

**Lead Piece**

**A VIABLE POWER OPTION**



## CFLs can save over 5 000 MW load

According to Girish Sant of Prayas Energy Group of Pune India has about 10 crore electrified households. If each household replaces just one 60 W Incandescent bulb with a Compact Fluorescent Lamp of sufficient wattage to give same amount of light, India can reduce peak load demand in power sector by 5 000 MW. To add that capacity would otherwise cost over Rs 25 000 crores and a lot of social and environmental impacts.

The annual fixed cost (i.e. just the depreciation, interest on loan, maintenance and profit on investment) for investment in supply augmentation is about 20% of the investment. This comes to Rs 5 000 crores per annum.

Good quality CFLs last about 4 years, so we need to replace about 2.5 crore CFLs per year. This would cost Rs 313 crore per year (Rs 125 per CFL X 2.5 crore). Thus cost of replacing bulbs by CFLs is just about 6.25% of the comparable cost of building a power plant. Sant adds, "Hence, even if we simply give away CFLs free of cost to the entire rural population we would end up paying only 10% of the cost of expanding supply!... Several utilities in Western as well as Southern countries have already implemented such schemes with great success; Thailand, Brazil and Vietnam, to name a few."

Meanwhile S L Bhatia, a consulting Engineer from Panchkula has advocated that the govt should remove all taxes on CFL lamps to encourage their use. For those who cannot afford them, SEBs should supply them and recover cost in 10 installments.

There are many such efficiency technologies. Girish Sant concludes, "This highlights the irrationality of the current policies, where large parts of rural areas are deprived of electricity and yet we look at only one

option that is several times more expensive than the alternative! Stopping the step motherly treatment to energy conservation options and copying programs from other nations, we can drive away the darkness from many parts of our rural areas."

"Hence, even if we simply give away CFLs free of cost to the entire rural population we would end up paying only 10% of the cost of expanding supply!... Several utilities in Western as well as Southern countries have already implemented such schemes with great success; Thailand, Brazil and Vietnam, to name a few."

Why such ideas not getting implemented and in stead mindless pursuit of large projects continued? Clearly a focused campaign is required to make such viable options a reality. (Project Monitor 010506, Tribune 290506)

**INDEX**

A Viable Power Option: CFLs can save over 5 000 MW load	1
ILR: Bihar opposes Central Plans	2
Science, Development & the temples of modern India	3
Pandit Nehru on big projects: "Disease of Gigantism"	6
HEPs destroy fisheries in HP: 15 000 affected	7
Karcham Wangtoo: People stop work	8
Power Ministry's New Guidelines on private Hydro projects	9
Power Ministry invites comments on Private HEP guidelines	12
Farmers win compensation for non supply of irrigation	13
SSP: Industry foots the bill for advertisement	14
SSNC report: CDM in practice: Broken Illusions	15
ADB files fiction for CDM credits	16
Letter from people affected by small hydro in Uttaranchal	18
TN windmills asked to back down	19
Electricity Generation Growth lags behind	20
Urban Water: ADB's Karnataka Project a failure	21
Punjab Agriculture in Crisis	22
Kali Bein River: Example of Successful community effort	23
Struggle against Coke plant in Mehdiganj	24
Tubewells the Biggest Mistake?	25
New Publication: Insidious FIs in North East	26
Publications available with SANDRP	27
Your Responses	28

**INTER LINKING OF RIVERS****Bihar opposes Central plans**

On May 24, '06, Water Resources Dept of Bihar had organized a meeting in Patna to discuss the impact of interlinking of rivers on Bihar and the possible alternatives. The meeting was attended by over 200 people, mostly engineers & politicians (CM, some ministers, MLAs & MPs). NGOs were curiously missing.

The Govt. of Bihar had constituted a committee of experts to study the impact of ILR on the State and to suggest possible alternatives. Its findings were the theme of discussions. Initiating the debate, Minister of Water

Resources Dept, Ramashray Prasad Singh said that N Bihar is faced with recurring floods while S Bihar faces drought. The newly installed Govt has felt the need of dealing with these problems on a priority basis.

He further said that Bihar was rated as a water surplus state but in years to come, it is going to be a deficit state. The river linking proposals of NWDA has not studied Bihar floods in right perspective and that was a cause of concern for Bihar. International issues linked to Bihar further complicated the problems. There are 6 links in the NWDA proposal that impact Bihar directly. Before Bihar agrees to these 6 links, it must be ensured that all its internal needs are met, its own drought and floods problems are solved through intra-basin transfers and then the NWDA options will be open. Engineer in Chief (North) said that NWDA estimates that Kosi & Gandak are surplus basins, but the assessment done by Shri K M Lal has shown this to be wrong.

In his inaugural speech, CM Nitish Kumar said that we wanted to know the availability of water in the state. We want to go ahead with the intra-basin transfers within the state to meet our requirements first. Our priority is to complete the pending projects first. People outside the state feel that Bihar is a surplus state which is not true. There is no surplus water with us, we only have water that we are unable to use at the moment and in coming 40-50 years, we are bound to become a deficit state. There is a widespread misconception about our water everywhere and if we do not rise now, we will be subject to injustice. Even if one does not talk about global warming or about receding glaciers, how many drops of Gangotri waters reach Bihar? Water that comes into the Ganga and devastates the state is already shared and

we have got nuts from that. NTPC has constructed many thermal power stations along the Ganga and they are often shut down for want of water.

Bihar adheres to the traditions of taking sanctions from the center but UP does not follow the same rule. Why should we be seeking permission for using Kosi or

People outside the state feel that Bihar is a surplus state which is not true. There is no surplus water with us. and in coming 40-50 years, we are bound to become a deficit state. There is a widespread misconception about our water everywhere and if we do not rise now, we will be subject to injustice.

Gandak waters? This is not enough even for our own consumption. In the absence of any response from the Centre, Bihar is unable to make its own projects and that gives a message to others that Bihar is a surplus state. If we can transfer N

Bihar waters to the S Bihar then we would be benefited and if fail to do that, others would conclude that we are a surplus state. Hence, we must link our own rivers first and then having met all our needs; we should think of the national level.

Different stakeholders have different interests and a consensus could be evolved only if we sit together and discuss. We should discuss here how to minimize floods and tackle drought. We must make full use of whatever quantity of it that is available to us. We must also look for our rightful share elsewhere but not available to us. We

Shri Dinesh Kumar Mishra adds: "Bihar will not give its waters, this was amply clear in the meeting and will not cooperate with NWDA. But its own plans are no less questionable. A three layer parallel canals linking the rivers in south. I have a feeling that this will replicate the 'satanic chains' of William Wilcocks. Northern interventions on a virtually flat land will have their own set of problems."

did not get our just share from Sone River and whatever was allotted to us, even that quantity of water we are unable to access. We must assess our domestic, agricultural and industrial needs and decide our course. Patna, with a population of over 1.5 M, depends solely on

ground water for its domestic needs. This may be the only city in the world to meet its water requirements in such a way. Is it not suicidal? If we start thinking today, it will take us five years to take our first step in the direction of solving our problem and if we don't do this, our future generations will hold us responsible for their miseries, said Nitish Kumar. (Dinesh Kumar Mishra, Barh Mukti Abhiyan 250506, Jagaran 250506)

**Haryana proposes Ravi-Sutlej link** Haryana govt has sent a Rs 650 crore proposal to centre under the Bharat Nirman Plan to link Ravi river with Sutlej upstream of the Harike Barrage in Punjab with a view to use about 3 Million Acre Feet water that flows away to Pakistan through Ravi now. The proposal claims that this will help overcome water problems in Haryana, Rajasthan and Delhi. (*Dainik Bhaskar* 050606)

**The Rivers must be allowed to flow...****Science, Development & the Temples of Modern India**

Devashis Chatterjee (former Deputy Director General, Geological Society of India)

Riverine terrains formed the cradle of civilisation, fertile alluvial soils on which grain crops could be grown by conscious sowing, water aplenty to drink and wash, and flat terrain where community settlements could have their individual identity as well as conduct traffic. The land would be rejuvenated each year by silt-laden flood waters, and cultivation perpetuated. The interfluves in Mesopotamia, the deltas of the Nile and Indus- the list could go on. But - there always is a but - the rivers and the rains did not behave properly, and there were years of drought and years of flood havoc, as well as years of plenty. Nature was wayward, and caused no end of inconvenience, with waters invading peoples' houses and drowning their animals, and then there was not enough rain when the crops needed water, and the fields became dry and brown, and people starved.

Settled living and cultivation were the basis of civilisation, and civilisation meant the development of intellectual gifts. People tried to understand, and predict, the behaviour of the wind and clouds and rain – and of course, the rivers. If nascent societies worshipped the elements, and tried to propitiate the determining factors, it was a small step from worshipping each river to conceiving of a presiding deity for all rivers. Progress would naturally follow to conceive gods for clouds, and for winds, and so on, and then on towards formulating an integrative principle, in which these phenomena were active departments. The systems of worship and propitiation have a core component that is common to all ritual worship, a prayer that the general rules be relaxed *to favour me if thou art pleased by my oblations*.

The priests (who represent possibly the worlds real oldest profession), would be too willing to assure the supplicant that the deities were smiling, and the prayers would be granted. Since astronomy (hybridised with astrology) was also in the province of the priests, the promises of benefits could be moderated to give a success ratio comparable to that of the Met Office. Beliefs are self-reinforcing, especially when they are based on awe.

If, however, the gods did not oblige, then the faithful could revolt. Somewhere along the way, the more

learned and enterprising individuals would have tried to use some of the power of running water, and the flume-millwheel system is one example; even more sophisticated is the water wheel, in which the current drives the wheel that lifts the water from the same river. As tillers discovered that water at the proper time could give better crops, such inventions must have flourished, and what we see today are the best, those that have stood their own against centuries of 'progress', meaning innovation. The speculative fable is told for a purpose, which will be exposed as we explore the evolution of human interaction with rivers.

Resources are what we can use; and the river was a resource of many aspects- it provided water, and fish, and easy or cheap transport, and even defensible boundaries. *Homo sapiens*, or rather, *Homo faber* (which is a better description of the behaviour of the species), has evolved by trying to

improve its own status against all others. Significantly, the 'others' included the inanimate. Tapping the water and the power were satisfactory to a point, but the flow was never really predictable, and floods and drought afflicted the people. The natural urge rose, to control the flow - to make the water reach where it was needed, and when it was needed. Canals, embankments, weirs and dams were tried out, the technology of building was developed, but rivers would not do our bidding. The fable of King Canute's misadventure with the disobedient waves is worth recounting in this context.

Such failures and misadventures, however, cannot deter the resolute, and the eternal quest for dominion over nature continues. For India, independence, and the years of national planning that came before, witnessed a redefinition of national goals to match the best development levels in the world. There were pronouncements from the

highest levels that defined our trajectory for years to come. Two of Pandit Nehru's mellifluous phrases resonate as hollow shibboleths even today - scientific temper, and temples of modern India. They contradict each other, and confound common sense. Where the scientific temper would lead one to accept reality and understand how to make the best of the 'hand that is

Two of Pandit Nehru's mellifluous phrases resonate as hollow shibboleths even today - scientific temper, and temples of modern India. They contradict each other, and confound common sense. Where the scientific temper would lead one to accept reality and understand how to make the best of the 'hand that is dealt', a temple raises illusions of exemptions from natural laws, and special dispensation in one's favour- because a temple is the haven of the super-natural.

The illusion is much more – it is a delusion that we do have the power to change the behaviour of natural forces. This reminds one of Archimedes' plea- give me a place to stand and I will move the earth. The important thing is the "place to stand". One cannot push a vehicle from the inside.

dealt', a temple raises illusions of exemptions from natural laws, and special dispensation in one's favour—because a temple is the haven of the super-natural. It is impossible to reconcile these two ideas, and very difficult to believe that the learned Prime Minister did not know the mentality of his people.

The illusion is much more – it is a delusion that we do have the power to change the behaviour of natural forces. This reminds one of Archimedes' plea—give me a place to stand and I will move the earth. The important thing is the "place to stand". One cannot push a vehicle from the inside. Whatever technologies we have mastered or developed are based on using one natural force against the other. In the words of Francis Bacon, "Nature, to be commanded, must be obeyed." Bacon was a 'natural philosopher'.

Much later, an eminent physicist said - "to enable the engineer to utilize fully his knowledge of the rivers, so that he may make a servant of it, instead of being as it is now very often the case, his master" (Meghnad Saha, Presidential Address to the Indian Science Congress, Bombay, 1924). He made at the same time a plea for a River Commission "to present to the scientific world, and especially to the engineering world, and more particularly to the engineers of structures in India that are subject to fury at the hands of the great alluvial rivers, such an explanation of the probable action of these rivers, under various circumstances, as will allow of such action being anticipated;" physicists are supposed to be hard-headed, but dreams of domination can dazzle the most sober, and that was a time when *real scientists*, meaning of course physicists, were seriously considering the possibility that all that could be known was known. A few years later, that illusion crashed, and physics outgrew its Newtonian limits. The deterministic world was seen to be only one segment of reality, within fixed boundary conditions. Understanding the workings of nature grew, but only to expand the periphery of ignorance. Scientists like Poincare and Heisenberg, and Prigogine and Lorenz, followed by Mandelbrot and others gradually unfolded the instability inherent in natural 'equilibrium' systems.

Geological phenomena are complex, and have always been known to be so. Precise descriptions and measurements are not possible, and the mathematical disciplines tended to pass the earth by. Stars were much safer, and even atoms made some statistical sense, but

rain and wind, and the distribution of grains in a rock, such things could only be considered at grossly aggregated levels of approximation. Explication of these led to development of chaos theory, and fractal mathematics, and a whole group of complexity concepts. These have not reached a stage where clear equations can be written, but, in keeping with the leeway intrinsic to geological observations, much better description of what to expect in 'self-organising' systems when changes are induced. Rivers are the quintessential self-organising systems. The uncertainties of precise measurements are compounded by the time frames of consideration.

A river valley as we see it has evolved over tens of thousands of years. The rate of change is very very slow, punctuated by catastrophic adjustments whenever thresholds have been crossed. In trying to 'tame' the stream, its path is obstructed, and whatever flow as desired is enforced. Water is an insidious agent, and after a long time—perhaps fifty years—unpleasant signs of change begin to appear, and then more modifications are made. A topical case is of the rivers of Europe, prominently the Danube. It has been

Much later, an eminent physicist said - "to enable the engineer to utilize fully his knowledge of the rivers, so that he may make a servant of it, instead of being as it is now very often the case, his master" (Meghnad Saha, Presidential Address to the Indian Science Congress, Bombay, 1924)... physicists are supposed to be hard-headed, but dreams of domination can dazzle the most sober, and that was a time when *real scientists*, meaning of course physicists, were seriously considering the possibility that all that could be known was known.

