

VOL 8 ISSUE 1-2

FEB MARCH 2010

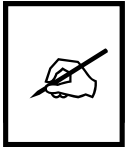
Rs 15/-

# Dams, Rivers & People

## Lead Piece

### Kerala's initiative to desilt reservoirs

## The Euphoria and the Concerns



The Kerala government has started a unique initiative that at the outset promises to be a unique and a win-win proposition. The proposition is to mine sand and silt from the existing water storage reservoirs behind dams to cater to the increasing demands of the construction industry. This can help desilt the dams that have been silted up over the years (some questions need to be asked why they have silted up). Thus this effort could also help restore part of the storage capacity of the existing storage capacity created at huge economic, social and environment costs to the society. This would thus help restore some of the benefits from the reservoirs. This can also potentially help reduce the unsustainable mining of the riverbeds for the sand. Sand mining of the riverbeds has huge social and environment impacts on the rivers and communities depending on the rivers. The sand mining of the riverbeds also destroys the groundwater recharge capacity of the rivers. The restoration of the water storage capacity of the reservoirs also can provide an alternative to adding new storage capacities though most of such demands for new storage capacities do not exactly come from benign quarters.

So the proposition from the Kerala government on the whole seems like a true win-win proposition. Is it really so? We would go into the cautions in this regard, but let us look at the specific proposition in some detail.

**The Plan** Kerala finance minister Thomas Isaac had said during his speech presenting the 2009-10 budget (Mint 030609) that silt deposits had reduced the water storage capacity in major dams by 30-40%. Initial plans involved desilting a few dams, but were scaled back to desilt just one irrigation dam to start with. Selling the sand recovered through desilting would serve a dual purpose: revenue for the government and increased storage for the dams. "It's a novel and unique concept.

**The Kerala government has started a unique initiative that at the outset promises to be a win-win proposition. The proposal is to mine sand from the existing water storage reservoirs behind dams to cater to the increasing demands of the construction industry. This can also help restore part of the storage capacity of the dams created at huge economic, social and environment costs to the society and also restrict unsustainable sand mining from river beds.**

Sand is a scarce resource and its illegal mining from the rivers has affected the water table," said N.K. Premachandran, state water resources minister.

On whether there would be any environmental impact because of the dredging and removal of sedimentation, Premachandran said the sand would be mined 500 m from the dam, with little impact and no damage to the reservoir. In March 2009, the state water department authorized the Kerala Engineering Research Institute to conduct a study

for the Malampuzha Dam. According to Keri's report, roughly 30 million cu. m of sediment could be removed from an area of around 15 sq. km.

Continued on p 2

## INDEX

Kerala's initiative to desilt reservoirs: the Euphoria & the Concerns	1
Book Review: Why are the rivers source of conflicts?	5
Why are NWDA & MWR making a farce of the ILR expert committee	6
Sikkim Glaciers are melting	6
Climate friendly, viable Sewage treatment plants	8
Impact of climate change on India's SW monsoon	9
Andhra Irrigation Projects under PMO scanner for corruption	10
Gujarat makes up stories about Sardar Sarovar Project	11
Corruption in construction of Ghaggar weir in Punjab: Govt report	12
Karcham Wangtoo HEP: Landslides & death, people demand probe	13
Norway's SN Power has poor track record: Independent report	14
Non dam hydro turbines to be tests on Amazone	15
Snow and glacier melt contributes 59% to Sutlej River at Bhakhra	16
Need for People's food security mission: WASSAN	17
Kerala govt committee recommends Rs 216 crore fine on Coke	18
Only 13-17% water losses in Mumbai, Chennai, why not Delhi?	19
Bhutan Hydro also means Debts, drying rivers and displacement	20
Mid Marsyangdi: Worst case of Nepal HEP: PAC report	21
Pakistan: Glacial lake dam threatens Hunza Valley	22
World Bank's Double speak on Large Hydro: Renewable or not?	23
Publications available with SANDRP	24

**Contact** Himanshu Thakkar, Swarup Bhattacharyya, Ganesh Gaud, *Dams, Rivers and People*, C/o 86-D, AD Block, Shalimar Bagh, Delhi 110 088. India. Ph: 91-11-2748 4654/5 [cwaterp@vsnl.com](mailto:cwaterp@vsnl.com) Web: [www.sandrp.in](http://www.sandrp.in)

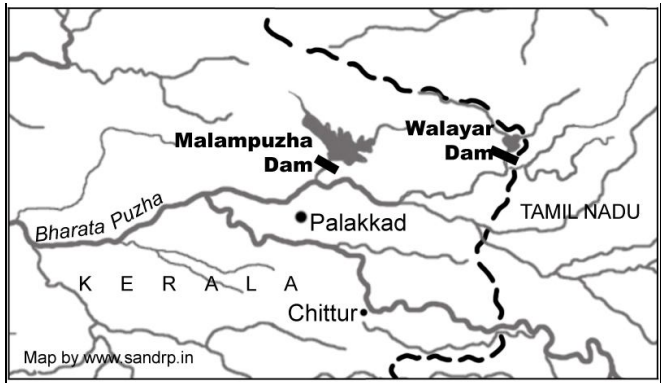
Continued from p 1

It could not only increase the storage capacity of the dam but also fetch the state at least Rs 800 crore through the sale of sand, extracted from the sediment. In lat May 2009 the Kerala govt invited expressions of interest (EOI). Successful bidders, either firms or a consortium, will have up to three years to complete the desilting.

Four companies had bid for the EOI, only two Italian multinationals qualified. The Govt had then appointed an expert committee to check whether the removal of silt from the Malampuzha dam can be taken up by the Water Resources Department or entrust the work with the private companies which had qualified in the global EOI. The committee is yet to submit report. The fact that the Malampuzha dam caters to the drinking water needs of Palakkad municipality and six adjoining panchayats is another issue since any silt removal should not affect the water supply qualitatively or quantitatively. (Indian Express 041209)

In Oct 2009, the state water resources minister said (Indian Express 201009), the Govt is examining the possibility of manually desilting the dams under the NREGP Scheme. The desilting of the dams will be carried out only after doing environmental impact studies to avoid serious environmental problems. As per the preliminary estimate, the desilting could provide sand for the next 10 years. Minister said that the Govt also proposes to remove the sediments accumulated in the Poomala dam in the Thrissur district. KERI was asked to do a sedimentation study of Poomala dam also.

**Malampuzha** Work on the dam, in the northern district of



**This proposal can also potentially help reduce the unsustainable sand mining from the riverbeds. Unsustainable sand mining of the riverbeds has huge social and environment impacts on the rivers and communities depending on the rivers. The sand mining of the riverbeds also destroys the groundwater recharge capacity of the rivers.**

**On whether there would be any environmental impact because of the dredging and removal of sedimentation, Premachandran said the sand would be mined 500 m from the dam, with little impact and no damage to the reservoir. In March 2009, the state water department authorized the Kerala Engineering Research Institute to conduct a study for the Malampuzha Dam.**

Palakkad, began in 1953. It was partially commissioned in 1956 and finally completed in 1964. It has a catchment area of 147.63 sq. km. The water is stored over an area of 22 sq. km and the reservoir has a storage capacity of 226 million cu. m. The KERI study pointed to a loss of around 12% storage capacity because of sedimentation. It also estimated that about 8 million cu. m of sand could be extracted from the area, and valued it at around Rs 800 crore at current rates.

**The proposal** Kerala Minister for Water

Resources N.K. Premachandran announced on Dec 10, 2009 (The Hindu 111209) that sand-mining from the reservoirs under the Water Resources Department would be started in December. Work would start on an experimental basis at Aruvikkara reservoir in Thiruvananthapuram district on December 16, 2009 under the Mahatma Gandhi National Rural Employment Guarantee Scheme. The district panchayat would undertake the project under the overall supervision of the Kerala Water Authority. The Nirmithi Kendra would be in charge of marketing the sand at Rs 2000 a cubic metre (Rs 10,000 a lorry load). Sand-mining was to be undertaken in the Mennkara and Chulliyar reservoirs in Palakkad district if the project at Aruvikkara was successful. The Kerala Mineral Development Corporation would be entrusted with desilting and recovery of sand from the Poomala reservoir in Thrissur district. Though a project had been prepared for desilting the Malampuzha reservoir, the government wanted to avoid mechanised project there. The Corporation had been asked to submit a detailed proposal for that.

**Revenue utilization** Finance Minister T.M. Thomas Isaac has rolled out a road map for utilising revenue from sand mined from dams. He announced (The Hindu 160310) a proposal to make special provision for the development of areas around the dams as a compensation for the hardship they undergo owing to the mining and related activities. Replying to a debate in the Assembly on March 15, 2010, Dr. Isaac said he was considering a Rs100-crore allocation for Palakkad district as part of this proposal. "The allocation is a compensation of sorts for the local people who face

hardships owing to the huge activity that reservoir sand-mining involves." It is not clear what hardships he had in mind. The amount would be utilised to construct check-dams in the Bharathapuzha and to renovate the Malampuzha Garden. The Minister said that he would also make special provisions of Rs15 crore and Rs 10 crore for Malampuzha and Muthalamada panchayats respectively because the people there had to bear with the hardships of sand-mining in the Malampuzha and Chulliyar dams. He termed the de-silting activity a big success. He said that more than one-fourth of the revenue from sand-mining in reservoirs would be spent on forestation, including prevention of soil erosion in the catchment areas.

**Sand for BPL members** Stating that the government expected to get 3,00,000 cc of sand from Malampuzha and Chulliyar, Dr. Isaac said those belonging to the BPL category could get one lorry load of sand at subsidised rates from Kalavara outlets (a chain run by the Kerala State Nirmithi Kendram), provided they produced a certificate from the panchayat authorities attesting to their status. Those who did not belong to that category would get two loads of sand at Rs 2,300 per load if they produced the certificate.

It seems from the changing plans that the Kerala government has not really thought through this proposal in all its ramifications. This is somewhat expected when a new proposal like this is taken up. However, one hopes that the Government treads a cautious path. The issue of drinking water, the fact that only Italian companies are in the fray, the limitations in use of manual labour under NREGS to remove silt and whether the marketing of sand invite criticisms for favouring real estate companies are all important issues which need policy decisions of the government.

**An agitation** A meeting of the Malampuzha Dam Protection Council on March 16, 2010 (The Hindu 170310) decided to organise a mass agitation against the move to release water from the reservoir for the use of industries in the Kanjikode-Pudussery-Walayar belt and

not for the supply of drinking water to 20 lakh people in Palakkad town and eight adjoining panchayats areas. The council said that water was being released to empty the reservoir to enable mining of sand without violating a Kerala High Court order. The court, in its February 5 2010 order, directed the Executive Engineer, Kerala Water Authority, Palakkad,

**It seems from the changing plans that the Kerala government has not really thought through this proposal in all its ramifications. This is somewhat expected when a new proposal like this is taken up. However, one hopes the Kerala government will tread cautiously so that this initiative becomes useful for others around the country and elsewhere.**

“to ensure that the process of removal of sand from the Malampuzha reservoir does not affect the drinking water facilities now enjoyed by the public.”

The council had filed a petition in the court praying not to de-silt Malampuzha Reservoir, till a comprehensive environment impact assessment and cost benefit analysis is done by

an independent agency not under the control of the State government.

**The concerns** When contacted by SANDRP, Dr A Latha of the River Research Centre (Kerala) raised a number of issues in this regard. These included the need to ensure that the desilting does not lead to bank collapse along the rim of the reservoir, to ensure that the sand is not exported out of the state and is used in a sustainable way, to ensure that catchment area treatment is taken on priority so that the reservoir does not get silted up fast again, to remember that the excessive siltation has happened due to the neglect of the catchment area in

**When contacted, Dr A Latha of the River Research Centre said that there is a need to ensure that the desilting does not lead to bank collapse along the rim of the reservoir, to ensure that the sand is not exported out of the state and is used in a sustainable way, to ensure that catchment area treatment is taken on priority, to ensure that downstream river is indeed protected from unsustainable mining, to ensure that the poor get the sand at subsidized rates and to ensure that indeed all these norms are implemented in a credible way.**

the past, to ensure that downstream river is indeed protected from unsustainable mining, to ensure that the poor get the sand at subsidized rates, to ensure the safety of the downstream river and to ensure that indeed all these norms are implemented in a credible way.

Dr Latha also added the Kerala government must “ensure that sand holidays are declared and enforced in the heavily sand extracted and utilised rivers for minimum five years and

ensure that sand mining from the rest of the rivers follows strict scientific norms and regulations.” She added that presently sand is being mined from the rivulets which are the arms of the reservoir. This will increase the gradient and accelerate erosion in the coming monsoon. Rivulet mining is posing drinking water problem to the wild life in the adjoining forests. Location

of the sand mining is very important. Currently sand mining is creating large pits in the reservoir not looking into the technical details like slope and gradient.

In this context, it is also important to see the experience from the Aruvikkara reservoir in Thiruvananthapuram district (involving extraction of sand from 15 acres on the outer reaches of the Aruvikkara dam reservoir (The Hindu 171209)) which is the most important source of drinking water for the city. There desilting was taken up by the District Panchayat as per the instructions of the Water Resources Department. The desilting was started from the periphery of the reservoir by women labour under NREGS. However, it ended up as mostly a clay mining project since little sand was available, said Latha. This was a pilot project of the Kerala government.

In this context, the impact of such proposals on those doing the draw down agriculture on the exposed reservoir beds and also impact of the activity on the fisheries and other biodiversity in the reservoir will also need to be looked into, wherever this is applicable.

Moreover, the reservoirs that have over the years accumulated toxic pollutants from the industries and towns upstream from the dams could pose the additional hazard of the silt and sand being contaminated with such toxic substances. A proper environment impact assessment would have to look at such issues. Similar is the issue of use of the fine silt that would also be part of the reservoir soil. This can be a rich manure if toxic pollutants have not contaminated it. Such rich soil should not be burned for brick making, which is a likely danger.

