

Dams, Rivers & People

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Lead Piece

System of Rice Intensification:

New hope for India's Agriculture and Water Resources?

Suppose you were told that a new system of rice cultivation has been 'discovered' that requires about half the water that is required today, would increase the per acre grain yield by 50% or more, would substantially reduce or eliminate chemical fertiliser requirement, would reduce the seed requirements by up to 95% and yet make the rice cultivation more sustainable and profitable for the farmers? Most people would consider it sceptically and possibly reject the idea as a figment of imagination. Many valid questions would arise about feasibility of such a notion.

That was the natural reaction of many participants at the 4th IWMI-Tata Annual Partners' meet during 24-26 February 2005 at Anand (Gujarat), when nine papers on System of Rice Intensification (SRI) were presented at a workshop spread over two sessions and then Norman Uphoff of Cornell International Institute for Food, Agriculture and Development gave the valedictory keynote address. However, let us look at the solid facts before we reject this one of the most remarkable development that has arrived at the horizon of agriculture development in recent times. If found workable, and it seems there is a rapidly building evidence in its favour, than it would have very huge implications also for the kind of water resources development that India (and other countries) would need as there are likely to be big savings in water used in water intensive crop like rice.

What is SRI? SRI is a newly evolving alternative to the conventional practices of rice cultivation. In this method, the seedlings are carefully transplanted early (8 to 12 days old compared to 21 days old seedlings in conventional practice), transplanted in un-puddled conditions, seedlings are widely spaced, with spacing going upto 20, 25, 30 or even 50 cm, where fields are alternatively kept wet & dry and not flooded with water till panicle initiation stage (1-3 cm water in the field during reproductive phase), field to be drained 25 days before harvest and organic manure is used as much as possible. Mechanical weeding should start about 10 days after transplanting, at least 2 weedings are necessary, and more are recommended. It is supposed to provide better growing conditions in the root zone, save inputs, improve soil health and optimise water use efficiency.

History SRI was developed in Madagascar in early 1980s by Father Henri de Laulanie, a French priest. As Shambu Prasad, Prajit K Basu and Andrew Hall note, "SRI has evolved over two decades, involving fifteen years of observation, experimentation and mastery in Madagascar, and rapid spread to 21 countries in the next six years." Uphoff and CIIFAD started popularising the SRI to other parts of world from 1997, calling it as the answer to the needs of the farmers in the 21st century.

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CONTACT INFORMATION Himanshu Thakkar, Bipin Chandra, Swarup Bhattacharyya, Ganesh Gaud, South Asia Network on Dams, Rivers and People, C/o 86-D, AD Block, Shalimar Bagh, Delhi 110 088. India. Ph: 2748 4654
Email: cwaterp@vsnl.com Web: www.janmanch.org/newsletter

(Lead piece continued from page 1)

Experiments in India Formal experimentation in India started in 2002-3 and so far experiments and/ or adoption of SRI practices have been taken up in Tamil Nadu, Andhra Pradesh, West Bengal, Jharkhand, Chhatisgarh and Gujarat.

➤ **Tamil Nadu** During experiments in 2003-4 at Agricultural College and Research Institute, Tamil Nadu Agricultural University, Killkulam, Tamil Nadu, it was found that on average 53% less irrigation water was used on SRI farms. In these experiments, the conventional farm had 21 day old seedlings transplanted 15 X 10 cm apart and SRI farm had 14 day old seedlings transplanted 20 X 20 cm apart. Depth of water in SRI farm was maintained at 2.5 cm with alternate wetting and drying cycles upto panicle initiation stage and flooded with same depth thereafter, till harvest. In conventional farm water depth of 5 cm was maintained throughout the standing crop. The experiments showed that SRI recorded higher water productivity of 0.699 kg/ m³ compared to conventional farm productivity of 0.253 kg/m³. The partial factor productivity of nitrogen was 28.3% more under SRI. SRI farm recorded a grain yield of 3892.7 kg/ha, 28% higher than that from conventional farm.

➤ The results from two on farm evaluations under a study by TNAU, funded by the state govt, one of which was in the Tamirparani basin in South TN showed that the mean grain yields under SRI and conventional cultivation were 7227 and 5637 kg/ha respectively, showing an overall yield advantage of 1570 kg/ha (max yield advantage being 4036 kg/ha) for SRI practices. About 31 farmers recorded grain yields of over 8 t/ha under SRI.

➤ **Andhra Pradesh** On farm demonstrations were organised in all 22 rural districts for SRI in Kharif 2003. A study done by Acharya NG Ranga Agricultural University, Hyderabad after contacting 291 respondents including 67 SRI farmers, 71 neighbouring farmers, 77 researchers and 76 extension workers found that in SRI farms, 95% of seeds were saved as a seed rate of 5 kg/ha was sufficient, about 50% of water was saved and an average yield advantage of 2 t per ha was reported. Some of the difficulties faced by SRI farmers were in use of rotary weeder, transplantation of young seeds and water management. They all reported that the plants looked much healthier in SRI farms.

➤ Through the Timbaktu Collective, a civil society organisation, the farmers in drought prone Anantapur district have turned a crisis into an opportunity by using SRI principles.

➤ **W Bengal** PRADAN has done a study of experience of 110 farmers in Jhalda and Balrampur blocks of Purulia district of W Bengal during 2004 kharif.

The study found that SRI plots got an average of 32% higher paddy yields even with partial adoption of SRI practices. In the 59 plots in Balrampur, average paddy output from SRI farms was 6282.65 kg/ha (49.8% higher) compared to 4194.13 kg/ha in conventional fields and average straw output was 5150.1 kg/ha in SRI field compared to 3456.87 kg/ha in conventional fields. The increase was 11.9% in Jhalda block. The yield increase in Jhalda was lower for a number of reasons, including drought, only one weeding, transplanting of old seedlings. The straw output was 49.13% and 54.34 % higher respectively in Balrampur and Jhalda blocks. Seed requirements for SRI farms were only 2.87 kg per acre compared to 27.17 kg per acre in case of conventional farms, a saving of Rs 292 per acre. SRI farms also required less labour compared to conventional farms, resulting in savings of Rs 184 per acre. The gross return per acre was Rs 3341 in Balrampur block. The net return in SRI farm was 67% higher compared to conventional farms. There is substantial saving in applied water in SRI farms, partly due to reduction in percolation and partly due to reduction in evaporation from the fields.

➤ **Gujarat** During experiments at Anand Agricultural University, Gujarat, it was found that while the conventional practice produced yield of 5840 kg/ha grains, the SRI method yielded 5813 kg/ha though with 46% less water use.

➤ **Others** In Pondicherry, SRI trials were done at Annapurna Farm in Auroville and later the MS Swaminathan Research Foundation tried SRI on small plots in the biovillage. PRADAN also took up SRI work in Jharkhand. Farmers like Kouligi from Melkote in Karnataka have taken initiatives to produce

popular booklets in Kannada.

Tamil Nadu Agricultural University has recommended SRI as a technology in Tamil Nadu to increase rice productivity and save irrigation water. State dept of Agriculture laid out demonstration trials in all the rice areas of the state during the 2004 rice season.

In Punjab, as Dr Sudhirender Sharma has reported, a different version of low water use rice cultivation practice is being pushed by JDM Foundation in Ladhawal, Ludhiana for some years. According to Dr Sharma, this practice has the answer to Punjab's water problems as it can lead to saving of 60-70% of water used for paddy in Punjab. This also reinforces that SRI claims are feasible.

Experiments in other countries SRI has been tested in 22 countries including in predominantly rice growing countries like China, Sri Lanka, Cambodia and

MESSAGE TO DR APJ ABDUL KALAM:
Mr President sir, here is something that can work and work wonders.
India today has over 24 m ha under irrigated paddy. If SRI were to be applied on all this area than we could at least increase the irrigated area by 50% using the water being used now for paddy irrigation.

Indonesia, and is supposed to have provided stunning results.

- **Sri Lanka** As per study by the International Water Management Institute, SRI farmers reported a yield increase of 44%. Returns to crop budgets were higher, cost of production per unit of paddy output was considerably lower, average profits for SRI was almost double that of conventional practice. It was found that rich and poor farmers were equally likely to adopt SRI and that once they adopted SRI, the poor were more likely to continue. For rainfed farmers, the opportunity to minimise cash costs from weather risks was an incentive for the adoption of SRI. The reduction in inorganic fertilisers and other agrochemical use under SRI are environmental benefits, which could justify public efforts to support the spread of SRI. Heavy labour requirements and tedious nature of the associated management practices, such as transplanting and manual weeding were seen as some problems.
- **Nepal** Experiments in 14 village development committees in 2004 has shown that yields from SRI farms were more than double the rice yields from conventional farms.
- **Laos** Rice cultivation through SRI has led to increase in yields from 3.27 t/ha to 5.05 t/ha.
- **China** Experiments since 2000 have shown that rice yields under SRI goes up by 35.6% compared to conventional practice.
- **Philippines** SRI farms achieved rice yields of 7.33 t/ha compared to the most advanced system where yields were 3.66 t/ha.
- **Cambodia** According to a GTZ supported study over 400 SRI farmers in 2004, it was found that grain yield from SRI farms were 41% higher.

Implications of SRI for India Around 5000 litres of water is required to produce one kg of rice. Tamil Nadu has about 2 million ha under rice, 70% of the area being irrigated. Rice consumes about 70% of the water available for agriculture in Tamil Nadu. During the last four decades rice area in TN has declined at the rate of 22 900 ha per year.

India today has over 24 m ha under irrigated paddy. If SRI were to be applied on all this area than we could at least increase the irrigated area by 50% using the water being used now for paddy irrigation. It would also lead to increase in rice production by at least 50%. Both these factors would have very huge implications for water resources requirements in India in years to come. The question is why is the govt not pushing adoption of this practice with such far reaching implications?

Himanshu Thakkar
South Asia Network on Dams, Rivers & People (April 05)

PS: When the author of this article met the President of India as part of a delegation in April 2005, the President asked the delegation to tell him what can work in water sector in India. We would like to tell the President: Here is something that can work and work wonders.

UPDATE

Dispute over Parbati-Kalisind-Chambal Link

Dispute between Madhya Pradesh and Rajasthan over the proposed PKCL remains unresolved. MP wants to build 7 more dams upstream of Gandhi Sagar dam. MP has already built 549 anicuts upstream of Gandhisagar while Rajasthan has constantly objected to these structures. Rajasthan has claimed that water in the river has been reduced by over 0.5 MAF after construction of various anicuts in MP and if more structures are built all powerhouses would be closed in Rajasthan. MP is ready to give Rajasthan's share of water through link canal, which would be collected in the structures. Rajasthan has not accepted the proposal and said that the water should only benefit farmers situated en-route of link canal and remaining water should be dropped in the Rana Pratap Sagar and ultimately it would discharge in Banas River.

These issues have been discussed in the meeting headed by Secretary, MWR on January 11, 2005 and CWC chairman on March 10, '05. Madhya Pradesh wants that Rajasthan should agree on all seven structures before the meeting of Chambal Control Board.

The feasibility study for Parbati-Kalisindh-Chambal link offers two alternatives. The first is a 226 km length canal, which will transfer water to provide en-route irrigation to 0.193 M Ha in Madhya Pradesh and 25000 Ha in Rajasthan. The other alternative is a 243 km long link canal providing en-route irrigation to 0.172 M Ha in Madhya Pradesh and 43000 Ha in Rajasthan.

In the meeting chaired by Secretary, Union Ministry of Water Resources on January 11, 2005, the engineer in chief from UP requested that as UP is a downstream state of Chambal basin and UP has proposed a dam just before confluence of Chambal with Yamuna, UP should also be invited for discussion on PKCL.

At a meeting of Chambal Board between Madhya Pradesh and Rajasthan govt on April 29, 2005, it has been reported that some progress has been achieved in ironing out the differences and the chief ministers of the two states are to meet in a month to discuss the matter further. What this means is that as yet there is no final agreement between the two states. (DANIK BHASKAR 080305, 110305, 300405 BUSINESS STANDARD 150305)

Interlinking of Rivers

President Kalam sir, please listen

Six leading advocates of decentralisation and people centred planning met the President of India on 20 April to impress upon him that the Interlinking of Rivers project as currently being envisaged is the wrong direction for the country to take. They have since written a letter to Dr.Kalam addressing his questions.

To
The Hon'ble Dr. A. P. J. Abdul Kalam,
President of India
Rashtrapati Bhawan
New Delhi 110001

27 April 2005

Respected Rashtrapatiji,

We are very grateful to you for having given us an appointment on 20 April and for sparing a good deal of your valuable time for the meeting.

During the course of the meeting, you made some observations and raised some questions, to which it was not possible for us to respond immediately and adequately. However, the points were important and needed to be answered properly. In fact, you asked us for notes on some of your questions. In this letter we are therefore taking the liberty of putting down some of your comments & questions in writing and responding to them.

The following recapitulation of your questions and comments is subject to your correction if there is any inaccuracy in it.

- (1) "There are floods in Assam and Bihar and droughts in Rajasthan. Through water-transfers, it makes sense to moderate the former and mitigate the latter."
- (2) "There are huge floods in the Brahmaputra. How can we use them? Let us not talk about flood *management*; let us think about how the flood waters can be *used*."
- (3) "How much of the Brahmaputra basin or catchment is outside India? How can you do water-harvesting there?" (Similarly about the Ganga.)
- (4) "Rainwater-harvesting is all right if there is rain. How can we do water-harvesting in Rajasthan?"
- (5) (In the context of work done by TBS in Alwar): "How much water is a villager getting in those villages, and how much does a citizen of Delhi get and waste?"
- (6) "Pointing to success stories (local augmentation of availability through water-harvesting, social mobilization) in a few villages here and there is not enough. We have to think about the 600000 villages of India."
- (7) "Narmada waters are now available in Kutch. Is that not a good thing?"

(8) "It is not good to be negative all the time. Instead of saying why things cannot be done, let us consider how they can be done."

(9) "The ILR is not yet a Project. Everything will come into the public domain. The Project will be discussed in Parliament. There will be plenty of opportunities to examine everything in due course. There is no need for anxiety at this stage."

Some of those issues and questions are covered in the submission that we left with you, but (even at the cost of

repetition) we would like to address them briefly and in broad terms here. The points are categorized for convenience.

I. Floods and droughts (Q 1 - 2):

(a) Yes, there are floods in Assam and Bihar, and droughts in Rajasthan and elsewhere. The answer to the latter does

not lie in the former. The two phenomena have to be dealt with separately.

(b) Floods (sometimes high floods and occasionally catastrophic ones) are bound to occur in our rivers periodically. They cannot be prevented or controlled. Embankments are a remedy worse than the disease. Big dams (if properly operated – which is problematic because of the claims of irrigation and power-generation) may moderate floods to a small extent, but may themselves cause problems if waters have to be released in the interest of the safety of structures. (This has happened from time to time.) Increasing green cover in the catchment area, extensive water-harvesting, groundwater-recharging, and so on, may perhaps slightly reduce the incidence of floods. However, floods *will* occur from time to time, and we have to learn to live with them, minimize harm and damage and maximize benefits. Good and timely information systems, and contingency plans for dealing with disaster when it comes, are the answers.

(c) As for 'using' flood waters, floods and waters that flow to the sea are in fact 'used' waters and not 'wasted' waters. Floods bring many benefits. They carry silt and make lands fertile; deltaic areas are their creation; that is why all folklore praises flood-waters as a 'gift'. Waters that flow to the sea also serve many economic, social, cultural, ecological & other purposes, including the control of salinity ingress from the sea.

(d) Massive transfers (which might moderate floods to some extent) are infeasible, and if attempted, will cause

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enormous problems. Small diversions through canals will have hardly any 'moderating' effect during the flood season, but could cause problems downstream in the lean season. (A 100m-wide 10m-deep canal that can carry only about 1,500 cumecs cannot make a dent on the Ganga floods that are around 50,000 cumecs on an average, while the same level of diversion can seriously deprive the downstream area of water during the lean season when the river-flow is at 5,280 cumecs.)