"channelised", so that it does not bother anybody on its way to the sea. Every bank is strengthened, every channel bed is cleaned. And then comes one season of high summer rainfall, and the plumbing overflows. There was no way to control the primary input to the system, that is the rain and snow-melt, and when a threshold of magnitude was crossed, the Danube brooked no restraints. "More than four-fifths of the Danube is regulated for flood protection", says the International Commission for the Protection of the Danube River (<http://www.icpdr.org/>), and despite that, or perhaps

Attempting to control the rivers without being able to even predict, let alone influence, the primary input of water is not a rational enterprise.

because of that, there was no scope for the river to accommodate any "abnormal" influx of water. The result was an avoidable disaster, blamed on wayward nature, instead of on the folly of settling on the active flood zone of the Danube. This year, the weather has caused more than one such outbreak in Europe and North America. For India, the portents are ominous, for the rivers of the non-monsoon zones are much more predictable in their annual rhythms, almost tame in comparison to the complex behaviour of Himalayan torrents. To control the rivers without being able to even predict, let alone influence, the primary input of water is not a rational enterprise.

What the Commission has to say about dams is even more curious. "Hydro morphological alterations, such as changes in the depth or width of a river typically reduce flow rates, interrupting natural sediment transportation as well as the migration routes of animals. Large dams and weirs, for instance, have an important effect on the natural sediment transportation, resulting in... the retention of sediment upstream of dams. The accumulated sediment has to be extracted to maintain the river's depth for hydropower generation and navigation. The siltation process can also entail problems with the drinking water supply... the loss of sediment downstream of dams, meaning that material must be artificially imported to stabilise the river bed and prevent incision."

The discordance with the stated "flood protection" objective is lethal. The effects of alterations, set out there, imply that the silt load is essential to the well being of the stream. This is true. Even more significant is the combination of flood

and silt, which is of overwhelming importance for us. Floods carry large quantities of silt, and the ebb flow removes smaller amounts. That residue builds the alluvial plains. The plains of northern India, and of the eastern coast, are the direct product of floods. They are also maintained in their high state by the annual flooding. By seeking to prevent floods, we succeed in averting the low floods and weaken the mechanism of building, and the results are- first, an increase in the incidence of high flood, and, second, increase in the intensity of the high floods. Historical records show that this happened after Hirakud.

Rivers often erode one bank and deposit at the other. Countless songs and folklore have celebrated this duality of nature, yet every year, each such incident is regarded as a national calamity. The stretch of Ganga near Farakka is particularly vulnerable, and a perennial news feature, with state and union administrations trying to pass the buck and rake in the bucks.

The Geological Survey of India investigated the bank erosion "problem" in 1996, and reported, "bank erosion can be co-related with the present oscillation pattern of the river Ganga - Padma along a North-South - NW SE axis *within its recent geomorphic flood plain (Khadir)*", and that "near Jalangi, Ganga has shifted towards NE

and SW alternately. Maximum shift in the SW direction is during 1975 - 1996, which is of the order of 7.4 km towards SW." The studies "concluded that Ganga - Padma River between Lalgola and Jalangi is more or less oscillating in a cyclic manner...contrary to the prevailing view that the river is shifting only towards Indian territory." The two studies thus showed that over a period of about 70 years there had been oscillations rather than shifts to one side, within a zone some 10-12 km wide, and that this zone was an identifiable geomorphic feature. Scientific thinking would suggest that if the habitations are built outside this khadir zone, human misery could be avoided. The temples of modern

India assured the people that they would be taken care of, and the result is a flood of relief and rehabilitation, after the flood of the river has abated.

The lessons not learnt, the knowledge deliberately ignored, and the baseless presumption of superiority over nature has led to a

self-perpetuating cycle of throwing good money after bad. When Meghnad Saha gave his fateful call to tame the rivers, he had also entrusted a leading engineer, Sir Ferdinand Spring, to prepare a technical note, and that note says, among other things, "The Mississippi Commission have done a great deal, but their experience is not to any great extent applicable to Indian conditions. The experience of the engineers of the Rhone and the Danube and other European rivers, though valuable in its way, is even less applicable to India than that gained on the Mississippi." Yet the American and European concepts of river management were cloned for our use. It goes on to recommend the

establishment of a River Physics laboratory and a National Rivers Commission. Neither was done, but a Water and Power Research Institute and a Central Water Commission were built. The difference in approach and attitude is more than

semantic - it is the difference between a botanist and a timber merchant. The essence of the scientific temper is to accept reality, even if it is inconvenient, to seek to understand how things happen, & then to see how things can be made to happen. As one ancient philosopher prayed to God for the strength to change what he could, the tolerance to bear what he could not change, and the wisdom to know the difference.

Denube Commission: "Hydro-morphological alterations, such as changes in the depth or width of a river typically reduces flow rates, interrupting natural sediment transportation as well as the migration routes of animals. Large dams and weirs, for instance, have an important effect on the natural sediment transportation, resulting in... the retention of sediment upstream of dams... the loss of sediment downstream of dams, meaning that material must be artificially imported to stabilise the river bed and prevent incision."

Rivers often erode one bank and deposit at the other. Countless songs and folklore have celebrated this duality of nature, yet every year, each such incident is regarded as a national calamity. The stretch of Ganga near Farakka is particularly vulnerable, and a perennial news feature, with state and union administrations trying to pass the buck and rake in the bucks.

That wisdom lies in the scientific temper, and science would always try to predict consequences of actions.

The other two qualities belong to the indomitable human spirit. If not informed by the wisdom, they lead to thoughtless action.

Similar stories can be multiplied, but the result remains the same- that social and governmental cupidity have triumphed over scientific sense, that inappropriate 'sophisticated' technologies have overruled traditional knowledge, and that the whole has been compounded by venality and a disregard for consequences that affected 'other people'.

The essence of the scientific temper is to accept reality, even if it is inconvenient, and to seek to understand how things happen, and then to see how things can be made to happen. As one ancient philosopher prayed to God for the strength to change what he could, the tolerance to bear what he could not change, and the wisdom to know the difference. The result remains - that social and governmental cupidity have triumphed over scientific sense, that inappropriate 'sophisticated' technologies have overruled traditional knowledge, and that the whole has been compounded by venality and a disregard for consequences that affected 'other people'.

India's famed prosperity came from using its natural endowments. By modernising that attitude, it could have been sustained. But by denying judicious use in favour of brute assaults on mightier but much slower forces, we have entered ever deeper into trouble.

The fault is not so much with the techno-economic community as with the scientific one, for the latter have abdicated and left the agents of superstitious faith in technologies prevail.

(Reprinted with permission from May 2006 issue of The Contemporary Manager, Journal of the Calcutta

Management Association)

**Pandit Jawaharlal Nehru also said this about big Projects:**

## **“Disease of Gigantism”**

Pandit Jawaharlal Nehru, India's first Prime Minister, has been credited with calling big projects like the Bhakra Nangal dam as “the new temple of resurgent India”. However, not many know that in a speech before the then Central Board of Irrigation and Power in November 1958, he severely criticised tendency of “having big undertakings and doing big tasks for the sake of showing that we can do big things” and called it “Disease of Gigantism”. One person he may have in mind while saying those words could be Ayodhya Nath Khosla, independent India's first Chairman of CBIP.

Sudhir Sen, the first Chief Executive Officer of Damodar Valley Corp, styled after USA's Tennessee Valley Authority, has said (*A Richer Harvest: New Horizons for Developing Countries*, 1974) about those years: “During this TVA phase of India's economic development, a well-known Indian engineer used to proclaim off and on that he was going to build the highest dam in the world, suggesting implicitly a new yardstick for measuring national greatness – the height of a dam and the millions of cubic yards of concrete poured. Yet such flamboyance used to flatter many egos and invited surprisingly few frowns.” Sen did not name the engineer in the above book, but from the circumstances, Khosla is a likely candidate. As Devashis Chatterjee discusses Nehru's words on these issues, let us revisit those words of Nehru.

- “For some time past, however, I have been beginning to think that we are suffering from what we may call, “disease of gigantism”. We want to show that we can build big dams and do big things. This is a dangerous outlook developing in India.... the idea of having big undertakings and doing big tasks for the sake of showing that we can do big things is not a good outlook at all.”
- “We have to realise that we can also meet our problems much more rapidly and efficiently by taking up a large number of small schemes, especially when the time involved in a small scheme is much less and the results obtained are rapid. Further, in those small schemes you can get a good deal of what is called public co-operation, and therefore, there is that social value in associating people with such small schemes.”
- “You (the president of CBIP) have said just now in your address that the cost of production in a small project is great. I am not at all sure if that is so, because the cost of a small project has to be judged after taking into account all the social upsets connected with the enormous concentration of national energy, all the national upsets, upsets of the people moving out and their rehabilitation and many other things, associated with a big project. Also it takes a long time to build a big project. The small projects, however, does not bring about these upsets nor does it involve such a large endeavor.”
- “It is the small irrigation projects, the small industries and the small plants for electric power, which will change the face of the country far more than half a dozen big projects in half a dozen places.”
- “Therefore, real value of a development lies in spreading out its influence all over India so that more and more of people can benefit by it. Thus the social value of a vast number of small projects is much greater than that of one, two, three, four or five big projects.”

**HYDROPOWER PROJECTS****HEPs destroy fisheries in Himachal:  
Refuse to pay compensation:  
Thousands of fisher-people affected**

The large hydropower projects in Himachal Pradesh have led to destruction of fisheries in a number of rivers including Ravi, Beas and Sutlej and their tributaries. According to Himachal Pradesh fisheries dept, annual losses amount to over Rs 15 crores. At least 15 000 fisher-folk families are affected in the process. On top of it, the responsible hydro project authorities including NHPC and NTPC do not pay up the compensatory amount due to fisheries dept. Some of the projects for which the due amount is not paid include Kol Dam (NTPC, Rs 2.25 crores), Chamera (NHPC, Rs 1.3 crores) and Parbati (NHPC, Rs 1.3 crores) HEPs. The state govt has made it mandatory for the projects to take No objection certificate from the fisheries department, but since the fisheries act has no provision in this regard, legal action against defaulting projects is difficult.

Now the state govt intends to amend the fisheries act 1976 and rules under that act made in 1979 so that legal action against the responsible projects can be taken, including stopping of the projects. However, it is not clear what the state govt is doing for those families whose livelihoods are affected due to the destruction of the fisheries. As of now the money received from such projects are spent on trout farms at Mandi (Barod farm), Bilaspur (Deoli and Alsu farms) and Chamba (Sultanpur farm). (*Dainik Bhaskar* 050606)

**Nathpa Jhakri emptied to remove silt** The reservoir of the Nathpa Jhakri dam was emptied on June 3, '06 morning to remove the accumulated silt behind the dam. This is one of the techniques being employed to protect the machines from damage due to excessive silt in the river. During the process of emptying of the reservoir, electricity generation will be stopped and water level in the downstream river is expected to rise by 4-5 feet. (*Dainik Bhaskar* 030606)

**OHPC Plans** The power surplus Orissa is planning to add 2 X 75 MW units at existing Balimela HEP under Orissa Hydro Power Corporation. Orissa's current demand is 13500 MU, whereas it produces 16000 MU. In 2005-6 it earned Rs 420 crores by selling surplus power to PTC and National Vidyut Vyapar Nigam. A 6 MW Potteru hydro project is also under implementation. (*Financial Express* 050606)

**NHPC Huge under performance in 2005-6** According to a report in Hindustan Times (060606), in the just concluded 2005-6, NHPC has been able to spend only Rs 2000 crores out of allocation of Rs 3700 crores. A number of projects are in limbo. The Parliamentary standing committee on Energy 2006-07 in its report has

also said about NHPC: "There has been a huge shortfall in achieving capacity addition targets". The report attributes the shortfall in expenditure due to lack of the Chairman and Managing Director of NHPC for over a year now.

However, a look at the monthly reports of the Controller of Accounts, Ministry of Power ([www.powermin.nic.in](http://www.powermin.nic.in)) shows that as far as capital expenditure is concerned, NHPC performance has been worse. During 2005-06, against budgetary allocation of Rs 1606.6 crores, the ministry has been able to spend only Rs 651.15 crores. It is clear that the ministry performance has been far below the targets.

**Chamera II CAT way behind schedule** The Catchment Area Treatment of the 300 MW Chamera II project in Chamba district in Himachal Pradesh on Ravi River is going at a snail's pace. The project was commissioned in 2003, and the CAT work that should have been completed before commissioning of the project is yet to be completed even three years thereafter. This is bound to have adverse impact both on the ecology and communities in the area and also on the performance of the project. This is another instance of bad environmental track record of NHPC. (*The Tribune* 220506)

**CCEA approves Chutak HEP** The Cabinet Committee on Economic Affairs has approved the setting up of the 44MW Chutak hydroelectric project in Jammu & Kashmir. National Hydroelectric Power Corp will set up the project on river Suru in the Kargil district at an estimated cost of US\$ 135.5M. Funds earmarked for the 220kV Srinagar-Leh transmission line will be reallocated to this project. Funding breaks down as follows:

- Equity from government of India: US\$ 40.66M
- Grant from government of India: US\$ 79.44M
- Commercial loan: US\$15.46

The project is scheduled for commissioning within a period of 54 months from the date of sanction. (*International Water Power and Dam Construction* 050606)

**PRIVATE HYDRO**

**L&T bags Singoli Bhatwari HEP** Larsen & Toubro has bagged the development rights for the 60 MW Singoli Bhatwari HEP on Mandakini River in Rudrapur district in Uttaranchal. This is the first HEP that L&T will take up on BOOT basis for 45 years. L&T says "Hydro projects would be one of the trust areas for L&T. We are evaluating similar project opportunities in other states". The Rs 500 crores (very expensive at Rs 8.33 crore per MW) involves a 20 m high and 80 m long barrage, 12 k long headrace tunnel, surface power house. It is claimed that the project would generate 361 MU (that is at the rate of over 6 MU per MW installed capacity) in a 90% dependable year, which is unlikely. DPR is under preparation and development & Implementation agreements are yet to be signed with the state govt. (*The Economic Times* 250506)

**Karcham Wangtoo: People stop dam work**

On May 19, thousands of agitated people marched to the site where work on the Karcham Wangtoo project was being carried forward by the Jaiprakash Hydro Power Ltd. The work is being carried on in illegal way as the project is yet to receive forest clearance. Ultimately the company had to stop work on the project and give to the agitating people in writing that they will not resume work without informing the Pangramg Vikas Samiti that has been formed by the affected communities.