These concerns and cautions are indeed very important, relevant and timely. One hopes that Kerala takes up this novel proposal in a way that sets useful example for the

rest of the country. It has the potential for other reservoirs in Kerala and elsewhere in the country.

**The Potential** There is no doubt that India's water storage reservoirs are silting up and silting up at a rate much faster than either predicted at the time projects were designed and also faster than the rate that authorities are ready to accept. A detailed account of this was given in an earlier issue of *Dams, Rivers & People* (Cover story: Reservoir siltation in India: Revealing results, wake up call, Aug-Sept 2006).

The governments have failed to arrest the siltation due to poor management of catchment area and not implementing the catchment area treatment as required and promised in the

environment management plans of these projects. The Union Ministry of Environment and Forests has to accept the blame for non implementation of these plans. The Union Water Resources Ministry and the Central Water Commission are other agencies that have completely failed in ensuring proper management of the catchments through proper policies and programmes.

**There is no doubt that India's water storage reservoirs are silting up. The governments have failed to arrest the siltation due to poor management of catchment area and not implementing the catchment area treatment as required and promised in the environment management plans of these projects. The Union Ministries of Environment & Forests, the Union Water Resources Ministry, Union Power Ministry, Central Water Commission and project authorities are responsible for this.**

**Indeed desilting of large reservoirs has remained uneconomic proposition so far. There is also an urgent need to ensure that the unsustainable sand mining of the river beds that is destroying almost every river in India is indeed properly regulated to ensure that such actions are stopped and violators penalized in a transparent and exemplary way. The Kerala proposal to desilt the reservoirs for sand mining, if successful, can then open up the potential to make the desilting of the reservoirs an economically viable activity for providing sand for justifiable demands. The implementation of the Kerala proposal would thus be closely watched by many.**

Indeed desilting of large reservoirs has remained uneconomic proposition so far. There is also an urgent need to ensure that the unsustainable sand mining of the river beds that is destroying almost every river in India is indeed properly regulated to ensure that such actions are stopped and violators penalized in a transparent and exemplary way.

The Kerala proposal to desilt the reservoirs for sand mining, if successful, can then open up the potential to make the desilting of the reservoirs an economically

viable activity for providing sand for justifiable demands. It has the potential to provide a useful example for reservoirs all over India and possibly elsewhere. The implementation of the Kerala proposal would thus be closely watched by many.

**SANDRP**

**BOOK REVIEW****Why are the Rivers sources of conflict?**

*Book: "RIVER WATER SHARING: Transboundary Conflict and Cooperation in India", Editors: N Shantha Mohan, Sailen Routray and N Sashikumar, RiytkedgeL Tatkir & Francis Group, New Delhi, 2010, pages: 192 + (xii)*

Till about a century ago, very few rivers were seen as a source of conflict, the way the title of this book does. What has happened in the course of the last century that rivers that were described as one of the most beautiful things of this world (Hermann Hesse, *Siddhartha*), the source of love and bonding and birthplace of societies, are now increasingly seen as a source of conflict?

The literature on this subject is growing and this book is certainly an important contribution, particularly since it also tries to take a multi disciplinary view and also tries to look for alternatives to traditional large dam centric mechanisms. The preface starts with giving somewhat incorrect picture of rivers being the source of all pervasive conflict, tensions and violence at various levels. It also erroneously suggests that water allocations have been dominated by science and technology. Though the editors are right in saying that the disciplines of social sciences and humanities have been excluded, they make two errors here. Firstly, by implication they are accepting that social sciences and humanities are not part of the science. More problematically, they are in error in certifying that the dominant decision makers have been using "science and technology" in correct and comprehensive way, which is precisely not the case.

The book boasts of some rather formidable names as contributors, including Ramaswamy Iyer (former secretary, Union Ministry of Water Resources), R Jeyaseelan (former chairman, Central Water Commission), S Janakarajan and Vijay Paranjpye, among others. The introductory chapters that try to capture the trans-boundary water sharing within the water sector discourse have done a reasonable job. Here, Prof Shantha Mohan rightly emphasise the need for bringing groundwater into the water sharing equation. This is particularly important when groundwater is already our national water lifeline and our reliance on groundwater is increasing with every passing day. The authors here rightly underline the adequacy of available information base on water resources and the need to put it all in public domain.

Section two on institutional and legal issues has three chapters, among which the Chapter by Ramaswamy Iyer is the most notable for its completeness. The chapter on regulatory issues leaves a lot to be desired. Both chapters in Section three on cultural, historical and technological perspectives are on Cauvery basin and provide interesting perspectives, but are limited due to the focus on single basin.

The fourth section that attempts to show alternative solutions has some very exciting aspects. Here

particularly noteworthy is the 'Cauvery family' experiment where the farmers of Cauvery river basin in Karnataka and Tamil Nadu come together in a spirit of dialogue and sharing. Similar is the experiment in Bhima River basin (Part of Krishna River Basin) in Maharashtra. In both cases, the role of non state actors and grass roots participation are the important aspects, neither of which are found either in policy or practice of the state attempt at water resources development or conflict resolution. Had the book devoted more space elaborating these aspects, it may have made much greater contribution. The editors' concern to look for solutions in the context of *integrated water resources management* creates limitations since IWRM comes with certain baggage and is too restrictive to be able to provide a more fundamental solution.

The book is unable to entirely break free from the root cause that has created the problem in the first place. Going back to the question raised at the beginning of this review, the root cause is not increasing populations, urbanisation, increasing demands, the industrialisation, the consumerism, the pollution and so on, though they all are factors that have contributed. The root cause is the tendency to find technological solutions (as the lead editor notes in the opening chapter of the book) to the exclusion of the governance issues posed by the water resources development. The convenient equation (also called setting or *jugad?*) between the drivers of the political economy and representative democracy has only helped perpetuate the progress from large dams to interlinking and privatisation of rivers. Specifically in India, the blunder of Pandit Nehru in not putting in place an accountable, transparent and participatory process in place is glaring. Particularly since his government had a rather rare opportunity and mandate to make a fresh start. That legacy, including his naming large dams as the temples of modern India has been difficult to get away for the governments, the polity and the persons since then. The book makes some tentative statements in this regard, but is not able to hit the nail, as they say.

The book also fails to note the considerable impact that climate change will make on drivers of rivers (monsoon for one) and thus increase the frequency and scope of conflicts *if* we continue to trudge along the same path that we have taken over the last one century and more. In spite of some short comings of the book, I agree with Dr K Kasturirangan (as stated in the Preface) that this is an important book for those interested in the water sector.

**Himanshu Thakkar**  
(An edited version published in *Business World*)

**EXPERT COMMITTEE ON INTER LINKING OF RIVERS****WHY ARE NWDA AND MWR MAKING A FARCE OF IT?**

It seems the Union Ministry of Water Resources and the National Water Development Agency are out to make a farce of the expert committee on Inter Linking of Rivers. The committee meeting is called once or twice a year, after all the relevant decisions have been taken the committee is not even given a chance to apply its mind on the issues that is under its mandate. The seriousness of this situation has been raised inside and outside the committee several times, but there is no sign of improvement. The 8<sup>th</sup> meeting of the committee held on March 5, 2010 provided further evidence for these state of affairs.

The agenda notes for the eighth meeting of the Expert committee held on March 5, 2010 said, "the (Central Water Commission) Committee had recommended M/s. Water & Power Consultancy Services (India) Pvt. Ltd. for award of the work for carrying out the EIA studies for Par-Tapi-Narmada and Damanganga-Pinjal links. The awarding of the works of EIA studies is under process." As one of the members of the committee wrote to the committee before the meeting, this is shocking development on many counts, some of the important ones as listed here.

1. **FIRSTLY,** as the WAPCOS (Water and Power Consultancy Services (India) Ltd) website (see <http://wapcos.gov.in/Microsoft%20Word%20-%20Brief-rkq.pdf>) says, "WAPCOS Limited, a Govt. of India Enterprise under the aegis of Union Ministry of Water Resources (MWR)", it is a MWR organisation. The Introduction to WAPCOS on its website notes, "WAPCOS as a techno-commercial organisation under the aegis of Ministry of Water Resources utilises the talent and expertise developed in the various organisations of Govt. of India and State Govts." The list of supporting organisations on the WAPCOS website lists various MWR organisations like the CWC, CGWB, CSMRS, CWPRS, among others. Each year MWR annual report contains a section on WAPCOS. It is clear from all these that WAPCOS is an in house organisation

of the MWR and in any case not an independent agency.

The work of EIA study is supposed to involve an **independent assessment** of the environment impact assessment of the proposals and the study is supposed to include No project option, listing of unacceptable impacts, and include the possible option of concluding that the project is not viable. **Such independent assessment cannot be done by an IN HOUSE ORGANISATION**

**It seems the Union Ministry of Water Resources and the National Water Development Agency are out to make a farce of the expert committee on Inter Linking of Rivers. The committee meeting is called once or twice a year, after all the relevant decisions have been taken the committee is not even given a chance to apply its mind on the issues that is under its mandate.**

**like WAPCOS. EIA HAS TO BE DONE BY AN ORGANISATION THAT IS INDEPENDENT, WAPCOS IS CLEARLY NOT AN INDEPENDENT ORGANISATION SINCE IT IS PART OF THE SAME HOUSE THAT INCLUDES MWR and NWDA. OTHERWISE THE EIA CAN BE REJECTED ON THE GROUNDS OF ISSUE OF CONFLICT OF INTEREST.**

**The work of EIA study is supposed to involve an independent assessment of the environment impact assessment of the proposals and the study is supposed to include No project option, listing of unacceptable impacts, and include the possible option of concluding that the project is not viable. Such independent assessment cannot be done by an in-house organization like WAPCOS, as WAPCOS is clearly not an independent organization.**

The response of the secretary, MWR on this in the meeting was that WAPCOS is an independent organization and MWR is only an administrative ministry and that even the Supreme Court is administratively under the Union Law Ministry. He also said that the chair of the WACOS is selected by the Public Enterprises Selection Board and that is an independent body. Hence he refused to accept that WAPCOS is an in house organization of MWR.

2. **SECONDLY,** WAPCOS has done survey and investigation works justifying river link and such other projects in the past. It has done such studies for River linking projects (e.g. Pranhita Chavella link), for Maharashtra and Gujarat, including projects like Damanganga and Sardar Sarovar that has direct involvement in projects under discussion. An organisation in the business of doing such work cannot be entrusted to take up an EIA work as the work of EIA is in direct conflict with other business of the organisation.

The response of the Secretary, MWR was that technically, there is no bar on any organization doing an EIA, even the developer himself can do it, he did not see any issue of conflict of interest there!

3. THIRDLY, WAPCOS has had a very poor track record in case of doing EIAs. It has done seriously flawed EIA work in many cases, including in case of Athirapally HEP in Kerala, Middle Siang HEP in Arunachal Pradesh, 1200 MW Teesta III project in Sikkim, We can provide detailed critique of each of these EIAs and flaws in the way WAPCOS did that. By not looking at the track record of such companies, a decision to award to EIA to WAPCOS would lead to flawed EIA and unacceptable outcomes.

The response of Chairman, Central Water Commission to this was that these are only three of the scores of EIAs done by WAPCOS and that if most of the EIAs are accepted by the MEF and its expert committee than what is the problem? He also defended WAPCOS saying that it was the best candidate among the shortlisted agencies. It was pointed out that there environment governance in India is in very poor state, a good example of it being that Mr P Abraham remained chair of the EAC on river valley projects even as he was also on board of some of the power companies and that only after it was pointed out to the MEF that Mr Abraham had to be removed. It was also pointed out that even if one EIA is shown to be shoddy, that should be good enough reasons to black list such an agency.

During the meeting it was pointed out that the criteria of the NWDA for EIA agency was largely quantitative and there was no qualitative criteria. Secretary, MWR did agree that NWDA must also have qualitative criteria for selection of EIA agency. He however found it sufficient to suggest that in the next meeting of expert committee, WAPCOS may be asked to make a presentation about

**In this context, a shocking revelation was made during the 8<sup>th</sup> meeting. While the agenda notes dated Feb 20, 2010 said that the process of taking decision for awarding of the EIA work to WAPCOS is underway, the NWDA director general informed the committee that the EIA was already given to WAPCOS in Dec 2009 and that the agenda notes were prepared in Nov 2009, and were never changed even though they were sent to the members only in Feb 2010.**

**In the 4<sup>th</sup> meeting in January 2008, a member had raised the issue that this committee did not have the opportunity to apply its mind in the selection of the consultant for Ken Betwa link, which was in complete violation of the mandate given to the committee. If this committee is to give justice to the Terms of Reference given to it, it must get an opportunity to apply its mind to the issues of relevance. NWDA never provided adequate response to that issue. That situation led to the outcome of one of the shoddiest EIA work for the Ken Betwa link as seen during the presentation by the consultants M/s. Agriculture finance Corporation Ltd., Hyderabad during the 7<sup>th</sup> meeting of this committee.**

the persons and methodology for the EIA and the committee can make suggestions. Can this make an ineligible agency eligible?

Lastly and most importantly, in the 4<sup>th</sup> meeting in January 2008, a member had raised the issue that this committee did not have the opportunity to apply its mind in the selection of the consultant for Ken Betwa link, which was in complete violation of the mandate given to the committee. If this committee is to give justice to the

Terms of Reference given to it, it must get an opportunity to apply its mind to the issues of relevance. NWDA never provided adequate response to that issue. That situation led to the outcome of the most shoddy EIA work for the Ken Betwa link as seen during the presentation by the consultants M/s. Agriculture finance

Corporation Ltd., Hyderabad during the 7<sup>th</sup> meeting of this committee.

In this context, a shocking revelation was made during the 8<sup>th</sup> meeting. While the agenda notes dated Feb 20, 2010 said that the process of taking decision for awarding of the EIA work to WAPCOS is underway, the NWDA director general informed the committee that the EIA was already given to WAPCOS in Dec 2009 and that the agenda notes were prepared in Nov 2009, and were never changed even though they were sent to the members only in Feb 2010.