(e) In so far as the Brahmaputra is concerned, its location in a corner of India, its sheer size (it can be 18 km wide in places), and the magnitude of its floods (60000 cumecs), are such that its waters simply cannot be 'transferred' to distant areas. Any such attempt will make little techno-economic sense. The

best that can be done is to use the waters locally to the advantage of the North-eastern States. There are apprehensions (well-founded or not) in the North-east of their waters being taken away. It seems unwise to add one more irritant in an already troubled area. (The links envisaging transfers from the Ganga and the Brahmaputra have also caused great anxiety in Bangladesh. That anxiety needs to be allayed through appropriate explanations.)

(f) As for droughts, experience of decades has shown that the existence of thousands of dams, reservoirs canals has not prevented or reduced droughts. (Incidentally, floods are not entirely natural phenomena; there are also politico-socio-economic factors behind them.) The answer to droughts has to be primarily local. It is only in an exceptional case where local answers are inadequate or infeasible that one needs to think of bringing in external water. In any case, the ILR will not serve the needs of the uplands and dry lands of India.

II. Rainwater-Harvesting & Watershed Development (Q 3 - 7)

(a) It is true that parts of the catchments of the Himalayan Rivers lie in the mountains and outside India. When we talk about water-harvesting, we usually have in mind areas in central, western and southern parts of the country with medium to low rainfall, and not mountainous or high-rainfall areas in the country, much less areas outside the country. However, among the early success stories in water-harvesting was Sukhomajri in the Shivaliks; and even Cherrapunji, one of the wettest places on earth in terms of seasonal rainfall, suffers from drinking-water shortages in the lean season because of rapid runoff, and rainwater-harvesting seems to be the only answer to its problem.

(b) As for the question "How can rainwater-harvesting be done in Rajasthan?" the answer is that it has been done, and successfully. The well-known efforts of Rajendra Singh and Tarun Bharat Sangh have covered several hundred villages, and the message continues to spread not merely in Rajasthan but in other low-rainfall areas. Earlier, in the transformation that Annasaheb Hazare brought about in Ralegan Siddhi (Ahmadnagar district, Maharashtra), water-harvesting was an

important element. The celebrated example of Ralegan Siddhi inspired a similar transformation in another nearby village (Hiwri Bazaar) under the leadership of Sarpanch Popat Pawar, and this village too has become well-known. In Gujarat, the Sadguru Foundation and other institutions such as VIKSAT have done

remarkable work, again in low-rainfall areas. In the southern States, Dhan Foundation has been trying to bring about the restoration of tanks. Dr.G.N.S.Reddy of BAIF Institute of Rural Development has worked wonders in a 1000 ha area of Mylanahalli village in the semi-arid Hassan District of Karnataka by watershed management. We are therefore talking, not about isolated local initiatives, but about a movement that is gathering strength. The Centre for Science and Environment, New Delhi, has brought out two important books ('Dying Wisdom' on the subject of traditional water management practices and 'Making Water Everybody's Business' on water-harvesting), and its efforts in this and other water-related matters have been recognized by the award to it of the prestigious Stockholm Water Prize 2005. It is clear that improving water availability does not always or necessarily call for mass transfer of water from distant river basins.

(c) The benefits brought by local community-led water-harvesting are not negligible. The instances mentioned above not only brought about prosperity and economic transformation, but they enabled the villages in question to cope with three or four successive droughts. If such instances are multiplied in thousands across the country, the results will not be minor or insignificant. Two distinguished scholars (Profs. Kanchan Chopra and Biswanath Goldar of the Institute of Economic Growth, Delhi) have estimated the "additional runoff capture" as 140 BCM, which is a substantial figure. Others may differ on the number, but there is no reason to doubt that this can be a significant component of national water planning. (In other words, the 600000 villages of the country can benefit by this approach; it is difficult to say whether, and if so to what extent they will benefit from the ILR Project.) The National Commission

As for droughts, experience of decades has shown that the existence of thousands of dams, reservoirs canals has not prevented or reduced droughts. (Incidentally, floods are not entirely natural phenomena; there are also politico-socio-economic factors behind them.) The answer to droughts has to be primarily local. It is only in an exceptional case where local answers are inadequate or infeasible that one needs to think of bringing in external water. In any case, the ILR will not serve the needs of the uplands and dry lands.

on Integrated Water Resources Development Plan in its report (1999) had stressed the importance of local community-led water-augmentation activities. The former Prime Minister Shri Atal Bihari Vajpayee had commended this in his Address to the National Water Resources Council in April 2002. These ideas are now virtually part of mainstream thinking, and figure in the national Plan and the Government of India's Budget.

(d) In so far as the Brahmaputra is concerned, its location in a corner of India, its sheer size (it can be 18 km wide in places), and the magnitude of its floods (60000 cumecs), are such that its waters simply cannot be 'transferred' to distant areas. Any such attempt will make little techno-economic sense. The best that can be done is to use the waters locally to the advantage of the North-eastern States. There are apprehensions (well-founded or not) in the North-east of their waters being taken away. As for 'Narmada water in Kutch', the Sardar Sarovar Dam (now at 110 m) and reservoir have been built and the waters have to be used, including perhaps in Kutch. However, as was pointed out at the meeting, there have been successful instances of water-harvesting in Kutch, and if these had been multiplied, taking Narmada water to Kutch might not have been necessary.

III. Being positive rather than negative (point 8):

We have not been content to criticize, but have been putting forward alternatives such as local, community-led water-harvesting initiatives and watershed-development. Even under the ILR, it is possible that some of the individual links may be worth considering. We have suggested that they should be properly formulated, examined, evaluated in relation to alternatives and options, approved by the appropriate committees and organizations, budgeted for, and undertaken. We have been questioning the announcement of a massive project when neither the umbrella scheme nor the component links have been formulated, examined or approved. This is merely a reminder of existing procedures (some statutory).

IV. "The ILR is not yet a Project. Everything will be in the public domain in due course." (point 9):

(a) If the ILR is not yet a Project, we wonder how it could be announced at the Prime Minister's level, monitored by the Supreme Court, and repeatedly commended by the President of India. (If it is too early to pass adverse judgments on the 'Project' or 'Concept', it seems also too early to praise it or commend it as the answer to the country's problems.)

(b) For three years we have been promised that everything would be put in the public domain, but those

promises remain unfulfilled. At a meeting in Pune on 11 February 2004, the former Chairman of the Task Force on ILR Shri Suresh Prabhu actually retracted the old promise and said that the Pre-feasibility and Feasibility Reports could not be made available. What confidence

can we have in promises of openness or transparency?

(c) Finally, one Feasibility Report (on the Ken-Betwa link) has been made available. The Link had earlier been studied by the South Asian Network on Dams, Rivers and People. The Feasibility Report has now been studied by two distinguished academics. All these studies have found the proposal to

be seriously wanting. This makes it all the more necessary for the Government to put all the remaining reports and studies in the public domain for study. It is the absence of information that gives rise to anxieties and apprehensions. What is needed is the sharing of information and agreement on a framework for appraisal and decision-making.

Those of us, who have been invited to the National Water Convention on the theme of the ILR Project, to be held on 11 May 2005, will certainly participate in it, present our papers, and ask for information and reports. We look forward to listening to your Inaugural Address at the Convention. In this context, our earnest and respectful request to you is to study the material that we have submitted to you, including this letter, and give careful consideration to the points that we have made.

Once again, our grateful thanks to you for meeting us, and encouraging us to write to you.

Medha Patkar
B-13, Shivam Flats, Ellora Park Road
Baroda 390 007
medha@narmada.org

L. C. Jain
Tarangavana, D-5, 10th Cross,
Raj Mahal Vilas extension, Bangalore 560 080
lcjain@bgl.vsnl.net.in

Kuldip Nayar
D-7/7, Vasant Vihar, New Delhi 110 057
kuldipnayar75@yahoo.com

Maj Gen S.G.Vombatkere, PhD, VSM (Retd)
475, 7th Main Road // Vijayanagar 1st Stage
Mysore - 570 017
sgvombatkere@hotmail.com

Himanshu Thakkar
86-D, AD Block, Shalimar Baug, Delhi 110 088
cwaterp@vsnl.com

Ramaswamy R. Iyer
A-10, Sarita Vihar, New Delhi 110 044
ramaswam@vsnl.com
(www.indiatogether.org/2005/may/env-kalamletr.htm)

In so far as the Brahmaputra is concerned, its location, its sheer size and the magnitude of its floods (60000 cumecs), are such that its waters simply cannot be 'transferred' to distant areas. Any such attempt will make little techno-economic sense. The best that can be done is to use the waters locally to the advantage of the North-eastern States.

Rainfall aplenty, Rampant corruption, trickle of tap water *a convoluted tale of Greater Shillong Water Supply Scheme*

Imagine a state that is blessed by the highest rainfall in the country, being reported as the state having the lowest tap water availability! India's North Eastern state Meghalaya is such a state, thanks to rampant and unabated corruption in its Public Health Engineering Department. The latest CAG report for Govt of Meghalaya (Civil) points out that Greater Shillong Water Supply Scheme, administratively approved in 1979, remained incomplete even after 24 years, despite incurring expenditure of Rs 767.7 M as of March 2003. The expenditure incurred was over 3 times the original estimated cost of Rs 239 M. The most important component of the scheme, the mass gravity concrete dam, was yet to be completed, although the expenditure incurred on it was 6 times the original cost.

On Aug 6 '04, the Principal Secretary of PHED had issued orders authorizing Dy Commissioners of all districts to carry out inspection of water supply schemes and at least 10 % of schemes carried out between April 2003 and March 2004. This was close on the heels of Meghalaya govt's swift decision to take stern action against 3 officials in the PHED from Garo hills. These engineers had swindled over rupees 10 M meant for rural water supply schemes in East Garo Hills, and the govt suspended them, when the scam came to the light.

The editor of Shillong Times stated in an editorial on Aug 13, 2004: "If the availability of tap water is lowest in Meghalaya, the PHED is wholly responsible and accountable. Corruption in this dept has almost become a legend. Beginning from the late '70s up to the present time, allegations of corruption have dogged the dept like a ghost. The PHED scandal that has surfaced in Garo Hills now is puny compared to the one in Jaintia Hills that was really big time. No one was punished then. The NR Rynjah report just gathered dust. Govts in the past have failed to rein in some engineers who have made the PHED their personal property. The name that comes up again and again is that of S Sun who single-handedly controls the entire dept. He has been in charge of the GSWSS for decades. So much so that the man has developed very personal stakes in hanging on to the project. Anyone drinking the water coming from the GSWSS will testify to the fact that it is unfit for human consumption. The water is oily and slushy because very little alum and other decontaminants have been used to treat it. Money is pocketed by those in charge of the project and life goes on as usual."

It was in 1971-2, Meghalaya govt planned GSWSS costing Rs 43.7 M. The scheme couldn't be implemented due to opposition from the villagers (Nongkrem) as the proposed dam would submerge their cultivable land. In 1975-76, the dept prepared a

modified scheme for Rs 81.6 M by reducing the extent of submergence of cultivable land, which was also abandoned for the same reason. In early 1978, the State Govt decided to tap river Umiew, at its downstream near village Mawphlang. Accordingly, an estimate of Rs 239 M was prepared which was cleared by the Ministry of Works and Housing, Govt of India in Nov 1978, and approved (Jan 1979) by the State Govt. The scheme estimate was revised to Rs 582.3 M and re-revised to Rs 849.1 M. The overall increase in cost in the re-revised estimate (including Rs 101.3 M for price escalation) over the original estimate was 298 %.

The recent CAG report reviews the implementation of the scheme during 1995-96 to 2002-03 covering 38 % (Rs196.9 M) of the total expenditure (Rs 512.4 M) during the period. The total expenditure during this period, as reported by the Chief Engineer, PHED (Rs 614.9 M) doesn't match with that reported by the executing divisions (Rs 512.4 M). The discrepancy of Rs 102.5 M had not been reconciled till Sept 2003.

CWC's survey & investigation questionable During 1979-85, the dept had spent Rs 1.187 M on the S&Y of the site of the dam. The scheme was partially commissioned in April 1986 by constructing a temporary flexible weir at a cost of Rs 1.7 M. Between 1986-87 and 1994-95, average supply of water from the scheme ranged between 0.244 M gallons a day to 3.812 MGD against the projected requirement of 7.5 MGD for Phase I.

The CWC was engaged (1995) as consultant at an estimated cost of Rs 16.4 M (March 1996), which was revised to Rs 25.8 M in March 2000. The scope of work under the purview of S&Y by the CWC included (a) updating of hydrological studies of the discharges of the river, rainfall, etc. for probable maximum flood studies and (b) geological investigation through drilling of bore holes and study of rock structure as per the requirement of the designer. The estimated cost of S&Y was Rs 8.796 M. As of March 2003, the dept spent Rs 25.8 M towards consultancy, which included Rs 10 M on S&Y. Despite S&Y, huge variation in dewatering (5 times the estimated provision) and excavation of hard rock (11 times) was indicative of the fact that the S&Y had no link to the actual site conditions. This led to excess expenditure that was respectively 8 times and 16 times that of the original estimate following CWC's S&Y!

This leaves us with a doubt as to how professional is the highest central govt organization responsible for water resources development or is it yet another tale of extending the undue favours to contractors at the cost of public exchequer?

Himanshu Upadhyaya

Official minutes of meeting reveals shocking new facts about existing projects to become unproductive

Ken Betwa Link: Wide differences between UP and MP

Ken Betwa Link has been on top of the Govt of India priority as part of its controversial Interlinking of Rivers proposal. GOI has been trying to get an agreement signed between Uttar Pradesh and Madhya Pradesh for about two years now, but there is no success as yet. The contours of the divergence are now getting clear.

At a meeting on January 11, 2005 between the Chief Secretaries of Govt. of UP, MP and Rajasthan under the chairmanship of the Secretary, Union Ministry of Water Resources, the objections raised by UP Chief Secretary to the KBL proposal included the following. It is clear that the objections being raised by UP, according to official minutes of the meeting are very serious in nature and the KBL proposal would have far reaching impacts in Ken and Betwa river basins. It is also equally interesting to see how Secretary, MWR, Govt of India is responding to the issues raised by UP.

1. Ken is not a surplus basin Principle Secretary, UP made is clear that Ken Basin is not surplus basin and if water is transferred from this basin there might be unrest in the Bundelkhand. This is indeed the most fundamental issue. Secretary, MWR's response is amazing: This issue has already been discussed and 'need not be opened again'. NWDA response at the meeting is equally strange: As per NWDA criteria, Ken is a surplus basin. So an issue that raises the most fundamental objection to the KBL proposal by the UP has been pushed aside by the bureaucrats without even attempting to answer them. It may be recalled that in SANDRP's critique of the KBL proposal (see *Dams, Rivers & People*, Dec 2003), it was shown that indeed NWDA has manipulated the water balance figures to show that Ken is a surplus and Betwa is a deficit basin, whereas in reality there is little difference between the situations in two basins. The warning of social unrest in Bundelkhand region has not even been addressed. This is another piece of evidence that shows that the govt is trying to push a project that has fundamentally no merit. What is also shocking here is that UP govt officials, in stead of demanding that this issue be resolved first, agreed to go ahead with further discussions.

2. Irrigation and Lalitpur and Jhansi to be affected UP officials said that the areas presently irrigated in UP, south of Lalitpur and Jhansi districts will get affected due to the KBL. No credible answer from NWDA or Union govt was given.