Chairperson of Kinnaur Zila Parishad Ms Chander Mani Negi has opposed the Karcham Wangtoo HEP. She said that the state govt had forced the project on the people, without taking into confidence the gram sabhas of the affected villages. This was also in violation of the PESA (Panchayat – Extension to Scheduled Area) Act of 1996. The state govt, however, has not put in place the mechanism to ensure implementation of PESA in the tribal district. (Divya Himachal 200506, Tribune 310506)

**Shrinagar HEP invitation for Bid** The Alaknanda Hydro Power Company Ltd, a GVK group company has issued invitation for Bid for Civil, Hydro Mechanical and Electro Mechanical works for the 4 X 82.5 MW HEP on Alaknanda River at Shrinagar in Tehri and Pauri Garhwal districts of Uttaranchal. (Financial Express 250506)

**Maheshwar dam Public protest in Mumbai** Around 1000 people affected by the Maheshwar Hydel Project being built in the Narmada valley demonstrated in Mumbai on May 29-30, '06, met with the senior management of LIC, GIC and IDBI, appealing them not to contribute equity into the MHP and to the RBI to institute a CBI enquiry into the financial irregularities related to the Project, and its promoters. On June 1, the NBA activists met senior SEBI officials and requested them not to permit any public issue by the Shree MHP promoted by the S. Kumars group in light of the ongoing criminal proceedings against the Promoters by the Economic Offences Wing of the Govt of Madhya Pradesh on charges of criminal conspiracy, cheating and fraud. It may be noted that the work on the Maheshwar dam has been resumed after a gap of 5 years and the SMHPCL is trying to tie up the finances for the Project and achieve financial closure in the coming months. They have asked the IDBI, LIC and GIC to pick up Rs 90 crores equity in the Project. BHEL has been separately asked to pick up Rs 70 crores equity. The IFCI has been asked to convert their front-end fees still unpaid by the Company into Rs 19.5 crores equity. The Promoters are obtaining loans amounting to Rs 250 crores from the Rural Electrification Corp, Rs 259 crores from HUDCO and Rs 700 crores from the Power Finance Corp. It is learnt that the Company is planning a Rs 700 crores public issue in the near future and has approached underwriters for this purpose. (NBA PR 010606)

**Installed Hydropower Capacity in India**

MW, as on Jan 31, 2006

Sr No	Organisation	Installed Capacity	No of Projects
<b>CENTRAL SECTOR</b>			
1	Bhakra Beas Management Board	2866.3	6
2	National Hydroelectric Power Corp	2747.2	10
3	Damodar Valley Corp	147.2	3
4	North East Electric Power Company	755	5
5	Sutlej Jal Vidyut Nigam	1500	1
6	National Hydropower Development Corp	1000	1
<b>Total Central Sector</b>		<b>9015.7</b>	<b>26</b>
<b>STATE SECTOR</b>			
1	Haryana	62.4	1
2	Himachal Pradesh	312.45	9
3	Jammu and Kashmir	304.15	8
4	Punjab	1142.35	14
5	Rajasthan	430	8
6	Uttar Pradesh	506.6	5
7	Uttaranchal	977.85	11
8	Gujarat	545	3
9	Sardar Sarovar Narmada Nigam	1050	2
10	Madhya Pradesh	835	8
11	Chhattisgarh	125	1
12	Maharashtra	2378.3	25
13	Andhra Pradesh	3619.35	17
14	Kerala	1810.7	17
15	Karnataka – KEB/ VVNL	226.7	4
16	Karnataka - KPCL	3135.4	15
17	Tamil Nadu	2127.45	30
18	Bihar	44.9	4
19	Jharkhand	130	2
20	Orissa	1861.5	6
21	West Bengal	156.5	7
22	SIKKIM	24	4
23	Andaman & Nicobar	5.3	1
24	Meghalaya	185.2	5
25	Tripura	15	1
26	Nagaland	24	1
27	Arunachal Pradesh	10.5	2
<b>TOTAL STATE SECTOR</b>		<b>22035.3</b>	<b>214</b>
<b>PRIVATE SECTOR</b>			
1	HEGL	13.5	1
2	Tata Hydro	447	4
3	Jaiprakash Hydro	300	1
4	Malana	86	1
5	EDCL	9	2
6	Bhoruka	32.6	4
7	Mandagere	3.75	1
8	Narayanpur	11.6	1
<b>Total Private sector</b>		<b>903.45</b>	<b>14</b>
<b>GRANT TOTAL</b>		<b>31954.45</b>	<b>254</b>

Source: [www.cea.nic.in](http://www.cea.nic.in), [www.powermin.nic.in](http://www.powermin.nic.in)

**Power Ministry's New Guidelines for HEPs****Further Concessions for Private Hydropower Projects**

In an attempt to persuade the reluctant private sector to take up Large Hydropower projects (over 100 MW), the Union Ministry of Power has on May 23, '06 come out with new guidelines that provide long term funding at reasonable interest rates so that the tariffs in initial years are lower. The ministry hopes that the resultant tariff competitiveness will provide sufficient payment security to the financial institutions. The bidders will be selected on the basis of tariff based bids. Competing bidders would be required to post a bid bond of Rs 5-10 lakh per MW and a performance bond of Rs 10-20 lakh per MW.

Failure to take up the project within a pre-specified time after the award would lead to a call on the bid bond. The project than would be awarded to the next qualified bidder. The performance bond would be linked to achieving specified milestones in a pre defined time frame. The Power Minister plans to offer a series of run of river projects for development by the private sector.

The guideline begin with the familiar claim that hydro projects are "renewable, economical and environment friendly". Experience shows that all three virtues are imaginary: such projects have limited life, the per MW cost is high even after the huge subsidy provided in not counting the real social and environmental costs and that they do cause significant, permanent and mostly irreversible social and environmental impacts.

In a debate on the pages of Financial Express (050606), PV Indiresan, former director of Indian Institute of Technology (Chennai), even while arguing in favour of large hydro accepted that the cost of power form large hydro would be Rs 5-6 per unit in initial years. How can the hydro projects be described as cheap in that case?

**Departure from earlier policy** Here it may be noted that the Union Ministry of Power had on Aug 26, 1998 given approval to "Policy on Hydropower Development". That policy talked about "ideal hydro thermal mix of 40:60". However, even as the new guidelines talk about "capacity addition in hydro since independence has not grown in tandem with the additions in the thermal

capacity", it has no mention that ideal hydro: thermal mix is 40: 60.

Secondly, unlike all usual govt documents on HEP talking about such projects providing peaking power, the guidelines, strangely has no mention of it at all. The 1998 policy had listed one of the objections as "Providing a differential pricing for peaking power to facilitate greater investment in hydel projects which have the capability to supply peaking power in a cost effective manner." That too is missing from the new guidelines.

Does this indicate that some of the unrealistic notions about the hydropower projects in government are breaking down? The answer, unfortunately, is No.

**Imaginary virtues of Storage projects** Sanjay Chadha, Director in Ministry of Power had added a paragraph in the section 3.1

of Chapter 1 of the guidelines (this was an earlier version that we had downloaded from the Power Ministry website. However, the new version now on the Power Ministry website, inviting suggestions does not have this para and is different in a number of other respects. However, since the earlier version continues to reflect the mindset of the power ministry, we have discussed here various aspects of the earlier version.), singing praise of the large storage projects. (This became clear as the file put up on the MoP website had the track-through mode changes done by Mr Chadha.) For

example, he says, "Moreover construction of large storage dams is the most effective method for controlling floods." This is completely wrong claim, for firstly, unless storage projects have space provided for flood cushion and they are indeed transparently operated to take advantage of such

cushion, they do not provide assured flood control benefit. These conditions do not apply to most storage dams in India. Secondly, as the assessment by the World Commission on Dams makes it clear, large storage dams are not the most effective method in flood management.

**Large storages are not filling up** Moreover, Power Ministry's uncritical advocacy of large storages *per se* is completely misleading. For achieving storage also a

Interestingly, the guidelines for hydropower development have no mention of HEPs providing peaking power and ideal hydro: thermal mix of 40: 60. Does this indicate that some of the unrealistic notions about hydropower are breaking down? The answer, unfortunately, is in No.

Moreover, Ministry's uncritical advocacy of large storages *per se* is completely misleading. For achieving storage also a number of options are available. MoP would do well to look at the performance of existing storages and also the fast rate of siltation of available storage capacity. Nothing effective is being done to stop that destruction.

number of options are available. Also, MoP would do well to look at the performance of existing storages and also the fast rate of siltation of existing storages.

According to an assessment by SANDRP, according to the official figures of Central Water Commission, out of the monitored storage capacity of 133 BCM (Billion Cubic Meters) over the twelve years between 1994 and 2005, on an average, each year about 36.25 BCM (equivalent live storage capacity of 7.7 Sardar Sarovar Projects) of storage capacity out of only the monitored storage capacity is not filled up for the last 12 years. That means that on an average an investment of Rs 37 793 crores has remained idle in each of the last 12 years. This happens when in 7 of the 12 years the rainfall was average or above.

#### **Storages are silting up**

As per the report of the National Commission for Integrated Water Resources Development (Govt of India, Sept 1999), about 1.4 BCM of existing storage capacity is getting silted up every year. At today's rates creation of 1.4 BCM storage capacity would cost Rs 1448 crores. That means that on an average, each day we are losing Rs 4 crores worth of storage capacity through siltation. And no effective action is being taken to stop this destruction of capacity created at huge expenses.

The Guidelines make it clear that they "do not cover large storage reservoir multipurpose hydro projects, having live storage capacity of more than 30 days and envisage that such projects be only taken up through MOUs with Government / Public Sector Agencies and Private Sector as done currently."

#### **Indictment of Public Sector**

The Guidelines seemed to be geared to offer fresh concessions to Private Sector. The guidelines also seem to be an indictment for the public sector organizations. This is because the guidelines say the private sector has following virtues.

- Minimum delays
- Better capital and operating efficiencies
- Private sector would invest in equity component.

**Imaginary virtues of Private Sector** Is there any evidence to support these claims? What is the experience so far about private sector HEPs? The trouble is that if we look at track record of private sector,

we see that these are imaginary virtues. Over the last 15 years when there has been a big push for private sector taking up big hydro projects, only one project of over 100 MW have been completed, namely the 300 MW Baspa HEP in Sutlej basin in Kinnaur district in Himachal Pradesh. However, this project has seen high capital cost, high cost over run, high time over run, long shut downs, poor environmental and social track record and poor record in safe operation of the plant (see DRP issues of Dec '05-Jan '06 and Feb-March '06).

Only other private hydro of substantial size completed over the last 15 years was the 86 MW Malana HEP in Beas basin in Kulu district in Himachal Pradesh. This project again has seen poor record of safe operation, long shutdowns, poor social & environmental performance.

#### **Ongoing projects**

If we look at some other ongoing large hydro projects in private sector, we see that the 400 MW Vishnuprayag HEP in Uttaranchal has had high cost and time over runs. The 400 MW Maheshwar project in Madhya Pradesh has remained stalled for five years due to the agitation by the affected people and by the mismanagement by the developer. The project is so problematic that a number of foreign companies have quit the scene after exploring funding opportunities in the project. The 1000 MW Karcham Wangtoo project in Himachal Pradesh is facing big agitation by the affected people who have now stalled work on the project (see below).

Attempt to make the 12% free power conditional and unreal (by saying that any additional R&R and environmental costs would be borne by the state governments is likely to create more hurdles for the HEPs this won't be in the interest of the affected people, state govt or the developer.

The trouble is that if we look at track record of private sector, we see that these are imaginary virtues. Over the last 15 years when there has been a big push for private sector taking up big hydro projects, only one project of over 100 MW have been completed. Private HEPs to manage to pad up the capital costs to such an extent that it unlikely that they would be investing anything from their pockets.

#### **Do private project really bring additional money?**

Another fallacy of the Power Ministry's argument comes from the fact that the developers are bringing very little additional resources. Most of the money invested in the project comes from financial institutions in public sector. On the other hand, the costs of the

private hydro projects are so high (there seems to be substantial padding in absence of credible independent monitoring) that whatever little equity that the developers bring in is less than the padding added by the private sector. So on the whole, private sector is adding little net resource.

**Hill states do not need HEP Power** The Guidelines are candid in accepting that "most of the undeveloped hydro power sites are located in hill states which are either surplus in power already, or whose ability to consume

power would be much less than the hydro potential existing in the State.” Thus the guideline has to look for ways to push the hill states to take up large hydro projects. The following statement that soon follows is weird: “The hill States possessing the hydro potential must therefore like to develop their hydro sites for sale of power to other areas and at the same time securing benefits like 12% free power for their own development.” The word “must” in this sentence should clearly not have been there.

### 12% free power becomes conditional & staggered

The Guidelines, in spite of the contrary noise by some private developers and also NHPC, says that the GOI OM of May 17, 1989 providing 12% of the power from hydro projects to the host state govt will continue. However, the guidelines add a proviso to this: “In case of projects having unviable tariffs in the initial years, the 12% free power to the home state can be staggered in a manner such that it is kept low in the initial years and higher in the latter years so as to average 12% over the life of the project.” This is likely to add to the existing disincentives for the host state governments. Moreover, the Guidelines add that if there are additional expenses on R&R beyond what is provided for upfront in the DPR, than such costs “would be to the account of the State Govt. in line with the GOI Policy of provision of 12% free power to the host state for mitigation of hardships to the local population”. This provision again is an attempt to reduce the obligations of the developer, and create problems for the state govt and the affected people.

Indiresan, accepted, “They (the state governments) have been stingy, even outright unfair, in the matter of resettlement & rehabilitation. Local officers have also been corrupt, have put innumerable obstacles in releasing to poor tribals even the small compensation that was promised to them.” In such a situation, how is making the 12% free power staggered and conditional.

**Competitive bidding not necessary** The Guidelines say that for HEPs over 100 MW, states can continue to develop the projects based on MOUs with the

developers. Only condition being that the EPC contract should be based on international competitive bidding. This is a clear and continued departure from the Power Ministry policy of Feb 15, 1995 to the effect that power projects could only be awarded to private developers through competitive bidding.

**Facilitating bodies for each HEP** The earlier version of the guidelines envisaged creation by the central govt of a shell company/ special purpose vehicle/ task force /

other statutory/ non statutory organizations for each of the large hydro project with capacity over 100 MW. The role of these facilitating mechanisms would be to take action for:

- Preparation of the project report
- Land acquisition and preliminary R&R
- Formulation of R&R plan; assessment of cost

It seems the Power Ministry has not learnt any lessons from the past experience of implementation of large hydro power projects. That is why there is little by way of credible norms and mechanisms to ensure that the social and environmental issues of these projects are dealt with in manner that is in the long term interest of the people and also the project. There is absolutely nothing in the guidelines on this score.

thereof

- Preparation for EIA & EMP reports
- Various approvals and statutory clearances
- Aggregating demand for power from the licensees of different states
- Power evacuation system, load flow study.

This is supposed to be an illustrative list and not an exhaustive one. Here the guidelines say, “Selection of final developer will be through a tariff based ICB. The shell company/ SPV will be thereafter transferred to the

successful bidder for execution.”

It seems that the new guidelines are bound to fail in achieving the objectives set out as they are based on imaginary virtues of private hydro projects and large storage projects. The guidelines also do not seem to be based on past experience of such projects, nor being informed by performance of such projects based on ground realities. There is also no attempt to evaluate the performance of existing large hydro projects to see what has been the performance in terms of power generation per MW installed capacity or in terms of providing peaking energy.

