, Varanasi, Lakhimpur-Kheri, Siddharthnagar & Unnao. (Telegraph 260208, PIB 300408)

IRRIGATION

National Irrigation Projects:

Can unviable projects be National projects?

The announcement by the Union Water Resources Minister that 14 big irrigation projects would be considered as National Projects (a new nomenclature, a new way to increasing funding for big irrigation projects), for which the centre will provide 90% of the fund and the states will provide the rest 10% funds.

It is a very strange announcement, for at least 12 of the 14 projects included in this scheme are yet to be declared even viable by the statutory organisations of the country, including the Central Water Commission, Planning Commission, Union Ministry of Environment and Forests, Union Ministry of Tribal Affairs and so on. Does this mean all these statutory organisations are merely rubber stamps?

The only two projects among this list of 14 projects that are under implementation are the Gosikhurd Dam in Maharashtra, where a big agitation against the project has been going on for many years now and the Teesta barrage project in W Bengal, which has been declared as White elephant by India's Comptroller & Auditor General. It seems the Gosikhurd project has been included basically because Union Agriculture Minister Sharad Pawar, known as a strongman of Maharashtra was the chairman of the committee that took decisions as to which projects should be included in this scheme.

The full list of these 14 projects is:
1. Ken Betwa River Link (UP-MP), 2. Kishau, 3. Lakhwar Vyasi (2-3 in Uttarakhand), 4. Renuka (Himachal Paradesh) (1-4 in Yamuna basin),
5. Noa-Dehang, 6. Upper Siang (5-6 in Arunachal Pradesh) 7. Kulsa (Assam) (5-7 in Brahmaputra basin)
8. Gosikhurd Dam (Godavari basin, Maharashtra)
9. Bursar, 10. Ujh (9-10 in Jammu & Kashmir), 11. Gipsu (Himachal Pradesh) (9-11 in Chenab basin)
12. Shahpur Kandi (Ravi basin, Punjab), 13. Ravi Beas Link-II (Punjab-J&K)
14. Teesta Barrage (W Bengal, Teesta basin)

The stamp of the Union Water Resources Minister Prof Saifuddin Soz is evident in this list, as his home state of Jammu and Kashmir has a big share here. However, the Ravi Beas Link-II project in this list has already been rejected by Punjab, and the project cannot be taken up if Punjab does not give consent. There are also interstate and international dimensions on a number of these projects. The govt is desperate to push big money into irrigation sector, it seems.

Punjab opposes Ravi Barrage II, Centre disposes Punjab govt has opposed the announcement of Union of India to construction a second Barrage on Ravi River to divert to Beas River what Haryana calls excess water flowing into Pakistan. Punjab says that there is no such excess water and even the Central Water Commission has decided such a project unviable. Punjab has also objected that the announcement to include this project as a National Project was done without consulting Punjab, one of the riparian states. Punjab has also said that only the water flowing into the river Ravi from catchment area below the Ranjit Sagar dam is flowing into Pakistan. In response to Punjab CM's letters to CWC and the Prime Minister, the Union Water Resources Ministry has written to the Chief Secretary of Punjab that the project will not be taken up without the consent of Punjab. (Bhaskar 170308, The Tribune 260308)

Alagh agrees: AIBP has not helped Former Union Minister YK Alagh has agreed in his weekly column (Indian Express 140408), "It is not clear why AIBP has not led to an increase in the area under canal irrigation although a lot more of money is spent." This was exactly the conclusion of SANDRP analysis of irrigation sector in India (cover story in Sept-Oct 2007 issue of *Dams, Rivers & People*). Prof Alagh, though chooses to say that he does not know why this is happening and that the water programme may take time to fructify. This is a strange conclusion when he also says, "the programme may not go far unless amended" in the previous sentence.

IWRFCL Registered The Irrigation and Water Resources Finance Corporation Limited, with paid up capital of Rs 100 crores has been registered on March 29, 2008 with the Registrar of Companies, as per the promise of the Union Finance Minister during his budget speech for 2008-09. The state governments, financial institutions, the multi lateral institutions, etc would be invited to contribute to the equity of the corporation, likely to be run on the lines of Rural Electrification Corporation. With its registered office in New Delhi, work on detailed guidelines for the working of the IWRFCL is being drawn up by the Union Finance and Water Resources Ministries. It will be headed by a chairman and managing director, which will be a finance ministry official of additional or special secretary level. The corporation has been registered with two directors, one each from the two ministries and two subscriber partners from the ministry of water resources. (Mint 090408)

Dismal Performance of Large and Medium Irrigation Schemes in Bihar

Bihar has an area of 9.416 M ha and a population of 8.3 Crores with a population density of 881 persons per km. The gross cultivable area of the state is 7.946 m ha while the net sown are of the state is 5.603 m ha. Land holdings in Bihar are very small. Out of total land holdings of nearly 1.04 Crores, 83 % are marginal holdings (less than 1 ha). According to the economic survey of the state (2007) nearly 90 % of the state's population still depends on agriculture for its livelihood. That emphasizes the need for improving the performance of agriculture and irrigation facilities.

As of 2007, out of an estimated cultural command area of 5.353 M ha, irrigation potential (area connected to the irrigation network) through large and medium irrigation schemes within the state was 2.619 M ha and the area actually receiving water reached a peak of 1.677 m ah in 2003-04 and declined thereafter to 1.47 m ha in 2006-07, see the table 1 for details. .

Table 1. Irrigation Potential Vs Actual Irrigation

Years	Irrigation Potential Created (M ha)	Actual Irrigation (M ha)
1987-88	2.619	1.793
1988-89	2.661	1.963
1989-90	2.695	2.148
1990-91	2.699	2.108
1991-92	2.710	1.885
1992-93	2.723	1.715
1993-94	2.747	1.623
1994-95	2.747	1.664
1995-96	2.747	1.536
1996-97	2.752	1.602
1997-98	2.756	1.606
1998-99	2.783	1.617
1999-2000	2.818	1.595
2000-01	2.617	1.530
2001-02	2.659	1.641
2002-03	2.509	1.595
2003-04	2.574	1.677
2004-05	2.619	1.528
2005-06	2.619	1.579
2006-07	2.619	1.470

Source: Annual Reports of the Water Resources Dept. Govt of Bihar, 1994-95 to 2006-07. These figures are taken from the annual reports of the WRD of Bihar and they vary in the reports of the subsequent years.

Note-1 Janta Dal / RJD Assumes power in the state in 1989-90
2. Severe Drought Year in 1992-93
3. 1999-2000 is the last Year of Unified Bihar.
4. In 2000-01 the State is bifurcated into Bihar and Jharkhand.
5. NDA assumed power in the state in 2004-05.

Figures show that both irrigation potential and actual irrigation increased in the state until 1990 after which actual irrigation saw a steady decline even as potential irrigation continued to rise. **Between 1990 and 2000 (when the state was bifurcated into Bihar and Jharkhand), there was additional potential irrigation of 113 000 ha but actual irrigation fell by 653 000 ha.** The area irrigated has stabilized around 1.6 m ha for the past 14 years and bifurcation of the state did not have much impact on the performance of irrigation as most of the irrigated areas through large and medium schemes remained in Bihar. Obviously, all the investment over the years in large and medium irrigation schemes in the state has gone into the maintenance and upkeep of existing irrigational structures and stemming the rot that was set in since early 1990s. The investments did not help the farmers in anyway.

Western Kosi Canal is a classic example of lethargy and non-accountability of the state's Water Resources Department. This project has consumed Rs 773 Crores till 2007 and irrigates only 7 % of the target figure of 325 000 ha. The present estimated cost of the project is Rs 1115 Crores. Considering that 404 000 ha was under irrigation in Bihar at the time of Independence in August 1947, the increase of only 1.2 M Ha over the past 60 years is not a noteworthy achievement by any standard in a water surplus state.