3. Investments in Rajghat & Matatila dams to be waste The investment made by UP on Rajghat dam will become waste due to implementation of this link project, said UP officials. [It may be noted here that the Rajghat in fact is still an ongoing project with money from Japanese loan continues to be spent even as there are discussions about the investment going

waste!] GOI did not deny that the investment in Rajghat Dam would become a waste. In fact they said that by the time the four projects of MP in upstream of Rajghat in Betwa basin (namely the Berari, Kesari, Richhhan and Neemkheda dams proposed under KBL) are constructed, the existing projects like Rajghat and Matatila would recover their cost. What is clear from this is that current and projected benefits from both Rajghat and Matatila dams will be seriously affected as a result of KBL. It is shocking to learn that, thus, KBL will affect the benefits from a number of existing projects in Ken and Betwa basin and this revelation comes out for the first time. This is neither assessed, nor mentioned in the KBL reports. Again shows how unviable the KBL is.

4. Hydropower generation from Rajghat and Matatila Power Houses would be affected when UP officials raised this issue and also mode of compensation, NWDA Director General also agreed that the loss of power from the existing projects would have to be assessed. The official minutes further says, "Secretary (WR) stated that he fully agrees with the apprehension of the Govt of UP." The Secretary, MWR, however, said that the computation of losses could be done when the project is approved. This again makes it clear that not only KBL would lead to loss of benefits from existing projects, but also officials agree that such losses are neither computed, nor taken into consideration while preparing the KBL project. This further reinforces the conclusion that the KBL is not feasible as it stands.

5. Water sharing on Ken River UP has demanded that more water to the extent of about 12.5 TMC should be given for domestic and industrial uses in addition to 60 TMC for uses downstream of Daudan dam and that computation of regeneration from upper areas of Daudhan dam should be more realistic. MP disagreed and differences on this remain to be resolved.

While the official minutes of the January 2005 meeting are indeed revealing a lot of new issues and they also reinforce the non vi ability of the link proposals, some of which are highlighted above, what is equally clear is that the neither state govts, nor the Union govt is trying to take the people of the region and nation into confidence about the wide spread implications of the River Link proposals. That is the fundamental characteristic of planning and decision making of India's water resources development, unfortunately.

As per the order of the Supreme Court on April 8, '05, UP has conveyed its consent to sign the MOU, subject to some conditions. However, those conditions are not mentioned in the order, except one of funding. Hence, it still seems unclear if there is an agreement between UP and MP on signing an MOU to start the work on DPR.

South Asia Network on Dams, Rivers & People (April 05)

RIVER LINK NEWS

Violation of Supreme Court Order In the ongoing ILR case, in its order on April 8, 2005, the Supreme Court said, among other things, "It further appears that the feasibility reports of three other links in Peninsular component, namely Par-Tapi Narmada Link, Godavari (Polavaram)- Krishna (Vijayawada) link and Daman Ganga- Pinjal link, have been taken up for initiating action for consensus building. Annexure R-4 to the affidavit shows that the feasibility reports in respect of fourteen Peninsular component and two Himalyan components have been completed. Mr. Prashant Bhushan, learned counsel, submits that despite the orders of this Court, only one feasibility report has been put on the website. The order of the Court is clear and we direct its compliance in letter and spirit so that the feasibility reports shall be put up on the website soon after its completion." On checking the website (www.riverlinks.nic.in) on May 2, 2005, we notice that the website carries none of the Feasibility reports, except that of KBL proposal. It is clear that the govt continues to violate the Supreme Court order.

A breach in the inter-linking plans Forced by the Supreme Court to make its research public, the agency that claimed to have conducted feasibility studies on inter-linking rivers puts out an incomplete document. Shockingly, the National Water Development Agency that has been conducting the various studies for over two decades has placed an outdated 146-page feasibility report on the Ken-Betwa link on the ILR website that has not been approved by the technical committee. Once the Supreme Court ordered the publication of the feasibility reports, the Ministry had no choice but to publish it. The agency has technically complied with the SC directive, but surely what it has put out is not a feasibility report, simply some document purporting to meet the SC's order. Now we find out that the so-called studies that were claimed to have been conducted to establish feasibility are in fact sham. By using twenty-year-old population data and a decade-old agricultural statistics in the report, the NWDA has exposed its incompetence in handling a project of such magnitude. Can the unsuspecting masses rely on an incompetent agency whose reports will form the very basis for the launch of the mega-project? While NWDA may have turned itself into a laughing stock, it remains to be seen how much the SC is swayed by its shoddiness. Unfortunately, it is quite unlikely that these developments would have any negative impact on the govt's resolve to get on with the project. That decision has nothing to do with social and economic concerns, or accountability to the people, and was always likely to be made without good evidentiary support. The irony is that no govt, whatever its stripes, shies away from large projects, no matter what serious socio-economic and environmental implications may arise! Instead, obsessed with presenting economic figures that the

international investment community will applaud, every party in power becomes convinced that it must have projects of the river-linking kind to demonstrate its seriousness in pursuing economic growth. (Sudhirendra Sharma in Indiatogether.com 0205)

TN, others' no to CWC guidelines on water sharing

The Chairman of Central Water Commission Jeyaseelan said, "When the CWC drew guidelines for distribution and sharing of water, Tamil Nadu was first to say no". He added that two other States too rejected the proposed guidelines. "We did not expect such a blunt response", he added. (THE INDIAN EXPRESS 130205)

ILR may lead to conflicts The eminent water expert Ramaswamy R Iyer has stated that inter-linking rivers was not the answer to the problem of floods and drought. Instead, the project has the potential of generating more conflicts, inter-state and even international, than it will resolve. The privatisation of the water supply service may sooner or later, lead to the transfer of control of the resource to private hands. "Even if a private entity is not formally given the ownership of the water resources, the transfer of control structures to it gives a position of power which can not easily be undone and which can have serious implications". (THE HINDU 100205)

Bahuguna flays River-linking The noted environmentalist Shri Sunderlal Bahuguna has opposed the ILR as a foolish and disastrous idea and swore to fight it out. (THE INDIAN EXPRESS 020205)

Minister: former PM misled the nation The Centre has decided to convene a meeting of CMs to evolve consensus on ILR. Prior to this, the Union Water resources Minister will hold "bilateral discussion" with CMs concerned to address their apprehensions. He said that ILR was still a concept and it could be called a "project" only when it became a reality. He said, "The former Prime Minister Mr Vajpayee misled the country from ramparts of Red Fort in 2003, that work for linking of Ken-Betwa and Chambal Rivers had begun even as preliminary requirement of signing of MoU between MP and Rajasthan was yet to be taken up." The Minister told Lok Sabha, "The NDA govt seemed to be in a hurry to show 'River Linking Project' as their biggest achievement during their India shining campaign."

➤ Mr Vajpayee termed as "baseless" the charge that he had misled the nation on ILR in his 2003 Independence Day address. He asserted that he had only stated that work on the two projects would begin with co-operation of state govt by year-end. "Centre's talks with the Govt of Rajasthan, MP and UP had reached an advanced stage. CMs of the other states had also evinced keen interest in the ILR and talks were on for signing a MoU. There was a strong possibility of signing the MoU by the year end of the year", a statement from his office said. (THE HINDU, DECCAN HERALD 150305, THE TRIBUNE 160305)

Orissa proposal Realising the huge investment required for desiltation of Subarnrekha river (Rs 2.1 B), the Orissa Govt had proposed the river to be included in the ILR. Rs 4.643 B would be required to undertake the desiltation of four major rivers, including Subarnrekha. A survey by the State Water Resources Dept revealed that 504.58 km riverbeds in the deltaic zone had been heavily silted. A preliminary assessment said at least Rs 6.238 B would be required to take up the desiltation in all the 41 riverbeds. State govt had approached the Centre to fund the work. Of the 41 rivers, the Mahanadi River had witnessed maximum siltation of a 70 km bed followed by Reba (60 km), Salandi (50 km), Kathjori-Devi (39 km), Khusbhadra and Devi (24 km each). Subarnrekha, Birupa, Kharasuaon, Chtroptla, Bhargavi, Luna and Daya rivers in the Deltaic zone have reported siltation over 10 kms bed each. These 13 rivers in the coastal zone had accounted for 351 km long silted rivers. (NATIONAL HERALD 250205)

Bangladesh Long march against ILR Over 2000 protesters started a march towards the northern district of Kurigram in protest against an Indian ILR plan, which, according to experts, will wreak havoc on Bangladesh. The Dhaka-Chilmari march, organised by the International Farakka Committee has also demanded due share of the Ganges water. The organisers held a rally at Chilmari, on the bank of the Brahmaputra, at the end of the march, demanded that ILR should be scrapped.

➤ The leaders of IFC have threatened to go to International Court of Justice for 'settlement' of the Indo-Bangla Ganges water sharing treaty if India fails to make necessary amendments and also if India does not scrap ILR. This followed the 'long march'. The Declaration proposed the formation of a regional river commission comprising Bangladesh, India, Nepal, Bhutan and China under the authorities of World Bank and UN to settle all regional problems. (The Bangladesh Journal, ANI PR 030305, The New Nation 110305)

Dhaka to raise issue at JRC meet Dhaka will raise the issue of ILR project at the next Joint River Commission meeting, said Bangladeshi Water Resources Minister M Hafiz Uddin. He said that Bangladesh wants to hold the JRC meet in Dhaka in May-June 05. "Indian PM assured his Bangladeshi counterpart in July 2004 that they would not take any project that harms Bangladesh," he added. He said if India does anything without informing Bangladesh, it would be a violation of the proceedings of the 35th JRC meeting. Dhaka has also communicated its deep concern to the WB and ADB. Bangladesh is to propose a review of the 1996 Ganges Water Sharing Treaty, as the treaty has no guarantee clauses to ensure Bangladesh's fair share of water during the dry season. 'Bangladesh is not getting less water on average as per the indicative 40-year schedule of the treaty but the trend is not regular,' he added. (The Daily Star, New Age 210305, 220305)

DAMS

Bhakra oustees seek land At least 365 oustees displaced from Bhakra dam have still not rehabilitated and their fate is still uncertain. The land around the town is the forestland, which needs clearance from Central Environment and Forest Ministry. The sources in the district administration of Bilaspur in Himachal Pradesh said that the problem started recently when the oustees rejected the Kothipura site on the basis that the site is located about 10 km away from the town. The oustees pleaded, "Since all the oustees have been settled in the town, we are also entitled for the same". Under the rehabilitation policy, each oustee is entitled for the 1800 ft² plot. (THE TRIBUNE 290305)

Chhattisgarh to constitute R&R committee Representatives of affected villagers of different dam projects met with Chief Minister and raised decade old problems of displacement. The affected people from the submergence of Sondhur, Dhudhawa, Madamsilli, and Gangrel irrigation projects have not been settled even after several decades. The villagers said that Umradaihan, Kusumbharri, Thelkabharri, Deobharri, Boirwala, Ohuibharri, Goregaon villages were among the affected villages and people of these village are waiting for resettlement. The state Chief Minister has stated that a committee would be constituted. Representative from ruling party as well as opposition and concerned officials would be included in the committee and the committee would submit its report in two months. (DESHBANDHU 090305, 160305)

Tehri last stage not cleared The last phase of Tehri dam Project has not been cleared by the Public Investment Bureau. The next component of fund would be allocated only after clearance from Public Investment Board. The total cost of the project is estimated to be Rs 17.997 B. The total installed capacity of Tehri Project would be 2400 MW. The THDC has estimated that after clearance from PIB as well as the Centre, the project would take about 5 years and the power generation from the 1000 MW pump storage component would be possible from 2010. (JANASATTA 200205)

Bengal project under controversy Sundarban Development Authority is making a sweet water reservoir in Sundarban of South Twenty Four Parganas district in W Bengal. They have already erected a dam across the living river called *Hukaharaniya* which is a distributory of river *Thakuran*. Rivers like *Mata*, *Thakuran* and numerous other small rivers of that locality are all distributaries of river *Ganga* (branches of rivers at the mouth of *Ganga*). Pollution Control Board in their report assessed the devastating effect on the environment and mentioned that in the rainy season villages and agricultural lands along the river course will be flooded. Not only that it will also affect the economy

of the local fishermen, cultivators and students because traditional water channel is the life source for the region and only way of communication through boats. More than five hundred villagers of fifty villages of that locality went to High Court and Division Bench of Calcutta High Court released a stay order for two weeks. High Court ordered to submit a report from Fisheries Dept as well as Irrigation Dept. Forest dept has already submitted two lines and mentioned 'it is not in their area'. Sundarban Development Authority mentioned it is a Central Govt project and sanctioned after the review of experts. (Anandabazar Patrika 060205)

Tipaimukh Centre to bear costs The 6 x 250 MW Tipaimukh HEP in Manipur has run into a string of obstacles since 1954. The crisis deepened recently with the executing agency, the North Eastern Electric Supply Corp, saying it would not bear any expenses on security, diversion of a national highway that passes through the dam site and flood-control measures. NEEPCO said that the Rs 51.639 B scheme would become more unfeasible if the costs were to be increased. Union minister of heavy industries and public enterprises Santosh Mohan Dev, who has been spearheading the efforts to get the project off the blocks, sought Prime Minister's intervention to break the deadlock. The cost of security arrangements is estimated at Rs 2.806 B at the initial stages, while the projected expenditure on flood component in the Barak Valley districts and the diversion of the highway stands at Rs 2.888 B and Rs 1.05 B. The length of the diverted stretch of the highway will be 170 km and the realignment has been planned along the upper reaches of the Barak and Makru rivers. The project will take at least 10 years to complete. Citizens Concerned on Dams and Development has said recently that the project should not be taken up without the "consent of the people of Manipur".

➤ CCDD has alleged that the authority has failed to conduct an independent and accountable study of the environment impact assessment before the initiation of the project. The proposed dam site is located in Tipaimukh subdivision of Churachandpur district of Manipur. It lies on the extreme south of Manipur, bordering Mizoram and Cachar district Assam. The dam will be constructed 500 m downstream from the confluence of the Barak and the Tuivai rivers in the south-western corner of Manipur. The 390 m long, 162.8-m high earthen core rock-filled dam is expected also to help mitigate the floods in the plains of the Barak in Assam. The proposed dam axis falls on the "Taithu thrust faultline". The epicentre of the last earthquake in 1957, with a magnitude of 8, lies at approximately 80 km from the dam site in an east-northeast direction. Initially, the Manipur govt had opposed the dam on seismological and environmental considerations. However, the state Assembly unanimously resolved to quash its earlier resolution to oppose the dam and allowed NEEPCO to go ahead with its investigations for

a DPR of project. The project has received techno-economic clearance from CEA in July 2003.

➤ A memorandum was submitted to the Prime Minister in 1994-95 by the Zeliangrong Students' Union of Manipur and the Hmar Students' Association on behalf of their respective communities. It elicited no response. The movement gained momentum after the formation of the Committee Against Tipaimukh Dam and CCDD in Manipur in 1998. Protests have also come from across the border from Bangladesh. Officials and experts in Dhaka fear that the dam on Barak, which feeds both the Surma and Kushiara rivers in Sylhet (both feeding Meghna River), will have a lasting adverse impact on livelihoods, ecology and environment in Bangladesh. As the dam site is located at the tri-junction of the three states Manipur, Assam and Mizoram it would involve rehabilitation of the displaced populations of the three states.

