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Dams, Rivers & People

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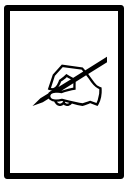
Lead Piece

Alternatives to the proposed Polavaram dam



The way Andhra Pradesh govt has gone about pushing Polavaram Project (also a river linking scheme) smacks of many things, except development. This clearly flies in the face of all the claims that India has learnt from past experiences and the mistakes of the past won't be repeated. The manner in AP and the Union Water Resources Ministry has pushed this project in fact reflects all the worse facets of dam building in India. There has been no proper appraisal of costs, benefits of impacts. Environment Ministry has given sanction without practically any scrutiny. There has been no proper EIA, no proper public hearing or public consultation, and most importantly, better options exist. This article *Venkat Naagesh* exposes all this.

The AP govt. has taken up the Polavaram project overriding all objections to minimize the displacement of more than 2,50,000 people mostly tribals and dalits and saving more than 1,19,000 acres of farm land mostly belonging to tribals. This project would only benefit the areas that are already developed for the last 150 years by destroying tribal areas that have made vast strides since the last 30 years and are rapidly developing. The project is basically robbing the tribes to give it to the rich and developed. The way in which the state govt. has taken up the project raises many suspicions about the govt.'s sincerity in taking up the project for irrigation or for the contractors?

The same benefits and more can be achieved in alternate ways that would shun the misery of more than 2,50,000 people by not submerging more than 1,19,000 acres, save more than Rs 10,000 crores of taxpayer money and also save priceless forests and not damage the environment. We deplore the manner used by the govt. of AP in taking up this project. The govt.'s actions have confirmed the views of many in the state that a "Politician – Contractor" nexus exists where corruption is rampant and estimates are raised just to benefit the contractors and politicians. The propaganda of the govt. has resulted in many people being called traitors just because they raised questions about lack of justification of such projects and about the corruption in the projects.

The Polavaram project envisages transfer of 85 TMC of water from the Godavari to the Krishna delta, thus freeing up Krishna water in the upstream to use in Telangana or Rayalaseema. The project was conceived since the 1940s and in 1980 the Godavari Water Disputes Tribunal allowed AP to construct the dam with an FRL of 45.72 m (150').[1] The AP govt. undertook surveys in 1984 and proposed alignments for the canals to take off at 40.23 m (135') and transfer water to the Budameru diversion channel into the Krishna whose capacity was designed for 12,000 cusecs. The AP govt. never started the project and after the 1986 floods the Ministry of Environment and Forests declined to give environmental clearance unless catchment area treatment was undertaken, as there was massive degradation occurring in the river catchment that would reduce the life of the dam significantly.[2] In 1996-97 the AP govt. updated the estimates of the project to reflect the 1995 schedule of rates and put the project cost at Rs 8198 crores.[3] The AP govt. decided not to take up the project in view of the limited benefits and the huge cost involved. The ratio of command area to submersible area is only 5:1.[4] Presently the cost has been put as Rs 16,500 crores ultimately the cost is likely to go over Rs 20,000 crores. After the severe droughts of 2001 & 2002 and the change in the state govt, the new regime has taken up this project

Continued on p 2

INDEX

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(Continued from p 1)

The present govt has made this project as its showpiece in the ongoing 'Jalayagnam'. But when taking up such a large project that has so many ramifications, the least the govt. could have done is to undertake a study to explore all alternatives and minimize displacement and avoid inter state problems. Instead of doing this, the govt has just reopened the old 1984 project report and decided to implement the project based on it. It has failed to see that since 1984, there have been so many demographic and social changes that have totally changed the effective landscape in the command and the submergence area.

The govt. had already taken up the Tadipudi and Puskharam lift irrigation schemes that are going to irrigate 400 000 acres of the total 720 000 acres of the Polavaram ayacut at a cost of Rs 900 crores.[5] What justification does the govt. have in spending over Rs 20,000 crores to irrigate the remaining 3.2 lakh acres and in the process submerging 119 000 acres of valuable farm land and displacing over 250 000 people in 3 districts? Work on the canals has already started despite a high court stay, and the intention of the govt. seems to be to justify the dam as the canals have already been built.