Resource crunch is claimed to be the main reason behind the malfunctioning of these canals (the money position has improved after NDA Govt was formed in the state but there was no visible improvement in the performance of the irrigation projects). The State Govt should complete these canals first, instead of putting its resources in new ventures, and ensure that the benefits of these canals are available to the farmers. Water logging follows irrigation when drainage system is not built with the canals. The state has a waterlogged area of 0.942 m ha of which 2.5 m ha is said to be beyond redemption. It is interesting to note that the first committee to look into the problem of waterlogging was constituted way back in 1958 when the impact of the Kosi embankments got visible in the districts of Darbhanga and Madhubani. However, no improvement was seen in the concerned areas. The WRD has been talking about conjunctive use of ground and surface water for a long time now, but that too remains unimplemented.

A thorough investigation of the canals performance involving the farmers is very much needed so that corrective measures regarding maintenance, operation, allocation of water, rotation, and payment of bills etc are defined. Besides, many of the canals in these basins are laid on adverse gradient and water never passes through them. Such canals should be identified and done away with as they serve no purpose. The WRD has taken some initiative to organize farmers and hand over the running of these canals in the Sone Command and it is claimed that the system has worked there efficiently. But if the govt is interested in involving farmers, they should be involved right from the stage of planning and decision making regarding the projects.

Dinesh Kumar Mishra (Barh Mukti Abhiyan, Bhiar)

TN Task Force on Cauvery Irrigation The Tamil Nadu govt has set up a task force under the chairmanship of A Mohanakrishnan, former Chief Engineer to look into improvement of the irrigation system in the Cauvery delta, the report to be submitted by July 2008. TN tried to do this earlier but Karnataka opposed in view of the interstate dispute. (Indian Express 110408)

Punjab: 75% subsidy on drip irrigation The Punjab govt has decided to raise the subsidy for drip/ sprinkler irrigation scheme to 75% from 50%. The scheme also includes 50% or upto a maximum of 1 lakh subsidy for water tank for the drip irrigation. (The Tribune 060408)

ANDHRA PRADESH

CAG: Billions of undue benefits to contractors The Comptroller and Auditor General of India, in its report for AP for the year ending in March 2007, has criticised the govt for the undue benefits given to the contractors in implementation of the six irrigation projects in Godavari basin. Unintended benefit amounting to Rs 359 crore was extended to the contractors due to incorrect estimates while liquidated damages amounting to Rs 36.36 crores, levied for slow progress of work, were also not recovered. The six projects were prioritised and expected to be completed by March 2007, but are yet to be completed. (Deccan Chronicle 290308)

Rajiv Sagar LIS in AP: KBL gets order The Kirloskar Brothers Ltd has bagged a Rs 338 crore engineering, procurement, construction contract from the Andhra Pradesh govt for the Rajiv Sagar Lift Irrigation Project that plans to irrigate 80 000 ha in Khammam district. Pumping station intake would be at Pmulapally and 7 intermediate PS are planned. (The Financial Express 050408)

LAKES

Karnataka HC admits PIL against Privatisation of Lakes The Division Bench of the Karnataka High Court has admitted a Public Interest Litigation (PIL, 817/2008) filed by Environment Support Group against the ongoing privatization of 12 more lakes in Bangalore by the Lake Development Authority, to real estate developers and hoteliers. The case has been posted for hearing next on 27 May 2008.

LDA has already leased out three lakes for 15 years each: the Nagawara Lake to Lumbini Gardens Ltd in 2004, the Hebbal Lake to East India Hotels Ltd that runs the Oberoi chain of hotels in 2006, and the Agara Lake to Biota Natural Systems Ltd in 2007.

ESG submitted that the ongoing privatisation of lakes/ tanks in Bangalore is against the settled legal norms relating to management and conservation of such ecologically sensitive water bodies which are also wildlife habitats. In addition the petition submits that the ongoing privatisation fundamentally attacks a wide range of customary and traditional rights, especially of fishing communities, and thus is also a question of compromising livelihoods. The beneficiaries of such privatisation of water bodies which are located in prime areas of Bangalore are largely hoteliers and builders. These businesses are taking undue advantage of this legally flawed and highly questionable policy for their own profit making gains.

Such an approach is directly opposed to the very purpose of the constitution of the Lake Development Authority by the Karnataka Govt. The petition argues that LDA is expressly prohibited from so privatising these public water bodies and that such an act is patently opposed to law and against the wider public interest.

The Petitioners sought quashing of the Lease Deeds executed by the Lake Development Authority in favour of Respondents M/s Biota Natural Systems (I) Pvt. Ltd., M/s Lumbini Gardens Ltd. and M/s East India Hotels Limited, all profit making entities which have independently acquired lease rights over the Agara, Nagawara and Hebbal tanks/ lakes respectively.

The petition highlights that Hebbal lake was only recently rejuvenated by the Indo-Norwegian Env Programme and the Karnataka Forest Dept in '02. Similarly Nagawara lake was rehabilitated under the National Lake Conservation Programme funded by the Ministry of Environment and Forests (MEF). The petition argues that the very same lakes that have been rehabilitated are once more being handed out to private profit making entities under the guise of rehabilitation, restoration and maintenance, and is a highly questionable exercise of authority. Such action is inconsistent and opposed to the principles embodied in "Conservation of Wetlands in India: A Profile (Approach and Guidelines)" issued by the MEF. (ESG PR 080408, Mint 210408)

Rajasthan lakes under National Plan Tender notices has been invited for design and construction supervision consultancy services for the Rejuvenation and Conservation Project of Anasagar Lake (Ajmer) & Pushkar Sarovar (Pushkar) and Fatehsagar Lake, Pichhola Lake (both Udaipur) & Nakki Lake (Mount Abu) at the cost of Rs 1.32 and 1.67 crores respectively, to be taken up under the National Lake Conservation Plan. (The Times of India 110408)

Poor state of Rewari lakes The two main lakes of Rewari town in Rewari district in Haryana are in poor state due to the neglect of the civic authorities and now sewage water is flowing into them. The Solarahi lake with 6 acre area was called so as sixteen roads lead to the lake when it was built. The 500 feet deep Tej Lake was built in 1806 by the then king Tej Singh. (Dainik Bhaskar 240408)

RIVERS

State of Saryu, Sai Rivers Seeing very little water in the Saryu river flowing through Ayodhya, the commissioner has ordered that sufficient water should be released from the upstream Girija Barrage. In another instance, the Environment department has ordered enquiry into the drying up of the Sai River flowing from Hardoi to Jounpur. (Hindustan 090408)

INTER STATE ISSUES

Hogenakkal Project

Is this a Cauvery – Ponnaiyar Interbasin transfer project? to benefit areas with 895 mm rainfall?

In all the din surrounding the Hogenakkal (literal translation: smoking rocks) Integrated Water Supply Project in April 2008 and earlier, we have not heard much of any voice from the Dharmapuri and Krishnagiri districts, for whose benefit this project is supposed to be. This is rather strange.

We have also not heard that most of the areas to be benefiting from the project are lying in another river basin, namely Ponnaiyar River basin, as can be seen from the shaded portion of the map above. So in a sense this is an inter basin transfer project. Even more significantly, the donor basin happens to be one of the most celebrated deficit basins of the country, namely Cauvery. And the recipient basin happens to have not so insignificant annual average rainfall of 850-900 mm that too well distributed across the year.

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On Feb 26, 2008, the Tamil Nadu Chief Minister laid foundation stone for the Rs 1334 crore Hogenakkal drinking water scheme – named after the Tamil village of the same name in Dharmapuri district of TN - on Cauvery River to provide 128 Million Litres per Day in the intermediate stage (2021) for 30 lakh population and 160 MLD (1.38 TMC per year) drinking water in the final stage (2036) to 40.4 lakh people of 6755 hamlets, 3 municipalities, 17 towns and 588 villages of Dharmapuri and Krishnagiri districts. Typical of such projects, Hogenakkal village itself is not listed among the beneficiaries of the project.

Interestingly, most of the tourists that come to this Tamil village are from Karnataka, mostly from Bangalore.

The Japanese Bank for International Cooperation has agreed to provide loan for 85% of the cost of the "Hogenakkal water supply and Fluorosis mitigation Project for Dharmapuri and Krishnagiri districts in Tamil Nadu", to be implemented between 2008-09 and 2012-2013. The project that was first proposed in 1965 by the than TN CM for providing drinking water right upto Chennai, could not be taken up for various reasons, including the Cauvery dispute.