➤ The govt should ensure that all feasibility reports are made public and all investigations in respect of the social, economic, cultural, geological, environmental and ecological impacts on the people and the areas are carried out, completed and discussed with the full knowledge, co-operation and participation of the local people, specially the Zeliangrongs and the Hmars, whose lives are at stake. Any initiation of dam without addressing the negative impact it would have on the river, and all those who depend on them, can eventually lead to irreparable damage to the fragile ecosystems, receding banks caused by enhanced sedimentation and inundation and many other problems linked to the damming of river. (The Telegraph 070205, 280305)

PM intervention sought in Manipur dam project The Maphithel Dam Affected Villages Organization has urged the Prime Minister to look into the plight of the people affected by the Thoubal River Valley Multi-purpose Project in Thoubal district in Manipur and review the project. The PM had announced a special package of Rs 950 M for this project to be completed by 2006, which is to provide 10 MGD of drinking water and 7.5 MW hydropower capacity. The 66 m high dam is proposed to be 174 m long. The people allege that the project has been taken up in 1976 without consulting the people to be affected. When the dam is commissioned, 16 tribal villages and 1285 Ha of cultivable land would be submerged. The MDAVO urged the PM to direct the state govt to immediately constitute an expert committee to review the rehabilitation programmes of 1990 and also to constitute an expert committee to review the safety aspects of the dam. It also urged the PM to direct the state govt to provide the affected people right to have access to the project related documents. Also, the state govt should set up a grievance cell to redress complaints. It urged the PM to instruct the Manipur Pollution Control Board to conduct a public hearing. (Assam Tribune 270305, BUSINESS LINE 280205)

Goma dam irks Gujarat villagers The Gujarat Govt has resumed construction on Goma Dam in Chalali Kalol in Panchmahal district. The height of the dam would be 18 m and length would be 5.8 km. Sources in State Govt say that according to a census in 1997, 1253 people spread over nine villages will either lose their land or will have to be relocated. Villages which would be coming under submergence are Royan, Sherpur, Chalali, Majarpuri, Adadhra, Navagam, Kothapadi, Paruna and Damanpura, while the Govt has informed only villagers of Royan. The villagers say that the water resources dept has a document dated Oct '04, which states that it has clearance from the Union Ministry of Environment & Forest dated July 1986. The Centre has clearly stated that the environment clearance lapses after five years, and has to be renewed. The Environment Impact Assessment notification of January 1994 states that a site clearance certificate shall be valid for five years for commencement of construction or operation of project. Chalali Sarpanch Kanaksingh Chouhan filed a petition in the High Court and questioned the very need for the project, as borewells in the region are still flush with water. Besides, farmers at present raise at least three crops a year, compared to only one 20 years ago. According to official documents, the earthen dam will cost Rs 475.9 M and has a catchment area of 174.84 sq km with a claimed gross command area of 10318 Ha. The annual irrigation plan says 6705 Ha in 15 villages would benefit from the dam. The Govt is yet to acquire 587 Ha from the surrounding villages. At least 210 Ha of grazing land have been identified by the govt while a major chunk of 156 Ha of forestland has been acquired on which the authorities have started construction. (THE TIMES OF INDIA 190305)

Displacement In the absence of firm project wise data the estimate of total number of people displaced by "development projects" from 1951 to 1990 ranges from 11 M to 21.3 M. Of the 21.3 M displaced people estimated by Walter Fernandes and V Paranype, 2.55 M people have been displaced by mines, 1.25 M by industries, 11.01 M by large dams, 5.29 M by medium dams, 0.6 M by park and wildlife operations and 0.5 M by other projects. There are a total of 3643 dams constructed during the period of 1951-90. The backward communities, particularly people in tribal regions have been disproportionately affected. The R&R of uprooted people has been minimal and not very successful. Out of 36000 households displaced by the Bhakra project, only 12000 were rehabilitated. In the case of Ukai project, only 3500 out of 18500 ousted families were resettled. In case of Pongal dam, the number of rehabilitated families were 9000 out of 33000 ousted households. It can be said that on average, only 26.5% of oustees have been rehabilitated. Only 1% of the total cost of dam projects has gone towards rehabilitating displaced persons. In the Sardar Sarovar Project, the cost of temporary, accommodation for staff

overseeing the dam construction at Kavedia colony was more than the amount of compensation allotted for the rehabilitation of some 100 000 persons from the reservoir. There is enough evidence of delay in the payment of compensation, which is much below the market rate at the time of displacement. In all cases, land was acquired at the market price at the time the project was cleared. Compensation was given however at the time of land acquisition, which may be after decade. For instance, in case of Bhakra dam, land was acquired at 1942-47 prices, but the allotment was made at 1952-57 prices, when the price had risen. In most development projects it found that the attitude of project authorities towards affected people is apathetic and negligent. (Economic & Political Weekly 260305)

Isarda dam in Rajasthan The Rajasthan Irrigation Minister has stated that the estimated cost of the proposed Isarda project on Banas river would be Rs 3.603 B. The Central Water Commission has estimated the potential of the project about 10.77 TMC. The project is to be completed in 5 years after necessary clearances are obtained. (DANIK BHASKAR 180205)

HYDRO PROJECTS

NORTH EAST Dikrong public hearing questioned NEEPCO was recently forced by the people to order a survey of the 110 MW Dikrong HEP in Arunachal Pradesh. The first 'public hearing' on Pare (Dikrong) HEP was held on March 5, '05. The EIA report of Dikrong HEP and its executive summary was not made available in local language by NEEPCO till the day of public hearing. Now the public hearing would be held later. It was decided that a committee would be formed to create awareness about the project. The role of Arunachal Pradesh PCB came in for severe criticism. Most of the people were ignorant about the very nature and purpose of an EIA and what a Public Hearing is all about? The composition of the Panel Members was also not in compliance with the EIA Notification, 1994. Arunachal Citizen's Right interjected and requested the Chairman of the Panel to ensure that the panel members maintain their neutrality. Rather each panel members instead of noting down the issues, were allotted time to speak about the Dikrong HEP. The house finally came to know about their rights and the actual nature of a PH on EIA as submitted by NEEPCO before the PCB. As a result, the Chairman, Public Hearing Committee gave time to few of the Legislatures, Panchayat leaders, Gaon Buras, and Public. Finally, the panel members unanimously ended the PH with the decision that an Awareness Committee on EIA shall be constituted to educate the people about the project and the Public Hearing shall be held within two months. Many people complained that even the 29 families likely to be affected by the project were unaware of the EIA. The NEEPCO tried to wash its hands off the responsibility of rehabilitation. (Echo of Arunachal 060305, DOWN TO EARTH 310305)

Subansiri HEP In rough weather NHPC's Subansiri Lower HEP has run into rough weather with villagers opposing the dam. The Arunachal villagers represented by Dolok Bango Indigenous People's Forum appealed to the State Govt in a memorandum, to restore their rights over the land that was presently claimed by Assam. Citing a historical record of the area located in the project's eastern side, they said over 5000 people had been living there since time immemorial. The site, owned by Boa Tali, was known as Tali Rijo but was renamed as Gerukhamukh. Several places having historical significance are located here. "Declaring our forestland as reserve forest without our consent and including it in Assam map amounts to historical insult. Now the area is likely to be declared wildlife sanctuary to make way for the project at Tali Rijo while the NHPC is making an attempt to legitimise the occupation of our land by Assam," the memorandum said. "We will not accept compensation from any Govt unit or the NHPC for our land," the DBIPF said and asked the State to stop work and not to sign MoU with the NHPC.

➤ **Protests** Tribals of Arunachal Pradesh affected by the Subansiri staged a dharna in front of the civil secretariat opposing the proposed dam under the banner of DBIPF with the support of All Arunachal Pradesh Students' Union, NEFA Indigenous Human Rights Organisation, Galo Students' Union of Papum Pare, Global Human Right Organisation, and Galo Welfare Society. A memorandum was submitted to the CM demanding closure of the dam.

➤ **People roared against Dam** People of Subansiri valley assembled at Kadamghat, Dirpai near Lower Subansiri dam to recall, understand and feel the importance of the river Subansiri in the life of the valley dwellers and to oppose Subansiri dam in commemoration with International Rivers' day March 14, 2005. Mr Golap Gogoi representing town vigilance committee, Gogamukh said that a dam in such a high seismically sensitive area have threatened the very existence of tribal communities. The Meeting also condemned Life Insurance Corp of India's decision to fund NHPC. A memorandum has also been sent to LIC from the meeting. The LIC has signed a MOU with NHPC to provide credit of Rs 65 B. The people of Subansiri valley vehemently opposed the decision and submitted a memorandum to the chairman, Board of Directors, LIC demanding stop financing big dams and halt financing NHPC. The memorandum signed by over 400 citizens demanded from LIC that full details of the MOU and the credit line to the NHPC be made public. They demand the full and immediate disclosure of the safeguards policies and mechanisms as well as the monitoring mechanism LIC has developed and put into effect to ensure that NHPC complies with the national and international standards and statutes on EIA, EMP, social impact and it's management (including R&R), constitutional and legal safeguards for tribal people, human rights, child rights, land and forest rights. (RVC PR 130305, 160305, BUSINESS LINE 230305)

Draft agreement The draft for the agreement between the State Govt and NHPC for the 2000-MW Lower Subansiri HEP has been circulated to concerned states. In one of the clauses, it has been said that the State Govt of Assam will shoulder the responsibilities arising out of the claims/ liabilities arising, on account of deprivation of the right and benefits of the public due to the project. It makes it mandatory for the NHPC to use the land acquired only for the project. The terms have also sought to make it obligatory for the NHPC to ensure the flow of at least of 6 cubic metres per second of water downstream of the dam during the lean season. The NHPC is allowed, to 'use the water of the rivers of Subansiri Basin free of cost required for the purpose of power development and any ancillary purposes connected with the construction, operation and maintenance of the projects'. The draft states that the responsibility of felling and removing of the trees from the project area during investigation, execution shall be of the Govt. NHPC shall not be required to pay to the Govt any amount on account of trees felled or damaged. NHPC shall pay the Govt the cost of raising compensatory afforestation as per the schemes approved by the Union Ministry of Environment and Forest. The R&R shall be executed by the Govt as per the approved plan to be finalised and financed by NHPC. The draft has stated, in a separate clause, that the share of power within the affected state(s)/ area shall be determined in accordance with the policy of the Govt of India at the time of commencement of commercial operation of the plant. The draft has also proposed a project monitoring committee of the Govt, among others, with Commissioner and Secretary (Power) of Arunachal Pradesh as chairperson and a representative of Govt of Assam as member, to oversee the progress of the project and to sort out matter of mutual interest. (The Assam Tribune 050205)

Alstom gets order despite objections The NHPC has awarded the equipment order to M/s Alstom of France despite objections by a Union Cabinet Minister and adverse remarks by the Solicitor General of India. The SGI has rapped the Power Ministry and NHPC for non-transparent evaluation of bids. Several leading companies, including BHEL, were bidding. Union Heavy Industries Minister Santosh Mohan Dev, who has been pushing the bid of BHEL, had written a letter to the Union Power Minister "not to proceed ahead in the matter till the Ministry of Power is satisfied on the various concerns expressed by the bidders regarding the evaluation." He said BHEL has taken up the issue on arithmetical error interpretation by the NHPC with the SGI and he had opined that the interpretation of the arithmetical error by NHPC is "unreasonable". Dev had pointed out several drawbacks in the bid of Alstom. He had alleged that the French company had stated that their share in the consortium was only 34%, which was direct contravention of the qualification criteria. He alleged that Alstom (India) who are the major partners

in Alstom France neither have the infrastructure nor the experience for manufacture of components. The 8 x 250 MW Rs 62.853 B HEP is to be completed by 2010. The Central Electricity Authority gave TEC in 2000 and the Public Investment Board recommended the project to Cabinet Committee on Economic Affairs in 2000.

➤ Even as NHPC awarded the contract to the Alstom, NEEPCO's Board of Directors decided to blacklist Alstom for its future contracts.

➤ **NHPC rules out rethinking** The NHPC has ruled out any rethinking. Signing-in of the deal with Alstom has been delayed after the matter came out in open. NHPC claims that even before the correction, Alstom's bid at Rs 16.2596 B was lower than BHEL's Rs 16.3403 B. After correction, the evaluated price of BHEL stood at Rs 39.4559 B. NHPC has asked Power Ministry to get it verified from any independent body. Some arithmetical discrepancies between 'unit price' and 'total price' noted in the price bid offer of BHEL-Marubeni JV, have been corrected in accordance with the ITB clause 22.2, NHPC said. The lowest evaluated bidder was the consortium of M/S Alstom Power Hydraulique, France and Alstom Projects India Ltd. BHEL claims the Alstom bid appears to be lower is because certain costs were not listed in the quoted price. While calculating the Alstom price, sales tax on bought out items and 15% price preference loading on full value of turbine & generator were left out. Taking these factors in would make Alstom's quoted price Rs 17.6206 B thereby making it higher than BHEL's quoted price. The contract is valued at Rs 14 B for electro-mechanical package.

➤ **PM's help sought** An MP from Arunachal Pradesh, Mr Khiren Rijju, has sought PM's intervention. Referring to alleged discrimination against BHEL, he said, "NHPC should comply with the request of NEEPCO and blacklist the foreign conglomerate for its alleged failure to execute the contract work."

➤ **Panel's clean chit** The 3-member committee under H L Bajaj, Chairman of CEA has given a clean chit to NHPC and has found no merit in BHEL's allegations. The report states, "The method adopted by the Tender Evaluation Committee of NHPC is in accordance with the provisions contained in the Bid documents... The contention of JV of BHEL and Marubeni Corp that share of the leader of consortium is only 34% has been examined by the committee and it is of the opinion that bid documents do not prohibit the foreign bidder from sourcing equipment from domestic manufacturers on an ex-works basis... Alstom have indicated a lower foreign component in their price bid with a view to reduce loading on account of price preference under the Mega Power Policy. The Committee has made an assessment of Alstom Projects India by visiting their works, and is of the view that they are in a position to carry out heavy structural fabrication works."

➤ **Agreement** On April 4, '05 NHPC & Alstom signed the agreement. (THE TRIBUNE 170205, THE ECONOMIC TIMES 220205, ASSAM TRIBUNE 230205, Daily Excelsior 250205, 040305, BUSINESS LINE 100305, THE INDIAN EXPRESS 300305)

Sikkim The Sikkim Govt has set a target of installing 4000 MW capacity by 2015. The Chief Minister stated that the Govt is working on an investment profile in the power sector to utilise the hydropower potential. Projects have already been initiated in collaboration with power corps to develop the stretch along the Teesta basin and DPR in respect of the Teesta II, III, IV and VI are completed. Pre-feasibility reports are ready in respect of seven other mini HEPs, to be completed in 3 years. (BUSINESS LINE 260205)

NEEPCO The NEEPCO has planned an investment of Rs 38.6 B for three new power generation and transmission projects. These include the Rs 24.97 B Kameng HEP (600 mw) in Arunachal Pradesh, Rs 8.65 B Tripura (280 MW) gas-based power project and Rs 5 B Tripura-Kopili Transmission System for evacuating power from its Tripura project. (THE FINANCIAL EXPRESS 220205)

Loktak The project monitoring division of India's Ministry of Statistics and Programme Implementation says that the 3x30MW Loktak Downstream Project on the Leimatak river in Manipur has reported a possible additional delay up to 30 months in its commissioning, due to law and order problems. Construction work is to start. The project, which includes a 64.5 m high, 250 m long earth dam, a 5.8 km long headrace tunnel, and a surface power house is being implemented by the NHPC and was originally scheduled to be completed in June 2006.