Environment Impact Assessment When the MEF gave site clearance on the Sept 19, '04, it clearly stipulated conditions that an EIA had to be given within 18 months after fresh undertaking of at least 1 year's data. It also stipulated that suggestions and views of the public should be incorporated in the EIA.[6] But the govt. had already given a notification for a public hearing on Sept 10, 05 and the EIA was produced for the public on the same day. According to the affidavit given by the state govt to the High Court of AP, the EIA was prepared by EPTRI, Hyderabad.[7] But actually it was prepared by the Agricultural Finance Corp, an entity that has no environmental experience whatsoever.

- "NO" Project Option or Alternate Sites not considered
- Impact on Ecology , People & Community not studied
- Impact on Wildlife and Habitat destruction not studied
- Environmental clearance given in only 2 days
- No public hearings conducted in Orissa & Chhattisgarh
- PH in Bhadrachalam done after public were evicted.

No extra benefits due to the project The command area of 2,95,000 ha (7,20,000 acres) comprises the semi-upland areas of Krishna, W Godavari, E Godavari and coastal areas of Visakhaptnam district. The command area of the right canal is about 90% irrigated by bore wells and is more valuable in terms of crop yields than the delta areas. The command area of the left canal is about 60% irrigated and is rapidly undergoing a change to industrialization due its proximity to the ports of Visakhapatnam and Kakinada. The EIA has shown the command area as backward which is totally inaccurate. With the advent of the tube well and a high groundwater table, the command area has totally transformed into the most agriculturally advanced region in the state. The govt. has shown these areas as dry land areas. These areas receive some of the highest rainfall in the state from both the monsoons.

The area that is going to be submerged in the reservoir is one of the finest and most fertile lands in the nation. The tribes that were previously into podu (shifting cultivation) have developed and today grow even cash crops. This area has made vast and rapid strides in all spheres of development.

Water logging, salinisation in Krishna, Godavari deltas The govt. has forgotten that the command area lies at the head of the Krishna and Godavari deltas, and any action would have its consequences on the deltas that have been the bread basket of the state for over 150 years. There has been no attempt by the govt. to study the effects this project would have on the deltas already having severe drainage problems. The existing drainage system of the delta has to cater to the additional water that would come due to the Polavaram project. The famous erstwhile engineer K Sriramakrishnaih had voiced his apprehensions about the project and the damage it would do to the delta.[8] About 4,00,000 acres in the Krishna and Godavari districts could lose their Kharif crop due to water logging.

In the last three years only 90-100 TMC water was used for irrigating 10-13.2 lakh acres in the Krishna delta. The average yield was 30-35 bags per acre compared to this year where there was extensive water logging and the yield was just 20 bags per acre.[9] In the deltas less water means more yield and more water means less yield.

The groundwater levels in the proposed command area vary from 0.7m-15m.[10] Already some areas are water logged in monsoon. Giving more water by canal irrigation in the monsoon would only add to the water logging problems causing a big reduction in the yields.

Cheating, misleading the centre and the public Work on the canals has started and the govt. has hugely increased the capacity to 17,500 cusecs[11] for both the canals from 12 500 and 8 250 cusecs[12] respectively that was furnished by the govt to the MEF in the EIA and also to the CWC. They have increased the bed widths of the canals to 85 m and 101.5 m from 68.5 m and 51.5 m for the Right and Left canals respectively. By drastically increasing the capacity of the canals, the govt is going to cause irreparable damage to the Krishna-Godavari deltas by water logging and flooding, as the drainage systems of the deltas are incapable of handling huge quantities of water.

All the drainage from the Right canal has to go through the Kolleru Lake and the Yenamadarru drain passing out through only one outlet into the sea. The capacity of the

Kolleru Lake to absorb flood waters has decreased drastically due to encroachments by fish tanks.[13] The additional 100 TMC of water due to the Polavaram Right canal will only aggravate the problem of flooding and water logging. The excess capacities of the canals are also causing land alienation for small farmers who are losing everything in the process of losing land to the canals. More than 60 000 acres of land would be needed for the canals. The canals seem to be navigation facilities rather than irrigation channels.