So now the committee was again confronted with the same situation, where decisions have already been

said to have been taken without this committee given an opportunity to apply its mind in selection of consultants for the two links under discussion. WHY IS THIS COMMITTEE NOT BEEN GIVEN A CHANCE TO APPLY ITS MIND TO THE ISSUES UNDER ITS MANDATE?

Needless to add, there was no answer that question. From the looks of it, it seems clear that NWDA and MWR are happy to continue to use the committee process as a box to be ticked.

**SANDRP**



## Climate friendly, Cheap, fast, viable Sewage treatment plant from Baba Seechewal

The untreated sewerage water of the cities is a big problem with its stink making life a hell for the urbanites. With none or inadequate treatment facilities at most of the places, water flows through open nullahs and pollute the water bodies, including rivulets, water streams and the rivers. The Sutlej is totally black and stinking beyond Ludhiana, as the city's effluents along with the untreated sewerage water fall into it through Buddhah Nullah.

The Malwa belt, where people use this water for drinking purposes, today is marred by cancer. None of

the statutes or government dictates has cured this malaise. A solution to this multi-faceted problem is a unique sewerage treatment plant, which the noted environmentalist and the man behind the cleansing of Kali Bein, Sant Baba Balbir Singh Seechewal, has indigenously designed and built on about six acres of land near Dasuya town in Hoshiarpur district at a measly cost of about Rs 18 lakh.

The plant, built in one month's time only, has in the first leg three 11 ft-deep wells with a diameter of 30 ft, 20 ft and 15 ft respectively and six adjoining ponds of 170ft x 100 ft in the second leg, all built at the height of about 12 ft from the ground level. Thick sewerage water from the open nullah is thrown through two pump sets in the first well from a height by scattering it on a platform for aeration. It then swivels in the well and enters into the second and then into the third one.

Sewerage water loses its thick slurry in the bottoms of these V-Shaped wells from where it is separated with the help of a pre-laid underground pipe and taken aside in the open beds. After drying, this slurry becomes very fertile soil capable of growing vegetable and flowers in flower pots and kitchen gardens. The water from the wells then moves to the adjoining larger ponds of 170ft x 100ft, three of which are built in a row and gets purified automatically as it moves from one pond to another, losing its stink after the second pond.

After passing through the first three, water enters into the set of other three ponds parallel to the first ones. In the fifth and sixth ponds, the water is crystal clear and fit for irrigation purposes with all the healthy nutrients in it. From here it is channelled to a 3 km underground pipeline taking it to the adjoining fields for irrigation. The tilt of wells and ponds is so designed that the water moves automatically with the gravitational force.

Daily around 10 to 12 lakh litres of sewerage water of Dasuya, having a population of around 20,000, falls into

this sewer and irrigates around 300 acres of crop of wheat post-treatment. Farmers who use this water are a happy lot as they have stopped using ground water for irrigation and their yield has shot up by 30 to 40 per cent due to this nutrient rich water.

Roughly, it increased the output of wheat by around 180 tonnes and that of paddy by 240 tonnes last year from these 300 acres, which means an additional income of Rs 40 lakh to the farmers. Their fertiliser consumption has also fallen to around one-third of what they used earlier and

approximately 60 tonnes of urea and 30 tonnes of DAP was saved in a year, which means a net saving of about Rs 6 lakh on account of fertilisers.

Since the farmers have stopped using underground water, the water table has also gone up fairly in the area. Kali Bein, which was polluted with its dirty water, has been spared of this curse. In nutshell, this plant can be seen a model for solving the sewer woes of all the towns and that too with huge economic and environmental advantages coming in as a bonus.

Punjab today has 134 municipalities and three corporations with a population base of about 85 lakh. Taking Dasuya town's population as the base for all calculations, all the cities of Punjab put together have a capacity to irrigate 1,25,000 acres of land, thereby increasing the output of wheat and paddy by 37,500 tonnes and 50,000 tonnes respectively, which means an additional income of about Rs 80 crore to the state farmers. They will also save around 25,000 tonnes of urea and 12,500 tonnes of DAP resulting in a net saving of Rs 24 crore. It will further stop polluting the water bodies and ground water and the people will be spared of diseases caused by impurities in water. All the rivers and rivulets of Punjab will again become clean.

Apart from land, with a cost of around Rs 75 crore, this model can be easily replicated in small and medium towns of Punjab. The only thing which needs to be ensured is that the implementation work should not be entrusted to any government agency, which may take years to commission the plants and at many times of what Baba Seechewal has spent.

It will be in the fitness of things if the required land and funds are handed over to Sant Seechewal's NGO, which can build such treatment plants in Punjab. There is no better solution to the problem of water pollution in Punjab than these low-cost treatment plants. (Bikram Singh Virk in The Tribune 100310)

**A solution to this multi-faceted problem is a unique sewerage treatment plant, which the noted environmentalist and the man behind the cleansing of Kali Bein, Sant Baba Balbir Singh Seechewal, has indigenously designed and built on about six acres of land near Dasuya town in Hoshiarpur district at a measly cost of about Rs 18 lakh.**



## CLIMATE CHANGE & WATER SECTOR

**Impact of Climate Change on SW Monsoon** Union Minister for Earth Sciences, Government of India, in response to a question in Lok Sabha on March 10, 2010 about the impact of climate change on India's South West Monsoon said that the major findings of various studies are as under:

- i) Daily mean temperature over the country is found to be increasing more or less at the same rate as the global mean (0.5 C during past 100 years).
- ii) The south-west monsoon rainfall over the country has decreased by nearly 4.7% during the period 1965-2006 as compared to the earlier period (1931-1964).
- iii) Heavy rain events (>10 cm/day) over central India are increasing at about 1%/year while weak and moderate events (1-5cm/day) are decreasing at about the same rate over the past 50 years.
- iv) No significant long-term trends are reported in the frequencies of large-scale droughts or floods in the summer monsoon season. (Ministry of Earth Sciences)

### India's per capita emissions to rise to 3.5 T by 2030

India's per capita emissions of greenhouse gases will increase from the present 1-1.2 T to 3-3.5 T of carbon per year by 2030, predicts the country's annual Economic Survey released on Feb 25, '10. Quoting climate modeling studies, the survey predicted that per capita emissions would be 2-2.5 tonnes of carbon dioxide equivalent by 2020. India, the world's fourth-largest polluter, plans to levy a tax on coal and use the money to start a national fund to back renewable energy projects. A clean energy tax of Rs 50 a metric ton will be imposed on domestic and imported coal, India's Finance Minister Pranab Mukherjee said in his budget speech on Feb 26, '10, without specifying a target for the fund. The new levy could help raise about Rs 25 billion, according to Emergent Ventures, a climate change consulting company. (IANS 250210, Bloomberg 260210)

**Global CO2 up** Carbon dioxide, measured at Norway's Zeppelin station on the Arctic Svalbard archipelago, rose to a median 393.71 parts per million of the atmosphere in the first two weeks of March from 393.17 in the same period of 2009. (Planet Ark 160310)

**The SCAM CDM continues: JSW gets more UNFCCC** has issued Carbon Credits to yet another CDM project in JSW plant at Torangullu, Karnataka. The company got 504241 CER allotment for its Generation of Electricity through combustion of waste gases from Blast furnace and Corex units for the period : 01 Nov 08 – 30 Jun 09. This is one of the largest polluting plants in the area, Mausam, Channel 4 and the Time Magazine has done stories on this project. It seems nothing matters, the cleaning act by the august UNFCCC continues. (India Climate Justice forum)

**The World Bank's conflicted role in energy** A spat between the US administration and some middle- and

low-income shareholders in the World Bank highlights political tensions carried over from Copenhagen climate talks. While the Bank showcases its 'clean' energy investments, projects in the pipeline for 2010 look set to continue large-scale investment in fossil fuels. During the Copenhagen negotiations the US Treasury quietly released a guidance note for multilateral development banks (MDBs) on developing countries and coal-fired power generation. The guidance emphasises that MDBs should build demand for no- or low-carbon energy sources. It also provides step-by-step procedures it wants MDBs to follow in order to ensure full consideration of no- or low-carbon options before approving fossil fuel power generation or retrofit projects. However nine executive directors (EDs), representing a number of middle- and low-income countries, have sent an angry letter to World Bank president Robert Zoellick, protesting against the US trying to use its influence as the Bank's biggest shareholder to direct Bank operations. Signatories include representatives of India, China and Saudi Arabia. The letter reminds Zoellick that under the United Nations Framework Convention on Climate Change, "the incremental cost of such mitigation measures will be met through grant assistance provided by developed countries."

The letter's objection to developing countries having to use loans to finance more expensive renewable energy is a clear reference to the failure of Copenhagen to provide climate finance. Raman Mehta from ActionAid India, adds that "If the US wishes to accelerate the deployment of clean energy in developing countries, let it also pay its fair share of the incremental costs of moving away from coal." Vinuta Gopal from Greenpeace India also points out the need for the US to put its own house in order. "If America was really concerned about impacts on climate change, they should be regulating the coal industry in the US and should have committed to a fair, ambitious and binding deal at Copenhagen. They failed to do that."

**Bank's dual personality** As the Bank seeks to position itself as a suitable institution for future climate finance, it has tried to shift attention away from its fossil fuel investments. It has trumpeted its increase in funding for energy efficiency and renewable energy to 40 per cent of its energy sector portfolio in 2009, though observers have noted that this includes retrofitting of coal plants. However, a three year analysis on the Bank's annual average lending to the energy sector (2007-2009) by NGO Bank Information Center shows an annual average of \$2.2 billion going to fossil fuels each year including \$470 million for coal. Only \$780 million goes to renewables. This looks set to continue, the Bank has recently agreed to loan \$180 million to India for the renovation and modernisation of coal-fired generating units in the states of Haryana, Maharashtra and W Bengal. (Bretton Woods Project Update 150210)

**TERI has a golf course in Gurgaon** In a shocking revelation, it has come to light that The Energy and Resources Institute (TERI) that is supposed to work on sustainable development issues has a 9 hole gold course in its campus in Gurgaon and it offers membership at the rate of Rs 25000. TERI is headed by IPCC chief R K Pachauri and this is another incident of duplicity of IPCC chief. TERI had acquired the land for its institute in Gurgaon from the Haryana Urban Development Authority and use of such land for such commercial purposes is completely illegal and in any case against the basic norms of equitable development, environment sustainability and water conservation. The Gurgaon water table is low and is declining fast as per the reports of the Central Groundwater Board and in such a place to have a golf course that too by an institute supposed to be working on environment sustainability is completely unacceptable. (Mail Today 200210)

### GROUNDWATER

#### Stoppage of mining increases levels in Faridabad

Since stoppage of mining for sand other construction material in and around Faridabad, the water level has gone up by one to eight meters from 2003 to 2008, after mining was stopped in 2002 after a Supreme Court order, according to a study by the Central Ground Water Board. The rise was despite the fact the rainfall during period was below normal. The mined pits, many times below the groundwater level would expose the groundwater to high evaporation losses, such losses were close to a million cubic meters a year. The miners did not bother to fill up the abandoned mines. They would also change the drainage pattern so that streams do not enter the active mines. The mined materials were also acting as recharge zones and the removal of the material would destroy the recharge potential. The study has suggested that mining should be restricted to three meters above the water table. (Tribune 120310)

**Increasing contamination** According to information given by the govt in Parliament, the number districts with higher than prescribed limits of contamination are growing the latest figures being: Iron (254 districts), Fluoride (224 districts), salinity (162 districts) and Arsenic (34 districts). (The Times of India 130310)

### LOCAL WATER BODIES

**Agitation, HC orders stay on Nirma project land** The Gujarat High Court has ordered a status quo on the use of the 268 ha of land allotted by the Gujarat government for the proposed Nirma Cement plant after a year long strong agitation in Mahuva block in Bhavnagar district. The Mahuva Bandhara Khetiwadi Pariyavaran Bachav Samittee petitioned the HC that 222 ha of the land is part of a water body created to stop salinity ingress and the plant at such a location would destroy a large portion of the coastal agriculture and water resources. The Chief Justice of HC remarked to the government lawyer during the hearings, "stop selling Gujarat." (Indian Express 170310)

### DAMS

**Kerala desilts dams and generates revenue** Kerala's state Budget for 2010-11 unveiled by state finance minister TM Thomas Isaac on March 5, 2010 included "The green portion of the Budget will draw its resources from the proceeds of the sale of sand from the silt of the dams in the state". From last year, the state had set out on an unprecedented resource initiative to mine at least Rs 800-crore worth sand from the silt accumulated at its main dams like Malampuzha. (Financial Express 060310)

**Andhra Irrigation projects under PMO scanner** The Prime Minister's Office has sought details of the EPC (Engineering, Procurement and Construction) contracts awarded by the AP irrigation department, for the projects undertaken in the past five years involving a combined outlay of Rs1.8 trillion following corruption charges by opposition parties. The Central Water Commission (CWC) wrote to the department asking for the details, which it said had been sought by PMO. The Congress-led state government has taken up 86 major and medium irrigation projects since 2004-05 under its Jalayagnam (water worship) programme. Only four major and eight medium irrigation projects have been completed, with the remaining 74 still in different stages of development. Till date, the state has spent Rs 47,382 crore on irrigation projects and is still to spend Rs1.32 trillion, far higher than its budget for 2010-11 of Rs1.14 trillion. These projects were awarded to several leading Indian infrastructure firms under the EPC model and slated to be completed by 2012. These firms include IVRCL Infrastructures and Projects Ltd, Nagarjuna Constructions Co. Ltd, Hindustan Construction Co. Ltd, Gayatri Projects Ltd, Patel Engineering Ltd, SEW Infrastructure Ltd, Navayuga Engineering Co. Ltd and Mega Engineering Infrastructure Ltd.