➤ **Affected villagers claim land** Villagers of Taosang who had agreed some 10 years ago to donate land, extending over 420 ha where the project is to be taken up, without seeking compensation as requested by the govt, have now expressed their wish to reclaim the land. This was stated by a spokesperson on the Loktak Downstream People's Welfare Association as no activity has been taken up so far as promised by the govt. (International Water, Power and Dam Construction 280105, The Imphal Free Press 180205)

SJVN Plans The Sutlej Jal Vidyut Nigam Ltd announced an investment of Rs 90 B to add over 1700 MW capacity during the 11th Plan. The SJVN plans to take up six more HEP to achieve its target. Of the six projects, four are in Himachal Pradesh and two in Uttaranchal. Plans are also afoot for taking up two more projects in Sikkim and Chhattisgarh. For 434 MW Rampur project, the company has estimated a cost of about Rs 20 B and SJVNL have approached the World Bank for a loan of up to Rs 10 B, which is 80% of the loan component of about Rs 14 B. (BUSINESS LINE, THE HINDU 110205, POWER LINE Feb 05)

AP Austria evinces interest Austrian President Heinz Fischer evinced keen interest in the proposed 2,700 MW HEP as part of Polavaram project in Andhra Pradesh and said his country would consider funding it. (IANS PR 180205)

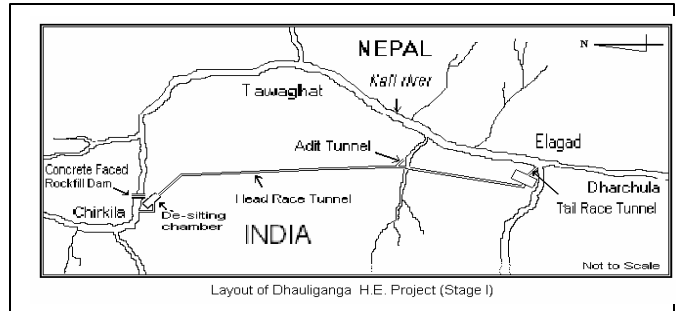
JP HYDRO Plans for \$100 M FCCB issue The Jaiprakash Associates is planning to put off \$100 M issue to join the foreign currency convertible bond. Jaiprakash Hydropower Ltd has announced plans for an IPO for about 36.66% stake in the company. JHPL has filed an application with the SEBI for its maiden public issue. JHPL is part of the Rs 30 B Jaypee Group and a wholly owned subsidiary of Jaiprakash Associates. The offer would involve offloading of the stake of Jaiprakash Associates. The issue size is around Rs 5 B. The present paid up capital of the JHPL is Rs 4.91 B. The promoters would be offloading 180 M shares of Rs 10 to be priced at Rs 27-32 each through the proposed public offer. Final price decided was Rs 32 per share. The issue was oversubscribed by about 6.5 times.

➤ **Projects** JHPL has completed 300 MW Baspa-II HEP in Himachal Pradesh and claimed that the plant is generating 1.20 B electricity annually. The company has signed MoU with Himachal Pradesh Govt for power purchase of this project. The JHPL is constructing 400 MW Vishnuprayag HEP in Uttaranchal with the estimated cost of Rs 20 B and claimed that it would generate 2 BU of power annually after the project is completed in 2006. The company has signed an agreement with Uttaranchal Govt for power purchase of Vishnuprayag. The JHPL is implementing 1000 MW Karcham Wangtoo HEP in Himachal Pradesh with an estimated cost of Rs 55 B. The JHPL has claimed that the company is executing 54% of work on ongoing all 14000 MW HEPs in India.

➤ JHPL is planning to bring all its hydro power subsidiaries under one listed umbrella entity, said Suren Jain, Director Jaypee Group. The Vishnuprayag project is being developed by Jaiprakash Power Ventures Limited, a wholly owned subsidiary of the Jaypee group. Another 100% subsidiary christened Jaypee Karcham Hydro Corp Ltd, is setting up a 1000 MW Karcham Wangtoo HEP on the river Sutlej. Mr Jain said that JHPL would set up a separate 100 MW power plant to cater exclusively to its own captive use. The Jaypee Group will utilise about 40-50 MW for its own captive needs to run its 3 MT cement plant coming up in Himachal Pradesh. The Karcam Wangtoo project is to be part financed by Power Finance Corp.

➤ **JHPL misguided investors** JHPL had launched public issue in March. At the time of launching public issue, the company has misguided the investors through its official release. The JHPL has listed those projects in its list in which it initiated civil work only, such as Nathpa Jhakri in Himachal Pradesh and some NHPC projects. The company has showed that the total installed capacity of JHPL is 10200 MW. The company listed projects situated in Himachal Pradesh, Jammu & Kashmir, Sikkim, Madhya Pradesh, and Gujarat and in Bhutan too. In all these projects the company had initiated civil works only. (THE TIMES OF INDIA, THE ECONOMIC TIMES 250105, 080205 RAJASTHAN PATRIKA 240205, PUNJAB KESHARI 090305, THE HINDU 170305)

NHPC Dhauliganga HEP and Media's reports



NHPC's 4 X 70 MW Dhauliganga HEP is expected to start generation by March 05 following commissioning of the first unit, NHPC claimed. The project located in Kumaon region of Uttaranchal is being executed at an estimated cost of Rs 15.78 B. The project is a run-of-the-river scheme on the Dhauliganga River, a tributary of the Kali on the Indo Nepal border. The project was sanctioned in April 1991 at a cost of Rs 6.020 B. The other three units will start generation by August-September 2005, S K Aggarwal, general manager of the project said. The project is to generate 1134 MU of electricity, which will be evacuated by Power Grid Corp. Uttaranchal, which will get 12% of electricity for free. Other beneficiary states include Delhi, Haryana, Punjab, Himachal Pradesh, Rajasthan, Chandigarh, Uttar Pradesh and Jammu and Kashmir. The project is funded by JBIC, which has given a loan of 21985 M Yen (approx Rs 9.24 B). (BUSINESS LINE, THE TIMES OF INDIA, Hindustan 150205)

MEDIA WATCH What is clear from the reports is that the correspondents of these newspapers were taken on a tour of the project and the reporters seem to have faithfully reported whatever they were shown and told. But that is not the only role of media. Media is also supposed to try and understand the situation beyond what they have been told and shown by an interested party. Dhauliganga project is known to have seen very large cost overruns; time overruns also serious geological and environmental problems. Also, all the reports stated that the project would start generation in March 2005. We are already in first week of May as we write this, but the project is yet to see start of generation. However, none of the reporters seem to have found it necessary to do a follow up report as to why what they were told and what they reported has not materialised. Dhauliganga is one of the costlier HEPs and its per unit generation cost is going to be very high. But none of the reports have looked these questions. The project has not provided any water downstream from the diversion point and the Dhauliganga will become a dry river in this portion. Should not media have asked questions about this?

Surely, media needs to go beyond the brief given by those who sponsor their trips?

Environment clearance Chamera-III Parbati III HEPs Complete violation of EIA norms & law

The Ministry of Environment and Forest has accorded environmental clearance to Chamera III HEP on March 10, 2005 and to Parvati III HEP, on April 16, 2005, both in Himachal Pradesh being executed by NHPC, in complete violation of all legal norms. According to EIA and Public Hearing norms, the state govt, after satisfactory conduct of the public hearing, availability of satisfactory quality of Environmental Impact Assessment and Environmental Management Plans to local people, is supposed to send a public hearing report to the centre and only after the recommendation of the state govt, can the central MEF consider giving clearance to a project. However, in case of both Chamera III and Parbati III HEPs, the public hearings had violated the norms of EIA and public hearing notifications. The HP state govt was in fact asking NHPC to fulfil a number of requirements before HP can consider recommending clearance to the HEPs.

However, bypassing the HP govt, NHPC and Union Power ministry pressurised the MEF to give clearances to the projects. MEF, violating the environmental laws that it is supposed to be ensuring adherence to, gave clearances that legally it had no right or powers to give.

Angered over this, the HP govt in a letter dated April 25 has not only lodged a strong protest with the GOI but also asked the HP Pollution Control Board not to give its "consent to establish" the two projects till NHPC fulfils the HP's environmental requirements. The HPPCB has already issued a letter to the NHPC, directing it not to start work. The board also sent a communiqué on April 30 to the Controller of Explosives in Faridabad, asking him not to issue any explosives to the NHPC for the projects. While the state Environment Impact Assessment Committee, headed by the Secretary, Science and Technology, was in the process of finalising the environment commitments to be met by the NHPC regarding the two projects — especially when the track record of NHPC on environment, particularly in Parbati II, was not good — the MEF gave environmental clearance without the state's approval. Even the PCB has not given its mandatory no-objection certificate under the Water and Air Act.

HP is upset that the environment clearances do not address the vital concerns of HP. It does not mention safeguards like muck dumping sites, lean water discharge, fisheries, and is silent on several other aspects, which HP had been discussing with NHPC.

Ironically, the Centre's letter mentions that HP will ensure compliance to all environmental safeguards, which has infuriated HP officials even more. If the

Centre has not even bothered to take HP's views, how does it come in the picture to ensure compliance?

Regarding Chamera III, the State Environment Impact Assessment and Monitoring Committee had requisitioned environmental details from the NHPC sometime ago, which were still awaited. This is an effort of the state to see these conditions are met before recommending the case for the Centre's environmental clearance. For Parvati III, the same committee had kept a meeting for April 27 to discuss vital issues, including the Kullu Deputy Commissioner's report on the environmental havoc wreaked during the execution of Parvati II and the safeguards taken by the NHPC in that regard as demanded by the committee. "For Parvati III, the state is more particular because the executing agency had not followed the safeguards in Stage-II. The environment committee wanted the NHPC to give its commitment on both stage-II and on stage-III," a senior official said. Similarly, NHPC has not followed the environmental safeguards in case of Chamera II HEP.

HP CM said that this is clear case of central intervention on state matters and violation of sector 48 A of constitution. He said HP govt has taken this seriously and he will meet the PM in this regard. Strongly criticising the Union Power Ministry, he said that NHPC's track record on environmental issues has not been good in the past and the state govt will make all efforts to take care of the environment in the HEPs. HP has written letters to MEF and Union Power Ministry and has demanded that the clearances be revoked.

➤ **Chamera III** The 3 X 77 MW Chamera III on the Ravi in Chamba dist is located 250 m downstream at the confluence of the Tundah nullah and Ravi. The Rs 13.47 B HEP (April 2003 prices) will have 15.93 km long headrace tunnel.

➤ **Parvati oustees refuse to take compensation** Over 60% of the displaced persons due to the Parbati III refused to accept the compensation as the assessment value of their land & property was much below the market rate. They said that they should also be assured of continuing their revenue and forest rights which they were enjoying being the owners of land. A Large gathering of the villagers assembled in Sainj village to protest against the distribution of the compensation. Those who had accepted the compensation also joined the agitation and demanded that there should be an alternative source of supplementing their income. Though a few villagers had conditionally accepted the compensation, they said that they would not vacate their land and houses till they were given more money and alternative employment. (THE TRIBUNE 280205, 170305, 190305 Hindustan Times 300405 *Dainik Bhaskar* 010505, 020505)

High costs forces scrapping of Bav HEP NHPC has officially decided to shelve its 38 MW Bav I and II HEPs at Ratnagiri in Maharashtra. The decision came after NHPC failed to sign PPA with some of the beneficiary states as the states found its rates high. The NHPC had initially planned to set up the 50 MW Bav II HEP, which was found unviable in the feasibility reports due to the high tariff. Later, NHPC submitted another revised bid, where it scaled down the generation capacity to 20 MW. This was ascertained commercially viable by the CEA earlier last year. The idea was to commission Bav II, which would be followed by 18 MW HEP Bav I. (BUSINESS STANDARD 140205)

Employees not to allow NHPC to take over The Joint Action Committee of the employees of the Ranjit Sagar dam declared that the employees would not allow the NHPC to take over the Shahpur Kandi HEP. Recently the Govt of Punjab signed a MoU with the NHPC in which the latter has been appointed as consultants for the long-pending Shahpur Kandi project. The employees alleged that no private company was ready to take over the project at a cost less than Rs 20 B. However, the employees and management of the dam were ready to give an undertaking that they would complete the work within four years in less than Rs 10 B provided the timely funds were provided. About 50% of the material needed for the dam was lying unutilised at the dam site. Moreover, the govt was paying salary to about 10000 employees without getting any work from them. (THE TRIBUNE 030205)

Dul's fate still hanging in balance Though Rs 36 B so far has been spent on 390 MW Dul HEP in Kishtwar on river Chenab, its commissioning is nowhere in sight even after the lapse of 22 years. Shifting of project from one company to another and some technical problems are said to be the main reasons behind the delay. As per original estimates, the project was to cost Rs 2 B and it was to be completed in five years. During the first five years, only Rs 420 M were spent by the NHPC and it could not reach even the take off stage. NHPC later handed over the execution to the French Consortium. As per the agreement, the company was to complete the task in 57 months, starting from June 1989 at the cost of Rs 12.63 B, but as per Govt version due to some technical difficulties in the tunnel boring, the French Consortium suspended the task in 1992. The disappearance of the two engineers forced the management of the company to halt to the work. Till Jan 1997, the French company was paid Rs 9.68 B instead of imposing any penalty for leaving the contract half way. Later, the work was handed over to J P Industries. The boring of tunnel also created lot of problems. It was later sorted out with the assistance of geological experts. The work kept moving at snails pace and there seems no hope of its completion this year. The project will cost around Rs 94.9 M per MW. (Daily Excelsior 310205)

BBME HEPs generates less power The Tribune newspaper reported on Feb 12, 2005 that 990 MW Dehar powerhouse is not generating electricity for more than 14 hours a day due to the acute shortage of water. The Beas has been diverted from Pandoh and after using the water in the powerhouse it ultimately flows in to Sutlej. The water shortage is so acute it is not even sufficient to run a generator. About 2200 cusec of water is required but at present the inflow of water is 1646 cusec. For the past two months the inflow has been between 1500-1750 cusec. Anandpur Sahib, Ganguwal and Kotla HEPs of BBMB are also generating less power due to reduction in flow in Sutlej and Beas and low water level in Bhakra reservoir. Bhakra level was 1532.94 ft on Feb 10, '05, which is much lower compared to 1584.1 ft a year ago.

➤ When SANDRP went a little deeper into the issue it found that in fact in five months from Dec 2004 to April 2005 (see tables below for the figures), Dehar HEP produced more power than the respective months a year back. This was contrary to the situation with respect to other HEPs of BBMB, namely Bhakra, Ganguwal, Kotla and Pong HEPs, for all the five months in 2004-5, the power generation was *lower* than that a year back. In fact the power generation was very low at Pong compared the previous year. All this raises suspicion that contrary to the Tribune report, Dehar was generating more power, possibly at the expense of Pong and no water was allowed downstream?

Power Generation at BBMB stations in 2003-04

HEP (MW capacity)	Dec '03	Jan '04	Feb '04	Mar '04	Apr '04	MU
Bhakra (1250)	474	413	352	386	246	
Ganguwal (77.5)	54	58	58	53	46	
Kotla (77.5)	38	38	36	54	44	
Dehar (990)	101	90	104	149	187	
Pong (360)	89	120	78	146	73	
TOTAL (2755)	756	719	628	788	596	

Power Generation at BBMB stations in 2004-05

HEP (MW capacity)	Dec '04	Jan '05	Feb '05	Mar '05	Apr '05	MU
Bhakra	270	240.39	156.74	193.81	247.91	
Ganguwal	38.54	38.29	34.83	38.66	39.23	
Kotla	37.67	42.93	34.20	37.83	4.06	
Dehar	105.18	94.74	128.97	294.87	311.73	
Pong	107.21	79.73	26.15	7.23	61.81	
TOTAL	558.6	496.08	380.89	572.40	701.2	

➤ **Beas dried up, PIL filed** The BBMB is not releasing water from Pandoh dam due to which the Beas has completely dried up to 18 km. The local residents have been demanding the release of at least 25% water from Pandoh dam. A Mandi based organisation has filed PIL in HP High Court in this regard. (Dainik Bhaskar 110205 THE TRIBUNE 120205)

R&M The BBMB has initiated R&M of its plants. The BBMB powerhouses at Bhakra, Dehar, Pong, Ganguwal and Kotla have an installed capacity of 2866.3 MW and generate around 10-14 BU annually. The Bhakra Right Bank Powerhouse (5x120 MW) was commissioned during 1966-68. Detailed technical studies in 1978-79 established that the hydrology/design margins were adequate for 10% upration. Each machine was uprated to 132 MW in 1980, enhancing the capacity of the station 60 MW. The Bhakra Left Bank Powerhouse (5x90 MW) was commissioned during 1960-61. Some serious faults were experienced during the first 20 years of operation of the machines. During 1981-85 machines were uprated to 108 MW each from 90 MW. The Pong Powerhouse (6x60 MW) project was commissioned during 1978-83. The existing turbines and generators had capacity margins of 28% and 10% respectively. The active power increased by 36 MW; the reactive power also increased from 102 MVAR (17x6) to 192 MVAR (32x6). (POWER LINE 0305)

J&K HEPs The Chief Minister has said that the Govt would prevent cost escalation of HEPs. He emphasised a mechanism to make executive agencies 'bound by the time schedule' and thus avoid cost overruns. The policy should have incentives for agencies that complete projects within the stipulated time and penalty clause for the defaulting companies. He also directed the early completion of Machil Power project, ordering a release of Rs 50 M for it. The meeting decided to take steps for early execution of three HEPs – 93.5 MW Ganderbal HEP; 37.5 MW Parni HEP; and 50 MW Lower Kalnai HEP – and expedite detail study of the 240 MW Kirthai power project and 117 MW Ujh multipurpose project. A committee was constituted under the economic advisor to the State Govt to look in to the restructuring of the PDC and for exploring establishment of a special purpose vehicle for the 600 MW Sawalkote HEP. The Board also approved Rs 1.5 B for Baglihar HEP I & II.