If the project site is being developed for sale of power to other states, than “the host state is expected to necessarily avail the multi stake holder facilitation mechanism of GOI as outlined above. If the host state is

developing the project for itself than it need not depend on centre for setting up SPV and it can do it on its own or through an SPV set up by itself”. The tariff based bids are supposed to be according to the ICB guidelines notified on Jan 19, '05 in either case.

**Project Report** The Project Reports can be either prepared by the state govt or they can ask a central govt agency to do the same. The PR are supposed to be according to the guidelines of the CEA and the CWC.

The agency selected for developing this project through competitive bidding shall reimburse the cost of the Project report to the SPV. The PR is to be vetted by another reputed agency to ensure that the dam safety, river basin optimization and inter state issues are taken care of.

**Final Evaluation** The bid is to be evaluated by the SPV/ state govt solely on the basis of the composite levelised tariff quoted by the bidder. The project developer would have to enter into a PPA with the distribution utilities for at least 90% of the design energy. The remaining power can be sold on the merchant basis. The Evaluation committee can reject all bids if the tariffs quoted are not aligned to the prevailing market prices.

#### **No lessons learnt on Social & Environmental issues**

It seems the Power Ministry has not learnt any lessons from the past experience of implementation of large hydro power projects. That is why there is little by way of credible norms and mechanisms to ensure that the social and environmental issues of these projects are dealt with in manner that is in the long term interest of the people and also the project. There is absolutely nothing in the guidelines on this score.

As Indiresan notes, "Our obsession with secrecy is also a major drawback. Our government is obsessed about confidentiality of the design of river valley projects... Even magicians are less secretive; they disclose quite a lot. Our government would do well to take a lesson from them." Here again there is nothing in the guideline to ensure transparency, which is first step in the direction of ensuring accountability. The project documents right from the pre-feasibility and feasibility level to the detailed project report and monitoring reports during project option should be in public domain.

As Indiresan notes, "Our obsession with secrecy is also a major drawback. Our government is obsessed about confidentiality of the design of river valley projects... Even magicians are less secretive; they disclose quite a lot. Our government would do well to take a lesson from them." There is nothing in the guideline to ensure transparency, which is first step in the direction of ensuring accountability.

**Conclusion** It seems that the new guidelines are bound to fail in achieving the objectives set out as they are based on imaginary virtues of private hydro projects and large storage projects. The guidelines also do not seem to be based on past experience of such projects, nor being informed by performance of such projects based

on ground realities. There is also no attempt to evaluate the performance of existing large hydro projects to see what has been the performance in terms of power generation per MW installed capacity or in terms of providing peaking energy. To give a snap shot, according to an analysis by SANDRP, the power

generation from every MW of installed capacity over the last twelve year from 1994-95 to 2005-06 has gone down by over 20%, according to the figures of Central Electricity Authority. But there is no attempt to understand this situation or to make amends therein.

**Possible next steps** Firstly, it is necessary to institute a credible, independent assessment of social, environmental, financial and also power generation performance of the hydropower projects built so far.

Secondly, there is need to put together legally binding norms for future projects with respect to social, environmental, planning & decision making, monitoring & evaluation. Along with such norms we need clearly defined credible mechanisms to ensure compliance with the norms. Such mechanisms will have to be independent and with powers to take corrective action when necessary. This is absolute minimum and without these, we are bound to see continued legacy of unaccountable, costly projects for which local people will have no value and the nation will have no benefit.

SANDRP

### **Power Ministry Invites Comments on New Guidelines for development of hydropower projects by private sector**

Union Ministry of Power has invited comments on Guidelines for development of Hydro Electric Project by Private Developers as given on [http://powermin.nic.in/JSP\\_SERVLETS/internal.jsp](http://powermin.nic.in/JSP_SERVLETS/internal.jsp). There is no proper details about who can send comments, where it should be sent, what is the deadline, etc. There is no announcement on the front page of the website either about invitation for the comments. The whole thing seems to be a non serious effort and yet a mechanism to say at a latter date that we had invited comments. This seems to be the typical way of functioning of the ministry with no role for those outside the govt unless you are from "industry" or mainstream media.

However, making use of the opportunity, it may be good idea to send comments on the guidelines to the Power Ministry, possibly addressed to: (a) The Power Minister ([sk.shinde@nic.in](mailto:sk.shinde@nic.in)) (b) Secretary, Ministry of Power ([rvshahi@nic.in](mailto:rvshahi@nic.in)), (c) Joint Secretary, Ministry of Power – Hydro ([akkutty@nic.in](mailto:akkutty@nic.in)), (d) Sanjay Chadha, Director (Hydro), Ministry of Power, Govt of India ([schadha@nic.in](mailto:schadha@nic.in)).

**IRRIGATION****Farmers win compensation for non supply of irrigation**

Two farmers from Chamarajanagar, Karnataka, took the state govt to court for not giving them water for the past 3-4 years. The twist is that they approached a district consumer court, and won the case in less than a year.

In a landmark judgment in 1997, the Supreme Court had ruled that water is a 'public trust' maintained and regulated by the state. Public trust implies that it will be regulated and supplied to meet everybody's needs in a fair and balanced way. In reality, however, while the govt has rights to the water, it has been far from meeting its obligations on fair delivery. And on the other hand, farmers and users have not demanded their entitlements from the state very forcefully.

On 19 January '06, in a significant ruling, the District Consumers' Disputes Redressal Forum at Chamarajanagar, Karnataka said that farmers who pay 'water rate' fees are consumers and govt dam authorities are service providers. As such, if dam authorities fail to release water, they may be held up for deficiency of service. This ruling comes from the efforts of two farmers in a small village – Alur - in Chamarajanagar district, who dared to take the state machinery to task for not releasing water to their coconut and arecanut gardens. Mahesh Prabhu and Mamatha Murthy, filed cases on 8 April '05 and 21 September '05 respectively against the Executive Engineer M C Chandrashekhar and Assistant Executive Engineer Satyananda of the Kabini Nala sub-division, Cauvery Neeravari Nigam, for deficiency of service in releasing the water from the Suvarnavati Dam. The then Chief Secretary of the Govt of Karnataka was also charged ex-parte in the case.

The story began in 1966 when the govt decided to dam the Suvarnavati river to irrigate 7,000 acres. The river flows near Alur village and provided water to 9,694 acres of farms and gardens. The farmers of Alur and other villages downstream protested against the damming of the river and were assured of regular water supply by the dam authorities. They agreed, the dam was built and life went on with the farmers paying the taxes, fees and rates as demanded by the authorities.

In '02, a drought was declared in Chamarajanagar and water was not released. The water rate payment was also suspended. The same story was repeated for the next two years. In '05, Prabhu & Murthy found that newly irrigated areas were receiving water whereas their old gardens and lands were being dried out. Also, the dam had received enough water to supply them and yet, water was not being released. When personal appeals, official requests and repeated pleas did not yield any result, Prabhu filed a case in April '05 demanding that the govt respect his entitlement to water. In Sept, Murthy, the guardian of her minor daughter's lands, did

the same. Both the cases were clubbed and consolidated by the consumer forum for consideration.

The three major problems before the court were: (1) Are the two farmers consumers within the meaning of the Consumer Protection Act? (2) If so, have the govt officials caused a deficiency of service as alleged? (3) Finally, to what relief are the two farmers entitled?

The court found that three kinds of charges were being collected from the farmers - betterment charges at Rs 500 per acre, maintenance cess at Rs 4 per acre, and water charges at variable rates ranging from Rs 9 to Rs 200 depending on the crop. The court noted that as per Section 44 of Karnataka Irrigation Act and Sections 3, 10 and 28 of the Karnataka Irrigation Act, 1957, betterment charges and maintenance cess were compulsory taxes collected by the govt for the provision of water.

However, rule 4 of the Karnataka Irrigation (Levy of Water Rate) Rules 1965, clearly stated that water rate was collected "from persons who have taken permission to use water". As such, it is not a tax, but a payment for services rendered. The service being the supply of water for irrigation. Just because the state govt has declared Chamarajanagar district drought hit, and suspended collection of water rate, "it cannot be said that these complainants are not consumers," the court ruled in its judgment. Hence, the court declared the two farmers were consumers and the govt was the service provider.

It was then time to open the Suvarnavati dam project documents to recall the commitments made to the people in the 1960s. It was envisaged that 1.1 TMC of water would be stored to irrigate 7,000 acres of new command and 9,694 acres of existing command was to continue to get irrigation. In '04, 1.2 TMC of water was stored in the reservoir, but water was released only to the new command areas and not to the old. The engineers contended that water had not reached the petitioners as their lands were at the tailend of the canal and there was considerable sand quarrying in the river bed during the preceding two years of drought.

However, Prabhu and Murthy produced maps to prove that they were only 25 km from the dam and not at the tailend. Farmers higher up the canal were drawing excess water, they alleged. Additionally, they also showed that the executive engineer had himself attempted to help his contractor quarry sand from the river bed. The court ruled that the engineer had failed in his duty to protect the interests of the farmers. Since Prabhu and Murthy asked for water only once or twice a month for their gardens, the court found that the state had caused deficiency in service to them.

Finally, the court came to the issue of loss and compensation. Prabhu and Murthy contended that their

gardens had perennial crops like coconut and arecanut in addition to annual crops like banana and sugarcane. In the case of annual crops, the loss of crop was only for a year. In the case of perennial crops like coconut and arecanut, the loss would continue for several years. Prabhu estimated his loss at Rs 4.9 lakh, while Murthy estimated hers at Rs 2.91 lakh. However, the court ruled that their loss had to be estimated by an expert or an approved valuer, and not by themselves. The AE and the EE were directed to jointly pay the two farmers a nominal amount of Rs 5,000 each for deficiency of service, Rs 1,000 each for mental torture and agony and Rs 500 each for court charges.

Murthy and Prabhu see this as a victory of a principle. They have also since started getting water. The most significant thing that has happened in the months since the Jan '06 ruling is that the morale of farmers in Alur itself has been boosted. Many of them are now contemplating going to court. A few have started with their paperwork. Several farmers are likely to demand their water entitlement from the govt. The officials in the meantime have appealed the entire decision. But the farmers are undaunted and are preparing for the next round of battle. (Edited for an article by Veena N in [www.indiatogether.org](http://www.indiatogether.org) 290506)

**Godavari Lift Irrigation Scheme** The Phase I (Rs 844 crores) and II (Rs 1887 crores) of the Rs 5216 crore GLIS is under implementation. As WWF freshwater programme has said, the project is economically unviable with per acre cost in only the power consumption comes to Rs 7 000 pre annum. WWF had also written to Austrian govt not to provide \$ 477 m loan for the project that Austrian govt was planning. The project plans to use 50 tmc water to irrigate 6.47 lakh acres in Karimnagar, Warangal, Nalgonda and Medak districts of Telengana in AP. Hindustan Construction Company has got the contract for the Phase I along with a two year maintenance contract. Kirloskar Brothers Ltd has minor stake in the project. The project would require dedicated supply of 384 MW power that AP plans to generate from the proposed Dummegudem and Singareddy Palem HEPs. Godavari is supposed to have sufficient water for lifting for 170 days in a year when the water will be used. The project requires 850 acres forest land 648 acres private land. (Project Monitor 010506)

**Rajiv Sagar Lift Irrigation Project** The Andhra Pradesh govt has claimed that centre has given site clearance to the Rajiv Sagar lift irrigation (Dummugudem) project in Khammam district. The Rs 4 000 crore project involves lift cum gravity canal to use 16.17 tmc of water from Godavari from Pamulapally village in Aswapuram mandal. The water conductor system connects five storage reservoirs including three existing reservoirs. The project to irrigate 4 lakh acres in two phases requires 1980.87 ha of which 345 ha is forest land. (The Hindu 310506)

## DAMS

**Agitation at Kosarteda dam in Bastar** According to NS Bhadauria, Engg in Chief, Chhattisgarh, the Kosarteda medium irrigation project has been under construction in Bastar for over 15 years. The two flanks are ready, but the work is not being taken up in the central portion as the affected people are refusing to vacate their lands without proper R&R. (Indian Express 290506)

**Agitation at Pedagedda Reservoir in AP** Oustees of Pedagedda reservoir being built on Vegavati river in the Vizianagaram district who had stalled the ongoing works allowed the works to go ahead after two days only when the district collector came to the spot and assured them about rehabilitation. (Deccan Chronicle, AP, 26/5/06)

**Dams Rehabilitation in Betwa basin in MP** 15 dams and their canals in Betwa basin in MP are to be rehabilitated at a cost of Rs 7.73 crores under the World Bank funded MP Water Sector Restructuring Project. These include 10 in Chhatarpur, 2 in Tikamgarh and 3 in Bhopal districts. The effort is expected to provide additional irrigation to 7130 ha. (Dainik Bhaskar 260506)

**Srisailem Left Bank Canal Tunnel** A 50.75 km long tunnel (in two parts: 43.5 & 7.25 km, to be connected by a 7.54 tmc balancing reservoir in Dindi Valley), claimed to be the longest mechanically bored tunnel in the world, is to be constructed to take the water from Srisailem reservoir to Nalgonda district. The SLBCTS (to start 4 km upstream from the dam) of Alimineti Madhava Reddy Project plans to carry 113.28 cumecs water. JP Associates have won the contract and Robbins of USA would provide the machines. The second tunnel will end in open canal that will run for 25 km to end in Peddavagu valley. The first Tunnel will pass through the Rajiv Gandhi Tiger Reserve. (Project Monitor 010506)

## SARDAR SAROVAR

**GCCI foots advertisement bill** Who are the interests behind pushing Sardar Sarovar in Gujarat became clearer from the fact that Gujarat Chamber of Commerce & Industries paid the Rs 89 lakh bill for the full page advertisements issued in support of the Dam when NBA activists were on indefinite fast and Dharna in Delhi in March-April '06 demanding rehabilitation of the affected people as per legal requirements before increasing the height of the dam. (The Hindustan Times 260506)

### The Times of India CARTOON 270506



**A new report from SSNC**

## CDM in Practice: Broken Illusions

According to a new report "CDM in Practice: Broken Illusions" by the Swedish Society for Nature Conservation, the assessment of the role Clean Development Mechanism playing in practice shows that CDM has largely failed on most of the counts for which it was set up. The Feb 2006 report (full report available at: <http://www.snf.se>) authored by Goran Eklof has some major eye opening conclusions:

- A negligible number of projects and an even smaller share of the investments are implemented in the least developed countries.
- There are a large number of projects in renewable energy and energy efficiency, but they represent a rather small and constant share of the investments.
- Transfer of technology is not a significant component of most of the projects, which it was supposed to be.
- The transaction costs for having a CDM project approved are high, which is to the disadvantage of smaller projects.
- Most of the expected reductions of GHG emissions come from large projects for the collection and destruction of industrial gases and methane. The development impacts of these projects are negligible or non-existent.