The Telangana Rashtra Samithi president K. Chandrasekhar Rao alleged "gross violation" of regulations and "enormous corruption" in awarding EPC contracts under the "garb of Jalayagnam", in a letter to Prime Minister, Manmohan Singh on 10 October. In the letter Rao sought a Union government enquiry into the "massive fraud of several thousand crores". Alleging that the state government may resort to "manipulation and destruction of the records" of EPC contracts, Rao urged PMO to "immediately direct the CBI (Central Bureau of Investigation) to seize all the records of Jalayagnam contracts to facilitate detailed inquiry." "PMO has directed the Central Water Commission to immediately look into the matter and obtain all the details pertaining to award of EPC contracts in AP since 2004-05," said a senior official in the AP irrigation department. "CWC, in turn, has directed the AP government to immediately furnish the details of EPC contracts of irrigation projects, especially those assisted by the Central government funds," said the same official. Citing the PMO enquiry, CWC's monitoring and appraisal directorate, in a letter dated 3 February, directed the principal secretary

(projects) of the state irrigation department to urgently furnish the details of the EPC contracts. CWC sought from AP government the details of EPC contracts of all the irrigation projects that were being assisted under the Accelerated Irrigation Benefits Programme (AIBP).

A senior civil servant in the AP irrigation ministry refuted allegations "The EPC contracts awarding system that AP had evolved over the last 5.5 years' period is considered the most stringent and robust in the country, leaving no scope to any kind of discretion, which is usually prone to pressures. And many a time, the state government was assisted by the project appraisal agencies belonging to CWC while awarding EPC contracts."

The cost of the Sriramsagar Project flood flow canal was revised to Rs 4,266 crore from Rs1,331 crore, the cost of the J Chokkarao lift irrigation scheme was revised to Rs 9,317 crore from Rs 6,016 crore and the Rajiv Bhima Lift Irrigation Scheme raised to Rs1,969 crore from Rs 744 crore originally estimated. Changes in the scope of irrigation projects and the resultant cost escalations were being periodically submitted to CWC since the state wants the Centre to fund up to 25% of the project costs under AIBP, the official said. "The AP government has already accorded administrative approvals to these revised estimates and submitted them to CWC, of which some were already cleared by CWC and some were under its appraisal," the official said. (Mint 280210)

**Gujarat makes up stories about SSP** Even as the Gujarat govt comes under increasing pressure from state opposition, from the Expert Committee appointed by the Union Ministry of Environment and Forests and people of Gujarat, its spokesman make up imaginary tales on the floor of the assembly. So even as hardly 1 lakh ha got irrigated from the project in the state, its minister told the assembly that the projected command area of 18 lakh ha can be increased to 35 lakh ha through use of drop and sprinkler irrigation. The Sardar Sarovar Narmada Nigam, though did not even know of such a possibility. The second untruth of Mr Jaynarayan Vyas was that Narmada project has added 2.5 lakh ha of irrigation in last three years, when the state govt accepts that no more than 1 lakh ha irrigation in official command area has been achieved. Thirdly he said that the major reason why the state's agriculture growth rate is up in recent years is due to SSP. However, a research paper by Tushar Shah & others from International Water Management Institute shows that some of the real contributors to the increased growth rate are local water systems, including check dams and well recharging. Finally, he claimed that north Gujarat produces milk worth Rs 12000 crores due to Narmada waters, again a lie, since a very miniscule (less than 10%), part of N Gujarat gets benefit from SSP waters. These are shocking claims, goes to show how weak is the case of SSP even for Gujarat govt. (The Times of India 110310)

**Gujarat wants increase in SSP height at any cost** In a letter to Union Environment Minister and Union Water

Resources Minister, Gujarat Chief Minister has argued that the Narmada Control Authority and its environment and rehabilitation sub groups must give clearance to install gates, piers on the Sardar Sarovar Dam and bring up the height of water storage to the Full Reservoir Level of 138.68 m from the current level of 121.92 m. However, the expert committee appointed by the Union Environment Ministry on July 9, 2008 has shown that considering the progress of the various environment management works, SSP should not have been given permission even for the earlier increase in height from 110.63 m to 121.92 m.

After presentation of Gujarat Budget for 2010-11, leader of Opposition in Assembly said, "The govt can irrigate 18 lakh ha without raising the height of the Narmada dam. But it is irrigating only one lakh ha even though it claims that it is irrigating five lakh ha. This is just because the govt has not constructed sub canals & field channels."

Now the CM is arguing that there is no need for such expert committee! The expert committee has also said that the assessment of backwater impact done by the Central Water Commission is inadequate and not as required by the Narmada Water Dispute Tribunal Award and the submergence is likely to be higher by 1.6 m than that estimated by CWC. The CM, in his letter argues that CWC assessment was approved by the Narmada Control Authority meeting on Aug 12, 2008.

On March 11, 2010, Central Water Commission approved the new cost of SSP at Rs 39240 crores, up from Rs 6408 crores at planning commission approval stage in 1988. The CWC also approved, based on submission from Gujarat Govt, that the benefit cost ratio would be 2.33. The CWC approval for higher cost is required since Gujarat wanted to get additional funding of Rs 11000 crores for the project from the centre for the command area development.

Gujarat govt has claimed that about 0.5 MAF of additional water is being supplied to North Gujarat from SSP as proposed by the Chief Minister three years ago. This is a strange claim when 90% of the design command area of the project is yet to get its due water. Gujarat Govt also claimed that ultimately, in years of surplus river flows additional 1 MAF water would be supplied to each of the three regions of Saurashtra, Kutch and North Gujarat when the dam reaches full height and the canals are accordingly being designed. (The Times of India 090210, 120310)

**SSP canal based hydro proposal** The Sardar Sarovar Narmada Nigam Limited has invited Expression of Interest for engineering, planning, design and tender evaluation for four canal based hydro projects: 11.5 MW on Vadodara branch canal, 12 MW on Miyagam Branch canal, 48 MW on Saurashtra Branch canal and 20 MW on Kutch branch canal. The NCA in its recent meeting has not approved the increase in height and has asked the Environment and rehabilitation sub groups to give their assessments. (Indian Express 200210)

## IRRIGATION

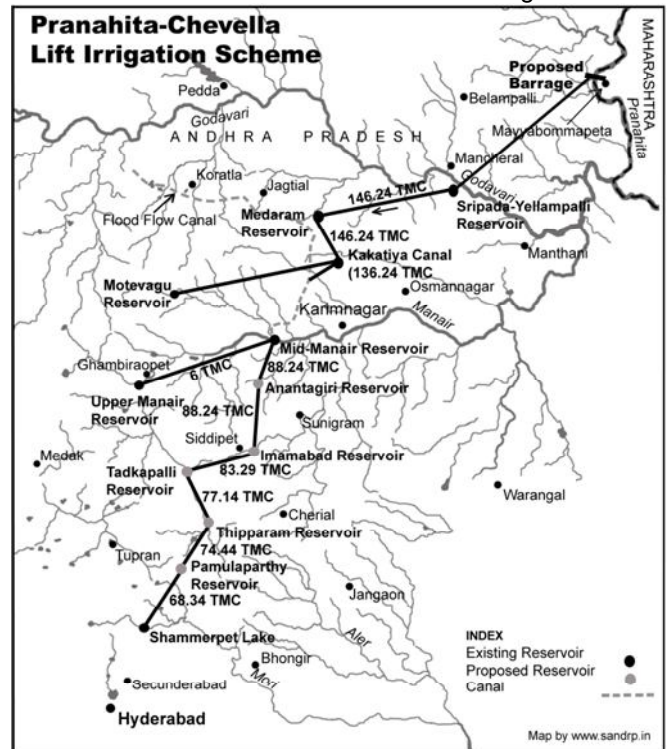
### Multi crore Corruption in Ghaggar weir in Punjab

The estimates committee of the Punjab Vidhan Sabha slammed the Irrigation Department for rampant corruption and failure to take action against the erring officials. The committee has unearthed a scam worth crores on the construction of a weir across the Ghaggar and has also recommended action against executive engineers and the contractor. "Everyone from the top to bottom was united in this act of corruption," states the report. The report said the contractor had grabbed the project on the basis of fake and misleading documents. It has also asked the government to lodge an FIR against the contractor, besides blacklisting him. The report adds that two executive engineers supervising the project allowed payments to be made to the contractor despite knowing that his working was not satisfactory. Also, instead of penalising the contractor for delay in the project, he was given two extensions. Pointing further connivance of the officials with the contractor, the committee said the contractor was allowed a variation in cost estimates of about 30 per cent, while according to the established rules it cannot be more than 10 per cent. The report also stated that the director (Prosecution and Litigation) played an anti-government role in the case when he advised the state not to move an appeal for the recovery of penalty from the contractor. (The Tribune 180310)

**CAG Audit of Uttarakhand AIBP** The audit by the Comptroller and Auditor General for the Accelerated Irrigation Benefits Programme (AIBP) for Uttarakhand for the period concludes, "The claims of the departments on addition of irrigation potential through AIBP schemes appear grossly exaggerated and are not reflected in the trends on key parameters i.e. gross irrigated area or cropping intensity. The gross irrigated area increased marginally in three sampled districts and in two districts, it registered a decrease. Cropping intensity has fallen down in four out of the six sampled districts; for the State overall, the cropping intensity has gone down in 2005-06. Our analysis does not show a significant impact of AIBP in augmenting the irrigation potential in the State." The report notes in summary, "1931 minor irrigation schemes were sanctioned during 2002-08 to create 161507.02 ha of additional irrigation potential at an estimated cost of Rs 1167.79 crore. GOI provided 82 per cent of the funds and the remaining was funded by the State Government." (CAG audit for AIBP in Uttarakhand for year ending in 2008)

**Punjab Eco Survey: Canals outlived their life** The Economic Survey of Punjab tabled in the state assembly on March 16, 2010 says that the 14400 km of canal distribution system has outlived its life and is getting replaced with tubewells. At the same time, 128 of the 137 blocks have been declared as over exploited for groundwater. (The Tribune 170310)

Pranahita-Chevella Dam Maharashtra has given its nod



to the Rs 38500 crore Pranahita-Chevella project proposed by Andhra Pradesh to utilise 160 BCFT (Billion cubic feet) of water from the Pranahita, a tributary of Godavari river. The projects seeks to irrigate 16.4 lakh acres in Nizamabad, Adilabad, Karimnagar, Medak, Ranga Reddy, Warangal and Nalgonda districts and provide 30 BCFT to Hyderabad. Maharashtra's gesture is significant, considering the row between the States over the Babli project and 11 other barrages being built across the Godavari. After giving its "tacit consent," the Maharashtra govt, in a letter to Aditya Nath Das, Secretary, Irrigation (Telangana), asked Andhra Pradesh to constitute an inter-State committee with officials from both States. This panel will oversee operation and maintenance of the 6,477-metre long Dam proposed across the Pranahita at Tummidi Hatti in Adilabad district with its 2,301-metre long earthen dam on the left bank lying in Kungada village in Maharashtra. Mr Das has indicated to his Maharashtra counterpart E.B. Patil that the panel would be formed with nine officials. Andhra Pradesh has also offered compensation against 1,800 ha in Maharashtra which will be submerged by the barrage's reservoir. Chevella is a mandal in Rangareddy district in Andhra Pradesh where the lift canal is to terminate. The then CM laid the foundation stone for this on Nov 20, 2008 even before the basic clearances were available.

The survey and water availability assessment for the project has been made by WAPCOS, a Central government undertaking. Secondly, there is a provision for this project not only in the Godavari Water Disputes

Tribunal Award of 1978 but also in the inter-State agreement of 1975 duly signed by the two States.

This is very complex scheme involving multiple links, canals, rivers and reservoirs, as can be seen from a partial schematic diagram and map of the scheme prepared by SANDRP below. (The Hindu 201108, 240110)

## INTER STATE ISSUES

**TN opposes SC's Mullaperiyar dam panel** Tamil Nadu's ruling on Feb 20, '10 announced its opposition to the Supreme Court-constituted five member committee to review the dam's safety. A resolution passed by the DMK's general council not only opposed the apex court's decision On Feb 18, '10 to form a five member committee headed by former Chief Justice of India A.S. Anand to go into all issues relating to the dam's safety and the storage level but also said the state government will not nominate any member to it. The court had asked both Tamil Nadu and Kerala, fighting a legal battle over the Mullaperiyar dam, to nominate one technical expert each as members of the panel, while the central government was to nominate two more neutral technical experts. The court had accepted that Central Water Commission should not be represented on the panel. TN claims that since an earlier committee had already declared the dam as safe, there is no need for a fresh panel even through the TN council in SC had agreed to the draft order proposing the new panel. Kerala earlier decided to wait till TN appoints its members for the panel. The opposition leader in TN has criticized the CM's decision not to appoint a member from TN on the panel when the SC has appointed the panel based on TN petition. (Indian Express 210210, The Hindu 230210)

## HYDRO PROJECTS

**No Central nod for Athirapilly: MEF** Union Minister of State for Forests and Environment Jairam Ramesh said that there was no question of giving environment clearance for the Athirapilly hydro-electric project. "A report by the Kerala State Biodiversity Board headed by B.S. Vijayan had pointed out that the project would adversely affect the ecology of the area. It was a unanimous report of the Board that was submitted to the Union Environment Ministry in 2007. This report was not considered when clearance for the project was given earlier. It was a lapse on the part of the Union Ministry. The Kerala State Forest Department had also opposed it. Principal Chief Conservator of Forest T.M. Manoharan had opposed the project citing the harm it could cause to the environment and ecology of the area" he said. The Minister said there were also petitions from the district panchayat and many other organisations opposing the project. (The Hindu 200210)

**Only 23.5% target achieved for 11<sup>th</sup> Plan** As per the re-assessment of hydro electric potential carried out by CEA, the hydro potential of the country identified in terms of installed capacity is 148701 MW out of which