➤ The Indian govt is planning 3 more HEPs and has approved funds for the Kishanganga HEP in J&K. The new projects are the Uri-II on the Jhelum River in Baramulla district, and Pakal Dul and Bursar, both on the Marusundar, a tributary of the Chenab River in Kishtwar tehsil in Doda district. The govt has allocated Rs 162.68 B for J&K power sector in addition to Rs 240 B reserved from the PM's plan. The Union Ministry of Power has already approved these projects and work will begin after approval from the Public Investment Board and the cabinet. Pakistan and India have failed to resolve the controversy surrounding the Baglihar dam. The ministry has reserved Rs 17.78 B for the Uri-II, Rs 66.32 B for 330 MW Kishanganga, Rs 34.8 B for 1 000 MW Pakul Dul and Rs 43.78 for the 1020 MW Bursar dam. The Bursar dam will have a height of 252 m, more than the height of the Baglihar dam. The Pakul Dul dam will be 77 m from the ground. (BUSINESS LINE 190205, Daily Times-Pakistan 200205, POWER LINE March 05)

HP

Larji HEP: Why is HPSEB afraid to probe?

The Himachal Pradesh State Electricity Regulatory Commission has ordered an independent probe to ascertain the reasons for the exorbitant cost of the Larji HEP and fixing responsibility for lapses that led to high cost. The cost of the 126 MW HEP increased from Rs 6.87 B to Rs 12.2 B, making it one of the costliest HEP. A two member expert committee comprising Mr R N Aggarwal, a former chairman of the BBMB and Mr C L Aggarwal, a former General Manager of the Thein Dam Project, will conduct the probe. The committee will go into project management, including planning, design and construction, and spell out the reasons for the abnormal cost and time overrun. It will also determine the reasonable cost and date of commissioning of the project and fix responsibility for delay in the completion as well as cost over run. The cost of generation comes to Rs 4.08 per unit as against Rs 2.38 per unit for the Nathpa Jhakri HEP constructed during the same period.

➤ **“A political project?”** The HPERC had earlier directed the HPSEB to carry out investigation in to the reasons for very high cost. The HPSEB, instead of setting up an independent commission, had asked the chief engineer of the project to file a report and had submitted its report to the HPERC. On Jan 7, 2005, HPERC rejected the report. Terming the inquiry by the HPSEB as more of justification report rather than an investigation report the Commission observed that there was no reason why an inquiry should not be held by an agency independent of the HPSEB. The Commission observed, “If it was a political project, which was unviable right at the planning stage, why did the HPSEB accept it”. It maintains that the generation tariff in excess of Rs 2.25- 2. 50 per unit would not be allowed for consumers. The board shifted the Chief Engineer and the new CE has sought the transfer of some officers but the management of SEB has not obliged.

➤ **“Catastrophic damages” feared** HPERC appointed enquiry committee have detected large-scale deviations and glaring shortcomings in the execution of the HEP in its interim report. The committees suspects that the project commissioning may be dangerous and has advised non destructive testing of all components of the civil works to avoid “catastrophic damages” and “disproportional” repair charges post-commissioning. The committee finds it impractical to complete the project by Sept '05.

➤ **CAG found irregularities** The CAG has unearthed serious financial irregularities in the HEP and pointed out about a dozen instances of overpayment, inadmissible and irregular payments to contractors.

➤ **Petition in HC** Afraid of the independent probe, the HPSEB filed a petition in the High Court, questioning the powers of HPERC to order an independent probe and praying for quashing of the probe. The HC has sent notices in this regard. (THE TRIBUNE 250904, 091204, 080105, 030305, 070305, 240305, 140405, 210405)

MEF Concern over env measures? The Ministry of Environment and Forest has expressed concern about poor and slow pace of implementation of Catchment Area Treatment Plans of various HEPs in Himachal Pradesh due to non-release of funds by State Govt. Various project authorities has deposited about Rs 623.3 M with the govt, but till date the govt has released only Rs 83.3 M to the Forest Dept and the CAT of various HEPs are suffering. The Govt has constituted project-level monitoring committees but these committees find that the funds are not released by the Finance Dept. (THE TRIBUNE 130305)

Kol Dam oustees seek job, land Out of 1085 oustee families of 800 MW Kol Dam, the NTPC has employed only one surveyor from Kasol village. The oustee families have demanded that the project authority should employ at least one member each from their family and give them "nautaur" land for cultivation. The HP CM has directed the forest dept to identify the land for Kasol and Bahaut oustees for rehabilitation. (THE TRIBUNE 280205)

Uttaranchal People oppose Loharinag-Pala, Tapovan-Vishnugad HEPs The people from the Loharinag-Pala (600 MW) and Tapovan-Vishnugad (520 MW) affected area in Uttaranchal said that the Environment Clearances given to the HEPs by the Ministry of Environment and Forests are flawed. Public hearing was held without giving proper information to the affected people. They contended that copies of the EIA, EMP and project related all the documents should be distributed at the village level in Hindi and should be made available to all those concerned and the public hearings should be held at least a month after that. On Oct 15, 2004, Matu Jan Sangathan with affected people served a legal notice to the Uttaranchal Pollution Board concerning Loharinag-Pala dam. On Oct 27 the Board replied that everything was according to law. Matu responded to the Board that the executive summary of EIA contained serious lacunae and defects. However, the subsequent environmental clearance, ignoring demands and concerns of people raise additional doubts about the HEPs. (MATU PR 100305)

NEWS FROM THE NARMADA VALLEY

Gujarat likely to recover misused SSP funds Gujarat is likely to recover from Madhya Pradesh the sum spent by MP on purposes other than R&R of Sardar Sarovar Project oustees. Gujarat Govt had sanctioned Rs 2.4 B in 2001-2 to MP to meet the additional cost of R&R of SSP oustees. But, this amount was allegedly used by the then Deputy Chief Minister for another work in his constituency Kasravad. Now that the Gujarat Govt has come to know of the misuse of funds, it is contemplating ways and means to recover the amount. Taking advantage of this amount, the then Minister for Narmada Valley Development and Chairman NVDA

diverted Rs 810 M to take up Kathora lift irrigation project on Narmada to benefit his kith and kin and by spending Rs 200 M to rebuild Borawa-Kasrawad road and Kasrawad-Badwani road. This amount of Rs 1.01 B was shown as spent on R&R of SSP oustees, though in this area, neither any village would come under submergence nor oustees of other areas would be benefited by irrigation projects and road.

➤ **Rs 7 B given to MP, Mah** The Gujarat CM has said that Gujarat has given over Rs 7 B to MP and Maharashtra in last two years for rehabilitating families affected by the SSP. "Over Rs 6.5 B has been given to MP and Rs 720 M to Maharashtra". (THE HINDUSTAN TIMES 240105, PTI PR 060305)

Tribals Dumped in Open in Maharashtra Sans Land, Houses at Javda

All the claims about just rehabilitation of the SSP affected families were once again exposed when the Nandurbar district administration dumped eleven tribal families displaced from Bharad village under open sky without even the sheds in the resettlement site of Javda, in Maharashtra. These families were affected when the dam height went up to 80 meters in 1994 and are yet to be provided cultivable land, house plots and resettlement village, despite the series of protests and subsequent assurances by the concerned Ministers, resolutions by the state Cabinet. Even after the repeated Supreme Court directions, protests and fasts in Nashik, Mumbai, Shahada and the formal cabinet decisions and GRs by the state govt, the Nandurbar district authorities have been delaying the just rehabilitation process. In 2004, the people resorted to Land-Right Satyagraha in April-May and in the monsoon of 2004 the people resorted to dharna in Shahada. Subsequently the affected families and officials jointly surveyed the land and had selected the Javda land. However, the Nandurbar officials did not purchase the land, despite the fact that many farmers were ready to sell their land and despite repeated demands by the affected people. Only in Oct 2004, after the Bharad and other villages on the banks of Narmada were again submerged in the monsoon of 2004, the land was purchased. But despite the two full agricultural seasons have gone, there is still no sign of transferring that land to the families or preparing resettlement village, complete with the houses and amenities. The NCA had claimed on its website that all the resettlement in the SSP was complete. It had to pull out the announcement after the NBA had exposed the false claims. However, the Maharashtra administration claims that it had 'completed the resettlement of all Maharashtra oustees'. But about 2500 families in Maharashtra are in still the original villages on the Narmada banks in the submergence zone and remain to be resettled with cultivable land, houses and resettlement village with all amenities, as per the NWD Tribunal stipulations and the SC orders. (NBA PR 020205)

Important SC Order: Resettle Adult sons, no distinction about temporary submergence

The Supreme Court ordered in the Narmada Dam case that even temporary PAFs would be entitled to alternative cultivable land allotment. The order by a 3-judge Bench comprising Justice Y K Sabharwal, Justice K G Balakrishnan and Justice S B Sinha, would have a significant bearing on the rehabilitation measures being undertaken by Gujarat, Maharashtra and Madhya Pradesh before increasing the height of the dam. On a petition filed by the Narmada Bachao Andolan, the Court had earlier in Oct 2000 said that the height could be raised in phases up to 138 m after completing the rehabilitation measures. The present order on applications filed on behalf of PAFs from Pichodi and Jalsindhi in Madhya Pradesh would mean that the states would have to allot alternative land to those affected by the dam either permanently or temporarily. The Bench also held that each elder son of PAF would be entitled to separate land allotments at alternative sites in addition to the land allotted to the PAF. The Madhya Pradesh Govt has contended that nearly 5000 temporary PAFs were entitled for land allotments.

➤ The Gujarat Govt has said that the latest court directive would mean rehabilitating another 5000 - 8000 PAFs, mainly from MP, at an additional cost of at least Rs 9 B. Under the Tribunal, the rehabilitation cost has to be borne by Gujarat, even if the oustees are from MP or Maharashtra. Madhya Pradesh, Maharashtra and Gujarat recently submitted their action-taken reports on rehabilitation to get a Narmada Control Authority nod for raising the dam from 110 m to 121 m. SNNL officials say at 138.68 m, which is the full reservoir level, nearly 20,000 oustees were to be resettled. But with the new apex court decision, the number may go above 25,000. The NBA has claimed that there are still over 10 000 families living in the submergence area, affected under 110.64 m, the current height of the dam. In Aug 2004, the govt of MP claimed that 12,000 families were affected between 110 and 121 m. The balance are all still very much in the submergence area without rehabilitation, whose lives will be put at great risk if the dam height is raised to 121 m now. In addition to this, the number of PAFs is constantly increasing. MP recently claimed in a reply to MLA Dr Sunilam that the total number of PAFs in MP has increased from 33,000 to 40,000! This is certainly because hundreds of major sons are still unaccounted for in every village in MP.

➤ The Madhya Pradesh Govt in principle accepted to rehabilitate adult sons of families displaced. The State Govt has informed the Supreme Court that all those would be given land according to NWDT Award, who were adult as on date of publication of land acquisition notice. The State also accepted that the R&R work would be done *pari-pasu* with the raising of dam height according to SC order. (DANIK BHASKAR 160205, NBA PR 150305, THE HINDU 160305 THE TIMES OF INDIA 230305)

“SSP R&R still a challenge” A member of World Bank’s authorised independent review of SSP, anthropologist *Hugh Brody* visited the Narmada Valley after 14 years. After visiting the area he found serious problems and stated that Resettlement policy implementation continuous to be a huge challenge in SSP. He explained the findings of that committee, which found the WB approach flawed. He said’ “We had access to all bank documents and personnel. The govts, the NBA and Arch Vahini, the organisation which agreed to support the project after 1988, all let us in. We found serious flaws in both resettlement and environment aspects. From 1988, Gujarat had come up with very progressive resettlement policy. But could it be implemented, given the political atmosphere and institutional capacity? Proper resettlement depended on Maharashtra and MP adopting the policy. Tens of thousands of people were at risk, especially in MP. 70 % of the project cost was on 75000 km of canals. We calculated that at least 140000 landowners would be affected. Gujarat was offering a pretty rough and ready cash compensation device for them. In addition, there had been few, if any downstream studies. They were transforming the river. We reckoned that up to 40000 families could be seriously affected. This was a big lacuna. Gujarat had also come up with the idea of the Shoolpaneshwar sanctuary adjacent to the dam. There, it looked like 40, then 90, villages were going to be evicted.” (THE TIMES OF INDIA 210205)

Facing submergence without R&R According to a report by Indian People’s Tribunal on Environment & Human Rights, gross violation of human rights and non-compliance in the rehabilitation of families affected by the SSP in Gujarat is going on. It has asked the Centre to set up a Commission to look in to all issues related to displacement before going ahead with the raising of the height of the dam. The report suggested that the commission should verify that proper rehabilitation is done in compliance with the Supreme Court orders. The Tribunal in its report – titled ‘Narmada – Inquiry in to displacement, resettlement and rehabilitation of People affected by the SSP, 2004 - warned a grim situation was ahead as the indigenous people had not been rehabilitated. The Govt had violated its pledge to ensure complete rehabilitation of the people affected. The report said the dam currently at 110 m, is a violation of both the Narmada Water Dispute Tribunal Award of 1979 as well as the Supreme Court judgement of 2000. (THE HINDU 090205)

Cash compensation suspended? The Union Water Resources Minister claimed that he had ordered the suspension of cash compensation to the persons displaced by the SSP. He said the he would visit the rehabilitation sites. This was said after a recent meeting with the NBA delegation. The decision is forced by a recent SC order that even those temporarily affected would be entitled to R&R. (THE HINDU 220305)

NBA dharna in Bhopal The NBA held a demonstration in Bhopal to mark the "International Day of Action against Dams and for Water and Life". NBA would focus on the demand that the height of the SSP should not be raised beyond the present height of 110 m.