Ecological Impacts The reservoir would submerge over 8 900 acres of prime forests in the Papikonda wildlife sanctuary and 9 000 acres of reserve and protected forests in Chhattisgarh.[14] In addition it would also submerge some prime wildlife habitat of the tiger and gaur. The tribes would just undertake vertical migration up the hills and again resort to podu (shifting cultivation) that would severely denude the hills and rapidly silt up the reservoir.[15] More than half of the Papikonda sanctuary would be deforested impacting the environment very severely. More than 6 minor irrigation projects Kovvada, Bhupatipalem, Musurumilli, Surampalem, Yeleru and Jalleru have the Papikonda sanctuary as their main catchment area.

Safety of the Dam The proposed design of the dam was floated in the early 1970s and even K L Rao had expressed doubts about its design. The Godavari river is supposed to be diverted to the right after making a left turn through a 950 m spillway where the width of the river is about 2.5 km.[3] If the maximum flood of 36 lakh cusecs is released the level of the water downstream will reach 100' FSL that is only 50' from the full reservoir level. More than half the earthen dam would be submerged as there is no free flow like in rocky areas that would lead to undercutting of the front of the dam.

Backwater Effect In addition to this the govt. has not undertaken any proper backwater effect studies due to a reservoir. The hydrology studies were considered only up to 1975.[16] In the EIA report a flood of 36 lakh cusecs was shown to have a frequency of 500 years, but actually it occurred in 1953 and 1986 i.e. twice in 33 years. The backwater levels reached during the 1986 flood were actually more than levels claimed for a pond level of 130' when in Polavaram the level was only 100'. If a flood of that magnitude repeats what will be the safety of the dam when more than half of the dam foreshore will be submerged as there is no free flow like Nagarjunasagar?

(feet)

Levels for 36 lakh cusecs	1986 flood[17]	observed in 1976 model studies[18]
Polavaram	100	120
Konta	186	166
Bhadrachalam	183	180

As seen from the above table the govt. is claiming that there will be less submergence than during a flood. They conducted model studies for a flood of 36 lakh cusecs in the 1970s. But in 1986 when the big flood came then the levels were much higher than the levels claimed by the govt in model studies. So the models were proved wrong. Therefore with a reservoir the floods will be more frequent due to backwater effect and also more severe as was proved by the Almatti dam when a flood of just 5 lakh cusecs caused enormous submergence in Maharashtra submerging Sangli and Kolhapur.[19] For Polavaram the backwater will be much more and it would go all the way upto Eturnagaram and Bhadrachalam would be very frequently submerged.

Sedimentation The sedimentation rates of the reservoirs have been shown as 61.73 TMC in 50 years and 78.98 TMC in 100 years.[16] But in a report prepared by the NWDA the sedimentation was shown to be 130.72 TMC after 100 years.[20] The assumed rate of sedimentation of 595 m^3/ km^2/ year is much lower than the actual observed rates of sedimentation in Sriramsagar and Nizamsagar projects.[21] Except for the Indravati, the other sub tributaries Penganga, Wainganga and Pranahita carry a lot of silt as they flow through loose black soils. Even the Sabari brings enormous amounts of silt. As most of the live storage of the reservoir is behind the Papi gorge where the Godavari River takes a right turn, most of the live storage will be lost quicker than the dead storage. The reservoir will be very similar to Srisailam reservoir, which has lost its live capacity by 44 TMC from 308 TMC to 264 TMC within 21 years.[22] Despite having many reservoirs upstream of Srisailam serious sedimentation has occurred. In studies conducted by the NWDA, the flow of the Godavari at Polavaram is about 10 times more than the flow of the Krishna at Srisailam and also carries much more silt than the Krishna. If correct sedimentation rates are used, the Polavaram reservoir will lose most of its capacity in 50 years.