145320 MW is from the schemes having installed capacity above 25 MW. The installed hydro generating capacity (with station capacity above 25 MW) including pumped storage schemes in the country is 36885.4 MW (as on 31.12.2009). The figure is 38150.8 MW and 34476.1 MW as per Central Electricity Authority's monthly generation report for Jan 2010 and March 2007 respectively. During 11<sup>th</sup> Plan, 15627 MW of hydro capacity has been planned to be added, out of which 3674.7 MW or 23.5% of the planned figure has been added in first 34 months of the 11<sup>th</sup> Plan period, going by the CEA figures. It is doubtful if the capacity would addition would accelerate during the remaining 26 months of the 11<sup>th</sup> Plan. A tentative list of 20334 MW of HEPs has been prepared for benefits during 12<sup>th</sup> Plan. (PIB 170210, CEA reports)

**Rattle HEP in J&K to GVK** The 690 MW Rattle HEP on Chenab river in Kishtwar district in Jammu & Kashmir has been given to GVK group on BOOT basis for 35 years. (Mint 110310)

## HYDRO PROJECTS IN HIMACHAL PRADESH

**Karcham Wangtoo landslide: People demand probe** Resentment of people against the JP Group, constructing the Karcham-Wangtoo hydro power project, has built up once again after the Feb 14, 2010 landslide near the project site, when six persons were buried and two are missing. People and local activists have demanded the government to conduct an inquiry into the irregularities in execution of the project as a result of which lives of people living in adjoining villages and labourers working at the site are at peril. After the landslide at Kaksthal, in the evening another landslide about 3 km from the site, between Tapri and Wangtoo, brought down big boulders which fell into the Sutlej, blocking the water flow for a few minutes. R S Negi, member of Karcham-Wangtu Sangharsh Samiti, said, "Lives were lost due to sheer negligence of the company. The workers colony was situated just below the area where work on tunnel alignment and surge shaft was going on. The land earmarked in the project proposal for construction of labour colony has been utilised for other works, which is against the norms." Palwinder Negi, another local activist, said that due to unscientific blasting, the area has seen more landslides in the recent past and tremors have lead to cracks in houses.

The CPM has also alleged irregularities in project construction and has sought a judicial probe into the entire incident. State Secretariat member Tikender Panwar said the company had a long history of playing with the lives of the people and it had not been following the mandatory safety and security measures. As per the information received by the party, absence of strong "anchor bolts" led to the present disaster. Thus, the mishap took place due to sheer negligence and failure to take adequate safety measures on the part of the company for which it must be held responsible and

accountable, he added. He feared that the number of missing persons could be more as many of them had jumped into the Sutlej. This was not an isolated incident as just two days ago eight workmen were injured in a similar landslide and one of them, Deepak, had died on his way to the PGI, Chandigarh, he said. All deceased and missing workers were engaged with a contractor Dhan Raj Shahi who was working for the Jaypee Company. (The Tribune 150210, Indian Express 170210)

In a letter to the Union Environment Minister on Feb 17, 2010, SANDRP, MATU Jansangathan and Environment Research & Action Collective wrote, "Here it may be noted that your regional office's reports of visit to the project site in January and April 2009 clearly show that the project authority has yet to adhere to the basic requirements, including formation of multidisciplinary committee for overseeing EMP measures (condition vii), submission of six monthly reports (condition viii), a monitoring committee for R&R measures (condition vi), among others. The violations of all these are very serious in nature and your ministry has taken no action in this regard, except sending polite reminders to the project authority. We would urge you to kindly take these violations and deaths seriously and immediately revoke the clearance given to the project, pending independent enquiry into the status of implementation of the project from the point of laws, clearances, safety of people and labourers and also ensure that the project authority is appropriately penalised for the violations so far." The Ministry has yet to respond to these letters.

**Kullu protest against ADP transmission line** The Allain Duhangan hydropower project in Kullu is again facing the agitation of the locals, this time from Hirni village for placing power lines over their houses and across fields without their consent. Work on the transmission line of the 192 MW Allain Duhangan project from Prini in Manali to Nalagarh is ongoing, though it is not clear when the project would be able to start power generation, it has already seen huge time and cost over runs. Angry locals are saying that the transmission line that is being set up over the fields and houses is illegal and would lead to environmental degradation. 'These people are irritating us for no reason, as they are doing this illegally without giving us any notice,' said Anita, a resident of Mashada village, whose house has come under the transmission line. 'I would say that if the company people forcefully try to set up the transmission line over my house with the help of administration, goons or police, I will burn myself to death,' added Anita. The locals also say that the hydropower company has not yet paid their compensation as was assured in the agreement with the company. (ANI 200310)

**SN Power has poor track record** According to a report *Down to the Wire* about the corporate social responsibility, SN Power, the Norwegian company partly owned by the Norway government has poor track record in implementing its policies and in dealing with affected

communities. The company is involved in a number of hydropower projects in India and Nepal including completed projects like the Malana (India) and Khimti (60 MW, Nepal) and ongoing projects like the Allain Duhangan and Bara Banghal (India) and proposed Tamakoshi HEP (450-650 MW, Nepal). The report says the company has a policy of publishing the impact assessments on line, but the Dutch research institute doing the study found just one on its web site. The report finds that the local communities where the company is active do not have access to electricity. The general rule appears to be that the electricity is carried off to urban or industrial centers and nearby communities go without. The report criticizes the company for treating the affected communities as if doing charity or philanthropy and not by way of "meaning full stake holder engagement and public involvement in decision making when critical issues are at stake." The report specifically mentions the deaths and injuries to workers at Allain Duhangan and the agitation of the affected people. The size of the projects so far undertaken by the company are smaller than the projects it intends to take up in future. Thus the risks in future are much greater. This is a scathing indictment of the company and affected communities and others concerned in India and Nepal need to take serious note of this. (Development Today June 2009)

## HYDRO PROJECTS IN UTTARAKHAND

**Tapovan Vishungad tunnel leakage** The water leaking from the under-construction underground 12 km long tunnel of the 520 MW Tapovan Vishnugad HEP on Alaknanda River in Uttarakhand has led to protests from the residents of Joshimath in Chamoli district. Orders have been given by the administration to investigate the reasons for the leakage. (Business Standard 100210)

**Madhucon gets three HEPs** The Madhucon Projects Ltd has been awarded three hydro projects of 25 MW each in BOT mode by the Uttarakhand Jal Vidyut Nigam Ltd. This includes the Agastyamuni HEP in Rudraprayag district and two others in Tilwara, all on Mandakini, a tributary of Alaknanda River. The DPRs of all the three projects is under preparation. (Business Line 090210)

## HYDRO PROJECTS: NORTH EAST

**Pannan HEP needs NBWL clearance** The Union Ministry of Environment & Forests has written to Himgiri Hydro Energy Pvt Ltd, Hyderabad, developers of the 280 MW Pannan HEP in Sikkim, to seek a clearance from the standing committee of the National Board of Wildlife as required by the Supreme Court order of Dec 4, 2006. The MEF gave clearance to the project on Jan 2, '07, but forgot about the SC order till date. Now, waking up, following pressure from a number of groups, on Feb 9, 2010, MEF has written the letter, without suspending its earlier clearance. The SC order of Dec 2006 said that all projects within 10 km from the boundaries of any National Parks and Sanctuaries must seek clearance from the NBWL. (MEF letter)



**Jaypee has no case on Lower Siang: to seek higher tariffs if China diverts water** Following reports that China plans to divert water from the Brahmaputra River, Jaiprakash Hydro-Power Ltd (JHPL) has sought to raise tariff for power generated from its project in Arunachal Pradesh if the water discharge becomes limited. The Jaypee Group company is developing the 2,700MW Lower Siang hydroelectric project in the border Indian state. "They have communicated their concerns to us. However, we cannot do anything as power tariffs are not approved by us but by the electricity regulator," said a senior official at the Central Electricity Authority. "It is the only project likely to be affected in the event of China diverting the water." China has reportedly set in motion a \$62 billion (Rs2.85 trillion today) scheme to divert the tributaries of the Brahmaputra towards its arid regions of Xinjiang and Gansu. Only half the power generated from the Lower Siang project would be regulated by a notified tariff; the balance would be sold in the open market. Jaiprakash Power Ventures Ltd (JPVL) holds an 89% equity in it; the rest is held by the Arunachal Pradesh government. "If the water discharge comes down, the private developer will go the electricity regulator for higher tariff," said power secretary H.S. Brahma. "Until and unless China diverts the water, there is no problem for the next 10-15 years."

**Indian Govt's castles in air** India has set up a committee under cabinet secretary K.M. Chandrasekhar to study ways to tap the Brahmaputra river under a mistaken notion that this will strengthen its claim over the tributaries that China reportedly plans to divert. It is claimed that under international law, a country's right over natural resources it shares with other countries becomes stronger if it is already putting them to use, but this is applicable only when there is a treaty between the two countries. But India and China has no treaty on sharing of the waters of the Brahmaputra. Moreover, neither India nor China has made the 1997 convention applicable to the use of rivers shared by them. Moreover, the way India is treating its downstream neighbour Bangladesh in case of Tipaimukh dam, India has little moral authority to ask for ethical behaviour from China. And as far as track record goes, China's behaviour in case of Mekong basin, where too it is the upstream state, shows that China is not bothered by such niceties even in case of Mekong, where there are several more friendly neighbours of China, where there is an international commission backed by the ADB and the World Bank among the downstream countries. So to push dams in Arunachal Pradesh under the bogey of China's diversion plans is completely unjustified and will only inflict unnecessary destruction and displacement for the Arunachal Pradesh people.

Unfortunately, even a newspaper like Mint does not go into such aspects while blindly pushing the case for such unjustified projects. One expects a more responsible journalism from Mint. (Mint 030310)

## POWER OPTIONS

**Non Dam Hydro turbine to be tested on Amazon** A new turbine designed to capture energy from slow flowing rivers is to be demonstrated on the Amazon River in Brazil. Developed by Scotland-based engineering company MTDS, the turbine uses vertical rotors, like revolving doors. Because the turbine's blades move at about the same speed as the current – unlike conventional rotors that slice across the water flow – efficiency is maximised and potential marine life impacts are reduced or removed. With no need to dam rivers and estuaries, habitat disturbance is also minimised. A full-scale version of the device will now be built for a 12-month demonstration project on the Amazon. The components of the full-scale prototype, 50 tonnes and nearly 20ft wide, built and installed by the Scottish team by late 2010. The Amazon was selected in partnership with a major energy-related organisation in Brazil. After up to a year of operational and environmental monitoring, MTDS's South American project partner, will retain the rights to license the device in Brazil, while the Scottish company will then market it elsewhere. "There is huge potential for riverside villages and towns without access to sufficient power, or requiring green energy," said MTDS owner and design engineer James Mowat. "Prime markets range from Chile and Uruguay, through China, India and Russia." A scale model turbine has performed successfully in controlled trails and the full-scale version will now be built and tested to verify the power output. Despite its size, it will be smaller and many times lighter than other tidal turbines, allowing easier transport and installation, says the company. (International Water Power and Dam Construction 190310)

**Successful test of tidal hydro prototype** Renewable energy company Hydro Alternative Energy (HAE) has successfully conducted initial in-water, off-shore testing of its patent pending turbine prototype designed for use in commercialized tidal applications. The test involved the turbine prototype being positioned in the Intracoastal waterway and successfully demonstrating the production of electrical current. (International Water Power & Dam Construction 160210)

## POWER SECTOR

**MEF asks for district Carrying capacity studies** Union Ministry of Environment and Forests has asked Maharashtra govt to get carrying capacity of Sindhudurg and Ratnagiri districts done before any of the proposed thermal and nuclear power projects there can be considered for clearance. This is a first such and welcome move. Strangely, through the Union Minister suggested that NEERI can be asked to do the study when NEERI's track record in doing such studies in the past has been poor. It seems MEF does not see the track record of the agencies it suggests for such studies and studies by institutes with dubious track record would only be meaningless exercises. (Financial Express 070310)



**Power leakage costs go up** According to the Mid Term Appraisal of the 11<sup>th</sup> Five Year Plan, the average cost of power generation in India has gone up from Rs 3.6 per unit in 2005-6 to Rs 4.16 in 2009-10. The average tariff has increased from Rs 2.87 to Rs 3.37 in the same period. (The Times of India 210310)

## WATER POLLUTION

**Unnao says NO to Kanpur Tanneries shift** Unnao district Member of Parliament has said NO to proposal to shift 402 tanneries to Unnao, saying Unnao is not a dustbin. Uttar Pradesh govt has proposed that the tanneries in the Jajmau area of Kanpur be shifted to neighbouring Unnao as these tanneries are responsible for the pollution of Ganga. (Jansatta 230210)

## RIVERS

**Snow & glacier melt in the Sutlej River at Bhakra** Stream flow in the Himalayan Rivers is generated from rainfall, snow and ice. Snow and glacier melt runoff contributes substantially to the annual flows of these rivers and its estimation is required for the planning, development and management of the water resources of this region. The average contribution of snow and glacier melt runoff in the annual flows of the Sutlej River at Bhakra Dam has been determined in this study. Keeping in view the availability of data for the study basin, a water balance approach was used and a water budget period of 10 years (October 1986-September 1996) was considered for the analysis. The rainfall input to the study basin over the water budget period was computed from isohyets using rainfall data of 10 stations located at different elevations in the basin. The total volume of flow for the same period was computed using observed flow data of the Sutlej River at Bhakra Dam. A relationship between temperature and evaporation was developed and used to estimate the évapotranspiration losses. The snow-covered area, and its depletion with time, was determined using satellite data. It was found that the average contribution of snow and glacier runoff in the annual flow of the Sutlej River at Bhakra Dam is about 59%, the remaining 41% being from rain. The study by Pratap Singh and SK Jain was published in the Hydrological Sciences Journal in February 2002 issue.