➤ **Delhi** Hundreds of People affected by SSP and Mumbai slum displaced staged dharna in Delhi and demanded to provide shelter to all the displaced. No authorities are thinking about these affected people. A representative also met from Union Minister for Social Justice Ms Meera Kumar and demanded to rehabilitate the 12000 families affected at the current height. They also requested her to visit Narmada Valley to know the real situation. (THE HINDU 150305, AMAR UJALA 180305)

Complaint against former Dam official A criminal complaint was lodged against an Assistant Commissioner of Land Cell in SS Narmada Nigam Ltd by his successor in the same post with Savli police. In his complaint, AC Dilip Patel has accused his predecessor Ashok Kumar of selling close to 0.2 M Ha of land illegally to a builder in Vadodara by forging documents. The land belonging to SSNNL near Indral village of Savli taluka was not meant to be sold in the first place. The other accused are Sanjay Joshi, an SSNNL employee, builder Viral Ajmera of Vadodara and his accomplices. The land was sold in parts from Dec 26 '99 to July 8 '03. (THE INDIAN EXPRESS 110205)

No early redemption of SSNNL bonds Delhi High Court ruled that the Deep Discount Bond holders of SSNNL could file a fresh petition if SSNNL makes any fresh move to redeem the DDBs early. Over 0.45 M investors have invested their money in these bonds. While SSNNL had issued an early redemption notice in April 2004, it has not pursued the issue since. The move became controversial, as the offer document did not have any such provision. The Gujarat HC has given a similar ruling earlier. (THE FINANCIAL EXPRESS 110205)

PFC loan for SSP The Power Finance Corp has sanctioned a loan of Rs 10.01 B at 7.25 % interest for the 6 units of River Bed Power House and for the command area of SSP. (projectsmonitor.com 160205)

NSP Move to deny relief to oustees The NBA has alleged that the Madhya Pradesh Govt and the National Hydro Development Corp have decided to circumvent the payment of compensation to the residents of 37 villages of Khandawa, Dewas and Harda districts even though their properties are facing submergence by June '05. NBA said that MP has accepted a proposal by the NHDC not to formally acquire the properties of the Indira Sagar Dam oustees of 37 villages but to keep approximately Rs 1 B in a bank account and use its interest for payment of damages, whenever necessary. The NBA pointed out that the MoU signed by MP and NHPC for forming the NHDC states in clause VI (a): "the joint venture would comply with the provisions of

the Narmada Water Dispute Tribunal Award and the directions of the Narmada Control Authority, its various subgroups and the review committee of the NCA". The MoU further states: "the joint venture would comply with the conditionalities imposed by the Planning Commission/ Ministry of Environment & Forest/ Ministry of Social Justice in respect to clearance issued to the project. (THE TRIBUNE 280205)

Aqueduct collapses The under construction slab of Cauvery aqueduct at canal in the ongoing Narmada Sagar Project collapsed on Jan 28, '05. The slab was being constructed at main canal ME-6 of RD 24608 and this aqueduct had to be used as a bridge too. The authority passed the responsibility on to the builder. Earlier the cost of this aqueduct was estimated at Rs 40 M, but later it was raised and extra payment to the builders is alleged. (DANIK BHASKAR 020205)

Man project CWC should examine design Narmada Valley Development Authority Dam Safety Panel has suggested that the CWC should examine design of Man project for correction of faults found therein. The dam has been completed up to crest level and the road bridge has also been completed. At present, 9 radial gates of 12m X 12m size are being installed. According to NVDA sources, of the radial gates, there is a problem in vent number eight (in between pier 11 & 12), because the vent opening available is 11.715 m in place of 12 m as stipulated. Similarly, there is problem in size of stop log gate. (THE HINDUSTANTIMES 080305)

Maheshwar CAG indicts PFC The CAG, in its report for 2002-03, has indicted the Power Finance Corp for irregular disbursement of loans amounting to nearly Rs 1 B to Shree Maheshwar Hydel Power Corp Ltd, promoted by S Kumars. The company was declared defaulter by the MP State Industrial Development Corp for diverting public money to the tune of Rs 2 B for proposes other than earmarked. (THE TRIBUNE 070305)

NBA opposes MP move The Narmada Bachao Andolan has described as illegal the Madhya Pradesh's move to restart the work on Maheshwar HEP since the project site had been attached by the MPSIDC in 2002. The NBA demanded that MP immediate steps to recover this public money and scrap the high cost and destructive project. Within a decade of privatisation of the project, it's the proposed outlay went up five fold from Rs 4.65 B to Rs 22.33 B. The project would submerge homes and irrigated agricultural lands of over 50000 farmers, fishermen and boat people in 61 villages in the fertile Narmada Valley.

➤ **Rally demand to scrap Maheshwar** The people from Narmada Valley held a huge rally at Mandaleshwar and urged the Govt to scrap Maheshwar HEP. The NBA rally was attended by about 10000 persons from the villages affected by MHP, Upper Beda, ISP, Man and SSP. (THE HINDU 070305, DANIK BHASKAR 240305, THE TRIBUNE 250305)

NHPC DROWNS PEOPLE

Officials responsible be booked for criminal offence and culpable homicide

While hundreds of families in Dewas and around mourn the death of their dear ones swept away by the sudden discharge of the Indira Sagar Dam in Dharaji village of Madhya Pradesh on April 7, 2005, the NHDC (National Hydroelectric Development Corp) officials and the MP Govt are keen to cover up this criminal act by ordering a probe and increasing compensation for the dead. Most recent reports indicate that 65 are confirmed dead and more than 60 missing or feared dead.

The sudden discharge of dam waters by the NHDC on the evening of April 7, 2005 without proper warning when thousands of pilgrims were taking their holy bath is a criminal offence and the blame game played between NHPC officials and the State Government of Madhya Pradesh over the lack of information of the local situation cannot condone this criminal act. The enquiry instituted by the state government is clearly not credible as it is being headed by an officer of the state govt when state govt is also a partner in the project and is responsible in other senses.

As for the NHPC (National Hydroelectric Power Corporation), which is a joint venture partner in Indira Sagar Project, the tragedy of Dharaji is not a singular or only instance where such mishaps have occurred.

➤ On December 12, 1993 when the labourers were doing some preparatory work on a Sunday, without any supervision either by the contractor or by NHPC's Engineers, entire length of the second span of the bridge across river Siul at Chamera HEP, which was under erection collapsed into the river below. The accident resulted in death of 16 labourers and injuries to 5 others.

➤ Two labourers were buried alive and two others were seriously wounded in a landslide at Chaura village on the bank of Chamera reservoir on 1st August 2003.

➤ In Chamera II HEP, 500 metres stretch of the coffer dam at Bagga village in Chamba district in Himachal Pradesh was washed away by sudden rise in water level of Ravi River after heavy rains in catchment area.

➤ About 40 persons were killed in flash floods due to cloudburst at Parbati HEP under construction at Shilaghat in Gursa area of Kullu sub-division of Himachal Pradesh in July 2003.

➤ In May 1991, 10 transmission towers of Chamera 1 HEP in HP valued at Rs 12 million collapsed.

The negligence of NHPC has also resulted in losses to the tune of millions of rupees.

But, such a dismal track record, callous attitude in times of crisis, and unimpressive performance have not dithered the Central Government to engage NHPC in stepping up the hydro power production in the country

by sanctioning 23 projects with a generating capacity of another 21,000 MW in Uttaranchal, HP, Arunachal Pradesh, Narmada Valley, Sikkim & W Bengal.

It is amazing that NHPC is saying that they are not responsible of the consequences of the sudden release of water from the dams they operate. It is also unbelievable when they say they had no idea about the activities happening right in the downstream regions. This only shows that NHPC is not worthy of taking up the big hydro projects, all of which involve very large quantum of national resources and all of them pose risk to life and property for large number of people if the operators are not sensitive, responsive, knowledgeable and have a sense of transparency, accountability and participation. NHPC has none of it, it is clear.

In light of what has happened in Dharaji village in Dewas and NHPC's abysmal past record, we demand:

1. The NHPC officials responsible for the sudden discharge of water in Indira Sagar be immediately booked for criminal offence and culpable homicide.
2. A high level judicial or independent enquiry should be immediately conducted in to incident and also generally into the working and conduct of NHPC and punitive actions taken against officers responsible including the CMD for such mishaps.
3. No new project be entrusted to NHPC till the high level enquiry is completed and findings submitted and appropriate actions taken.

We also demand that NHPC should be taken out of the project. Else we may be inviting much bigger disasters in the days to come.

Centre for Organisation Research and Education (Manipur), Rural Volunteers Centre (Assam), (All Arunachal Pradesh Students' Union (Arunachal Pradesh) Manthan Adhyayan Kendra (Madhya Pradesh) NESPOL (W Bengal) Arunachal Citizens' Rights (Arunachal Pradesh) MATU (Uttaranchal) Delhi Forum (New Delhi) Citizens Concerned for Dams and Development (Manipur) People's Movement for Subansiri Valley (Assam) Academy for Mountain Environics (New Delhi) Subansiri Sangrashak Naari Sanstha (Assam) Subansiri Valley Indigenous People's Forum (Assam) (South Asia Network on Dams, Rivers and People (New Delhi) (Press Release 130405)

No lessons learnt from Enquiry committee report

The Enquiry committee headed by Arvind Joshi, MP's Principle Secretary, Water Resources has said that district collector or Superintendent of Policy cannot be fully held responsible for the Dharaji incident. It said nothing about the culpability of NHDC officials. It has held the district administration generally held responsible for the incident. Thus it is clear that the enquiry committee essentially was eyewash and what is required is a judicial probe. (The Hindustan Times, The Times of India, 050505)

SNIPPETS FROM Gujarat

CAG: SSP big cause for Gujarat's debt trap Gujarat Govt has admitted in the State Assembly that its total debt had reached Rs 564.38 B by Dec 2004. The report of CAG placed in the house castigated the state for "gradually getting in to a debt trap." Underlining how the state's loans are becoming "increasingly unsustainable" the report gives the instance of the SSNNL. "Loans availed by the Nigam totalled Rs 86.44 B in the form of deep discount bond, non convertible bonds and unsecured loans of Rs 28.7 B. Despite infusing funds of this magnitude, the project remained non-remunerative even after 14 years of its inception. The entire expenditure on SSP was being capitalised since its inception leading to huge excess capitalisation. During 2003, against the total receipt of Rs 140 M, the interest expense was Rs 7.14 B." (THE TIMES OF INDIA 220205)

SSP dues During the question hour in the Legislative Assembly in a written reply to a question CM gave the following figures about Gujarat's dues from SSP states.

Gujarat's demand from SSP states

Rs B

	Disputed	Undisputed	Total	Recovered during last year
MP	10.9534	0.9173	11.8707	4.4082
Maharashtra	5.1885	1.9855	7.174	0.6204
Rajasthan	1.856	0.4073	2.2633	3.3206
TOTAL	17.9979	3.3101	21.308	8.3492

(UNI 250205)

Rs 1.76 B blocked by Irrigation Dept Irrigation dept of Gujarat has got an investment of Rs 1.76 B blocked for last five years in 12 irrigation schemes of Saurashtra, by starting works on canals even when the survey and land acquisition was not carried out. On this investment, the govt faces a burden of Rs 291.2 M as interest charges. Due to delays irrigation benefits from these schemes couldn't materialise, says CAG in its report for 2002-03. CAG writes that during 1994-1998 govt approved 8 schemes - Bhadar II, Demi III, Dondi, Hanol, Sodvadar, Sarvo, Utavali and Wadi. The cost of these was Rs 2.049 B. During 1995-1998 govt gave approval for headworks estimated to cost Rs 1.113 B. These works were carried out at a cost of Rs 1.303 B till July '03. Due to non-acquisition of land, the canal works at Bhavnagar, Amreli and Rajkot districts couldn't start. NABARD gave loan of Rs 578.6 M for these, but due to non-completion of canals, the schemes faced an interest burden of Rs 198.2 M and the expenditure of Rs 1.303 B remained blocked as no benefits could accrue. Four other schemes - Botwa-Kharo, Limdi-Bhogavo II, Fofal II, and Und II - got approval during 1996-1998 with an estimated cost of Rs 646.3 M. The headworks for the schemes were completed at the cost of Rs 458.9 M. NABARD gave loan of Rs 438.3 M for these schemes. (Gujarat Samachar 230205)

ISSUES ABOUT RIVERS

Ganga Basin The Ganga basin is spread over 1 093 400 sq km & 4 countries. Over 2500 km this river meanders, flowing through the lives of over 500 M people. Four large tributaries (Mahakali, Karnali, Gandak and Kosi) and five medium rivers (Babai, West Rapti, Bagmati, Kamala and Kankai) contribute 47% of total water flow reaching Farakka. They provide 75% of the water flow during the lean months.

Distribution of Ganga basin

Country	%
Tibet/ China	4.00
Nepal	13.00
India	79.00
Bangladesh	4.00

Catchment of Ganga in India

State	%
UP + Uttaranchal	34.2
Bihar + Jharkhand	16.70
Punjab + Haryana	4.00
Himachal Pradesh	0.50
Delhi	0.20
West Bengal	8.30
Madhya Pradesh	23.10
Rajasthan	13.00

Water availability in Ganga Basin

Country	Bangladesh	India	Nepal
Freshwater availability-BCM	Total	218	671
	Surface	197	500
	Underground	21	171
Basin population, 2001 (M)	37	440	23
Water availability-m ³ /person/ annum	5892	1525	10000

(Disputes Over The Ganga by Panos-South Asia, Down to earth 150205)

A River disappears in Rajasthan According to a study by Vikas Adhyayan Sansthan, the second largest river of the state Luni, the only river of west Rajasthan, has almost disappeared. Originating from Pushkar, some times it was called lifeline of west Rajasthan. The study went to the area every six months and found that despite normal precipitation, the rainwater could not enter the Luni River. (DANIK BHASKAR 230105)

Rs 56 B Japan loan Japan has given a Rs 56 B loan for 8 projects, including Ganga Action Plan in UP (Rs 4.66 B), Bangalore Water Supply (17.5 B) & Rajasthan minor irrigation (4.81 B). Japan has prepared a plan to clean Ganga from Gangotri to Gangasagar. (BUSINESS LINE 300305)

Fund for river conservation The Union Environment & Forest Minister has said that India might require Rs 80 B during the 10th Five-Year Plan for river and Lake Conservation. This would be in addition to the Rs 16.37 B sanctioned for the Plan period for these projects. (THE INDIAN EXPRESS 180205)

Farmers, NTPC dispute over water Absence of proper mechanism to ensure fair sharing of water of the Achancoil river in the upper Kuttanad area in Alappuzha dist has led to a conflict between paddy farmers and the Rajiv Gandhi Combined cycle Power Project of NTPC. The farmers alleged that NTPC had constructed the check dam without discussing with local people. NTPC pointed out that the check dam was built by the Water Resources Dept to provide water to NTPC as per the agreement. According to an agreement between the State Govt and NTPC, the former had to provide 59 cusecs water to NTPC a day, of which, 32 cusecs from the Achancoil and 27 cusecs from the Pampa Irrigation Project. (THE HINDU 140305)

POLLUTED RIVERS

Ganga According a report from an independent survey, an estimated 190 M litres of garbage, mainly plastic is released in to the Ganga every day in Patna alone. The survey said the coliform bacteria were also multiplying alarmingly. The coliform bacteria were found to be 16000-24000 mg per 100 litres of water when it should be below 5000 mg. Garbage, raw sewage, rotting carcasses, industrial effluents, fertilisers and pesticides flow in to the river for much of its 2500 km stretch from the Himalayan foothills to the Bay of Bengal.

➤ **UP HC** Concerned over the rising pollution in Ganga, Allahabad High Court has directed UP to file a report. (BUSINESS LINE 080105, SAHARA TIME 220105)

Yamuna: DJB to approach TWI The Delhi Jal Board is to urge Thames Water International, credited with restructuring the Thames, to lend its expertise in stopping sewage and other filth from polluting Yamuna. With increasing pressure from the SC to prevent sewage from flowing in to the river, and with its own sewage treatment strategy proven to be ineffectual, the DJB has decided to invite expertise from outside as well as to change its sewage management strategy. The new approach would be centred on a more localised and immediate treatment of sewage at the place of generation as well as managing drains. At present both treated and untreated sewage are getting mixed.