Some segments of the Karnataka population continue to oppose the project. The Hogenkkal Falls on the Cauvery River, from where it is proposed to lift the water, is part of a stretch where the River forms boundary between the two states. Some in Karnataka feel that the project will lead to increased control of the area by the Tamil Nadu. It is interesting to know that most people, including even the senior Karnataka officials do not seem to know the nature of the head works that the project will involve on the Cauvery River. It is not clear if the project will involve a dam or diversion structure or just pumping head works. This kind of secrecy seems to be typical of the functioning of the Japanese Bank too.

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On March 27, 2008, the TN assembly passed a resolution urging the centre to extend full cooperation for the scheme, citing a 1998 agreement (when NDA was ruling at centre) with Karnataka that allows TN to execute the scheme. It also said that the Dharmapuri and Krishnagiri districts were arid and that the groundwater was affected by fluoride.

The Scheme Headworks would be set up on the river where the Cauvery River enters TN. From here, raw water will be pumped to a master balancing reservoir at Madam, about 11 km from Hogenakkal. A treatment plant would also be set up there. Of the total length of 6945 km of conveying main, water will be pumped for 145 km to cover areas such as Palacode, Marandahalli and Hosur.

The TN Electricity Board has promised to provide dedicated supply of 30 MW for pumping.

The Tender notice from the Tamil Nadu Water Supply and Drainage Board for the project consultant says, "The intermediate year 2021 requirement of 127.6 MLD will be tapped at the rate of 118148 lpm for 18 hours of pumping and the ultimate year 2036 requirement of 160 MLD will be tapped at the rate of 115884 lpm for 23 hours of pumping. The treatment plant will be of 127.6 MLD capacity. The clear water will be pumped to a master balancing reservoir of 41.5 million liters at Madam and then gravitated to beneficiaries in 2/3rd of project area. Another 1/3rd of project area in Hosur Region will be fed by booster pumping stations. The approximate length of pumping / gravity mains will be 8000 kms and distribution length will be 2000 kms having 2240 service reservoirs at suitable locations."

For solution of the fluoride in groundwater, the CGWB says, "In areas where groundwater is polluted by the presence of some chemical constituents like arsenic, fluoride etc above permissible limit or by industrial effluents artificial recharge is a very effective tool to improve the quality." So "a very effective tool", according to CGWB, for solving the fluoride problem, is artificial recharge and rainwater harvesting, not inter basin transfer as proposed by the JBIC and the TN govt.

The 1998 agreement In a meeting convened by the Union Water Resources Secretary on June 29, 1998, there was an agreement between the Karnataka and TN officials that the GoTN will withdraw its objections to the Cauvery water being used by Karnataka to augment supply to Bangalore (which also happens to fall in the Ponnaiyar basin), then Karnataka in turn will abide by the conditions laid down in the letter of concurrence issued by the Union Water Resources Ministry, it has been recorded in the minutes of the meeting. TN later withdrew its objections to Karnataka using its share of Cauvery water for supply for Bangalore. On Sept 21, 1998 in a letter by BK Chakrabarti, Deputy Commissioner in the Union Water Resources Ministry to TN Chief Secretary, the ministry gave its concurrence for use of 1.4 TMC of water for Dharmapuri district (at that time Krishnagiri was part of Dharmapuri), laying down certain conditions. The letter referred to the TN govt's application dated March 3, 1998 for the scheme.

It is surprising is that in what is described as arid districts, at least ten licensed (license given by Bureau of Indian Standards of Government of India after getting No Objection Certificate from the concerned authorities (e.g. CGWB or state authorities)) bottled water manufacturers are operating.

Here it is also interesting to note that the Bangalore water supply project mentioned in the above paragraph was funded by the Japan government and now the Hogenakaal water supply project is also funded by the Japan govt! Also, the Bangalore water supply scheme was put up before the Cauvery Tribunal, but the Hogenakaal project was not.

Dharmapuri District The District profile (population in 2001: 12.95 lakhs) on the official website (http://dharmapuri.nic.in) says the average rainfall is 895.56 mm. The normal rainfall in the Pennagaram, Palacode and Pappireddipatti taluks in Dharmapuri district is 866 mm, 926 mm and 968 mm respectively. Why are these districts with relatively such high rainfall considered arid area? Early last year, when the districts were facing water problems, the farmers of the districts did not demand transfer of water from another (Cauvery) basin, but their demand was, "The surplus water from supply channels should be linked to tanks and other water bodies to improve the ground water level".

For ten years 1996-97 to 2005-06, the Dharmapuri district had above 800 mm rainfall in all years except in 2002-03, when the rainfall was 521.6 mm. Paddy is cultivated in about 20% of the cultivated area, sugarcane in another 10%. The district has seven reservoirs and 1015 tanks. Over 75 000 wells and 788 tubewells are used for irrigation. Net irrigated area is 66690 ha out of net cultivated area of about 154000 ha. Gross irrigated area is 78381 ha out of gross cultivated area of about 170000 ha. (http://dharmapuri.nic.in/shb2006.pdf) Can this district be called an arid district?

Krishnagiri district Krishnagiri district (population in 2001: 15.47 lakh) rainfall figure for the last six years is given in the table below.

No	Year	Rainfall in mm
1	2001-2002	825.7
2	2002-2003	521.
3	2003-2004	1075.6
4	2004-2005	230.62
5	2005-2006	1262.8
6	2006-2007	637

According to official website of the district (http://www.krishnagiri.tn.nic.in), Krishnagiri Reservoir Project, Shoolagiri-Chinnar Reservoir, Thangarai Reservoir, Pambar Reservoir, Kelevarapalli Reservoir Project and Baarur Tank irrigate 18,965 Ha land in the district. About 180 000 ha is net cultivated area and about 16 000 ha is sown more than once. About 47 000 ha land was irrigated in 2006-07.

JBIC report misleading? The report on the website of Japanese Bank for International Cooperation (www.jbic.go.jp) makes some misleading statements about this project that it has decided to fund. It says, for example, "In Krishnagiri and Dharmapuri districts in the North West of Tamil Nadu… the annual rainfall is smaller than Indian average…". The normal rainfall in Dharmapuri district is 895.56 mm, as noted above from the official website. India's normal annual monsoon rainfall currently, is 890 mm (as per India Meteorological Dept). The normal rainfall of Krishnagiri district, as per official website quoted above, is 863.5 mm, not very far from the national monsoon rainfall figure. Thus JBIC report is clearly making misleading statements. In any case, an area getting rainfall in access of 860 mm cannot be called arid.

Fluoride contamination of Groundwater Another justification for the project, according to JBIC is, "Also, large amount of fluoride which is harmful to human bodies is contained in the rock ground of the Deccan Plateau which consists of the project areas. Fluoride is transferred to the ground water and is having serious effects on the teeth, bones, organs and embryos of the local people." Here too, JBIC seems to be on weak ground if we were to go by the reports of the Govt of India's Central Ground Water Board.

This pause before the project implementation starts can be used to raise some relevant issues about merits and demerits of the project and find right solution for the water situation in Dharmapuri and Krishnagiri. One hopes that the people of these two districts are also involved in taking the decisions affecting them.

We find that in the latest document available on the CGWB website (http://cgwb.gov.in/documents/GROUND%20WATER%20QUALITY%20SCENARIO%20IN%20INDIA.pdf), eight districts are listed in Tamil Nadu as Fluoride affected, but neither Krishnagiri, nor Dharmapuri is listed there! In another document (http://cgwb.gov.in/secr/EXECUTIVE%20SUMMARY-dHARMAPURI.htm), CGWB says, "Occurrence of fluoride and nitrate in excess of permissible limits for drinking use has been noticed in ground water from the fracture zone in the entire district." However, here too, it notes, "Ground water in the phreatic zone, in general, is potable". Here it may be noted that the fractured zones are found here at deeper layers than phreatic zones and the fractured zones here contain confined or semi confined aquifers. So if adequate groundwater recharge and regulation is ensured, than the issue of fluoride contamination of groundwater can be taken care of, without resorting to inter-basin transfer of water.