**It was found that the average contribution of snow and glacier runoff in the annual flow of the Satluj River at Bhakra Dam is about 59%, 41% being from rain.**

Generally, the snowmelt contribution starts from March and lasts until June/July, depending upon the snowpack water equivalent accumulated in the preceding winter season and the prevailing temperatures in the summer season. As the summer season progresses, the snowmelt contribution increases continuously and exceeds the rainfall component. Thus in the pre-monsoon season (April-June), a major part of the stream

flow is generated from seasonal snow. During the monsoon season (July-Sept), flow is augmented by monsoon rains, producing higher discharges in the river. Generally, high discharges and floods are observed in the months of July and August and these are essentially due to heavy rain in the lower part of the basin. Usually, seasonal snow accumulated on glaciers during the winter season is ablated by the end of May/June and glaciers start contributing to stream flow thereafter. Glaciers contribute to their maximum in the months of July and August. As such, glacier melt runoff contribution lasts till Sept/ Oct. In the post-monsoon season, stream flow is believed to be partly from the glaciers and some occasional rain events.

Based on data for the period Oct 1986-Sept 1996, the study found following quarterly distribution of annual flows of Sutlej River at Bhakra.

Quarter	Average runoff, mm	% of annual flow
Oct-Dec	55	9.9
Jan-Mar	38.1	6.9
Apr-June	150.9	26.8
July-Sept	317.4	56.4
<b>Year (Oct-Sep)</b>	<b>561.4</b>	<b>100</b>

The snow covered part on Sutlej basin within India during a year (data used: 1986-1993) was on an average maximum at 65% (14498 km<sup>2</sup>) in March (range of maximum: 58-72%) and minimum at 20.3% (4528 km<sup>2</sup>) in Sept (range of minimum: 12-35%) as a proportion to the total area within India.

**The average snow and glacier contribution in the annual flows of the Chenab River at Akhnoor was estimated to be 50% and for the Ganga at Devprayag was about 30%.**

The study notes, "At present such attempts have been made for specific sites for only two basins (the Chenab and Ganga basins). The average snow and glacier contribution in the annual flows of the Chenab River at Akhnoor was estimated to be 50% and that for the Ganga at Devprayag was about 30%". ([www.iahs.info](http://www.iahs.info))

**Danube countries agree to protect the River** Ministers from the 14 countries of the Danube basin adopted On Feb 16, 2010 a plan to clean up and protect the historic river seen by many groups as Europe's lifeline and the "Amazon of Europe". Environmental groups welcomed the plan, but called for additional action against the potentially destructive effects of hydroelectric power stations and man-made changes to the river to make it more navigable for shipping. "The Danube waters are shared by us all and therefore we also share the responsibility," said Mitja Bricelj, president of the International Commission for the Protection of the Danube River who hosted the meeting. "We meet to ensure that the resources of the Danube Basin are managed in an environmentally sustainable manner."

The Danube is Europe's second-longest river, running 2,860 km from the Black Forest in Germany to the Black Sea in Romania. Ministers and high-level representatives from 14 countries, including Austria, Bulgaria, the Czech Republic, Germany, Hungary, Moldova, Romania and Ukraine as well as the European Commission attended the meeting. The ministers adopted the so-called Danube River Basin Management Plan drawn up to "improve the environmental condition of the Danube and its tributaries." The plan includes a series of measures to be implemented over the next five years, including concrete efforts to reduce pollution and minimise the negative effects of man-made changes to the river. It also includes re-naturalization of wetlands, creation of natural flood barriers, upgrading of dykes and improvement of alarm and forecasting systems.

Environmental groups, such as the World Wildlife Fund and BUND, the German arm of Friends of the Earth, welcomed the plan. "Overall, we welcome it, but we do see some critical points," said Irene Lucius, senior policy coordinator of the WWF's Danube-Carpathian programme. BUND president Hubert Weiger cited pressure to construct new hydropower plants as a particular threat to the Danube. "While providing a renewable source of energy, hydropower plants of all sizes, including small ones, can easily upset the fragile systems." In particular, environmental groups were campaigning against river regulation work in the Upper Danube between Straubing and Vilshofen in Germany, involving the construction of a dam and a canal. That would "destroy the last remaining free flowing section of the Danube in Germany with severe impacts on biodiversity," Weiger said. Another criticism stems from efforts to make the river more navigable for ships, Weiger said. "We should fit the ships to the river, not the river to the ships," he said. The Danube "is not just a traffic route, but part of Europe's natural and cultural heritage." The river is Europe's "lifeline. It's the Amazon of Europe," he said. (AFP 170210)

## AGRICULTURE

**Are these ministers or industry spokesmen?** The debate over introduction of genetically modified (GM) food crops has been raging ever since the biotech regulator — Genetic Engineering Approval Committee — gave its approval for Bt brinjal in Oct '09. Although the approval has been suspended by the environment minister Jairam Ramesh following adverse public reaction expressed during consultations he held in different parts of the country, we have not yet heard the last word on the future of GM food crops in India. The issue is very serious and stakes very high. That's why it has created fissures in the Union Cabinet itself. Agriculture minister Sharad Pawar and science minister Prithviraj Chavan have been battling for introduction of GM food crops, saying that they are safe and vital for meeting India's future food needs. The public debate has shown that there are loopholes in these arguments. As

the environment minister has pointed out, most of the safety data on whose basis the regulator approved Bt brinjal was supplied by promoters of the new technology and had not been peer-reviewed or published in any scientific journal. Similarly, there is no data or study to prove that Bt brinjal is vital for India's food security needs. The arguments in favour of Bt brinjal have been made by foreign seed companies and their Indian partners for a long time now. Unfortunately, these have been accepted as gospel truth by the Dept of Biotechnology, whose officials have been liberally using industry data to push GM technology in India (Indian Express newspaper has also been doing the same and carrying out a misinformed pro GM lobby campaign). What is shocking is that the minister — Prithviraj Chavan — has also done the same. This only shows the persuasive and invasive power of the biotech industry and how it employs high profile lobbyists to push its case in developing countries. None other than the minister for science & technology is parroting their stand. There is a kind of incestuous relationship that exists between the biotech industry, scientific establishment, regulators and their political bosses. It is high time it was revealed for what it is. (MAIL TODAY 190210)

**Need for People's Food Security Mission** "I think it is time we start questioning the concept of "National Food Security Mission" - whose objectives and design are to ensure food grain production security at the national level. It may not mean anything related to Peoples' Food Security, as there are several gaps between these two!!

"Increase in food grain productivity of large masses of farms beyond the 1<sup>st</sup> & 2<sup>nd</sup> green revolution areas are outside this framework of "National Food Security" - the whole of rice eating districts in the Himalayas, tribal areas etc., do not figure in this program. When we cross checked the NFSM districts and SRI (System of Rice Intensification) districts, in several states the SRI districts (i.e. where SRI is already demonstrated at some scale) are not matching. Quite naturally much of the civil society groups are present outside the NFSM districts because these are areas of food insecurity! Ironically the govt wants to intensify production of rice and wheat in other areas and supply them to these food insecure people while SRI has shown immense promise of almost doubling the yields in these regions; but NFSM can not invest on SRI promotion in these areas as they are not under their purview.

"Let us put forth the demand for a "People's Food Security Mission" - where increasing rice productivity in areas where rice is produced and consumed (irrespective of the district's contribution to national food grain production) through SRI can be a vehicle for peoples' food security. The regions like Dantewada, Jharkhand, Koraput, Uttarakhand, Assam etc need larger investments in increasing local people's food security through productivity gains." (A Ravindra, WASSAN, Andhra Pradesh)

**WATER BUSINESS****Govt committee suggests Rs 216 crore fine for Coke**

A High Power Committee established by the state govt of Kerala has recommended that Coca-Cola be held liable for Rs 216 crore (US\$ 48 million) for damages caused as a result of the company's bottling operations in Plachimada. The Coca-Cola bottling plant in Plachimada has remained shut down since March 2004 as a result of the community-led campaign in Plachimada challenging Coca-Cola's abuse of water resources. "We welcome the Committee's recommendations and now the state government must find the political will to implement the recommendations," said R. Ajayan of the Plachimada Solidarity Committee, an organization that has been instrumental in moving the compensation process forward. The Adivasi Samrakshana Sangham and the Plachimada Solidarity Committee had submitted detailed proposals to the high level committee on the issue of compensation.

"The Committee thus has compelling evidence to conclude that the HCBPL has caused serious depletion of the water resources of Plachimada, and has severely contaminated the water and soil," said the report. HCBPL is the Hindustan Coca-Cola Beverages Private Limited, a subsidiary of Atlanta based Coca-Cola Company. "The Committee has come to the conclusion that the Company is responsible for these damages and it is obligatory that they pay the compensation to the affected people for the agricultural losses, health problems, loss of wages, loss of educational opportunities, and the pollution caused to the water resources," added the report.

The report made it clear that the numbers used in arriving at the \$48 million compensation were estimates and "indicative in nature", and "should not be treated as the outer limit of compensation." Importantly, the report clarified that the compensation suggested did not include damages as a result of water depletion caused by Coca-Cola, and such damages must be assessed. The report also agreed that Coca-Cola should be held criminally liable for its reckless actions in Plachimada – a key demand of the campaign. "The compensation is not to be viewed as a quid pro quo for not initiating criminal charges," the report stated.

The Committee has also recommended that the govt create a "dedicated adjudicating agency", such as a Claims Tribunal, to move the process of compensation forward. Alternatively, the report suggested approaching the central govt to set up an institutional mechanism to process the compensation claims under the Environment Protection Act. "A transparent and institutionalized process can revisit the recommended compensation numbers to make sure that Coca-Cola pays for all the damages it has caused," said R. Ajayan.

Validating the long term campaign against Coca-Cola, the High Power Committee confirmed that the Coca-

Cola company had violated a number of laws in its reckless operations, including: Water (Prevention and Control of Pollution) Act, 1974; The Environment (Protection) Act, 1986; The Factories Act, 1948; Hazardous Waste (Management and Handling) Rules, 1989; The SC-ST (Prevention of Atrocities) Act 1989; Indian Penal Code; Land Utilization Order, 1967; The Kerala Ground Water (Control & Regulation) Act, 2002; Indian Easement Act, 1882. Ironically, the report confirming Coca-Cola's mismanagement of water resources and holding the company liable for \$48 million in damages comes on World Water Day. (India Resource Centre 220310)

**Coke operates in drought hit Rajasthan** The Coca-Cola company has continued to operate its bottling plant in Kala Dera in Jaipur, India even as the area has been declared a drought area last and this summer and the groundwater levels are falling sharply – leaving the largely agrarian community with severely restricted access to water. Data obtained from the Central Groundwater Board confirm that groundwater levels in Kala Dera fell precipitously again – a drop of 4.29 m in just one year between August 2008 and August 2009, from 30.83 m below ground level to 35.12 m respectively. The latest government figures on groundwater depletion are extremely alarming given last year's sharp drop in groundwater levels - 5.83 meters between May 2007 and May 2008. Kala Dera has never experienced such sharp drops in groundwater levels and such precipitous drops have become common since Coca-Cola started its bottling operations in 2000.

In the nine years prior to Coca-Cola's bottling operations in Kala Dera, groundwater levels fell just 3 meters. In the nine years since Coca-Cola has been operating in Kala Dera, the groundwater levels have dropped 22.36 meters. The community of Kala Dera and surrounding villages have challenged Coca-Cola for depleting the water resources and destroying livelihoods, demanding that the bottling plant be shut down.

A study paid for by Coca-Cola in 2008 confirmed the community allegations and concluded that Coca-Cola's use of water in Kala Dera was unsustainable. The study recommended that Coca-Cola shut down the plant, relocate the plant or bring in piped water from outside the area to meet its production needs. Coca-Cola has chosen to ignore the recommendations of the study and, not surprisingly, the groundwater conditions continue to worsen dramatically. Kala Dera is a water-stressed area and the govt declared the area's groundwater resources as over-exploited in 1998. Yet the Coca-Cola built a new bottling plant in 2000.

Coca-Cola refuses to share the Environmental Impact Assessment it says it conducted prior to building the plant "due to legal and confidential reasons." An adequate EIA should have informed Coca-Cola that the area was already water-stressed and a bottling plant will

seriously aggravate the existing water crisis in the area. Coca-Cola, meanwhile, has announced that it has become “water positive” in Kala Dera, implying that they recharge more water than they use. Coca-Cola officials also suggest that groundwater levels have increased as a result of their bottling operations in Kala Dera. A visit to Coca-Cola’s rainwater harvesting structures in the area by the India Resource Center found them ill-maintained and not functional. The 2008 study also found all Coca-Cola rainwater harvesting projects to be in “dilapidated” conditions.