➤ **CAG exposes Haryana** A state CAG report has blamed Haryana for unabated discharge of sewage and wastewater from Faridabad and other towns, which ultimately enter Yamuna River. The report says the state has "completely failed" in implementing Yamuna Action Plan, which involved a Rs 2.322 B project mooted for the 12 towns to check pollution. The report also indicts the state's PCB for its failure to take steps against industrial units, which discharged untreated effluents in to the river. Three of STPs were located in Faridabad and it took the Govt over five years to set them up at a cost of Rs 512.7 M. The CAG says 50 - 65 MLD of sewage continues to go untreated in to the Yamuna. CAG observes that all three STPs receives less sewage, "never ran to their installed capacity", and

that the plants ran below their capacity due to the negligence of the officers concerned.

➤ **Delhi Panel** The Delhi Govt has appointed a high level panel headed by chief secretary S Raghunathan and includes officials from urban development, PWD, MCD, DJB, Flood & Irrigation, environment & related depts for a report on Yamuna. (THE TIMES OF INDIA 140105 THE INDIAN EXPRESS 070205, 250305)

The Hindon, Ghaziabad's sorrow The Hindon River has been recognised as the major factor for the brackish water and pollution in Ghaziabad (UP). The river water has been classified in E category by the Central PCB, which means 'Red indicator'. The Yamuna cannot be cleaned unless Hindon and its tributaries – Kali and Krishna – are cleaned. The 90 km long Hindon starts from Saharanpur. Krishna joins Hindon at Barnava, Kali merges in to Hindon 20-25 km upstream. Krishna and Kali are already polluted by the time they merge in to Hindon. Kali has nil dissolved oxygen. After passing from Saharanpur, Muzaffarnagar, Bagpat & Ghaziabad, Hindon merges with the Yamuna at Maviwara. Hindon is the most polluted in the Yamuna basin and it is among 39 polluted rivers of the country.

➤ The Hindon Jal Biradari and local organizations with the Rashtriya Jal Biradari have launched HINDON PRADUSHAN MUKTI ABHIYAN. Meetings & a five days foot march was organised on one side of Hindon in Nov '04. (Rashtriya Jal Biradari 140205, THE TRIBUNE 190205)

Polluted Arkavathy River The source of Arkavathy River is the Nadi hills, 60 km from Bangalore. Its source lies in the 26 feeder tanks that join Doddaballapur's Nagarkere tank. With its catchment area spread over 150 big and 1084 small tanks, river took care of the needs of at least a third of Bangalore's population. The river is as good as dead now. As if releasing chemical effluents in to the dry riverbed was not enough, powerful land-sharks have converted its once fertile bank in to eucalyptus groves. Doddaballapur, once a traditional hub of silk and horticulture, today houses 50000 power-looms, 80 dying units that use 0.24 m litres water. Effluents from dying units flow in the Nagarkere tank that supplies water to the town. The garment factories have contaminated surface water & ground water. Construction industry in Bangalore and other cities devours its sand. (TEHELKA 100305)

Sabarmati plan The Ahmedabad Municipal Corp has planned a Rs 12 B Sabarmati Riverfront Development Project, essentially a river beautification project with a strong commercial element. One of the components is laying interceptor sewers on the banks to divert sewage and effluents released by the 32 storm water outlets that pollute the river. Included is the Rehabilitation of 7000 families living in slums around the riverfront. The Central Govt had earlier scrapped grant under the National River Conservation Project, which stalled work for cleaning the river. (THE TIMES OF INDIA 060305)

WATER OPTIONS

Water structures in Merrut villages The Janhit Foundation has conducted a survey of the natural water resource structures of the 663 villages in Merrut district in 2003. The study *Panni Ghano Anmol* has presented a very gloomy picture of the water resource structures. Out of the 3062 ponds registered as per the revenue records, only 1944 are physically present today. Out of these in 1543 there is illegal encroachment. 715 ponds are dry. In 12% villages there were no ponds. (Janhit Foundation PR 140105)

Delhi Water bodies in HC The Delhi High Court has directed the Govt to identify 794 water bodies in the city, as contended by an NGO, Tapas, in a PIL. The PIL highlights the need to preserve water bodies in the Capital. So far, authorities have identified 623 water bodies. Now the court, which has appointed a committee for the task, wants the remaining 171 water bodies to be identified. In its affidavit, the Delhi Govt informed the Court that 103 water bodies were being maintained, 72 were in the process of getting administrative clearance and works was going on in 31 water bodies. The Court reminded the authorities that as per the Supreme Court ruling, no water body can be destroyed. (THE INDIAN EXPRESS 030305)

Rs 5 B MP ponds plan The Madhya Pradesh Govt will prepare a master plan for protection and conservation of 18 ponds of Bhopal, including the upper and lower lakes, with an investment of Rs 5 B. Works like cleaning of ponds would be undertaken under the plan. The State and the Centre would share 15 and 20 % of the financial burden, while rest would be provided by the agencies and the plan would be implemented within 5-7 years of its inception. (BUSINESS LINE 250305)

Haryana watershed project The Watershed Summit was organised by the World Bank funded Integrated Watershed Development Project (IWDP-Hills II) in Nov 2004. In its life span of fourteen years, IWDP has treated 74 656 Ha of ecologically degraded undulating terrain in the Shivalik foothills in Haryana. The \$39.52 M received from the WB has been spent on works in 629 villages in three district— Panchkula, Ambala and Yamunanagar. The project will formally come to close in March 2005. (BLUESHEET from Janhit Foundation Jan-Feb 2005)

RWH mandatory in Bangalore The Bangalore City Corp has made rain water harvesting mandatory for all buildings in the city from June 6. The norm had recently been added to the bylaws and all buildings including residences need to install RWH systems to conserve water and recharge groundwater. According to new provision, every building with a plinth area of over 100 sq m, built on a site measuring not less than 200 sq m must have one or more RWH structures of a specified capacity. The Owner of such building should ensure

maintenance otherwise BCC may impose fine as per the bylaws. (THE NEW INDIAN EXPRESS 230205)

Anicuts on Chhatisgarh Rivers The Chhattisgarh Govt has planned a scheme to build 190 anicuts. These anicuts will be built on 13 rivers including Mahanadi, Indravati, Sheonath, Kharoon and Arpa. On completing these structures, 0.2 M ha would be irrigated. The CM directed the officials to prepare DPR for the scheme. The estimated cost of the project is Rs 7.23 B. According to data from state Water Resources Dept, total annual precipitation is about 41000 MCM, in which only 7800 MCM is conserved. (DANIK BHASKAR 160305)

POWER OPTIONS

Small Hydro HP Himurja, the nodal agency for promoting non-conventional energy sources is promoting the micro hydel projects in Himachal Pradesh. So far, 235 projects with an aggregate capacity of 471.59 MW have been assigned to the private sector through MoU route. Detailed reports for 148 projects have been received and appraised. Techno-economic clearance has been accorded to 79 projects by the SEB and implementation agreements for 64 projects with an aggregate capacity of 186.75 MW have been signed. The implementation work of 6 projects with an aggregate capacity of 18.5 MW has started.

HIMURJA has proposed to undertake:

NAME	MW	DIST	RIVER	COST RS M, 2003 PRICES
Shikdi	1	Shimla	Shikdi Nallah (Pabbar river)	66.75
Shatul	5	Shimla	Shatul khad	307.3
Shaung	3	Kinnaur	Shaung Khad (Baspa river)	154.897
Uhl	4	Mandi	Uhl khad (Beas river)	208.1
Jigrai	3	Kulu	Jigrai Nala, Parbati river	179.9
Chahyot	3.5	Mandi	Juni Nalla	224.9
Uhl II	5	Mandi	Uhl stream	230.8
Awa	5	Kangra	Awa khad	291.7 (2004 prices)

➤ The Jigrai HEP powerhouse is located on the Right Bank of Jigrai Nala, utilising a gross head of 236.45 m. (THE TRIBUNE 070105, 120105, 180105, 070205, 100205, 010305, 040305 BUSINESS LINE 070205)

Arunachal Micro HEPs The 30 KW capacity Dudunghar micro HEP at Dadunghar in Twang district was inaugurated by Arunachal Pradesh power Minister. The funds provided under the Border Area Development Project were used for this. The minister assured to sanction 30 KW Dadunghar II to meet the requirement of the entire Dudunghar circle under Twang district. (Daily Excelsior 190105)

State-wise SHPs (upto25 MW) as on Feb 28, 2005

SN	State	In operation		under implementation	
		Nos.	Capacity (MW)	Nos	Capacity (MW)
1.	Andhra Pradesh	57	178.81	5	7.30
2.	Arunachal Pradesh	57	33.80	55	51.87
3.	Assam	3	2.11	8	51.00
4.	Bihar	5	45.90	9	14.00
5.	Chhattisgarh	4	13.50	1	5.50
6.	Goa	1	0.05	-	-
7.	Gujarat	2	7.00	-	-
8.	Haryana	5	62.70	-	-
9.	Himachal Pradesh	50	108.08	8	52.75
10.	J&K	29	105.24	7	10.31
11.	Jharkhand	6	4.05	8	34.85
12.	Karnataka	49	276.78	7	14.00
13.	Kerala	14	84.62	6	60.40
14.	Madhya Pradesh	8	41.16	3	24.20
15.	Maharashtra	27	207.08	4	15.25
16.	Manipur	8	5.45	3	2.75
17.	Meghalaya	3	30.71	9	3.28
18.	Mizoram	16	14.76	3	15.50
19.	Nagaland	8	20.47	6	12.40
20.	Orissa	6	7.30	7	40.97
21.	Punjab	23	111.40	4	5.75
22.	Rajasthan	10	23.85	-	-
23.	Sikkim	12	35.60	5	15.20
24.	Tamil Nadu	12	77.70	1	6.60
25.	Tripura	3	16.01	-	-
26.	Uttar Pradesh	8	21.50	1	3.60
27.	Uttaranchal	75	72.45	38	26.01
28.	West Bengal	20	92.26	7	5.80
29.	A&N Islands	1	5.25	-	-
Total :		522	1,705.59	205	479.30

SHP Projects for Electrification of Remote Villages

State	Projects already set up			Projects under implementation		
	No.	Capacity (KW)	Villagers electrified	No	Capacity (KW)	Villages to be electrified
ArP	6	320	12	33	1375	75
Bihar	5	50	5	-	-	-
HP	16	240	18	1	50	1
J&K	5	25	5	-	-	-
Uttaranchal	29	1792	59	13	840	68
W Bengal	5	50	5	4	200	12
Total	66	2477	104	51	2465	156

Potential in top 10 states with policies for private participation

State	Sites	Potential	Achievement
HP	323	1624	108.80
Uttaranchal	354	1478	72.45
J&K	201	1207	105.24
Karnataka	230	652	276.78
Maharashtra	234	600	207.08
Kerala	198	466	84.62
Tamil Nadu	147	338	77.70
MP	85	336	41.16
UP	211	267	21.50
AP	286	254	178.81

The estimated potential of SHPs is about 15000 MW. MNES has created a database of potential sites for SHPs and 4096 such sites with an aggregate capacity of 10071 MW have also been identified. Capacity

addition through SHPs over the next 15 years is pegged at 2000 MW. Of the total hydro capacity, small hydro will contribute nearly 10% by 2012. (PIB 110305, BUSINESS STANDARD 150305, POWER LINE 0305)

1500 HEPs to be set up in J&K The Governor of Jammu & Kashmir announced that 1500 upgraded Micro HEPs would be set up. Over 300 mini HEPs have been upgraded and work on the remaining HEPs would start this year. He said the mini HEPs would electrify all border villages in a phased manner. The Army has upgraded a micro HEP at Samundrani village in Tikri at a cost of Rs 0.25 M to enable it to generate 3 - 5 KW. The unit can also perform functions like flour grinding, cotton combing etc.

➤ **Doda** Minister for Power said that 18 mini HEPs are under the active consideration and tenders will be invited after completion of survey and arrival of feasibility report. He disclosed that Ritu, Sigdi, Apan, Kultgadh and Begwa HEPs with 8.5 MW capacity, Naigadh having 6 MW capacity, Dunandi 7 MW, Dachhan, Kair, Tatapani, Naithi and Nanath are the HEPs with 2 MW capacity under consideration. Afti Bismah, Margam, Attalgarh, Mohumangat, Nachia and Pogalgarh are the other HEPs. Besides, some HEPs on Nallah of Bhalessa, Neru, Sarthal, Kuligadh, Reggi, Khari and Pogal will also been identified. (THE TRIBUNE 040205, Daily Excelsior 160305)

Maharashtra The Govt as invited tenders for private sector participation in development the following SHPs.

SN	Project	Inst Capacity -MW	Place	Dist
1	Gunjawani	2	Velhe	Pune
2	Urmodi	3	Satara	Satara
3	Gaibi	3.2	Radhanagari	Kolhapur
4	Ambai	3.5	Radhanagri	Kolhapur
5	Andra	1.2	Malwa	Pune
6	Kanher LBC	1.2	Satara	Satara
7	Nira- Devghar	7	Bhor	Pune
8	Hetwane	2	Pen	Raigarh
9	Deoghar	1.5	Kankawali	Sindhudurga
10	Patgaon	5	Bhudargad	Kolhapur
11	Kasari	2.5	Sahuwadi	Kolhapur
12	Kadavi	1.5	Sahuwadi	Kolhapur
13	Jangamhatti	0.5	Chandgad	Kolhapur
14	Chitri	2	Ajra	Kolhapur
15	Kumbhi	2.5	Gaganbawda	Kolhapur
16	Tulsi	1.6	Radhanagri	Kolhapur
17	Katepurna	0.35	Akola	Akola
18	Dhom Balakwadi	4	Wai	Satara

(INDIAN EXPRESS 280205)

Assam potential Assam has the potential to set up SHPs with capacity of 172 MW in 83 locations identified by the Assam State Electricity Board. The potential is available in two hill districts Karbi Anglong and NC hills. On enactment of the policy guidelines by the Govt, the possibility of induction of independent power producers along with other beneficiary societies will open up. The govt will provide incentives like subsidy on entry tax and single window clearance. (The Sentinel 030305)

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Keshubhai Patel in Rajyasabha (Upper House of Parliament) on April 20, 2005

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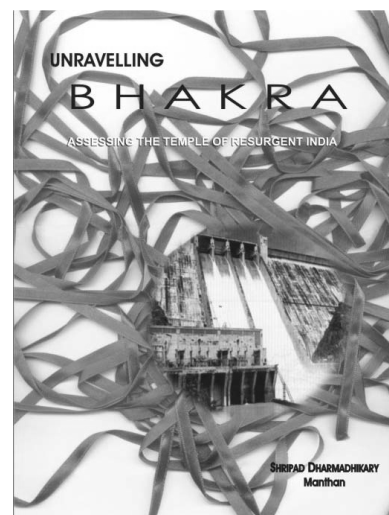
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About the Study

The Bhakra Nangal project has become a legend in India. It is accorded overwhelming, at times the sole credit for rescuing India from hunger and famine, for making India self-sufficient in foodgrains production, for making Punjab and Haryana highly prosperous and surplus states.

“यदि हमारे पास भाखड़ा-नांगल नहीं होता तो आज भी हम राशन की लाइन में खड़े होते। देश में बड़े बाँध बनें, भाखड़ा नांगल जैसे बाँध बनें और आज राशन की लाइनें कम हो गई हैं।”

Keshubhai Patel in Rajyasabha (Upper House of Parliament on April 20, 2005)

Forty years after it was completed, the project continues to be used as one of the main arguments in justifying new large dam projects in the country. Indeed, “What would be the situation without the Bhakra project?” is a question that it used less as a question than as an answer, as an argument, as a justification.

However, there have been few studies of the precise role played by the project. This study examines the reality behind these perceptions related to the Bhakra project. The study attempts to look at the broad developmental impacts of the project, in particular its impact and contribution to food security in the country.