**Important Dates**

- **June 1992** The UN Framework Convention on Climate Change adopted at UN Summit in Rio de Janeiro
- **Dec 1997** Kyoto proposal adopted.
- **Nov 2001** The decisions that made the CDM operational were taken at the Seventh Conference of the Parties to UNFCCC.
- **April 2004** The European Union adopts the *Linking Directive* that links CDM to the emissions trading system. Among other things, the LD states that large hydropower projects with capacity over 20 MW must respect the WCD criteria and guidelines.
- **Nov 2004** The CDM Board registers the first project.
- **Feb 16, 2005** Kyoto protocol came into force.
- **2012** Date by which GHG emissions of the industrialized nations have to be reduced by 5% compared to the emissions in 1990.

**CDM guiding principles** The Nov '01 conference affirmed that the following principles should guide the CDM:

- Projects should lead to transfer of environmental technology and know-how.
- Host Party to decide if the projects assist in Sustainable Development.
- Emissions reductions from nuclear facilities should not be used
- CDM projects should not result in the diversion of the official development assistance.

- Certified Emissions Reductions can be sold to Annex 1 countries and institutions.

**Current Status** By January 2006 some 80 projects have been registered with the CDM board. As of Jan 30, 2006, 1.38 million CERs have been issued to 6 projects.

The SSNC publication recommends a thorough evaluation of how the mechanism is performing in practice. The evaluation should also analyse how the CDM affects investment flows and the dynamics of negotiations under the Convention. The evaluation must be independent of the govt agencies, organisations and the individuals that are directly involved in CDM activities. The report also makes a number of suggestions for the Swedish govt.

A few copies of the SSNC publication are available with SANDRP, if you would like to get a copy, please write to us.

**CDM projects in India** The CDM is already operational and 14 projects have been registered so far with the executive board since the board started approving the projects in Nov '05. CDM credits are being purchased and traded by European, Japanese and Canadian govts and companies. For renewable energy projects, EcoSecurities Ltd projects carbon credit generation of around 0.5-1.0 T CO<sub>2</sub> per MWh generated, valued at around \$ 5.5 per tonne at current Certified Emission Reduction prices. (Project Monitor 010506)

**Carbon credit market crash** In early May '06, carbon credit market crashed when it became clear that a number of European countries had adhered to the mandated carbon dioxide emission norms during 2005. The price of CER that had touched Euro 30 levels in April end crashed to Euro 11 then. Now it seems European and Japanese buyers have slowly starting returning to Indian Carbon Credit market, though volumes and offers are at lower level.

A number of Indian companies are in this business that buy these credits and then sell them to the European companies. Among these are Synergy Global, IT Power India, Pricewater House, etc. (Business Line 310506)

However, as the review of project design document of the three small hydro projects in Uttaranchal, India, submitted for CDM validation show (see the next 3 pages below), the quality of the projects seems to be very poor. A thorough evaluation of CDM projects submitted from India is required. Also urgently required is a close and constant monitoring of the projects being submitted & the process of validation, registration, certification & trade of carbon credits. If this is not done, than a lot of corruption and fraud is likely to be the result.

**Small Hydro Projects in Uttarakhand****ADB files Fiction for CDM credits**

Three small hydro projects in Uttarakhand, being funded by the Asian Development Bank under the Uttarakhand Power Development Project approved in March 2006 have been filed to the Executive Board of the Clean Development Mechanism on May 5, 2006. The Project Design Documents of these projects were put up on the website of the CDM (<http://cdm.unfccc.int/Projects/Validation>). The projects are: 4 MW Kaliganga-I and 6 MW Kaliganga-II (submitted as a single project), 10 MW Madhyamaheshwar project (both in Rudrapur district) and 9 MW Kaldigad project (Uttarkashi district).

A review of these documents by SANDRP showed that the documents were full of falsehoods, misinformation, contradictions and wrong claims. This became even more apparent after a representative of SANDRP and MATU (a non government organisation of Uttarakhand) visited the villages in the project areas.

Before the comments period for these three projects expired, objections have been submitted by a number of organisations to the DNS, a Dutch company that is acting as Designated Operating Agency for these projects. SANDRP and Matu has also submitted objections. Here we are giving some of the main objections to the validation of these projects to give an idea about the shoddy quality of projects that are being submitted to get credits for under CDM.

At the outset, however, we would like to make it clear, as we made clear in the objections submitted to DNS, small hydro projects like these need to be developed if done in a proper way. However, the way these projects are being taken up now, cannot be an acceptable way as it would be neither in the interest of the local people, the economy or the environment.

**Objections** Some of the problems with the Projects as submitted now are listed below.

1. The project developer (Uttarakhand Jal Vidyut Nigam Ltd for all three projects) and funding agency (Asian Development Bank) have not done any satisfactory consultation with the people in the affected villages. The local people have not been given any of the project documents like the detailed project report, have not been given the environment impact assessment or environment management plan in the language that they can understand. Nor have the people been told about any of the adverse impacts of such projects. This is clear violation of the rights of the people and also violation of

the CDM norms for consultation of the stakeholders and the local people. The claim made by the proponents in the CDM PDD in this regard (section G 1) is wrong. Till this is corrected, the project should not be validated.

2. Section G1 should have given details of the amount of land to be taken for the project, which has not been given. The summary Environmental Impact Assessment of the project (see [www.adb.org](http://www.adb.org)), page 60/63 shows that land will be taken for the projects as follows:

➤ **Kaliganga** totally 6.52 ha of land will be taken for the projects, including 3.66 ha of forest land and 2.85 ha of cultivated land from the farmers.

➤ **Madhyamaheshwar** The summary EIA shows that cultivated land will be taken from the farmers. The project will also need 4.999 ha of forest land, which clearance has not yet been taken.

➤ **Kaldigad** The summary EIA shows that cultivated land will be taken from the farmers. This will cause

impact on the livelihoods of the farmers, contrary to what is stated in section G1 that there is not be any impact on livelihood. The project also needs to take permission for diversion of 4.2 ha of forest land, which has not yet been taken.

This will cause impact on the livelihoods of the farmers, contrary to what is stated in section G1 that there is not be any impact on livelihood. The project needs to take permission for diversion of forest land, which has not yet been taken. The project should have been submitted for CDM validation only after all such required permissions are in place, which is not the case in this project.

3. The PDD repeatedly makes the most shockingly misleading statement (section A.2, A.2 (h), A.2 (i), F.1) that the projects is being taken up "without causing any negative impact on the environment". A project of this nature always causes significant negative impacts on the environment, including due to diversion of agricultural land, due to diversion of forest land, due to diversion of the streams for the projects (thus drying up of the streams till the water return to the stream after tail end channel), blasting for the tunnels and diversion structure, addition of large number of outsiders to the area and the impacts thereof, the disposal of the muck created in the project activity, the laying of transmission lines & roads, noise and dust pollution during construction, increase of possibilities of soil erosion and land slides and so on. The project document should be honest on such impacts and should include management plan for such impacts.

A review of these documents by SANDRP showed that the documents were full of falsehoods, misinformation, contradictions and wrong claims. This became even more apparent after a representative of SANDRP and MATU (a non government organisation of Uttarakhand) visited the villages in the project areas.

4. The PDD contradicts itself when on the one hand it says in section A.2 (a) that project will generate “cheap hydropower”, on the other hand it seeks CDM credits so that IRR of the project goes up.

5. The PDD contradicts itself when on the one hand it says that the power will be connected to the grid and exported to the Northern region (the PDD also justifies the need of the projects in the name of power demand in the northern region), on the other hand it claims that it will lead to availability of power to the local population and taking up of industries in the area. Experience from other areas where such projects have been taken up show that such claims are baseless and such claims should not be entertained in a fair project document.

6. The PDD makes wrong statement in section A.4.3 that “only fossil fuel fired power stations would contribute to major part of the future capacity additions”, when in reality, a very large number of big hydro projects are planned and under construction in the Northern Indian region. Moreover, the figure of energy shortage of 10.06% in 2004-5 is wrong, as per the report of the Northern Region Load Dispatch Centre, the shortage was 9.01%. The figure of growth rate in peak power of 11.39% given is also wrong. The correct way would be to look at the compound annual growth rate over the last decade, which figure is 4.7%.

7. The claim made in section A.4.3 that National Electricity Policy of 2005 “favoured establishment of large thermal based power plants and large hydro power plants” is also very misleading. A number of sections (e.g. section 5.2.20, 5.12.1, 5.12.2) of the National Electricity Policy (available at [www.powermin.nic.in](http://www.powermin.nic.in)) are actually about renewable energy sources, including small hydro projects. The proponents are either ignorant about this or are making misleading claims.

Moreover, there is a separate ministry for non conventional sources of energy, at whose website ([www.mnes.nic.in](http://www.mnes.nic.in)) one can see the slew of incentives provided for SHPs. By not mentioning these, the proponents are trying to mislead the CDM board.

8. The claim made on section A.4.5 that “the proposed project activity is not a debundled component of a large project activity” is not correct as the project is very much part of the larger ADB funded Uttaranchal Power Project, available on ADB website ([www.adb.org](http://www.adb.org)).

9. It is wrongly stated in section B.2 in PDD of Kaliganga Project that the project is located in Himachal Pradesh state, when the project is in Uttaranchal state.

10. It is stated in section B.3 of PDD that the Plant load factor of such projects is 20.7% generally. If that is the case how are the proponents claiming that for the proposed Kaliganga projects, the PLF would be 75.76%, 68.93% for the Madhyamaheshwar project & 86.76 % for the Kaldigad project?

11. The description under title “barrier – Royalty charges” given in section B.3, is irrelevant as that description is for Independent Power Producers and the proposed projects are not IPPs.

12. The claims under title “Regulatory Barrier” given in section B.3, that the IRR will work out to 6.54% for the Kaliganga projects, 5.94% for the Madhyamaheshwar project and 7.79% for the Kaldigad project are wrong, as they do not take into account the incentives that the central govt gives for small hydro projects. The Central govt incentives are described at <http://www.mnes.nic.in/frame.htm?majorprog.htm>. Such incentives include capital subsidy of upto Rs 150 million per project. In the case of Kaliganga since there are two projects in all, the capital subsidy available would be upto Rs 300 million. If all such incentives are taken into account, the IRR would be much higher.

13. What is stated about “Regulatory barrier” is also not correct. The Uttaranchal Electricity Regulatory commission, in its order dated Nov 11, 2005 (see: <http://uerc.org/Order1to25.pdf>) has set up a number of important norms for tariffs of power from small hydro projects in Uttaranchal upto 25 MW.

14. The claim in section B.3 that project is additional is not right. The summary EIA of the project (see [www.adb.org](http://www.adb.org)) says on page 60 that groundwork for the Kaliganga projects started in 1982. Moreover, since these are ADB funded projects, the finances for the project, including its deadlines and implementation mechanisms are fully in place, and the project would go ahead even without CDM credits.

15. In Section E.1.2.4, the project considers generation mix of the N region for the baseline emission calculations. However, the project is in Uttaranchal and such projects should consider the state level emission calculations. Moreover the estimation of emission factor of 839.87 tCO<sub>2</sub>/ GWh seems on higher side.

16. The statement in section F.1 that “The construction of this project neither alters nor contributes to raising of water level in the stream nearby” is Totally false. Each of the four projects indeed would divert the whole of the streams, completely drying up the stream downstream from the diversion point, till the water returns to the stream after tail end channel. A number of such totally false statements (e.g. there is insignificant aquatic life, there will be no impact on the same, there is no risk to health of the people, there is no risk of soil erosion, the power channel will improve the soil erosion at a later stage, etc) are made in this section. Such falsehoods cannot be accepted for any project.

Under the circumstances, the three projects in current form should not be validated.

SANDRP

## LETTER FROM AFFECTED PEOPLE ABOUT CONCERNS REGARDING THE PROPOSED SMALL HYDRO PROJECTS IN UTTARANCHAL

The people affected by the proposed Kaliganga and Madhyamaheshwar projects in Uttarakhand have written to the Asian Development Bank (funder for the projects) and Uttarakhand Jal Vidyut Nigam (developer) about their concerns regarding these projects. We reproduce below the main concerns expressed in the letters written in Hindi that have already been sent to those it is meant for, including the English translation of the same:

Respected sirs,

We are affected people from the area of the above mentioned projects. So far you people have called just one meeting on Feb 27, 2005. In that meeting, no information was given about the impacts of the project. Just some oral discussion was done about the benefits of the projects. Sometime thereafter a six page pamphlet was given to head of gram panchayat kotma (given some scant information about R&R aspects of the project).

We have been given no information about the impacts of the project in the project area.

- What will be impact of the project tunnels on the houses, water sources, etc?
- What will be the exact place and mode of disposal of the muck created by the project?
- What will be the impact of this on the environment of the area?
- What will be the impact on the temperature (micro climate) of the area?
- What will be the impact on agriculture and horticulture in the area?
- What will be the impact of the project on the wild life of the area like dears, bear, antelopes, leopard, *Kakad* (Hindi name of the animal whose English translation is not known to the translator)?
- What will be the impact of the project on water birds in the river like egrets, ducks, water hens and fish in the river?
- What will be the social and economic impacts?
- How many labourers will work at the site?
- How many people of the local area will be able to get employment?
- What will be the impact on women's movements?
- What will be the impact of the project on the temples?

To get information on all such issues is the right of the affected people. How can you go ahead with the project violating this right of the people? In the name of development you cannot neglect the environment of the area and rights of the people. This is clearly a fraud on the people. All this raises serious questions about the intentions and working of ADB and the UJVNL.

Copies of the detailed project report, the full environment impact assessment report and other related documents should be provided in Hindi to the affected villages. These documents should be explained to the people in all the affected villages by independent persons. At least a month after the above two steps a public hearing be conducted in villages affected by both the stages. The public hearing should be conducted by independent experts. Till all the above four steps are completed satisfactorily, no work should be done on the projects and no money should be given to the projects.

- What will be the impacts on water sources?
- What will be the impact on water flow in the river?
- If outside people come here, what will be the arrangement for their stay, food, water supply and sewerage?
- What will be the impacts of all these on our culture?

To get information on all such issues is the right of the affected people. How can you go ahead with the project violating this right of the people? In the name of development you cannot neglect the environment of the area and rights of the people. You have not done any meeting about stage II project either, but we have learnt that you have shown the meeting as meeting for both the stages. This is clearly a fraud on the people. The rights of the stage I project have been violated. All this raises serious questions about the intentions and working of Bank (ADB) and the Corporation (UJVNL).

In this context we demand that:

1. Copies of the detailed project report, the full environment impact assessment report and other related documents of both stages should be provided in Hindi to the affected villages.
2. These documents should be explained to

the people in all the affected villages by independent persons

3. At least a month after the above two steps a public hearing be conducted in villages affected by both the stages.
4. The public hearing should be conducted by independent experts of the country.
5. Till all the above four steps are completed satisfactorily, no work should be done on the projects and no money should be given to the projects.