“Coca-Cola is destroying our lives and livelihoods. We urge people to put pressure on Coca-Cola so that they shut down the bottling plant in Kala Dera,” said Mahesh Yogi of the Kala Dera Sangharsh Samiti, the community group spearheading the campaign. “Coca-Cola’s continued operations in Kala Dera are nothing short of criminal. In spite of the growing evidence, including the company’s own study that confirms its operations are not sustainable, the company chooses to operate recklessly without regard to the well being of the community. If Coca-Cola were at all serious about being the water steward they claim to be, it would not suck water in drought areas and it would immediately discontinue its operations in Kala Dera,” said Amit Srivastava of the India Resource Centre. (India Resource Centre 110310)

**World Bank’s water privatisation slammed** Indian NGO Manthan Adhyayan Kendra has updated its book *Water: Private, Limited*. Covering developments since 2002, the book states, “until a few years back the World Bank and other international donor agencies were promoting privatisation as ‘the magic potion’. Now there is a more defensive language on privatisation. However, it would be wrong to see in this a rejection or reversal of the privatisation process.” In the Bank’s strategies for India, it finds pressure for private sector participation and commodification of the right to water. It calls for alternatives such as public sector reform and recognition of the fundamental right to water. (Bretton Woods Update 150210)

**Liquid Assets: Tide Turns Against Privatization** The officials in cities around Illinois are regretting decisions to privatize water systems in the face of steep water rate hikes and loss of control over when and where to install water mains. In the U.S., the privatizing trend began in the 1980s. Initially, most of the deals involved cities paying companies to manage systems for some years. Over the past several years, however, there’s been a backlash against privatization. Most recently, the mayor of Carbondale ensure the agitating people that the city will not move forward on the proposal to privatise water supply, forgoing a chance for the council to earn USD 42 million through sale of the license. (The Circle of Blue 090210)

## URBAN WATER SUPPLY

**If Mumbai, Chennai can do it, why not Delhi** According to a study by the Union Ministry of Urban Development, the water losses in Mumbai are just 13%

and in Chennai 17%. Delhi tops in the least, wasting 52.4% of the water supplied and Bangalore comes second with 50.9% losses. Wasted water, or non revenue water, is fed into the system but does not reach the consumer either due to leakages, illegal diversion or non metering. If Mumbai & Chennai could achieve such lower figures of losses, why can Delhi and Bangalore not achieve those levels? In stead of clamoring for more water through destructive and unviable schemes like the Renuka dam, why does Delhi not focus its efforts in reducing losses? (Deccan Herald 130310)

**New Publication “Public-Private Partnerships in Water Sector: Partnerships or Privatisation?”** Public-Private Partnerships (PPPs) are supposed to provide solutions to many of the existing problems related to infrastructure projects – in both execution and operation. Currently, there are PPP projects in almost all the sectors including roads, ports, airports, water, sewerage, solid waste management and transport among others. It is, therefore, important to do a reality check on PPP projects and their efficacy in addressing the problems faced by the public sector water supply services and other infrastructure sectors as well.

The report looks at various aspects of PPPs, beginning from why PPPs have come to be regarded as the major approach for infrastructure development in the country, the circumstances that lead to the change in approach from direct privatisation to public-private partnerships, the current status of the PPP projects that are being executed in India, especially in the water sector, to the current estimates and projections of investment requirements for infrastructure development in India by govts and International Financial Institutions (IFIs).

The report analyses the arguments given in favor of PPPs, the structural issues with PPPs and the larger governance issues associated with PPPs like transparency, people’s participation, access to information and regulation. It also looks for evidence and experiences of PPP projects in various parts of the world. It draws lessons that need to be learnt and cautions that need to be taken on board when advocating PPPs in public services like water and sanitation.

The report also studies the impact of the PPPs on some of the social obligation issues like the responsibility of provision, service delivery and equity when the private sector is involved in delivery of public services like water. The print copies of the book are available with Manthan and SANDRP. The soft copies can be downloaded from [www.manthan-india.org](http://www.manthan-india.org).

## ENVIRONMENT

**Health Impact Assessment mandatory in Assam** The Right to Health Bill of Assam makes it mandatory, for the first time in India, that all new project coming up in the state have to do Health Impact Assessment, in addition to the EIA. (The Times of India 170310)

**BHUTAN**

*Hydropower projects in Bhutan are described as totally positive developments, both inside and outside Bhutan. But that is far from reality. Even though the direct displacement due to hydro-projects in Bhutan has so far remained limited, for those who face the problems it is a serious situation. Here we are reproducing an editorial in one of the Bhutan's main newspapers. Even in a country where democracy can best be described as an evolving story, where political opposition is practically non-existent, protests and campaigns are unheard of, such a strong editorial as also other stories on this page says a lot about what is going in that country on hydropower projects.*

**Collateral damage**

As many as 90 households will have to move to make way for the Punatsangchu dam, the country's largest hydroelectric project. Their farmland will be inundated by the dam's enormous reservoir, which could extend as far up as the Wangdue bridge. The project is nearly 8 km downstream to the bridge. The government has ordered farmers to start relocating themselves, but in their own gewog. In return they were told to either take monetary or land compensation. Meanwhile, farmers who have lived there for generations, have become uncertain about their future. In the absence of any information on remuneration, farmers have opted for land compensation. But Tsogom gewog, under which the farmers are, is mostly isolated steep slopes, where crop or arable land is hard to find. Almost every patch of decent farmland in the gewog is already in use.

The thing is - in Bhutan - all areas with better natural conditions have been filled with people long ago. It is clear that the government is unprepared to assure these people's equitable relocation. There also seems to be no procedures or regulations in place to govern displacement or to provide legal redress or remedies to the displaced, or even have the necessary resources to carry it out. The government should have drawn up a scheme to manage people, who will lose their homes to dams. Relocating a village is not only relocating and building houses. That's the easy part. Then one has to think about developing farm fields, raising cattle, finding drinking water sources, and building irrigation channels. They have to adapt to new livelihoods. It's too much of a jump for them from their current life. The important thing is not to force farmers to live like impoverished refugees because of the dams. That would be so not GNH.

Govt cannot ignore resettlement issues. It must ensure that economic progress doesn't damage the very people and places it should be protecting. What is needed, urgently, is a policy to address displacement caused by dams. Allotting shares in projects in exchange for farmers' land is impractical, but it makes sense that they be given a share of the commercial land developed near the projects. But what the government must stop is those lands being usurped by ministers and high officials and influential people who are already very rich. Gyelpozhing is a case in point. (EDIT in Kuensel 050609)

**DWINDLING RIVERS, FALLING REVENUE** The alarming dive in Bhutan's hydropower generation from 1,500 MW in peak summer to 288 MW in winter is raising concern about the possible ramifications of climate change on the sustainability of power production. "We are concerned that the glaciers are receding, there is little snowfall and for the last couple of years, there have been low levels of river discharges," said the managing director of Druk Green Power Corp, Dasho Chhewang Rinzin. For the past 2 ears this trend has been evident. Power shortage has become a real problem. "We just barely managed to meet the domestic demand this year," he added. Though western Bhutan has a comparative advantage over the east in terms of power supply, from 2010 to 2011 some amount of load shedding will be done even in the west. Meanwhile, conditional load sanction will be deployed, which means that to meet the domestic demand, the industrial sector will have to cut down on their power usage.

75% of the total energy generated is exported to India. According to the DGPC managing director, discussions have already been initiated with the GoI about supplementing power from their thermal stations. Another cause for concern is that DGPC's revenue is dropping because the domestic demand is cutting into the export earnings. DGPC is also planning on reservoir schemes, such as the 4,000 MW Sunkosh, 900 MW Wangchu, 180 MW Buna kha and 620 MW Amochu. On the issue of climate change affecting future power production, Dasho Chhewang Rinzin said that the DGPC is 'very, very concerned'. (Bhutan Today 200310)

**Hydro debts mount** As of June 2009 Bhutan's outstanding debt to India taken for HEPs was Nu 17.32 Billion, equal to a massive 32% of the gross domestic product. The figure is much higher than the total internal revenue for the 2007-08 fiscal which was Nu 12.35 B constituting about 23% of the GDP despite recording an economic growth of 13.8%. (Business Bhutan 060310)

**Empowered Joint Group** The 3<sup>rd</sup> meeting of the empowered joint group, formed by Bhutan and India to fast track the development of the 10,000 MW hydropower projects is to meet in Delhi on March 22, 2010. The Bhutan delegation is likely to sign agreements for updating DPR of the Sunkosh project by 2011 and for pre-construction activities of the Mangdechhu and Punatsangchhu II projects in 2010. (Kuensel 210310)

**NEPAL****Mid Marsyangdi: Worst case of HEP**

Experts believe that the Mid Marsyangdi Hydropower project is the worst case of hydropower development in Nepal. A parliamentary panel formed by the Public Accounts Committee on the investment cost of the Middle Marsyangdi HEP has suggested managing it under public-private-partnership concept to make it a profitable venture. The panel submitted its finding in PAC meeting on Feb 14, 2010. The PAC formed a nine-member sub-panel, led by lawmaker Dr Prakash Chandra Lohani, on February 1, 2009, to study the estimated cost, actual cost, schedule of the construction process, time of construction, payment made and the current status of country's most expensive project. Initially, it was estimated that the Germany's KFW-funded project would cost around Rs 13.65 billion and would be completed within four years. It started construction in 2001. However, it took over eight years to complete the project at a cost of Rs 29.6 billion, which is more than double the estimated cost. Per kilowatt cost of electricity from the MMHEP stands at US\$ 5,382, which is the highest compared to other hydropower projects ever built in Nepal, according to the report. The report suggests delinking the MMHEP from the state-owned Nepal Electricity Authority, and creating a new entity called Middle Marsyangdi Hydro Electricity Company.

The new company will manage the MMHEP, which will sell its energy to the NEA at the current average tariff rate. It has also suggested that the government should waive the interest incurred due to the conflict, which was also one of the factors for the escalation of cost and time of the project. It has suggested reducing the interest rate to 3 % from the current 10.25 % on the govt loan to the NEA. The investors will then get 17 % return on investment says the report. It suggests that NEA should have 50 % share in the MMHEC and the rest should be sold to ordinary people. Around 13 % share of the company should be sold to the people of Lamjung district, where the project is located, project-affected people and the company's employees. Thus the NEA will add Rs 3 billion to its coffer, which can be used to fund a new 40 MW project. The company itself will be able to generate funds to generate another 30 MW hydro project, the report adds. "Our finding is that the country is reeling under acute power crisis due to the inefficiency of both the Energy Ministry and the NEA," said Dr Lohani. (The Himalayan Times 140210)

**West Seti in jeopardy** The West Seti Hydro Limited, which is preparing the Detailed Project Report of the 750-MW West Seti Hydro-electric Project, has suspended its operation due to internal problems. The promoter— Snowy Mountains Engineering Corporation (SMEC) — purged 75 per cent of its employees on March 3, 2010. The project has also shut all the eight information centres in the Far Western region. West

Seti's license expired on December 31, 2009. The government had assured to extend the license after Chinese company China National Machinery Import and Export Company (CNMICC) agreed to invest in 51 per cent share in the project. The Energy Ministry had sent a letter putting forth conditions on January 30 though the CNMICC had asked the government to renew its licence for a year without any conditions. The conditions were same as in the earlier license, the ministry said. The license was given to SMEC in 1994 for the project on Seti River. (Nepalnews 270310, The Himalayan Times 030310)

**Local people demand jobs at Kulekhani, Chameliya HEP** The locals living near the site of the 14 MW Kulekhani III HEP have demanded employment for 165 people at the project. Also, the Nepal Electricity Authority has failed to finalise the contract for the construction of electromechanical and transmission lines at the project which was earlier expected to be completed by 2011. Only one km of the 4.3 km-long tunnel has been completed till date. A similar issue has beset the 30 MW Chameliya HEP in Darchula. The construction of the project started in 2007 and was expected to be completed in 2011. In July 2009, locals padlocked the project's office putting forth a 22-point demand, including employment for locals, increasing the compensation amount for acquisitioned land, and the construction of roads and schools. (Kantipur 080310)

**33% shares of Chilime to locals** The Chilime Hydro Electricity Project has signed a Power Purchase Agreement with the Nepal Electricity Authority for the construction of two additional hydropower projects namely Sanjen Hydro Electricity Project (35 MW) and Upper Sanjen Hydro Electricity Project (11 MW). CHEP, with a current capacity of 20 MW, was constructed in Rasuwa district. The two projects are being taken up through profits gained from CHEP, whose annual profit is around Rs 600 million. NEA will purchase power from the two new projects at a rate of Rs 7 per unit in the dry season and Rs. 4 per unit in the wet season. CHEP has established a different company--Sanjen Hydro Electricity Company--for the two projects. The new company has an authorized capital of Rs 1.5 billion. The shares of the new company will be divided as-CHEP (53 %), NEA (14 %), Rasuwa District Development Committee and affected VDCs (3%) and 30 % shares will be given to locals. (Kantipur 010310)

**UCPN stops work on Big Hydro** Main opposition, Unified CPN-Maoist has threatened to shut Upper Karnali, West Seti and Arun-III hydroelectricity projects if the agreements pertaining to these were not reviewed. The party's Water Resource Department head said his party had arrived at a conclusion to shut all these projects as they would not be in the interest of the country and the people in the long run. (Himalayan News Service 060210)

**Work at GMR projects stalled for a month** On January 25, the Maoists group in Nepal asked the GMR-ITD

Consortium to pack up and leave the country. The party warned the Consortium to shut down all work at the 300 MW Upper Karnali site at Tunibagar in Dailekh district and also the survey work on the 600 MW Upper Marsyangdi-II hydropower project. The work was resumed a month later after a dialogue with the concerned groups. The survey license is owned by Himtal Hydropower Company Pvt. Ltd., in which Nepalis have 20 % share investment and GMR has 80 %. Earlier the Tamuwan Freedom Forum affiliated to the UCPN-Maoist had shut down the survey work at the Upper Marsyangdi-II Hydel Project in Lamjung, saying that the project curbed the rights of the locals. The government has licensed Himtal Company Private Ltd to prepare the DPR of the project. Indian company GMR later acquired 80 per cent stake in the project. GMR will provide 27 percent shares to the Nepal Electricity Authority and 12 percent power free of cost, as per the agreement. (Kathmandu Post 150210, Republica 170210, 230210)

**World Bank at it again: To fund mega HEP** The World Bank is likely to make investment in Nepal's hydropower sector. It is likely to fund either the 350 MW Upper Arun or the 456 MW Upper Tamakoshi. (Republica 220310)

**Nepal's hydro potential exaggerated** The Nepal government has been assuming that the country's total hydropower potential is 83000 MW. However, a new assessment shows that this figure could be hugely exaggerated and the potential may be around 53000 MW, according to Prof Narendra Man Shakya, Water Resource Programme Coordinator at the Institute of Engineering in Kathmandu.