Again, for solution of the fluoride in groundwater, the CGWB says (http://www.cgwber.nic.in/rainwater.htm), "In areas where groundwater is polluted by the presence of some chemical constituents like arsenic, fluoride etc above permissible limit or by industrial effluents artificial recharge is a very effective tool to improve the quality." So "a very effective tool", according to CGWB, for solving the fluoride problem, is artificial recharge and rainwater harvesting, not inter basin transfer as proposed by JBIC and TN govt. In this context, it may be noted that in the ongoing 11th plan, the govt of India has launched an Rs 1799 crores groundwater recharge programme through dugwells. In this programme, 69041 dugwells of Dharmapuri and 31927 dugwells of Krishnagiri district (total over 1.09 lakh dugwells in these two districts) are also included. The TN govt would do well to focus on such programmes as these are more likely to help solve the water problems of these districts.

Licensed Bottled water units operating It is surprising is that in what is described as arid districts, at least ten licensed (license given by Bureau of Indian Standards of Government of India after getting No Objection Certificate from the concerned authorities (e.g. CGWB or state authorities)) bottled water manufacturers are operating. Five of them are operating in Hosur block (described as semi critical in CGWB report of 2004) and three in Krishnagiri block, both blocks in Krishnagiri district. Here it is interesting to note that the Krishnagiri block is described as semi-critical in the 2002 report of the CGWB quoted above, but strangely, it becomes safe in 2004 report. This kind of *promotion* must be rare in what is described as arid area. Another licensed bottle water plant is operating in the overexploited Dharmapuri city. If the water situation in these two districts is so bad that water is to be imported from another basin, than why are these ten licensed bottled water units operating here?

Project on hold On April 5, 2008, the TN CM announced that the govt is putting the project on hold till the elections of Karnataka assembly are over and new govt there is in place. On April 9 he announced in the assembly that the project would be completed by 2012. The Tamil Nadu Water Supply and Drainage Board, the executing agency for the project, has short listed five firms for appointment as a project management

consultant, after a global tender. The list of the companies has been sent to JBIC.

The reaction that we have seen to this project in Karnataka and the responses that have come from Tamil Nadu and so on, unfortunately do not raise real issues of merits or demerits of the proposal.

This pause before the project implementation starts can also be used to raise some relevant issues about merits and demerits of the Hogenakaal proposal, as we have tried to raise here and find right solution for the water situation in Dharmapuri and Krishnagiri districts of Tamil Nadu. One also hopes that the people of these two districts are involved in taking the decisions affecting them. We would look forward to hearing readers' comments on this.

SANDRP

The Vamsadhara Dispute The bitterness between Orissa and Andhra Pradesh over sharing the water of river Mahendratanaya reached new level with the AP CM laying the foundation stone for the Rs 127 crore irrigation project across the Mahendratanaya in Srikakulam district recently. In response, the Orissa govt has decided to construct two diversion weirs for utilisation of water as an interim measure. The Orissa govt has also started consultations to move the Supreme Court to stop AP from going ahead with the project.

Mahendratanaya, a tributary of Vamsadhara River, originates near Tuparasingi village in Gajapati district, and plays hide and seek with the two Border States. However, four-fifths of the river flows through Gajapati and Rayagada districts.

The AP project involves the construction of an offtake sluice on the left bank of the river at Chapara village of Meliaputti mandal in Srikakulam district. The water will be diverted into a channel which will run for 17 km and flow into the proposed reservoir across a valley between high mounds at Regulapadu village in the same district. The project would have an area of 24,600 acre of Palasa and Nandigam Mandal and facilitate drinking water supply to Palasa, Kasibugga municipality of AP. The construction work, which has been entrusted to a Hyderabad-based company, is to be completed within eight months. If the Andhra govt goes ahead with the project, it is feared that large tracts of agriculture land in Gosani and Rayagada blocks of Gajapati district in Orissa would be submerged and there would be water crisis in Paralakhemundi municipality.

Outraged by the AP govt's move, Orissa CM has shot off a letter to him. Pointing out that the project violates the inter-state river water sharing pact signed in 1962, he requested the AP CM not to go ahead with the project till a joint inspection by technical committees from both the states is completed. What, however, sparked off protests in Orissa was AP CM laying the foundation stone for the project ignoring Orissa's complaint. Orissa, in fact, has planned an irrigation project across the Mahendratanaya River at Kaithapadar village with a storage reservoir to irrigate 7,940 ha in Parlakhemundi, Rayagad and Kasinagar blocks of Rayagada and Parlakhemundi districts.

The Rajya Sabha was informed on April 22, 2008 that a reference under the inter state water disputes act has been received by the centre on this issue in Feb 2006. The Union Minister of state for Water Resources further said, "In respect of Vamsadhara Water Dispute, the Central Govt has not concluded so far that the dispute cannot be settled by negotiations. Meanwhile, the Govt of Orissa has filed a Writ Petition in this regard in Sept '06 in the Supreme Court." (The Financial Express 210408, PIB 220408)

Delhi Water Use to be assessed The Central Water Commission has been asked by Mr TAK Nair, principle secretary to the Prime Minister, to assess what is the drinking water needs of Delhi and what sources can be accessed for the non drinking water needs of Delhi, like the industrial, horticulture and flushing needs. CWC has also been asked to assess how much water Delhi is drawing from groundwater between Munak escape, where Haryana is supplying water to Delhi and Palla village, where Delhi accepts it. This happened after a meeting in March 2008 convened by Mr Nair between Haryana and Delhi. At the meeting, Haryana raised several issues about the wasteful use of water by Delhi. It asked, whether industrial, flush and horticulture uses of water in Delhi should have priority over agriculture in Haryana. Haryana has also filed a petition in the Supreme Court in 2006, challenging the SC order of 1996 that requires Haryana to maintain pond level at Wazirabad. Meanwhile, the Central Ground Water Board has submitted a report to the Delhi govt, according to which, Delhi can have an additional 185 MGD of water from the groundwater. About 85 MGD of which can come from the Yamuna river bed, out of which it is already using 45 MGD downstream of the Palla village.

⇒ Cabinet secretary of Govt of India called a meeting on April 24 to discuss the progress of the 102 km long Munak canal to bring Yamuna water to Delhi through a lined canal. The first two phases of the three phase canal with 723 cusecs capacity has been completed and the third, 23.69 km long canal is under construction. The Haryana officers fear that they may not get the forest clearance for this phase easily.

Central Control over structures proposed The Delhi Jal Board, in its attempt to ensure water security for Delhi, has written to centre, proposing that the central govt should take control of the relevant headworks. This is clearly a dangerous proposition and can have far reaching implications. (The Tribune 040408, The Times of India 080408, The Hindu 210408, Dainik Bhaskar 240408)

Kerala asking for Trouble over Neyyar water? It seems Kerala is asking for trouble by offering to sign an agreement to supply water from Neyyar dam to Tamil Nadu if TN agrees to pay the nominal distribution charges. Such an agreement, Kerala says, is required under the Kerala Water Conservation (Amendment) Act, but TN has so far refused to sign the agreement, protesting against the nominal charge that Kerala has demanded. TN is likely to divert that water to possibly Pechipara dam as TN does not seem to need much water in the present ayacut in the Kanyakumari district. Once an agreement is signed, TN may ask for the water as a right, observers say. (The Hindu 250408)

GROUNDWATER

DMRC to recharge groundwater The Delhi Metro Railway Corp is putting in GW recharging wells along its Central Secretariat – Gurgaon stretch at a distance of

every 50 mts in addition to 2 wells at all the stations. Along its Qutab Minar – Gurgaon stretch, there would be 228 wells. (The Hindu 030408)

URBAN WATER SUPPLY

Delhi Water, Revenue losses According to the report of Comptroller and Auditor General of India for Delhi for the year ending in March 2007, 53% of the water supplied by the Delhi Jal Board was not paid for in 2002-03 and has gone upto 65% in 2006-07. Total loss to DJB during the last five years was 1991 crores, 56% of the revenue thus lost. Delayed repair of the T&D lines in 2006-07 led to an estimated loss of 84 million gallons in 2006-07. 41% of the consumers are supplied water either without meter or where meter is not working. This has meant forgone revenue of Rs 173.77 crores during 2003-07. The T&D loses alone are 40%. (The Times of India 020408)

How Delhi Has destroyed its water bodies The story of Delhi's local surface water bodies is strange one. Each time there is a count, the numbers decrease, but no one is held responsible! Briefly, the latest numbers are: In 2004, a committee under the MCD commissioner came up with a survey that said Delhi has only 177 water bodies, including lakes, marshlands, ponds. But a new survey says the number is 629.