Reservoir (Year of impounding)	Actual Storage (TMC)	Capacity lost	
		(TMC)	%
Sriramsagar - 1970	112	28	25%
Nizamsagar - 1930	29.8	16.8	57%
Srisailam - 1983	308	44	14%

Duplication of Ayacut Most of the proposed ayacut of the Polavaram project is already being irrigated and proposed to be irrigated by various medium and minor irrigation projects. In addition to these projects the Tadipudi and Pushkaram LIS would cover most of the ayacut proposed to be covered by the Polavaram project. In addition to this rapid urbanization and industrialization are taking place due to the regions proximity to three ports and a major offshore gas find. More than 20,000 acres of land has already been acquired for the setting up of an ONGC refinery at Kakinada and a mega chemical complex at Visakhapatnam. The various schemes are as below:

Chagalnadu LIS:	35,000 Acres
Torrigedda pumping scheme:	23,000 Acres
Existing Yeleru Ayacut:	70,000 Acres
Irrigation by Tadipudi & Pushkaram:	
1,86,000 + 2,06,000 Acres =	3,92,000 Acres
Total existing Ayacut:	520 000 Acres
Proposed Irrigation by Polavaram:	720 000 Acres

As seen from the above the net ayacut for the Polavaram project would be 200 000 acres after the Tadipudi and Pushkaram LIS are finished. The only other uses of the project would be the diversion of 85 TMC of water to the Krishna delta during Kharif and the industrial needs of Visakhapatnam which can be supplied from the Yeleru reservoir during the Rabi as the reservoir was constructed for that specific purpose.

Duplication of ayacut The govt. is implementing the Tadipudi and Puskaram lift irrigation schemes to irrigate 3.92 lakh acres of the proposed 7.2 lakh acres total ayacut of Polavaram. The cost of these schemes is Rs 900 crores. The canals are proposed to be dug parallel to the Polavaram canals with an FSL of 3 m and a capacity of 1 500 cusecs as opposed to the FSL of 5 m for Polavaram canals and a capacity of 17,500 cusecs.[23] The irrigation dept has said that the canals will serve as distributaries to the Polavaram canals. How can the distributaries run parallel to the canal? Unnecessarily excavating two parallel canals instead of one is going to create more drainage problems, seepage problems damaging the lining of the Polavaram canals, and resulting in more wastage of valuable land and crop.

The govt has drastically increased the capacity of the canals to 17,500 cusecs for both the canals from 12,500 and 8250 cusecs respectively. They have increased the bed widths of the canals to 85 m and 101.5 m from 68.5 m and 51.5 m for the Right and Left canals respectively. The govt. is excavating the canals by full cutting instead of an embankment canal thus increasing the land required for depositing the spoils. Due to being full cutting canals it will be very difficult for the canals to command the ayacut area as the fall is very low about 1:20,000 in the ayacut area. By drastically increasing the capacity of the canals, the govt. is going to cause irreparable damage to the Krishna and Godavari deltas by water logging and flooding them, as the drainage systems for the deltas are incapable of handling such huge quantities of water.

Canal capacity & Cost

All the drainage from the Right canal has to go through the Kolleru Lake and the Yenamadarru drain passing out through only one outlet into the sea. The capacity of the Kolleru Lake to absorb flood waters has decreased drastically due to encroachments by fish tanks. The additional 100 TMC of water due to the Polavaram Right canal will only exacerbate the problem of flooding and water logging. The excess capacities of the canals are also causing land alienation in small farmers who are losing everything in the process of losing land to the canals. More than 60,000 acres of land would be needed for the canals. The intention of the govt. seems to be to create facilities for navigation rather than irrigation. The state govt. should also stop the Tadipudi and Puskharam LIS and excavate just one canal and pump water into it so that it can provide irrigation benefits immediately and save money and displacement.

PRMC

PRMC	According to CWC & EIA	As per G.O. 78	Revised Estimate	Present implementation
Capacity	347cumecs (12250 cusecs)	400 (14000)	500 (17500)	500 (17,500)
Bed Width	68.5 m	68.5 m	85 m	85 m
Cost (Cr)		1320	1720	3200

PLMC

PLMC	According to CWC & EIA	As per G.O.96	Revised Estimate	Present implementation
Capacity	230cumecs (8250 cusecs)	400 (14000)	500 (17500)	500 (17,500)
Bed Width	51.5 m	80.0 m	101.5 m	101.5 m
Cost (cr)		1353	1841	2600

Water allocation and capacities [5]