The earlier estimate that is accepted as an official figure by the Govt of Nepal, was done in late 1960s by Hari Man Shrestha when there was very little river water discharge data, generated by few measuring stations. But the number of stations providing the data has increased since then. Moreover, Shrestha used average runoff water, which included the flood water to come up with his estimate. But the new estimate has excluded the flood water. (The Himalayan Times 030310)

## PAKISTAN

**Glacial lake dam threatens Shangri-La Valley** Villages in Pakistan's paradisiacal Hunza Valley face threats of flash floods and landslides from a glacial lake that has been growing dramatically since last month. Army engineers are battling the threat of seismic shakes to save a 500 km stretch of northern Pakistan from being devastated by a potential flash flood. The threat has been building since January 4, 2010 when a massive landslide temporarily dammed a river in the mountainous area of Hunza, widely believed to be the inspiration for the fictional kingdom of Shangri-La, creating a lake that continues to rise steadily. The landslide removed 120 metres of mountainside, destroyed the village of Ataabad, killing 19 residents, isolated 25,000 residents upriver from the landslide-dam, and severed a 2-km stretch of the Karakorum Highway. (The National 160310)

## Chashma-Jhelum & Taunsa-Panjnad link canal HEPs opposed: Sindh calls them death warrants

Technocrats, water experts, Sindhi nationalists and political leaders have termed the proposed controversial hydropower plant on Chashma-Jhelum and Taunsa-Panjnad link canals as a death warrant for human population in Sindh and its agrarian economy. They bluntly rejected the recent controversial and one-sided decisions taken by the National Electric Power Regulatory Authority, Water and Power Development Authority and Indus River System Authority to build such controversial power plants. (Daily Times 210210)

## BANGLADESH

**20 m still drink Arsenic laced water: U.N.** Bangladesh must act quickly to combat arsenic contamination in water and food affecting at least 20 million people, the United Nations children's fund (UNICEF) said, decades after a well-meant but incompletely studied plan for clean water became a public health disaster. A recent survey by the Bangladesh Bureau of Statistics and showed that 12.6 percent of Bangladesh households, or about 20 million people, still drink water containing arsenic above the government's recommendation of no more than 50 micrograms per liter. Arsenic is a naturally occurring chemical poisonous to humans and is known to cause skin lesions and cancers of the bladder, kidney, lungs and skin.

Millions of small tube wells were dug across Bangladesh from the late 1970s, with the help of international agencies like UNICEF, as an answer to dirty surface water which caused widespread gastrointestinal diseases. Organic carbon can trigger the release of arsenic from sediments into groundwater. Studies have recommended against using groundwater in man-made ponds and rice fields. "We have taken steps to ensure the proper management of surface water, including rainwater conservation," agriculture minister Matia Chowdhury said. "We will have to augment the use of surface water and simultaneously limit the use of both surface and groundwater to reduce accumulation of arsenic in crops and food sources," Chowdhury said. According to the World Health Organization, arsenic-contaminated water directly affects the health of 35 million people in Bangladesh. Arsenic is widely distributed throughout the earth's crust and is introduced into water through the dissolution of minerals and ores. (Planet Ark 230310)

## CHINA

**China is a bad neighbour: Mekong Experience shows, India beware** The six Mekong River basin countries downstream from China are experiencing how bad a neighbour China can be. After building a number of hydropower projects on the river, the downstream countries are experiencing the ill effects, the floods are getting higher and more destructive, the droughts are getting dryer and the fisheries are seeing huge declines.



In absence of a treaty, the best that the downstream countries can do is request the upstream neighbour. As the edit in the Bangkok Post noted, "But those requests have gone in one Beijing ear and out the other for years. In 2003, Finnish researchers proved that a single dam in China cut the sediment at Chiang Saen in Chiang Rai province. Their report predicted less flooding of the Mekong, slow degradation of the river's fish population - and an overall lower level of the river. This is what seems to have happened. The Mekong Commission has also not been helpful in resolving the issues. The problems with the Mekong have grown so great, so quickly, that Chiang Rai residents plan to protest at the Chinese embassy. In northern Thailand, river commerce has basically halted, and the region's economy is threatened. The concern of the people in the North and Northeast about their river, as well as in Burma, Laos, Cambodia and Vietnam, should be moving governments to action". India, which shares a number of rivers with China including Sutlej and Brahmaputra, needs to learn from this and beware. (Bangkok Post 100310)

## THE WORLD HYDRO

**Dam Breach in Kazakhstan kills 40** Due to heavy precipitation and increase of the temperature on March 11 at 22.20 there was the dam burst in the Aksus area on the water basin of Kyzylagash. It flooded 257 houses in the village Kyzylagash where 3 thousand people live, the press service of the Emergency Ministry informed. Total death toll was 40 people as on March 18, 2010. "The employees of the Kyzylagash water basin have been interrogated. They explained that on the eve of the accident water was discharged manually from two sluices. One sluice was in a non-working condition," the senior inspector said. NASA reported, "Rain, melting snow, and aging infrastructure all likely contributed to a disaster in Kazakhstan in March 2010. A dam south of the Kyzylagash settlement in Kazakhstan's Almatinskaya Oblast' (Almaty Province) sent sediment-laden water into the town. According to a local news report, one of two sluices in the dam south of town had not been working, leading to failure of the dam and inundation of the town." (Kazakhstan Today 160310, 180310, NASA update 230310)

**WB's doublespeak: Large hydropower: renewable or not?** Contradictions in the World Bank's approach to hydropower call into question its burgeoning portfolio in this sector. While a September press release states that, "The World Bank considers hydropower, regardless of scale, to be renewable energy," the Bank no longer counts medium and large dams as renewable energy for

reporting purposes. Nonetheless, Bank publications and planned projects show a continued drive for controversial large hydropower, despite a temporary dip in funding. Lending for large hydropower declined to \$177 million in financial year 2009, the lowest level for a decade and far below the \$1 billion committed in 2008. However, projects worth \$2 billion are reportedly in preparation. The Bank has taken advantage of other investors' retreat during the financial crisis to expand its role in hydropower, insisting that it is a vital source of clean energy to mitigate climate change.

While accepting the potential for small-scale hydropower to benefit the poor, critics such as NGO International Rivers continue to voice major concerns about the direct social and environmental impacts of large dams, as well as greenhouse gas emissions from reservoirs. Yet a Bank report released in November 2009, *Africa's Infrastructure: A time for transformation*, argues that large dams and regional power trade should play a central role in plugging the energy shortfall. It envisages Ethiopia, Democratic Republic of Congo and Guinea becoming major energy exporters. Sub-Saharan Africa currently receives approximately one third of the Bank's funding for hydropower.

The capacity of large dams and regional power trade to expand access to energy for the poor and to contribute to economic development has been questioned. For example, it was claimed that the Bujagali dam in Uganda, which received \$360 million in loans and guarantees from the World Bank Group, would expand affordable energy. In 2008, the Bank's Inspection Panel agreed that the dam's negative effects had not been adequately taken into account and questioned its development benefits. Frank Muramuzi, of the Ugandan National Association of Professional Environmentalists, states, "The World Bank must focus on alternative renewable energy options .... Small hydropower dams are more sustainable and economically viable than the large hydropower projects as they will not need to transmit energy over long distances. These will also attract industries upcountry as opposed to only to big towns. More importantly, the rural communities will access power." Elsewhere, Bank president Robert Zoellick visited Ethiopia in early February to hear officials make the case for \$50 million for the massive Gilgel Gibe 3 dam. NGO CounterBalance has argued that the dam violates the Bank's social and environmental safeguards, as well as national procurement standards. (Bretton Woods Project 150210)

Form IV (Required under Rule 8 of the Registration of Newspaper 1956)

### Dams, Rivers & People (Monthly)

Place of Publication: Delhi  
 Periodicity of Publication: Monthly  
 Printer, Publisher, Owner, Editor Himanshu Thakkar, c/o 86-D, AD Block, Shalimar Bagh, Delhi 110 088

I, Himanshu Thakkar, hereby declare that the particulars given above are true to the best of my knowledge & belief.  
 February 28, 2010

Himanshu Thakkar, Publisher

**Publications available with SANDRP****PUBLICATIONS IN ENGLISH:**

1. *Trapped! Between the Devil and Deep Waters: The story of Bihar's Kosi River* DK Mishra, SANDRP-PSI 2008 Rs 595/-
2. *Large Dams for Hydropower in NorthEast India* SANDRP-Kalpavriksh, June '05, p 228, Rs 150 (indv), Rs 300 (inst)
3. *Tragedy of Commons: The Kerala Experience in River Linking*, River Research Centre-SANDRP, '04, p 146, Rs 120
4. *THE GREATER COMMON GOOD* by Arundhati Roy, Published by India Book Distributors, 1999, pp 76, Rs 80/-
5. *Water Private Limited* Manthan Adhyayan Kendra, 2006, pp 124, Rs 50/-
6. *Dams, Rivers & Rights: Action Guide*, IRN, 2006, pp 38, Rs 20/-
7. *Conserving Raindrops a Much Better Option than Linking Rivers* by Bharat Dogra, pp 8, Rs 4/-.
8. *The World Bank as a Knowledge Producer* Manthan, March 2008, pp 80, Rs 100/-
9. *Economics of Hydropower* by Bharat Jhunjhunwala Rs 750, Kalpaz Publications, 2009, pp 306
10. *There is little Hope here: Civil Society View: India's National Action Plan on Climate Change*, SANDRP, 2009 Rs 100

**PUBLICATIONS IN HINDI:**

1. *Bandh, Nadi evam Adhikar* Dam Action Guide for Communities, SANDRP, 2007, pp 44, Rs 30/-
2. *Ken-Betwa Nadi Jod: Pyasi Ken Ka Paani Betwa Mein Kyon?*, SANDRP, 2004, pp 46, Rs 20/-.
3. *Bade Bandh, Bharat ka Anubhav*, SANDRP, 2001, pp 268, Rs. 100/-.
4. *Bhakra: Parat-dar-parat ek padtal* Books for change, 2007, p 190, Rs 100/-
5. *Behtar Bijli sewa ke liye Jagrukata aur Karyakram: Samuday ke liye Agenda* Prayas, 2008, Rs 30/-
6. *Jal Vidhyut ka Sach* (Hindi) By B Jhunjhunwala, pp 61, Rs 10/-.
7. *Dhol main Pol: Srinagar HEP in Uttarakhand*, MATU (Delhi), 2009, Rs 10/-
8. *Ganga ki Bhrun Hatya*, MATU (Delhi), 2008, Rs 60/-
9. *Ganga ke maikhe main* Matu (Delhi) 2008, Rs 25/-

Please send your orders with DD in favour of *Dams, Rivers & People*, payable at Delhi and send them to DRP, c/o 86-D, AD Block, Shalimar Bagh, Delhi 110 088. Please add Rs. 25/- for postage and packing charges for all publications.

**cgrrj fctyh l ok dsfy, tk: drk vlg dk; De % l emk; dsfy, , tMk %z kl dk, d egRoimz idk'ku½**

vkt fctyh dscxj vkt 0; kol kf; d] vks] kfxd vlg [krh dh xrfrof/k; ka vl lko i rhr gkrh gA l jdkjh vkadMka ds vuq kj l u 2007 rd 81 ifr'kr xkoka dk fo| qhdj.k gks pprk Fkk] tcf 56 ifr'kr ?kjs ea fctyh ds duD'ku gA yfdu vkadMks vlg okLrfodr ea dkOh QdZ gA xjhka ds fy, fctyh dh vki rZ rc rd mis(kr jgsh tc rd fd l emk; ka dh vlg l s bl ea l qkj ds fy, ncko ugha cuk; k tk, xka bu l elr epka ij rF; ijd tkudkj iz kl }kjk idkf'kr i qLrdk ^cgrrj fctyh l ok dsfy, tk: drk vlg dk; De % l emk; dsfy, , tMk\*\* ea mi yC/k gA ; g i qLrdk xjhka dks cgrrj fctyh l ok l quf'pr djus ds fy, glr{ki dsfy, , d <kok iLrr djrh gA ; g mu epka dh , d : ijs[kk inku djrh gSftudk xjhka dks l keuk djuk iMfk gA ; g fctyh vf/kfu; e 2003] jk"Vh; uhr; ka vlg jkT; fu; ked iz.kkfy; ka ds ied[k i ko/kkuka dh 0; k[; k djrh gS tks fd xjhka ds epka dks gy djus ea blReky fd, tk l drs gA ; g xjhka ds l kfk dke djus okys tul xBuka ds uskvka ds iz kl dks l eFzu djus vlg fctyh {ks= ea mudh l el; kvka dks gy djus ds fy, l gk; d gkus dh mEehn djrh gA iz kl AtkZ ny] i qks ds l nL; ka o vl; fo'kSkKka ds la qR iz kl l s r\$ kj bl i qLrdk dks fnYyh fLFkr l SMf ds l nL; ka us Hkk"kkUrj ea l g; kx fd; k gA

i qLrdk dh fuofnr l g; kx jkf'k 30 #i ; sgS, oabl dh ifr dsfy, di ; k fuEu i rs ij l Ei dz dja

idk'kd % iz kl ] vkBoys dkuj] do\$ jkM] Mdu fte[kkuk] i qks & 411004

bey % prayasenergy@vsnl.net| oc l kbV % www.prayasenergy.org/peg

**Dams, Rivers & People** The annual subscription for the DRP is Rs 125/-. Please send a DD in favour of "Dams, Rivers & People", payable at Delhi, to our Delhi address (DRP, c/o 86-D, AD block, Shalimar Bagh, Delhi 110 088). Or, you can send money order to Delhi address. Subscriptions can be sent for multiple years at the same rate. The DRP is also available in electronic versions and can be accessed at [www.sandrp.in/drindex](http://www.sandrp.in/drindex).

Edited, Published, Printed & Owned by Himanshu Thakkar at 86-D, AD Block, Shalimar Bagh, Delhi – 88  
Printed at Sun Shine Process, B-103/5, Naraina Indl. Area Phase – I, New Delhi – 110 028