### Signed by:

- ⇒ Murlidhar Bhatt (President) Gram Panchayat Kotma
- ⇒ Chandrasingh Rawat (member, group panchayat, Kotma)
- ⇒ & 50 others from the Kaliganga project area,
- ⇒ Kunwar Singh Rawat, President, Giriya Panchayat
- ⇒ Mrs Anjana Rawat President-Chunni-Mangala Panchayat
- ⇒ & 6 others from the Madhyamaheshwar project area.

## POWER OPTIONS

**RES installed capacity** As per the website of the Union Power Ministry, total installed capacity of power generation from Renewable energy sources as on 300406 is 6190.86 MW, of which 2567.53 MW is from state sector and 3623.33 MW from private sector.

**Maharashtra to set up trust for NCES** The Maharashtra govt's MEDA (Maharashtra Energy Development Agency) is to soon set up an *Urjankur Fund* to facilitate funding of power projects from Non conventional energy sources so that private promoters will have a readily available easy finance for equity contribution on commercial terms. The state govt will provide an initial seed fund of Rs 218 crore from the govt's green energy fund. Infrastructure Leasing & Finance Services have been selected to be fund manager. MEDA has projected a capacity addition programme of 1000 MW in the next three years, of which 750 MW would be through bagasse based projects by sugar cooperatives, 150 MW by mini hydro projects and 100 MW from biomass. In addition, MEDA plans to make a proposal to add 1000 MW additional capacity through wind power. (Financial Express 290506)

**Sundarbans tidal energy project cleared** The Union Ministry of Environment and Forests have given clearance to the Rs 40 crore, 3.6 MW tidal energy project in the Durgaduani creek in the Sunderbans. 90% of the investment will be available as grant to the W Bengal Renewable Energy Development Authority. The Durgaduani creek is between the rivers Bidya and Gomdi Khal. Tidal waters will be stored and then released to run four turbines in first tidal energy project in India. Till date there is a 266 MW project in France, and one each in US and Russia. (Indian Express 060606)

**Solar water heaters in China** At least 30 million Chinese households now have a solar water heater and last year the country accounted for around 80 % of the world market. It is seeing 15-20 % annual growth and not slowing down. China Himin Solar Energy Group, is the largest in a fragmented and almost entirely Chinese market, with a share of around 14 %. Cheap and effective enough to make economic sense to middle-class urbanites, basic models start at around US\$ 190, although for a luxury home this could rise to US\$ 2,250. (Reuters 050606)

**Work Starts on World's Largest Solar Power Plant** Construction of the world's largest solar energy plant started in Portugal's southern Alentejo region. General Electric will invest US\$75 million to build the photovoltaic power plant, which will cover 60 ha of gently rolling hills with solar panels. The panels, which will be raised around 2 metres off the ground in an area dotted with olive groves, will produce 11 MW electricity. The plant is

expected to be ready in Jan '07 and will have 52,000 photovoltaic modules in one of the sunniest spots in Europe. (REUTERS 070606)

**Farm manure powers US homes** A dairy farm in Wisconsin, US with manure from 875 cows has started producing 775 kilowatt electricity through methane digesters to provide power to 600 houses. (Financial Express 270506)

## SMALL HYDRO

**Maharashtra invites Request for proposals** The Maharashtra Energy Development Agency has invited Request for Proposal for undertaking the work of the site identification and development of small hydro projects upto 5 MW on Build, Operate and Transfer basis on Kolhapur Type Weirs, Run of Rivers and on Waterfalls in Maharashtra. (Financial Express 240506)

## WIND

### TN Windmills asked to back down

In a shocking instance, the Tamil Nadu Electricity Board has asked a number of wind power generators in the state to back down for up to 20 hours a day as the frequency in the grid shot up above 50. This comes at a time of the year (May-Sept) when generation from wind power is at its peak as wind speeds touch 11-20 m per second. This when the TNERC has in one of its latest orders has reiterated that wind power would come under "must run" category and would be outside the purview of merit order dispatch. Similar instance had happened last year too, after which TNEB had promised the wind power generators that it will improve the evacuation system so that this is not repeated.

TN has wind power installed capacity of 2930 MW, 65% of it is used for captive consumption and rest is sold to the grid. (Business Line 310506)

**Man Ind to set up 6 units in Kutch** Man Industries (India) Ltd, a major manufacturer of steel pipes is to have six windmills at Anjar, Kutch at a cost of Rs 36 crores over the next two years. First two units are to be set up by Suzlon by Sept '06 and rest in 2007-8. (Project Monitor 010506)

## POWER SECTOR

**REL to quit Orissa?** The Reliance Energy Ltd, holding management of three of the four distribution companies of Orissa seems set to quit. REL has filed a petition with the appellate authority against the latest order of the Orissa Electricity Regulatory Commission show cause notice as to why the licenses of the three REL distribution companies should not be cancelled. REL made a very strange claim that the OERC order is

biased in favour of the govt as the OERC was presided over by a former employee of the state govt. REL also complained that the recent order of the OERC increased the bulk supply tariff without commensurate increase in retail tariff.

The OERC order was in response to the state govt petition before OERC that REL was not servicing bonds worth Rs 400 crores issued in favour of Gridco in lieu of the Bulk supply tariff for the power from Gridco. State govt petition also said that the distribution companies were not bringing any fresh capital to augment the system, that the discoms were not taking up rural electrification, and were not renewing the agreements with the state. The distribution companies also failed to reduce the huge transmission and distribution losses in the state.

Interestingly, the editorial in Financial Express on 290506 said that the reforms started with the \$ 350 MW World Bank loan in 1996 did not have political will. That seems to be admission that the World Bank pushed reforms for which there was no political will. Why were the reforms that did not have political backing pushed? It also signifies how the World Bank is able to push reforms that do not have political backing. Should this not be disturbing phenomena? Strangely, the FE finds fault with the state govt and the regulator, but finds no fault with the company or the Bank. Clearly the bias of FE is showing.

If REL indeed withdraws from Orissa, than it would be the end o the power sector privatization experiment of Orissa (the first state to privatize power sector in India) as US utility company AES Corp had withdrawn from the remaining distribution company, Cesco in 2001.

If REL indeed withdraws from Orissa, than it would be the end o the power sector privatization experiment of Orissa (the first state to privatize power sector in India) as US utility company AES Corp had withdrawn from the remaining distribution company, Cesco in 2001.

The Appellate Tribunal for Electricity, in an order on June 2, '06, has mooted an interim mechanism for the management of three discoms. The next hearing of the cases has been convened on Aug 18. (Financial Express 270506, 290506, 050606)

**Private Discom claims questioned in Delhi** *Praja*, an NGO has asked DERC to check the claims of the private distributions companies about capital expenditure to reduce losses in Delhi in their Annual Revenue Requirement 2006-7 filed before the DERC. In their objection filed before DERC, *Praja* has said that technical losses were only 8.3% and commercial losses were 45.3% at the time of privatisation of Delhi Vidyut Board. In such a situation, the claims of the distribution companies of huge capital expenditure to reduce losses needs to closely scrutinized if technical losses were so low to begin with. (The Hindu 270506)

**Electricity Generation Growth rate** Power Ministry says that electricity generation recorded a growth of 5.2% (587 BU) in 2004-5 and 5.1% (617 BU) in 2005-6 compared to an average growth rate of 3.8% in the previous three years. However, in reality, the growth rate in 2003-04 was also 5.1% whereas the growth rate in 2001-2 and 2002-3 were 3.1 and 3.2% respectively. The capacity added so far and projections for the last ten months of the tenth five year plan by the Ministry of Power are given in the table below.

#### Capacity Addition in 10<sup>th</sup> Plan

(MW)

	Utility	NCES	Captive	Total
Already commissioned	14 342	4 550	2 350	<b>21 342</b>
Likely in 2006-7	19 682	1 367	2 000	<b>23 049</b>
<b>Grand Total</b>	<b>34 024</b>	<b>6 017</b>	<b>4 350</b>	<b>44 391</b>

The 19 682 MW capacity addition targeted during the remaining period of the 10<sup>th</sup> plan includes 53 projects. This target that is projected to be achieved in the remaining ten months of the tenth plan is way larger than what has been achieved in first 50 months. A look at the list of projects targeted makes it further clear that these are very unrealistic projections. The power Ministry target of adding 60 000 MW in 11<sup>th</sup> plan is even more unrealistic and more importantly, unwarranted.

Planning Commission Vice Chair has said that there is need for greater focus on power distribution than generation. "Too much energy is spent on capacity addition, while financial viability of the sector depends on distribution.

What is required to reduce the average Aggregate Technical & Commercial losses from 40% currently to 15% in the next few years?" He said that if the SEBs managed to bring down the losses by 3% a year than by 2012 losses would be down to 25%.

AT&C losses are at shocking levels in Bihar (74.09%), Jharkhand (69.23%), Orissa (54.07%), Uttar Pradesh (51.05%) and Uttaranchal (42.85%). Some states where the levels are much lower are: Tamil Nadu (18.82%), W Bengal (23.91%), Punjab (24.02%) and AP (27.19%).

According to a report (Financial Express 050606), Kerala has managed to reduce T&D losses from 32.15% in 2001 to 24.7% in 2005. The Revenue deficit that was Rs 1007 crores in 2003-4 has come down to Rs 342 crores in the next year. If KERC estimates prove correct the KSEB could turn revenue surplus this year.

**The Economic Times' non-intelligence** According to a report in the Economic Times (060606) by "ET Intelligence Group", "Almost 6500 MW of hydel power

capacity has been added in the past five years – almost double the thermal power capacity commissioned in the same period.” This is a very strange and untruthful claim. A visit to the website of the Power Ministry ([www.powermin.nic.in](http://www.powermin.nic.in)) shows how untruthful this is. During 4 years and two months till May 2006, total capacity addition in Thermal projects has been 8122.6 MW, whereas the capacity addition in hydel projects has been way below at 5594 MW. It would be wise if the Economic Times does not destroy its credibility by such falsehoods.

Interestingly, the same report claimed that the margin in large HEPs is high at 20%. If that is the case, why has only 300 MW capacity added in private hydro projects over the last 15 years since 1991 when push for private hydro projects was launched? Why is it that the power ministry has had to launch fresh guidelines for private hydro projects in May 2006? (The Hindustan Times 260506, 300506, 310506 Economic Times 310506, 060606)

**Mega Thermal Power Projects face opposition** The people in the area around two of the coal based ultra mega power projects of 4000 MW each in Girya (Maharashtra) and Tadri (Karnataka) have opposed the projects. The Karnataka govt has formed a high level committee headed by the CM to hold dialogue with the agitators. (The Financial Express 050606)

## URBAN WATER SUPPLY

### ADB's Karnataka Project a failure

The Asian Development Bank's \$ 85 m project approved in 1995 for improving urban infrastructure in four towns near Bangalore seems to have completely failed as the towns are unable to pay back either the principle or the interest. The repayments were to begin in 2001 and till date the amount due and actual repayments are as given in the table below.

#### ADB projections fail: Small Towns cannot pay up (Rs Crores)

Town	Loan amount	Due Annual Repayment	Total repayment so far since '01
Mysore	195.47	26.64	46.48
Channapatna	17.09	2.68	Nil
Ramnagara	44.88	6.48	Nil
Tumkur	66.02	9.7	2.01
Total	323.46	45.5	48.49

This situation has arise despite the interest rate charged on the loan has been reduced to 8.5% with retrospective effect, down from 12%. This is because the projections made by ADB about the water tariff and property tax hike has proved to be complete failure. ADB projected a 51% increase in the monthly water and sewerage bill for each city in real terms between 1996 and 2005.

In Mysore, the water charges on metered connections have risen by 30% in the past year. Flat rate charges

(non metered connections) have risen by 33-55% since the project was completed. However, city still loses Rs 4 for every KL it pumps. ADB expected that the water and sewer tariff revenues were to rise to 58.5 crores by 2004, when they rose to just Rs 10.72 crores. The city has been able to pay up just about a third of what it was expected to. (Business World 220506)

**L&T gets contract for Bisalpur Jaipur Water Line** Larsen & Toubro has been given contract for the ADB & JBIC funded 106 km water supply line from Bisalpur dam to Jaipur city in Rajasthan, to be completed in 30 months. L&T will also maintain the system for five years after completion. The project is expected to cater to a projected population of 50 lakhs for 2021.

**Tonk farmers are angry** However the farmers of Tonk district where Bisalpur dam is situated are angry. On June 13, 2005, in police firing on farmers agitating for water from the dam five people including a pregnant woman was killed. Rajasthan CM had after that announced that Tonk farmers will get water from the Dam. However, when even a year after the promise, the work on the proposal has not been started and on the other hand, work of taking water to other districts have started, angry farmers have decided to launch the agitation again. (Dainik Bhaskar 050606, Rashtriya Sahara 060606)

**Excise duty on processed water withdrawn** The Union govt has, through a circular on May 4, '06 withdrawn the earlier proposal to impose 16% excise duty on all processes water, branded or unbranded. It was challenged by some of the trop business houses that run large townships with independent water purification and supply arrangement. The duty first came into existence in early 2005 following revision in the tax schedules. On Feb 24, '05, this was reversed through a central excise notification that scrapped the duty on unbranded water. However, on March 1, '06, the exemption was removed, resulting in reintroduction of excise on branded as well as unbranded processed water. (The Economic Times 250506)

**Tirupur Water Supply Project** The controversial New Tirupur Area Development Corp Ltd's project has been completed in Feb '06 and claims to serve 9 lakh people in the area in addition to the 1000 textile units. It charges Rs 45 per KL from industries, Rs 5 from Tirupur Municipality and Rs 3.5 per KL from the Panchayats. Funded by the Tamil Nadu govt, ILFS and USAID, the Rs 1023 crore project lifts water from an intake structure downstream from Bhavani-Cauvery river confluence. HCC Ltd, M&M and L&T were involved in construction of the project. India's first private water supply project started in 1995 and is expected to supply 125 KLD water to the industries, 25 MLD to Tirupur Municipality and 35 MLD to remaining villages and towns in the area. The Corp has taken up a Rs 400 crore industrial effluent treatment project now. (Project Monitor 010506)

## AGRICULTURE

**Punjab-Haryana farm growth less than 1%** The agricultural growth rate in Punjab and Haryana is less than 1% according to Dr S C Jha, Member, Economic Advisory Council to the Prime Minister. 78% of the farm households in Punjab are under debt, amounting to Rs 57 000 crores. Only 19.42% of the debt is from commercial banks, 46.32% is from commercial agents, 27.14% is from cooperative institutions and 7.12% is on mortgages. 60% of landlords own below 5 acres.

**Punjab crisis** According to well known agricultural expert S S Johl, "Today 80 % of the water requirements of crops in Punjab are met by groundwater. Punjab is facing multiple crises in the form of the fast deteriorating soils, depleting water-table, degrading agro-ecology and progressively increasing economic squeeze on the farmers. Punjab is in a totally unenviable position today and the policy-makers at the Centre are in a deep slumber that does not permit them to see the catastrophe towards which the country is moving fast."