⇒ **Revenue Dept** Out of this, 215 are under revenue department. Of these, the dept says that 123 are beyond revival because most of them cannot be traced as per the revenue map. 43 of the rest are dead because of excessive accumulation of sewage. Soil around only 49 of these are suitable for ornamental plantation, said a survey by the environment dept.

⇒ **Irrigation and FC Dept** The 21 water bodies under this dept are under disputes. (The Hindustan Times 090408)

Privatisation of water supply in Morbi – Gujarat The Gujarat govt is trying to privatise water supply in Morbi town in Rajkot district. It had asked Feedback Ventures, a private company to conduct technical and feasibility studies and prepare a business model for the 24 X 7 private water supply venture. The govt has also invited expression of interest for the project and ten companies have submitted proposals. Feedback Ventures and HDFC have launched a partnership company called India infrastructure Initiative. (The Financial Express 140408)

RURAL WATER SUPPLY

BAD IDEA **Haryana scheme for Packaged water in villages** The Haryana CM has given directions to start a scheme run by private company in 100 villages on trial basins to supply cleaned drinking water in 20 liter cans at the rate of Rs 1 per litre. The directions were given after a presentation by a company called Nandi. It was claimed that such a scheme is going on in Gidadwaha block in Punjab. (Bhaskar 090408)

WATER BUSINESS

Veolia enters India Veolia Water Solutions and Technologies, a 2.1 billion euro global giant in water treatment has entered India through a joint venture with Ahmedabad based Doshion. Veolia is supposed to have presence in 57 countries and is growing at 14% per annum, when Indian market is growing at 20%. Veolia will have 30% stake in the joint venture to begin with, to be brought upto 50% in three years. Earlier this year, Mekorots of Israel floated a joint venture with Jain Irrigation. (DNA 220208)

Bisleri: 60% share of the market According to the owner of Bisleri Brand Ramesh Chauhan, the company has a 60% share in the packaged water market. It is growing at 35-40% annually and is growing faster than the industry. A 50-60% volume sale is in terms of bulk water packs. It has 54 bottling plants, nine of which are company owned. The rest are either franchisee bottlers or contract packers. The Bureau of Indian Standards holds some 1200 licenses of packaged water manufacturers. Size of the industry could be larger than Rs 1500 crores. The industry is looking forward to the long awaited food standards as it thinks it will help cut down the number of regulators. (The Economic Times 290308)

Rail Neer Plans Indian Railways have refused to agree to proposals for public private partnership in Rail Neer. It has decided to double its rail neer production capacity in Delhi and Danapur and also set up new plants at Mumbai and Chennai. (Bhaskar 120408)

FLOODS

NATIONAL FLOOD MANAGEMENT INSTITUTE The guidelines on 'Management of Floods' issued by National Disaster Management Authority in Jan, 08 have suggested setting up of a National Flood Management Institute by the Ministry of Water Resources by the end of Dec, 2010 for the purpose of imparting training to the engineers and administrators of the Central Govt and State Govts in all fields of flood management. The guidelines also mention that till then the National Water Academy, Pune under the administrative control of the Ministry of Water Resources will undertake these activities in addition to its current functions. (PIB 220408)

AGRICULTURE

Monsoon 2008 forecast The India Meteorological Department would be using the same Ensemble method, which is basically a weighted average of various models for predicting 2008 monsoon, though its prediction of three (2004, 2006, 2007) of last five years, including the 2007 monsoon proved to be incorrect. For the 2007 southwest monsoon, IMD had predicted national rainfall of 829.53 mm, actual rainfall was 936.9 mm, 13% above the prediction. For the southern peninsula, IMD predicted 94% of the long range average, actual rainfall was 126% of the average. IMD says it continues to use this model as its prediction of Northeast and Northwest rainfall figures are more accurate.

On April 14, '08, the US based International Research Institute for Climate & Society said that due to the presence of La Nina factor, there is hope for good rains in the 1st half of the monsoon in the peninsular India, which may taper off in the 2nd half as La Nina weakens.

On April 16, '08, the IMD made the first forecast for 2008 monsoon and said that rainfall is likely to be 881.1 mm, or 99% (+ or – 5%) of long period average rainfall (890 mm). As per Union Minister for Science & Technology, the statistical model works well in northwest, north, west and central regions, while the dynamic model is better for peninsular and northeast India, hence IMD uses a combination of both. This year IMD has also redefined normal monsoon as 96-104% of long period average, from the 98-102% used earlier. (Mint 310308, Indian Express 150408, The Hindu, The Times of India 170408)

Chhattarpur Drought The Chhattarpur district in Bundelkhand in Madhya Pradesh is facing some acute water problems. The district with annual normal rainfall of 1074.9 mm had deficit rainfall in the last 4 years: 2004-05 (990.1 mm), 2005-06 (850.6 mm), 2006-07 (1007.4 mm) and 2007-08 (496.2 mm). Two main source of water for the Chhattarpur city are KhoupTal (dried up– tubewells in the tank bed being used) and BudhaBandh (dead storage level has been reached). (Jansatta 280308)

UN: bio-fuels responsible for food price rise According to different reports by the United National Economic and Social Commission for Asia and the Pacific, the UNCTAD and OECD, the expansion of bio fuel programme is responsible for the increase in world food prices (45% in nine months). The demand for bio fuel could rise from 10 B gallons in 2005 to 25 B gallons in 2010, or 20% rise per annum. Meanwhile, at least 100 MT of foodgrains production was sacrificed for biofuels in 2006 alone. Today world stocks of wheat are sufficient to last just 12 weeks and that of maize only three weeks. (The Financial Express 010408, The Economic Times 100408)

India exports 2.4 MT Maize India is likely to export about 2.4 Million Tonnes of Maize during 2007-08 in June-May season. Strange situation as India continues to face shortages, high prices, prospects of imports and so on. (The Economic Times 210408)

Big private players a cause for food crisis?

Not many analysts are saying this. But there are a number of signs that show that the entry of big players in the foodgrains market over the last few years may be one of the significant reasons that has lead to the current food crisis in India. It may be recalled that when India faced the worst drought (so far) of the 21st century in 2002, the govt still felt burdened with huge foodgrains stocks. These had built up in spite of declining growth rate in foodgrains production since the early 1990s. In fact, even as the signs of drought were clear in 2002, India exported foodgrains and also invited private sector in the foodgrains market. A large number of big names from India and abroad entered the foodgrains market. So consider the mix: foodgrains exported to deplete stocks, the production was stagnating and in addition, big private players allowed to get into the market. Moreover, even futures trading was allowed in foodgrains.

So is it right to blame the global forces alone for the crisis now, as the govt is doing? Or is it the govt's own policies over the last decade and a half that is also responsible for the crisis? Here it may be recalled that India was possibly the only country that weathered the world food crisis in the 1970s and the global price rise in mid 1990s. Then, we could avoid the crisis as there were no big private players in foodgrains market here. Is it not clear that entry of big private players in the foodgrains market in India is an important factor behind the current crisis?