	Water allocation (TMC)	Ayacut (lakh acres)	Capacity cumecs (cusecs)	Bed width
PRMC	112	3.20	500 (17500)	85 m
PLMC	106	4.00	500 (17500)	101.5 m
Tadipudi	14.6	2.06	1400	16.5 m
Puskharam	15.6	1.86	1500	17.0 m

The Tadipudi canal was designed to use 14.8 TMC to irrigate 2.06 lakh acres at a duty of 150 (1 cusec irrigates 150 acres) with a discharge capacity of 1400 cusecs. The water allocation for the PRMC is 112 TMC and thus the remaining 98 TMC would be used to irrigate the remaining 1.12 lakh acres of PRMC ayacut from the Gunderu to Vijayawada. This will result in water shortage under Tadipudi and flooding and water logging for the remaining ayacut and also the Krishna delta as all the drainage has to go through the Gunderu, Tammileru and Budameru rivers that flow into the Kolleru increasing the flooding of the Krishna-Godavari deltas. In the EIA a very meager of 33 crores has been allocated for improving drainage. The wide disparity of irrigation intensity between the two regions raises suspicions about the govt's intention as to if it really wants to irrigate the area or just transfer water to the River Krishna. For 1.12 lakh acres of remaining ayacut of PRMC the govt. is excavating a canal with a capacity of 500 cumecs

(17,500 cusecs) and a bed width of 85 m when they are supposed to excavate a canal of capacity 347 cumecs (12,250 cusecs) according to the EIA.

Only one canal i.e. the PRMC with a capacity of 13,500 cusecs and a bed width of 68.5 m would be sufficient to irrigate the ayacut and transfer 85 TMC to the Krishna River. This would result in savings of over Rs 900 crores and also save over 5000 acres of valuable farmland and also save money on duplication of related structures.

The capacity of the PLMC shown in the EIA is 230 cumecs (8250 cusecs) with a bed width of 51.5 m. The PLMC has been proposed to irrigate 4 lakh acres and supply 24 TMC to meet the drinking & industrial requirements of Visakhapatnam. The supply canal to Visakhapatnam city has been designed with a capacity of 730 cusecs. The Pushkaram LIS is proposed to use 15.8 TMC to irrigate 1.86 lakh acres with a canal capacity of 1500 cusecs. The govt. has proposed both the Pushkaram and the PLMC canals to run parallel for a distance of 95 km. Pushkaram will serve as a distributary of PLMC for 95km and no distributaries are to emanate from PLMC up to 95km. Thus the same conditions that are going to be created in the Krishna delta will recur for the Godavari delta resulting in water logging & flooding.

When the govt is proposing to irrigate 1.86 lakh acres with 15.8 TMC what justification does the govt have to excavate a huge canal with a capacity of 500 cumecs (17,500 cusecs) when only 40 TMC would be required to irrigate the rest of the area and supply water to Visakhapatnam. The area is also one of the highest rainfall areas receiving rain in both the monsoons. By excavating one canal with a capacity of 237 cumecs (8250 cusecs) with a bed width of 51.5 m as opposed to 101.5 m presently, Rs 900 crores can be saved.

A White Elephant The govt has started construction of the Tadipudi and Puskharam LIS to irrigate about 4 lakh acres by pumping water from a maximum static head of 28 m at a cost of Rs 900 crores. The cost of pumping will be cheaper than estimated as the head is not more than 15 m during the rainy season. This works out to about Rs 17,500 per acre. The pumping cost yearly would be about Rs 700 per acre. But for Polavaram the cost would be over Rs 2.3 lakh according to present estimates. This is without the cost of the distributaries. The govt. might as well extend the Tadipudi and Pushkaram canals to irrigate the rest of the area as planned for the Polavaram project. Even by their estimates it would not cost more than Rs 2000 crores to irrigate all the Polavaram ayacut and supply water to the Krishna delta.

When water is only going to be supplied during the Kharif, what is the point in spending over Rs 20,000 crores to construct a project that has so many inherent problems and contradictions? If we examine the project in detail the project would be financially unviable and would turn out to be Andhra's Enron. The AP govt. has also simultaneously taken up 25 irrigation projects at a cost of Rs 46,000 crores that has already increased to more than Rs 1,00,000 crores. The money saved in Polavaram could be used for more appropriate projects in backward areas like Telangana and Rayalaseema.