**Debt trap: Green dream turns sour** Beneath the surface, especially in recent years, there lurks a sad story of rural debt, groundwater depletion and most shockingly farmer suicides. Harkishenpura is one out of the 200 villages in Punjab that have been blacklisted by govt banks as unfit for credit. The collective debt here is around Rs 4 crore. The pagdi, considered as a symbol of pride and identity of the Jat farmer, has shrunk in the village. "Our pagdi is usually seven metres long but this is just two metres. It will save me money," said a farmer.

The mandis are overflowing and there is hectic activity, but small and marginal farmers have very little to do. Over the years most farmers in the village have lost their land to loan sharks. Of the 1200 acres of land in the village, 500 acres have already been sold and another 600 acres have been pledged to govt banks. The same story has played out across 1300 villages in the four districts of Bhatinda, Sangrur, Mansa and Faridkot.

**Farmer suicides** In Harkishenpura alone 15 farmers have committed suicide over the past few years. Kunda Singh's brother and sister-in-law were forced to commit suicide as their debts spiraled. Their land that was once known as black gold turned to dust. Another farmer in the village, Lal Singh, lies at the other end of the spectrum. He owns 20 acres of agricultural land but nearly eight-nine acres of it is unfit for cultivation. Singh blames the saline water for his problems. "The soil around has become useless. We have been told that the water is not only bad for crop but is also unfit for drinking," he said.

**No farmer policy** The Punjab government is yet to officially acknowledge suicides. FIR's relating to suicides are not easily registered, as a result mortality figures will never be known. This means that the state has no

compensation policy like in Maharashtra or Karnataka. (NDTV 190506, The Tribune 220506, 290506)

**Monsoon 2006** Monsoon hit the Kerala on May 26, six days before the scheduled date of June 1. However, IMD has predicted based on 8 parameters in April that monsoon will be 93% of the normal, that is 7% below normal. However, on June 10 IMD is expected to predict the spread of the rain over the next four months based on ten parameters. (The Hindustan Times 270506)

## WATER OPTIONS

**Water Recycling plans in Nagpur** The Nagpur Municipal Corp plans to sell around 100 MLD of treated waste water to MahaGenco for running its thermal power plants at Khaparkheda and Koradi. Similarly, the Nagpur civic body plans to sell around 40 MLD treated water for multi nodal international hug airport at Nagpur to run a captive power plant. (Financial Express 290506)

**Water Recycling by a School in Delhi** Shriram School, Vasant Vihar, Delhi has set up a plant to recycle 400 lts per day of waste water from kitchen of the school. The plant set up at a cost of Rs 20 lakhs helps school to reuse the water in gardening.

Earlier, Shri Ram School was first in the city to set up Rainwater harvesting system. In 2002, 3 years after having set up the plant, the results were encouraging. The water level of the area had gone up by over 3 m & the school has managed to harvest over 20 lakh litres of rainwater. (The Tribune 191002, Indian Express 240506)

**Artificial glaciers in Ladakh** He is better known as Ladakh's glacier man. Some one who makes artificial glaciers in winter so that farmers can get water in summer for early sowing. Chewang Norphel, an unassuming retired govt officer in Leh has so far created six such glaciers. The technique he uses is simple. No crop is grown in the severe winter of Ladakh. The water flowing through small streams is diverted to a convenient spot with the help of pipes. Mud bundhs are made at intervals on the hill side to enable the water to accumulate. The glaciers are about two km long and 150 ft wide with depths ranging from 3-11 feet. They are low cost and mostly require only the local labour. (Outlook, Hindustan 050606)

**Rainwater harvesting in a Jhunjhunu village** Rayala village in Jherali Panchayat in Jhunjhunu village in Rajasthan has created a unique networked system of rainwater harvesting at a total cost of Rs 8.5 lakhs. There are twelve tanks of 25 000 litres capacity and there is one tank of 4.5 lakh litres just outside the village. Water from roofs of each of the house enters the nearest smaller tanks first after filtration at the terrace and again at the entry point. When the smaller tanks overflow, the excess water is diverted to the larger tanks. Helped by Birla Institute of Technology & Science & Rajasthan Association of North America, the system was created in

May-June 2005. Impressed, the World Bank has approved a Rs 95 lakh project to take up such systems in a few nearby villages. (*Dainik Bhaskar* 050606)

**Check dams plans in J&K** The Chief Engineer, Irrigation & Flood Control, J&K has invited prequalification tenders for 6 RCC check dams on river Tarnahat a cost of Rs 13.85 crores near Dinga Amb and Mangloor, Tehsil Hiranagar, District Kathua. The location is about 80 km from Jammu (16 km from Dayala Chak) on Jammu Pathankot national highway towards south direction. (*The Hindustan Times* 230506)

#### **LAKES** Concern over Kolerru fish tanks destruction

Lok Satta, an NGO, has said that the destruction of fish tanks in the Kolleru lake area could not bring back the past glory of the lake. Suggesting that 33 570 acres of lake area can be converted into a sanctuary, it said that industrial effluents and municipal sewage that were responsible for pollution of the lake and not the fish tanks. A survey with a sample of 25941 persons in 36 villages W Godavari and Krishna districts showed that 99% of the locals were against the destruction of fish tanks. (*Business Line* 060606)

#### **WATER POLLUTION**

**Farmers' SOS to Mohali DC** It is the dark side of the industries in the region. Polluted industrial effluents are playing havoc with human lives and crops in the Dera Bassi-Lalru industrial belt. Farmers of the Lalru region are up in arms against a Ludhiana-headquartered textile giant for its discharge of polluted water into their crops. In a representation to the Mohali DC, the farmers said that due to the discharge of the polluted water into their fields, the fertile land was turning into a barren stretch.

The industrial effluents discharged by certain industries in the seasonal rivulets are also compounding people's problems. With hardly any effluent treatment plant in operation in the industries, including pharmaceutical units, a paper mill, a milk plant, the groundwater is the first casualty of the polluted discharge with the result that potable water from the shallow water pumps had become "unfit" for drinking. "Skin ailments and digestive disorders are common in the area and the animal and crop yields have been going down over the years. The water from the shallow water pumps is unfit for human and animal consumption," says Nirmal Singh Malikpur, president of the Anti-pollution Society, which has launched a crusade against the pollution. Despite the fact that the society had represented to the Punjab Pollution Control Board several times nothing had been so far, hinting at the official-industrial nexus. The only action seemed to be the issuance of notices to the defaulting units with hardly any action against them. Villages like Haripur Kooda, Dandrala, Miyanpur & Tiwana are at the receiving end of the polluted discharge and the colour of the water in the tributaries of the Ghaggar has turned black. (*Tribune* 200506)

#### **RIVERS**

**Kali Bein River** The Kali Bein river is gaining importance due to the forthcoming visit of the President APJ Abdul Kalam. The source of the Kali Bein is located in the form of a "bauli" (a water-logged place where water erupts from the ground) at Dhanoa village in Mukerian subdivision of the district.

Some villagers have alleged that the revenue officials have tried to decrease the importance of the place by changing the status of the Kali Bein river, emanating from Dhanoa village, as a drain in papers. A move has been initiated to protect the persons who have encroached upon the river land, they allege. The Kali Bein used to be referred as a drain in the revenue papers earlier also. The govt has already started removing the encroachments from the river bed. The depleting ground water level has dried up the original source of the River. Elders remember that the water level in the "bauli" was so high that a large volume of water used to flow from it and gush into the river. The flow of water increased further during monsoons. In the last two decades the water level in the "bauli" has gone down. The "bauli" no more contributes any water to the historic river. The water level has gone down by about 10 feet.

#### **PRESIDENT OF INDIA ON KALI BEIN RIVER**

May 11, 2005, at Vigyan Bhawan, while addressing a National Convention, the President of India said the following words about Kali Bein River.

"I am delighted to learn the Kali Bein rivulet, the place where Gurunanak Devji is said to have received enlightenment. Over the years this rivulet has turned into weed choked drain. Recently river is cleaned due to the efforts of Baba Balbir Singh Seechewal in partnership with the Punjab State Govt. From the discussions, I understand that he organized people's participation in stopping the massive flow of sewage into the Bein and cleaned 160 km long polluted and choked rivulet within the last 3.5 years by deploying on an average 3000 volunteer pilgrims per day. Today one can feel the flow of fresh water in this rivulet released from the Tarkina Barrage by the govt about a year ago. The revival of the rivulet has recharged the water table as the hand pumps that had become dry for the past 4 decades are now pumping out water." ([www.presidentofindia.nic.in](http://www.presidentofindia.nic.in))

The authorities now pump water into the Kali Bein river from the Mukerian hydel canal. After starting from Dhanoa, it moves parallel to the Beas through the plains for about 170 km. It has also played an important role in forming fertile plains by bringing down large sediments during floods. The river culminates in the Beas at Ahlikalan village, about 10 km short of Harike Pattan. (*Tribune* 220506)

**Gandak River Shifting Course** India's defense minister informed the Rajya Sabha in answer to a question that in Susta region, shifting of course of Gandak river, the mid-stream of which formed the boundary as per Treaty of Sugauli, has resulted in claims and counterclaims by both sides. India and Nepal have established Joint Technical Committee (JTC) to resolve the differences of perception on the alignment of boundary. The JTC is yet to complete its mandated tasks. (PTI 170506)

## SOUTH ASIA

### **Pakistan** No water in Mighty Indus for five months

Water was released into the Indus river downstream from Kotri barrage for the first time in five months on May 27, '06. The mighty Indus river had no freshwater for five months till May 27 when 110 cusecs water was released downstream from Kotri barrage. (Dawn 280506)

**Baglihar verdict expected in November** World Bank-appointed Swiss expert Raymond Lafitte is expected to deliver his verdict on India and Pakistan's Baglihar dam disagreement in Nov '06. Lafitte will convene another meeting with representatives from both sides in Paris, France in October for further discussions, before moving to Washington DC in the US from November 6 to 8 to announce his final decision. ([www.waterpowermagazine.com](http://www.waterpowermagazine.com) 010606)

## WORLD

**CHINA** Cloud seeding China has created "the world's leading force" in artificially inducing rain to relieve droughts and fight fires. Its aircraft alone have undertaken enough missions to fill four Yellow Rivers, the country's second longest river, in the past five years. Engineers "seed" clouds by burning chemicals such as silver iodide to induce rain to ease droughts, prevent hail and help extinguish fires. Cloud seeding helped put out three major forest fires that raged in north and northeast China for 10 days before they were subdued. And rain was induced in Beijing in early May to help cleanse the capital after a series of sandstorms. In 2,840 flights from 2001 to 2005, cloud seeding by aircraft brought down 210 billion cubic meters of water over an area making up nearly a third of China's territory. The scheme employed more than 3,000 people with an arsenal of 7,000 cannon and 4,687 rocket launchers. (Reuters 050606)

**German Company in US Water Supply** Freshwater, a resource that has been considered publicly owned for thousands of years, is now considered "blue gold," and as such, is quickly becoming a privately owned commodity. Some quick facts: - A German company, RWE, now owns the water in over 1,100 U.S. cities. In Illinois, over a million people now have their local water supply owned by that same German company. 15% of the U.S. business water supply is now privately owned - a figure that has more than tripled in the last decade. (<http://www.organicconsumers.org>)

## Coke Pepsi Struggles in India

**Mehdiganj, Varanasi, UP** Lok Samiti, that has been leading the agitation here since 2003 says Coca-Cola acquired a bottling plant here in 1999. Since then, over 2.5 million litres a day (company claims it extracts 0.5 MLD) of groundwater extracted by the two tubewells of the company have severely affected life in Mehdiaganj and neighbouring villages. A number of wells here have gone dry. In other wells the water level has gone down and quality had deteriorated with water getting coloured. The company has also been charged with polluting fields and water bodies with toxic effluents, lowering of farm yield, encroaching on govt land and intimidating the local dissenters. The sludge that the Coca Cola plant had distributed to the farmers claiming it could be used as good manure had caused damage to the crops to the tune of Rs. 7-8 lakhs.

Despite using Mehdiaganj's groundwater as the principal ingredient for its products, Coca-Cola pays nothing apart from a marginal water cess on the raw material. In 2003, the plant paid a water cess of Rs 30 – 300 per 1000 KL (depending on usage), while selling the product at Rs 30 000 000 per 1000 KL (Rs 10 for 300 ml).

In 2002-3, construction work of a national highway blocked the plant's effluent discharge drain, flooding the nearby fields with wastewater and destroying standing crops. Coca-Cola has been accused of providing toxic sludge from their factory as "free fertilizer" for the regions' farmers, which activists say, has destroyed entire fields.

Presently the villagers are sitting outside the plant on a continuous dharna since March 23, 2006, the martyr's day of Bhagat Singh, demanding closure of the plant. This dharna completes 75th day on the World Environment Day. (Frontline 020606, NAPM PR 070606)

**CPCB study of sludge** Following complaints about Coca Cola bottling plants in Kerala and W Bengal, the Central Pollution Control Board conducted a survey of 16 soft drink bottling plants across India of which the effluent sludge of eight Coca Cola Bottling plants was found to have unacceptable high levels of cadmium, lead and Chromium. Mehdiaganj was one of them.

CPCB found that the solid waste of the Mehdiaganj plant had cadmium level of upto 86 mg/kg, far in excess of the CPCB bench mark of 50 mg/kg. The sludge also contained 220-538 mg/kg of lead (norm: 100 mg/kg) and 62-134 mg/kg of chromium (norm: 50 mg/kg) It said, "Hence the sludge from the Mehdiaganj plant must be categorized as hazardous industrial waste and must be treated as such. The sludge must be stored in lined, concrete landfills specifically designed for this purpose." At present UP has no such landfills.

## Tubewells the biggest mistake?

Shubhranshu Choudhary

Some time back I got a long letter from a Chhattisgarhiya friend who now lives in Canada.

He wrote, "I called my village today and found out that the tube well which we use for watering our fields has stopped working because of the falling water table. We needed water for another 15 days. Now we have requested another farmer to give us water and he has promised to do this till there is water in his borewell. If the water finishes off in his well our crop will suffer. We may get half or even less than the expected yield."

I could feel his distress from what he had penned down. He went on, "Our story is bad but I want to tell the story of another farmer whose bore well dried up 15 days earlier. He asked his neighbors for water. My family was one of those who had to refuse to help him. Everyone was anxious that the water would not be adequate for their own crop. Now he has lost all hope. He decided to leave his crop to the cattle for grazing. Since there is no hope of any harvest for him, he feels that the crop may at least provide fodder for cattle. He has already spent 15-20 thousand rupees on the crop and his returns will be zero. I don't think there is any industry where all the investment can be wiped out in this way."

"This is not only my story, but the story of hundreds of farmers in the region. I have felt the sense of loss personally. The same thing had happened three years back when I was in the village. To see your own crop die is a pain like no other. It is not a matter of economics alone. A farmer loves his crop like his child. It is the result of so much effort, care and nurturing - to watch it dying is unbearably sad."