There is interesting further evidence on this score. Union Agriculture Minister told a meeting on April 23, 2008 that wheat procurement in the current season would cross the target of 150 lakh tonnes. He informed that in the last 10 days of procurement, 86.25 lakh tonnes wheat has been procured. This happened largely because private companies kept themselves out of the procurement market in Punjab and Haryana on the *suggestion* of the Union Govt. (The Economic Times 220408, PIB 240408, SANDRP)

PM: Corporate farming not desirable? The Prime Minister of India told a meeting of the Global Agro Industries Forum on April 10, 2008 that "collectivisation, corporatisation and land consolidation through land alienation are neither possible nor socially desirable". The key word in this phrase is of course "through land alienation". This statement is not likely to mean any change in govt policies. In the meantime, a group of over 400 agriculture scientists and economists from 110 counties including India, under the International Assessment of Agriculture Science and Technology (on the lines of IPCC) have put out a warning against unbridled use of biotechnology, dependence on free market operations as well as existing intellectual property regime. The key word in this statement is "unbridled", which means that if it is not unbridled, these measures can go on. (The Times of India 110408)

Nabard proposal for Joint Farming The National Bank for Agriculture and Rural Development has proposed a new scheme under which joint farming by groups of farmers collectively owning 1000 acres is proposed. It is proposed that about half of the farmers in the group will be involved in farming and the other half will be involved in processing and packing. NABARD plans to give funds for such groups and also provide marketing personnel to help establish markets. (The Financial Express 050408)

Wheat imports India imported 5.554 million tonnes of wheat at a weighted average price of $ 204.66 per tonne during 2006-07 and 1.769 MT at a weighted average price of $372.82 per tonne in 2007-08, Union Agriculture minister informed the Lok Sabha. During 2008-09, the govt has directed Madhya Pradesh, Maharashtra, Rajasthan and W Bengal to import half the quantity they need from the global market and the union govt will give them aid equal to the aid they would have given the Food Corporation of India for the same imports. (The Economic Times 220408)

Record foodgrains production in 2007=08? The Department of Agriculture & Cooperation has released on April 22, 2008 the 3rd Advance Estimates of production of major crops during 2007-08. Highlights of these estimates are: Foodgrains production is estimated at 227.32 MT during 2007-08, a record. Rice (95.68 MT), Wheat (76.78 MT), Coarse Cereals (39.67 MT), Maize (18.54 MT) and Pulses (15.19 MT) are all estimated to be all time records. A number of analysis has raised questions about accuracy of these estimates considering the huge gap between the second and the 3rd advance estimates. (PIB 220408)

Gujarat's Rabi Crop UP Against the average rabi sowing of 1.8-2 m ha some years ago, the rabi sowing in 2007 was 3.9 m ha. Against the 0.66 m ha of rabi wheat in 2005, and 1.072 m ha in 2006-07, the rabi wheat was sown in 1.393 m ha in 2007-08. The wheat production has gone up from 2.79 MT last year to 3.7 MT this year. Only a small part of this growth can be attributed to Sardar Sarovar, mostly it is due to better monsoon and also large number of water harvesting structures built all over Gujarat. Last week the biggest study of its kind ever conducted - the International Assessment of Agricultural Science and Technology for Development - concluded that GM was not the answer to world hunger. (Indian Express 250408)

Exposed: The Great GM Crops Myth A major new study shows that modified soya produces 10 % less food than its conventional equivalent. Genetic modification actually cuts the productivity of crops, an authoritative new study shows, undermining repeated claims that a switch to the controversial technology is needed to solve the growing world food crisis. The study - carried out over the past three years at the University of Kansas in the US grain belt - has found that GM soya produces about 10 % less food than its conventional equivalent, contradicting assertions by advocates of the technology that it increases yields. The new study confirms earlier research at the University of Nebraska, which found that another Monsanto GM soya produced 6 % less than its closest conventional relative, and 11 % less than the best non-GM soya available. (The Independent-UK 200408)

SUGAR

UP Sugar mills lied to HC The Sugar Mills of Uttar Pradesh have lied to the High Court that they are incurring losses, when they are incurring profits. According to an affidavit filed in the Supreme Court by Kisan Mazdoor Sangathan, three of the largest groups – Bajaj, Balrampur and Dhampur – which account for almost half the private mills of the state made profits last year. Bajaj Hindustan Limited made an operating profit of Rs 248 crores, Balaram Sugar Mills made Rs 99.28 crores. Moreover, the number of mills in the state has gone up from 40 to 83 in three years. The companies are showing losses by showing the costs of new mils and high interest rates they are paying for the loans for new mills. Based on the arguments of the mills, the HC in Nov 2007 ordered that mills pay Rs 110 per quintal as an interim measure. (Indian Express 110408)

Maharashtra sugar production to decline in 2009? The managing director of the Maharashtra State Cooperative Sugar Factories Federation says that for the sugar season ending in Sept 2009, the acreage under sugarcane is likely to drop by 30% to 863 000 ha and cane production is likely to drop from 73 million tonne to 60 MT. This is partly because the farmers have shifted to growing soybean and other crops. The sugar production in the state may drop to 6.8 MT. The sugar production in India may drop to 27 MT this year from 28.3 MT last year. (The Financial Express 120408)

REVEALING QUOTES

"Growth and productivity in agriculture are slowing, and the green revolution has bypassed millions. The mounting pressure on farmers is evident in declining subsidies, rising input prices, protests over landlessness and an alarming number of suicides among the indebted."

United Nations Economic and Social Commission for Asia and Pacific (The Hindustan Times 040408)

"True, the current global situation of high food prices and alarming grain shortages coupled with easy liquidity moving from stocks to commodities may have resulted in excessive speculative activity."

Editorial comment in a generally economic fundamentalist paper (The Economic Times 220408)

"I personally believe in decentralised generation because it reduced the T&D losses, it reduces the need to set up a transmission system, it brings about some efficiencies also and some degree of independence."

Union Power Secretary Anil Razdan (The Economic Times 250408)

SYSTEM OF RICE INTENSIFICATION

SRI one of the 25 ideas that can change our lives

In a significant sign of recognition of SRI, the latest issue of Outlook Business Magazine has featured SRI among the 25 ideas that will change our lives. SRI is the only idea from agriculture area.

For rice in Indian diets is gradually turning into a burden. The root cause for concern is the stagnation in the annual growth in rice productivity at 0.5%. India needs to increase its rice production by 2.5 MT a year to meet its requirement in 2050. Put another way, rice output needs to increase by 92% from the current 140 MT to meet demand in 2050.

Yet, the leviathan agricultural research apparatus is shockingly cavalier about the silent wave sweeping rice-growing regions of the world: the system of rice intensification (SRI). Developed 20 years ago by Father Henri de Laulanie, a Jesuit priest in Madagascar, SRI is an innovation in which younger and fewer seedlings are transplanted with wider spacing and no continuous flooding.

By merely changing how plants, soil, water and nutrients are managed, SRI can increase rice yields to up to 15-20 T per ha. Given that India's average rice yield is 3.1 T per ha, SRI has the potential to bring about a manifold increase in rice productivity and production—that too with fewer inputs and at a lower cost.

Rice is a thirsty crop. About 45 M ha are under the crop and about 5,000 litres of water is required for just one kg of rice in the conventional 'flooding of the field' method. SRI uses 25-50% less water. Instead of flooding paddy fields, SRI requires only the root zones be kept moist. It also cuts seed requirement by an astonishing 95%. Fewer seedlings are planted, with more space between them.

Cost savings and greater productivity improve profitability. Studies show that the net returns per ha of rice farmers who adopted SRI was 67% higher than those who followed the conventional method. A farmer in Andhra Pradesh achieved a rice yield of 17.3 T per ha. Although such super yields are more of an exception, an increase of around 2 T per ha - 64% more than current levels - is achievable.

Weeds in the way If the establishment is looking away from this revolutionary method, it's because of inertia, reluctance to stray into new territory and vested interests. Other countries too went through a similar phase. SRI was met with hostility by the western agricultural establishment when it first breached the borders of Madagascar around 1999. It was derisively described as 'agronomic UFOs' (unconfirmed field observations). However, now, criticism is muted, as farming communities from China to Peru have begun to root for SRI.

Much of the credit for this change can be attributed to the Prof Norman Uphoff, Director of the US-based Cornell International Institute for Food, Agriculture and Development (CIFAD). He briefed the Prime Minister's Office recently to emphasise the urgency for SRI in India. Says Uphoff: "An increase of two T per ha is all that is needed to meet the food needs of most countries."

SRI has been included in the National Food Security Mission, which talks about increasing rice production by 10 MT by 2012. Admits Dr BC Viraktamath, Project Director, Directorate of Rice Research, Hyderabad, ICAR: "SRI has to be encouraged." The pace of change could use a concerted push.

Today, the policy response is piecemeal. For instance, some govts are looking to give a subsidy on weeders, which currently cost around Rs 1,800. For a truly transformational impact, SRI needs a ground-swell of support. That means training and building awareness among farmers, agricultural extension workers, policymakers and scientists.