Land to be acquired

For R&R	124 000 acres
For tribals	50 000 acres
For canals:	24 664 acres estimates, without land for distributaries

Costs (Rs crores)

Compensation for land & assets (without canals)		2535
Resettlement		631
Rehabilitation		476
Command area development	:	403
Catchment area treatment	:	280
Total		4325
Canals		6300
Dam		2500
Power house		1730
Spillway		630
Connectivity		490
Tadipudi & Pushkaram LIS		900
Forest compensation		516
Total (Without compensation for canals)		17,391

Questionable viability of the Power project The project would generate power at its installed capacity of 960 MW only in the rainy season for about 3 months. As the head at Polavaram is relatively low, over 180 000 cusecs would be required to generate power. With siltation, the quantity of water stored will also decrease significantly resulting in lesser power produced.

This project would also decrease the power generation at the planned Dummugudem project upstream. The bed level of the Godavari River at Dummugudem is 40 m[24] and the FRL of 45.7 m at Polavaram would decrease the head and obstruct the free flow of water to maximize generation of power. About 100 MW of power could be lost due to the backwater effects of floods of magnitude greater than 2 lakh cusecs.

Seeds for increased naxalism? The affected area is just at the edge of the strongholds of the People's War Group. It adjoins the Dantewada and Malkangiri districts of Chhattisgarh and Orissa. It also lies at the head of the rich delta districts of E Godavari, W Godavari and Krishna in coastal Andhra. The schedule areas of E Godavari already are naxal infested. The naxals run a parallel govt. in most of Dantewada and Malkangiri districts. In Malkangiri the alienation of tribal land by the Balimela and Sileru reservoirs and by resettlement of Bangladeshi refugees has increased the number of naxal recruits significantly, it has been reported.

In Khammam district and the agency areas of E and W Godavari districts, there is a lot of tribal land alienation resulting in many disputes between tribes and non tribes. About 3 lakh acres in Khammam district is under dispute in the courts between tribes and non tribes. Similarly over 1.2 lakh acres in E and W Godavari districts are in disputes in the courts. There is no land available for the govt to resettle the displaced and is offering cash compensation. Whatever lands the govt. has offered in Schedule areas are already under possession of other tribes or under dispute in the courts. Even the land that would be provided would not match the fertility of the lands that the tribes own now. The govt. also has not made any mention of the non tribes that are going to be affected. Resettlement would only increase the disputes between tribes and non tribes causing social problems as land is a very scarce commodity in India.

Violation of Schedule V The site of the dam and the whole submergence area has been notified under Schedule V of the constitution of India. Taking any decision without permission of gram sabhas in such areas is violating the constitution. The tribes that have been enjoying special rights under the Schedule V would lose all their rights and privileges if they are moved out. This would also violate their right to life enshrined in the constitution. The dam would wipe off the progress made by the tribes and would drive them back to living off the forests. They would again have to start shifting cultivation on the hills that would cause increased sedimentation of the reservoir reducing its life.

ALTERNATIVES

1. Series of barrages on Godavari - Polavaram FRL at 115'

The Godavari River flows at a very low level in a valley whereas its surrounding areas are at higher elevations. If a huge dam was built it would have very limited benefits due to the limited area it would irrigate compared to the area it would submerge. There is no other alternative but lift irrigation in the Godavari valley. Due to the huge flows in the rainy season, the water can be harnessed for hydro power that can be used for the lift irrigation schemes that have been started. More than 2000 MW of power can be generated from 5 run of the river sites based on the monsoon flows without any submersion.

The Godavari River is much wider in the reaches from Inchampalli to Bhadrachalam than in the stretch from Bhadrachalam to Polavaram. In some places the width is about 5 km. A lot of storage space is available within the river course. 3 barrages can be built at Kanthalapallii, Singareddypally near Edira, Dummugudem and two low dams at Inchampally with FRL 95 m and at Polavaram. The AP govt has already contemplated HEPs at Dummugudem and Kanthalapalli. These barrages would help regenerate water flows in the non monsoon seasons. The river right up to the confluence of the Pranahita and Godavari would become navigable. The water stored in these barrages would be more than 150 TMC that is more than the dead storage of Polavaram. This water could be used to supplement the rabi crop in the Godavari and Krishna deltas. The money saved in avoiding building Polavaram could be used for barrages.