My friend is indeed in pain. He is unstoppable. He further adds "Is there anyone who is concerned about hundreds of farmers suffering in such tragic circumstances? I think the media and the Govt will pay attention only when the farmers of Chhattisgarh start committing suicide as in other States. But will you believe me if I tell you that something like this is already happening in Chhattisgarh? I know a farmer personally, who committed suicide because of circumstances arising out of the falling water table. Its sad when no one wants to even talk about this problem."

**I remember that when Mr Rajashekhar Reddy had been appointed the chief Minister of Andhra Pradesh and he conducted the first Press Conference in the Women's Press Club in Delhi. Mr Reddy made an amazing revelation in that Press conference. At least it was a surprising piece of information for the urban Delhi-ites. He declared that "our biggest mistake was the tube well". This admission made headlines in some newspapers the next day.**

**I could not understand how the revolution in Chhattisgarh could be so different from that in the neighboring AP. That which is the biggest mistake according to the CM of one state was being sold as the revolutionary change for development by the Governor of the neighboring state. Is the tube well the best remedy for the irrigation problems in Chhattisgarh?**

"Most people in Chhattisgarh are dependent on agriculture, and the condition of farmers is very bad. For development of Chhattisgarh, the main issue is agriculture and we need to talk about it. If we do not do this then our farmers will also soon be in the same situation as those of AP, Maharashtra & Punjab".

It was a long letter indeed, appropriate to the importance of the subject and emotions involved and I have not gathered courage to respond to my friend. But through this column I am

trying to make an effort.

I remember that when Mr Rajashekhar Reddy had been appointed the chief Minister of Andhra Pradesh and he conducted the first Press Conference in the Women's Press Club in Delhi. AP was in media focus, Mr Reddy was an enigma for having defeated Mr Chandra Babu Naidu, the media's darling in the recent elections. Mr Reddy had already declared that no farmer would commit suicide under his leadership. (It is a different matter that in his regime the suicide toll for farmers has crossed the thousand mark, and Mr Reddy holds the previous govt's policies accountable.)

Mr Reddy made an amazing revelation in that Press conference. At least it was a surprising piece of information for the urban Delhi-ites. He declared that "our biggest mistake was the tube well". This admission made headlines in some newspapers the next day.

Some days later I was visiting Chhattisgarh. A friend who is a govt official took me to show around the Assembly. That day the Governor was to address the assembly before the start of the session. My friend arranged for me to be in the hall for this address. The Governor Lt Gen M K Seth listed the achievements of the Govt. He said that "According to the RBI there has been a record investment in Chhattisgarh during the previous year." In his mention of the future programmes, he said "In Chhattisgarh 1 lakh farmers use pumps for irrigation presently. We feel the need for a revolutionary change here, and we have decided to double the usage of pumps in the following three years."

I was flabbergasted with this idea for "revolutionary change". I could not understand how the revolution in Chhattisgarh could be so different from that in the neighboring AP. That which is the biggest mistake according to the CM of one state was being sold as the revolutionary change for development by the Governor of the neighboring state. Is the tube well the best remedy for the irrigation problems in Chhattisgarh?

For answers I approached some specialist friends in the field of agriculture. They were not only opposed to this plan of "revolutionary change", they also wanted to know why it was not a better option to catch the 1400 mm of average rain fall that Chhattisgarh has. They also wanted to know what steps are being taken by the Govt to ensure that prosperous farmers do not draw so much water by their powerful pumps and the water table does not fall so low that the poor farmer just cannot draw for his needs. They revealed, "The drillers in AP are now packing up and moving to Chhattisgarh. After AP it is now the turn of the Chhattisgarh farmers to commit suicide".

But it has always surprised me that in a state where the average rainfall is 1400 mm, the farmer has to migrate just after the monsoons, because of water shortage.

My research on the subject was enlightening. Mr Ajay Chandrakar the rural Development minister has written in an article that wherever watershed management activity has been undertaken in the state, the water table has risen at least by 2 m.

**My friends wanted to know why it was not a better option to catch the 1400 mm of average rain fall that Chhattisgarh has. They also wanted to know what steps are being taken by the Govt to ensure that prosperous farmers do not draw so much water by their powerful pumps and the water table does not fall so low that the poor farmer just cannot draw for his needs. They revealed, "The drillers in AP are now packing up and moving to Chhattisgarh."**

**My research on the subject was enlightening. Mr Ajay Chandrakar the rural Development minister has written that wherever watershed management activity has been undertaken in the state, the water table has risen at least by 2 m. I also found out about the Sarguja Rural Development Institute's watershed management programme where the water table has come up by 10 m.**

I also found out about the Sarguja Rural Development Institute's watershed management programme where the water table has come up by 10 m. I heard that the watershed management programme will be on priority in the rural employment Guarantee Scheme.

Now I would like to tell my Chhattisgarhiya friend to advise those farmers who are not able to reap harvests because of falling water tables, to get together, carry out a survey of their own village, and find out locations for collecting rain water. They should contact their Panchayat to release money

for this activity. If not in the first year, then at least after a few years the water table may rise adequately for them to not be dependent on the tube wells.

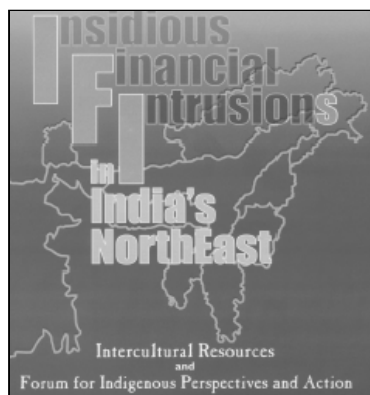
The Central Govt has promised adequate funds for the Employment Guarantee Scheme. We should use this promise. Employment Guarantee Scheme is presently applicable in 11 districts of the State. The state Govt should find funds for the other districts.

"Stop water" should be the strongest people's movement in the State. There can be no bigger priority for the development of Chhattisgarh. We may be able to ensure a bright future at least for the next generation.

It would be really disappointing if a future CM of Chhattisgarh were to make an admission on the

lines of the CM of AP in the Women's Press Club of Delhi. He who learns from the mistakes made by his neighbors is the wise man.

#### NEW PUBLICATION AVAILABLE WITH SANDRP



### Insidious Financial Intrusions in India's North East

Chapters include: Why this Report, The IFI Thrust in the North East, Impact and Implications. The well illustrated report has many tables, boxes, maps & endnotes.

Published by: Intercultural Resources and Forum for Indigenous Perspectives and Action

April 2006, pp 100

Rs 50/-

Please send your orders to SANDRP ([cwaterp@vsnl.com](mailto:cwaterp@vsnl.com)), see the bottom of page 1 for address details. Please add Rs 20/- for postage and packing.

**Publications available with SANDRP**

1. *Bade Bandh, Bharat ka Anubhav*: Hindi Translation of WCD India Country study, By R Rangachari, Nirmal Sengupta, Ramaswamy Iyer, Pranab Banerji & Shekhar Singh, SANDRP, 2001, pp 268, Rs. 100/-.
2. *Power Finance: Financial Institutions in India's Hydropower Sector*, P Bosshard, SANDRP, '02, p 132, Rs 100/-
3. *Vishwa Bandh Ayog per Nagarik Margadarshika* (HINDI), SANDRP, 2002, pp 63, Rs 30/-.
4. *Citizens' Guide to the World Commission on Dams*, By A Imhof, S Wong & P Bosshard, IRN, pp 59, Rs 30/-.
5. *The Drought, the State and the People: An Experience in Gujarat* SANDRP, 2000, Ed: S Sangvai, p 90, Rs 75/-
6. *Report of the Daud Committee on Sardar Sarovar Displaced, Govt. of Maharashtra*, p 54, Rs 30
7. *Water: Private, Limited* by Shripad Dharmadhikary, Manthan, pp 54, Rs 20/-
8. *Tehri Environment and Rehabilitation: Towards Failure and Devastation*, Published by MATU, pp44, Rs 25/-
9. *Bharat mein Bade Bandh ka Lekha jokha* (Hindi) summary of WCD India Country Study, Manthan, pp18, Rs 5/-.
10. *THE GREATER COMMON GOOD* by Arundhati Roy, Published by India Book Distributors, 1999, pp 76, Rs 80/-
11. *ECOLOGIST ASIA SPECIAL ISSUE ON DAMS IN NORTH EAST INDIA*, Jan-Mar 2003, pp. 96, Rs 50/-.
12. *Conserving Raindrops a Much Better Option than Linking Rivers* by Bharat Dogra, pp 8, Rs 4/-.
13. *Nadi Nahin Jodnaa, Bund Bund sanjonaa* by Bharat Dogra, pp. 16, Rs 8/-
14. *Rahiman Paani Bik Raha Saudagar Ke Haath* (Hindi) By S Dharmadhikari, Manthan, pp 55, Rs 10/-.
15. *Nadi Jod Yozana Ke Mayne, Vastvikta Ke Aaine Mein* (HINDI), SANDRP, 2004, pp 58, Rs 20/-.
16. *Ken-Betwa Nadi Jod : Pyasi Ken Ka Paani Betwa Mein Kyon?* (HINDI), SANDRP, 2004, pp 46, Rs 20/-.
17. *Log Banam Faisla: A Reflection on Narmada Judgement* (HINDI), NBA, 2000, pp 72, Rs 10/-
18. *Know Your Power: A Citizen's Primer on the Electricity Sector*, Prayas, Pune, 2004, p 138, Rs 150/-
19. *Dam Vs Drinking Water: Exploring the Narmada Judgement*, LC Jain, Parisar (Pune), 2001, p 134, Rs 75/-
20. *The River and Life: People's Struggle in the Narmada Valley*, S Sangvai, Earthcare books, June 2002, Rs 180/-
21. *Bina Jaankari Kaisy Jan Sunvai?*, MATU (Delhi), 2004, p 32, Rs 15/-
22. *Kasbe Ka Paani* By Rehmat/ Mukesh Jat, Published by Manthan, pp 40, Rs 20/-
23. *Sudhar Ya Bazaar: Commodification of Water in MP by IFIs*, Manthan, pp 20, Rs 5/-
24. *Tragedy of Commons: The Kerala Experience in River Linking*, River Research Centre & SANDRP, 2004, p 146, Rs 120
25. *Unravelling Bhakra*, Shripad Dharmadhikary, Manthan, 2005, pp 372, Rs 150/- (individuals); Rs 300 (institutions)
26. *Large Dams for Hydropower in NorthEast India* SANDRP & Kalpavriksh, June '05, p 228, Rs 150 (individuals), Rs 300 (institutions)

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

SANDRP Website has NOW been launched, please visit:

[www.sandrp.in](http://www.sandrp.in)

We look forward to getting your comments, suggestions. We will need your participation to make it a useful & effective.

## Dams, Rivers & People

The *DRP* is available in electronic and printed versions and can also be accessed at [www.sandrp.in/drp](http://www.sandrp.in/drp)

The suggested minimum annual contribution for the *DRP* is Rs 125/-. Please send a DD in favour of "Dams, Rivers & People", payable at Delhi, to our Delhi address (SANDRP, 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. We look forward to your subscriptions & feedback.

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 02

**YOUR RESPONSES**

*We apologise that we had not carried this section for over a year now... part of the reason being that we did not get sufficient number of letters for this page. However, we did get a number of letters in the period and we are carrying edited versions of some of the letters. We hope to continue to carry this section in all the issues... with the hope that you all will keep writing to us about your thoughts, comments, suggestions about Dams, Rivers & People.*

Today I received Dams, Rivers, & People Vol.4, Issue 3-4, April-May 2006 with excellent lead piece on SSP and article on Dangers of knowledge Resistance by Ranji Bakshi. I congratulate you on your excellent and brave presentation of facts. Yes, we are facing a new phenomenon. Our Democracy is now a Bureaucracy including the Courts, even the SC. Keep up the good work.

My colleague Philip Carter the British Canadian Journalist has co-authored a book with me on the North Karanpura Valley (Upper Damodar Valley) in North Jharkhand. Philip Carter is now moving from Japan here to Sanskriti Centre in Hazaribagh to carry on the environmental struggle.

Bulu Imam, INTACH, Hazaribagh, Jharkhand

I am the librarian at the Water Resources Center Archives at UCB. I would like to receive hard copies of this publication. Can you send us all back issues and keep us on the list to receive them as they are published?

Linda Vida, Director, Water Resources Center Archives, University of California, USA

I read letter by the six persons to the President of India (DRP, March-April 2005) with acute interest. The President as person and his scientific credentials makes the questions difficult to counter. It is a convenient coinage to talk about drought and flood in the same breath while it is well known that they occupy distinctly different space-time coordinates; un-equitable since the scientific processes to transport water through the electromagnetic media has not evolved as yet. May I express my word of appreciation for the detailed arguments on floods, implications of water transfers of enormous volumes, good work done by serious NGOs, and, over and above, that you all met the Prez in person to counter his illusory perceptions on India's water.

Dilip Fauzdar, Karnataka

Thanks, DRP, for making such a nice piece (on Bhakra Project in DRP of May-June '05). Now the job has to go on - not to show that Bhakra is useless (which it isn't) but to expose the fundamental fraud in the claims of benefits which are not matched by performance.

Devashis Chatterjee, W Bengal

An excellent write-up... (on Bhakra Project) keep up the good work... More often than not we tend to find complex solutions for simple problems and we have this obsession with grandiose ideas and the adage 'bigger the better'... We plan and execute projects on people's name but seldom for people's sake! And we have big small and moderate sized Bhakras dotting the country for the sake of country not its citizens...but as I said earlier, "We know it...we want to do something about it...we cry foul over it...we moan, sigh, lament and lambaste it...but eventually we do little about it...except express and write our voice of dissent!!! As a Lawyer I can tell you, it is at least far more potent than some of those feeble PILs on which those high priests of justice shout at! Don't DAM the rivers...DAMN the dams!!!

Amitabh Sharma, Delhi

Himachal is probably the first state to form a State Level Environment Monitoring Committee, in exercise of the powers vested with the governor under section-5, of the Environment (protection) Act 1986. And this State level environment impact assessment and monitoring committee is empowered to examine / recommend the cases for environmental clearance and monitoring environmental safeguards laid down by the ministry of environment and forests, GOI, while according environmental clearances under the said act. The committee also is supposed to function as the Impact Assessment Agency for the state of Himachal Pradesh and is a final authority for recommending the environment clearance for the projects especially ongoing/ completed hydroelectric power or any other projects which the committee may like to include. Though a salient feature of the committee is that all the department have been included for an integrated approach but the non-inclusion of any NGO working in the field of environment make the working of the committee as entirely bureaucratic .

I wish that all the states should ensure that such a monitoring committees should essentially be notified and should be autonomous in working and made broader in participation, and also effectively check the violations being made by the executing companies once the project is sanctioned .As is the case in Himachal, for want of time bound monitoring by this agency, there are glaring violations by these companies and no-body is made accountable for the loss of environment.

Archana Phull, SHIMLA