SRI's potential to alter Indian agriculture can extend beyond rice. Experiments with wheat in Dehradun saw yields increase from 1.8 T per ha to 2.1 T per ha. Similarly, traditional methods of growing sugarcane, another thirsty crop, require 10 T of seed buds per ha, SRI methods require only one T; as for the yield, it can increase from 65 T per ha to 144 T. (Outlook Business Magazine 030508)

SRI in NFSM guidelines The operational guidelines of National Food Security Mission from the Union Ministry of Agriculture has made an explicit provision for taking up demonstration of SRI in farmers' plots. A provision of Rs 3000 per such demonstration has been earmarked, and the admissible heads of expenditure for this has also been given with amounts under each head. Most of the amount (Rs 2350/-) is for the inputs by farmers. (Guidelines from Ministry of Agriculture Aug 2007)

4.2 lakh ha under SRI in Tamil Nadu The Tamil Nadu agriculture minister announced in the assembly that in 2007-08, 4.2 lakh ha were covered under SRI and the target for 2008-09 is 7.5 lakh Ha. The yield achieved last year was 10-13 tonnes per ha. Thus the state's average per ha productivity has gone up from 2838 kg in 2005-06 to 3600 kg in 2007-08, which is 26.85% increase in two years. (The Hindu 050408)

THE BHUTAN PAGE

Increasing threat of Glacial Floods

An icy lake fed by melting glaciers waits to become a "tsunami from the sky." The lake is swollen dangerously past normal levels, thanks to the global warming that is causing the glaciers to retreat at record speed. But no one knows when the lake can take no more, bursting its banks & sending torrents of water into the valley below.

Such floods from above have hit Punakha before, most recently in 1994, killed about two dozen people and wiped out livelihoods and homes without warning. But a new flood could unleash more than twice as much water & be far more catastrophic. Because of Earth's rising temperatures, at least 25 glacial lakes in Bhutan are at risk of overflowing & dumping their contents into the narrow valleys where much of the population lives.

On satellite images taken in 2000 and 2001, some of the smaller ice sheets along Bhutan's 200-mile stretch of the Himalayas could no longer be found, according to a report last year by the International Center for Integrated Mountain Development and the UNEP. Experts estimate that Bhutan's glaciers are retreating by 100 feet annually. The loss has grave consequences for the country's hydroelectric power, which accounts for about a third of national revenue.

In 1994, the Luggye lake burst down into Punakha. Now, a neighboring lake, the Thorthormi, poses an even greater peril. Fed by a separate glacier, the Thorthormi is in danger of swamping a third lake, the Raphstreng. In a nightmare scenario, the two lakes could merge, punch through the natural but unstable moraine dams holding them back, and go cascading into the valley, picking up debris as they thunder downhill.

A 2002 study estimated that such a rupture could send 14 billion gallons of water toward Punakha, though not all of it would reach the valley. To try to prevent such a catastrophic flood, the govt is set to embark on a four-year, $7-million project to relieve some of the pressure on the Thorthormi by partially draining it.

Officials hope also to install sensors as part of an early-warning system in case of a breach. In 1994, the floodwaters probably took several hours to reach the valley, but no one had any idea they were coming. Gembo Tshering, a teacher, had just sat down to breakfast when the disaster struck. "I heard the roar of rushing water," recalled Tshering, 52. "When we looked, the level of the Mo Chhu [the local river] had gone way up." Fields, homes and livestock were swept away. Monks and novices clambered onto the rooftops to see what was happening. For three days they were marooned. A flood of larger proportions emanating from above Punakha would be far more devastating now that new infrastructure, new hydroelectric projects and even a new town lie in its path. (Los Angeles Times 200408)

India to push Pvt Sector in Bhutan The govt of India is trying to push for the involvement of India's private sector companies like the Reliance, GMR, JP Associates, DS construction and others in hydropower sector in Bhutan, though NHPC is not happy with this. Among the projects where India is trying this include the Wangchu (900 MW), Bunkha (180 MW), Sankosh (4060 MW), Punatsangchu (1000 MW) and Manas (2800 MW). The Manas and the Sankosh projects are also part of India's river linking plans. (Mint 140408)

THE US PAGE

Plans for underwater turbines in Mississippi The Mississippi River may begin churning out electricity through 160,000 underwater turbines, if a new company called Free Flow Power has its way. The company wants to generate hydropower on the Mississippi seabed without disrupting shipping traffic or, upsetting local ecosystems.

The technology involves a permanent-magnet electric generator that can be installed in small clusters underwater, generating power hydrokinetically rather than by building dams. Their vision is to install sets of six cylindrical turbines anchored to either pilings in the riverbed or attached to a structure such as a bridge. The flow of the river would spin the turbines to generate electricity in a low-impact way. Free Flow Power has preliminary permits from the Federal Energy Regulatory Commission to study 59 sites stretching from St. Louis to the Gulf of Mexico. Each site would consist of hundreds or thousands of turbines installed over several miles, at an estimated cost of $3 billion. As they are envisioned, the turbines together would generate 1600 MW. The company now has three years to investigate the FERC-approved sites for technical and environmental challenges. They hope to start generation by 2012. The FERC permits also give the company first right to seek operating licenses for projects at those locations.

The turbines are about two feet in diameter and probably would be made of carbon fiber or another lightweight composite material. Free Flow Power chose the Mississippi River following a nationwide search in which it reviewed govt data for 80,000 potential sites, looking for minimum average river flows of about 6.5 miles per hour. The sites between St. Louis and New Orleans were among the best they found and also are near electricity markets in the Midwest and Southeast.

The projects are likely to face close inspection by state and federal environmental regulators and the Army Corps of Engineers, which must assure the turbines don't interfere with river navigation. There's also the potential impact to fish and wildlife habitat.

In January, an official with the Missouri Department of Conservation urged FERC to require an environmental impact statement on the "cumulative effects of proposed

hydrokinetic power projects. The department has serious reservations regarding the installation and operation of hydrokinetic power within the Mississippi River" a policy coordinator for the department said in a letter to FERC. "Little information is available regarding the environmental impacts of a single project, or the cumulative environmental impacts from 14 projects that may affect more than 74 miles of the river."

The approach will not be as cheap as conventional hydropower, but the company expects to be able to sell electricity at competitive rates. Convincing local authorities that an economically uncertain project is worth the risk of reworking the Mississippi riverbed will be a challenge.

Free Flow Power and other developers of hydrokinetic projects are hopeful to be included in legislation approved by the U.S. House of Representatives that makes production tax credits available to wind power developers. The measure would provide a tax credit that helps level the playing field with more-established generating technologies. Free Flow Power sees scale as a key to its business plan to help hold down per-unit costs and improve economics.

Virginia-based Verdant Power began testing underwater turbines, resembling the large wind turbines sprouting up across the Midwest, in New York City's East River off New York in late 2006 as part of the Roosevelt Island Tidal Energy Project. A larger commercial project is planned for Canada's St. Lawrence River. Another company, Houston-based Hydro Green Energy LLC, also is pursuing projects in the Mississippi.

Proposed hydrokinetic projects are just part of the untapped potential for hydropower, according to a 2007 study by the Electric Power Research Institute. According to the study, the US has the potential to develop an additional 23,000 MW of hydropower by 2025, including 3,000 MW from new hydrokinetic technologies and 10,000 MW from ocean wave energy devices. (http://www.plentymag.com, http://tinyurl.com/5dsnvs)

THE WORLD DAMS

Big Dams: *Too late in Environment Life of Earth* Recently, environmental activists and local residents gathered near the small Chilean town of Cochrane to protest a plan to build a series of hydroelectrical dams. Cochrane is part of Chilean Patagonia, and it would be transformed beyond recognition if the project goes ahead. But the change in Cochrane would be nothing compared with the change in Patagonia. The dams -two on the Baker River and three on the Pascua- would irretrievably damage one of the wildest and most beautiful places on earth. Building the dams would also mean building a thousand-mile power-line corridor northward toward the Chilean capital, Santiago - the longest clear-cut on the planet and a scar across some of Chile's most alluring landscape. Most of the electricity generated by the project would go not to residential use but to mining and industry.

In a sense, the proposed dams are a relic of the Pinochet govt, which privatized water rights in Chile. The Chilean subsidiary of a Spanish company, Endesa, now owns the rights and is pressing the project. Chile's democratically elected govt is allowing it to move forward. The govt has postponed the release of an environmental assessment until June. It needs to reconsider the project entirely.

Destroying these rivers and the life that depends on them is no solution. Too often, the energy problem in Chile is framed as a choice between building dams or turning to nuclear energy. Solving this crisis responsibly will take a willingness also to explore other renewable sources like solar, wind and geothermal power.

Building large-scale hydroelectric dams is an old-world way of obtaining energy. It is too late in the environmental life of this planet to accept such ecologically destructive energy solutions or the model of unfettered growth they are meant to fuel. The Chilean government would do well to reconsider these shortsighted plans, as would the international owners of the rights to the water in these rivers. (New York Times Editorial 010408)

Congo dams failures, Grand Inga planned Seven African govts and the world's largest banks and construction firms met in London on April 21, 2008 to plan the most powerful dam ever conceived - an $ 80 bn hydro power project on the Congo river, even as it has been proved that the earlier Congo dams have been a failure in helping development of Congo or in even providing electricity to the local residents or even citizens of Congo.

Environment groups and local people warned that it could bypass the most needy and end up as Africa's most ruinous white elephant, consigning one of the poorest countries to mountainous debts.

The dam is being planned to exploit one of the largest major water falls by volume anywhere in the world - nine miles of rapids which lie 90 miles from the mouth of the Congo where the world's second largest river drops nearly 100 metres in just eight miles. Two hydroelectric plants, known as Inga 1 and Inga 2, were constructed near there in the 1970s and a third is planned, but Grand Inga is intended to dwarf them all. One feasibility study suggests the 40,000 MW dam will be 150 m high, and will harness 26,000 cubic metres of water a second, with more than 50 turbines each of 800 MW.

Grand Inga was proposed in the 1980s but never got beyond feasibility studies. The World Energy Council, a think tank, is convening the London meeting.

The banks and the City of London see that Grand Inga is

serious. The G8 countries are behind it because they can get UN clean development mechanism [CDM] credits to offset their emissions. Chinese, Brazilian and Canadian dam-building companies, as well as the World Bank, are all interested. But the plans ignored local people and could leave Congo with massive debts rather than a sustainable industrial base.

The project would be a magnet for corruption in one of the world's least stable regions. Its enormous budget and large contracts could devolve Inga into a corruption-riddled white elephant. Inga will centralise a vast store of the region's electric and financial power, a development model that can foster tensions and civil wars said Africa campaigner with International Rivers.

94% of people in Congo DRC and the two in three Africans who have no electricity now were unlikely to benefit because the dam depends on exporting its electricity to existing centres of industry, especially in South Africa where there have been power shortages.

The project's electricity won't reach even a fraction of the continent's 500 million people not yet connected to the grid. Despite Congo having exported electricity for years from Inga 1 and Inga 2, access to electricity across the country is less than 6%, and in rural areas where nearly 70% of people live, it is only 1%.

"My village is 3km from Inga's power lines. They built a line almost 2,000 km to the mines but in all of these years we have been left without electricity," said Simon Malanda, a community representative. (Guardian 210408)

Will the Ilisu Dam Drown Out Western Credibility? Governments and financial institutions have come under increasing pressure not to fund environmentally and socially destructive projects. In the case of the Chad-Cameroon Oil Pipeline, the Nam Theun 2 Dam in Laos and the Ilisu Dam in Turkey, the World Bank and Western governments have resorted to approving financial support under strict conditions. This approach has so far not worked because funders were not serious about enforcing their conditions. The Ilisu Dam is now facing a crunch. It may salvage the remaining credibility of Western donors - or drown it out completely.

The Nam Theun 2 Dam in Laos is still under construction, but the developer is already lagging behind in implementing the World Bank's social and environmental conditions. International Rivers has repeatedly informed the Bank's Board of Directors about the project's lack of compliance with their conditions, but the directors have so far not shown any interest in this.

In 2005, the German govt supported the Nam Theun 2 Dam after long deliberations. "The risks were not ignored; they will require an ongoing and critical monitoring, including through external parties", Manfred Konukiewitz, a senior govt official, argued in defense of the German position. "A lot will depend on the quality of project monitoring. But that was then. After approving the project, Germany and other govts have abandoned their responsibility for the problems which the monitoring system has brought up.

Ilisu The dam on the Tigris in Turkey's Southeast Anatolia region will displace 55,000-65,000 Kurdish people, inundate the 10,000 years-old city of Hasankeyf, and degrade the region's environment. Due to strong opposition in Turkey and at home, the govts of Austria, Germany and Switzerland in March 2007 only approved export credits for the project under a set of 153 terms of reference. A committee of experts, consisting of long-time World Bank officials, academics and consultants, was asked to monitor the implementation of these conditions, with three subcommittees covering the environment, resettlement, and cultural heritage.

The subcommittees recently published their first updates, and their conclusions were devastating. Of the 35 ToRs relating to resettlement and income restoration, none of the prescribed activities had been started on 26 conditions, and no information was available on the status of another four. Only in the case of five conditions, "some activities have been found to be partly done" - and they concerned "mostly the expropriation" of affected people. The experts found that the responsible Turkish authorities had no interest or information about the ToRs which they had agreed upon with the donor govts. They came to the "sobering conclusion that a period of 12 - 15 months [since the project's approval] was largely lost".

The findings of the subcommittee on the environment were equally bleak. The experts found that critical surveys on terrestrial and aquatic biodiversity and water-borne diseases, which need to be carried out before construction starts, had not even been initiated yet. Further, the dam authorities had not even begun to prepare an environmental management plan for the project. The subcommittee warned that "failure to start these investigations in early March at the latest could mean that the start of construction work would need to be postponed by one year in order to meet the requirements". Trying to address the social and environmental problems while construction was going on reminded the experts of the World Bank's disastrous experience in India's Narmada Valley. On March 11, NGO representatives met with the German govt and export credit agency. The govt officials made it clear that they did not intend to suspend disbursement of their export credit. Instead, they were grateful that the reports gave them a chance to discuss the project with the Turkish authorities. Of course the dam builders recognize the conditions of Western govts for the greenwash that they are. And so construction continues, and affected people get kicked out. Can the Western funders still salvage their credibility in the Ilisu Project? Or is the conditional approach nothing but a fig leaf for the hypocrisy of Western donors? The coming weeks will tell. (Peter Bosshard, International Rivers, 070408)

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YOUR RESPONSES

On Parambikulam Aliyar Project I have been reading the Jan-Mar 2008 issue of *Dams, Rivers & People*. It is very impressive and very useful, as always. What a lot of work must be going into this! One minor point: To the article on the Parambikulam Aliyar Project you have added a postscript pointing out that there is a Kerala view on it. Apart from the inter-State divergences, there is something more to be said. In my review of the book 'Tragedy of the Commons' I had said the following: "In writing and speaking about the ILR Project during the last three years, this reviewer had often made the point that rivers were not pipelines to be cut, turned around, rejoined and welded, and that our planners and engineers had no authority to rewrite the country's geography; but that was exactly what the Governments of Madras and Travancore-Cochin (later Tamil Nadu and Kerala) had done in the projects dealt with in this book. These were egregious manifestations of the old (and one hopes, now discredited) spirit of subduing or conquering nature. The enormity of those undertakings blazes forth from the pages of this little book."

Shri Ramaswamy Iyer (Former Secretary, Ministry of Water Resources, Govt of India) Delhi

On Disappearing Bhagirathi This is truly disturbing. There is little to comment really, only wondering if there is some way we can take it forward.

Kanchi Kohli, Kalpavriksh

The *DRP* has given words and map to our voice.

Vimalbhai, MATU Jansangathan, Delhi

The Bhagirathi has gone under about 12 km downstream of Dharasu. Please check it out. My case with a fresh Application is coming up for hearing before the Supreme Court.

Com Sureshwar D Sinha, Paani Morcha, Delhi

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