NWDA Studies[20] Due to the various problems of submergence and also the severe backwater effects during floods of the Godavari River following studies were taken up by different organizations to study the interlinking of the Krishna-Godavari rivers.

1. The CWC proposed an alternative that had the canal taking off at 33.53 m (110') with an outfall level at 18.29 m (60.3'), so that the FRL could be reduced by 35' to about 115' and Orissa & Chhattisgarh would agree to it.
2. The NWDA studied another option with an off take of 36.58 m (120') falling into the Budameru diversion canal below the regulator at an outfall level of 20.63 m (68').
3. The AP govt proposed the alignment with an off take of 40.23 m (135') to join the Budameru diversion channel at the regulator at an outfall level of 27.97 m (91.74').

The alignment given by the AP govt was chosen, as it did not pass through the outskirts of Vijayawada town and more command area being served by it. The reasons given were

1. To have maximum command area
2. To cross minimum number of streams
3. To run the canal in the Budameru diversion channel as far as possible since it has a capacity of 15,000 cusecs as claimed by the state govt.

But unfortunately the very reasons that the state govt has chosen this alignment are not true and due to the construction of the Vijayawada Thermal Power Station the scope of the Budameru Diversion channel has changed drastically. The main reasons why this alignment is not technically feasible are:

1. The capacity of the Budameru diversion channel is 4 000 cusecs due to construction of a mini HEP.
2. The capacity of the Budameru diversion channel is not large enough to discharge water into the Krishna as more water would damage the VTPS and stop generation of electricity. There is no scope of enlarging it as there is not enough space available at VTPS.
3. The Budameru diversion channel cannot handle the flash floods that occur in the Budameru as was recently seen in the Sept '05 floods that flooded large parts of Vijayawada.[25]
4. The AP govt has already proposed another diversion channel at Rayanapadu at a cost of Rs 95 crores to divert the flood water of Budameru.[26]
5. The proposed aqueducts on the various streams will not be able to discharge the floodwaters and would cause upstream flooding above the canal. This was proved in the recent Sept '05 floods when the Yerrakalava caused severe upstream flooding above the Eluru canal.[27]

In view of these severe problems the AP govt. should follow the advice of the CWC to realign the canal with an off take of 33.53 m (110') that would join the Krishna between VTPS and the city. This is inevitable as any alignment that goes through the Budameru diversion channel is not technically feasible. Even though the canal passes through valuable land in Vijayawada, it would help in saving a lot of money due to the lower alignment which would help in building a barrage instead of a dam. The multiple advantages of following the CWC alignment are:

1. A barrage with an FRL of 115' can be built instead of a dam with an FRL of 150'.
2. The canal can be used as an additional flood flow diversion for the Budameru River into the Krishna and thus the flood danger to VTPS can be reduced significantly.
3. The capacity of the canal can be reduced by diverting water to the Eluru canal via the Tammileru and for the Ryves and Bandar canals via the Cheemalavagu escape to about 5000 cusecs thus reducing the land required for excavation.
4. As the National Highway Authority of India and the Vijayawada Urban Development Authority are already contemplating to acquire land for a six-lane bypass road from Gannavaram to Rayanapadu, the road can be laid on the banks of the proposed canal that would run through this area thus avoiding duplication of land acquisition costs.

According to the Godavari Water Disputes Tribunal, the pond level at Polavaram has to be kept at 140' (42.7 m) if the inflow is more than 1 lakh cusecs, at 130' (39.6 m) if the inflow crosses 3 lakh cusecs and at 120' (36.6 m) if the inflow crosses 10 lakh cusecs. For most of the monsoon season the canals as designed would not be able to discharge at full capacity as the pond level would be lower than the full supply level of the canals. Therefore there is a need to redesign the canals to flow at lower alignments. Lowering the FRL of the reservoir to about 36.6 m would also fulfill the needs of the ayacut and the Krishna delta as the state govt has contemplated to give water only during Kharif and no water at all during Rabi.

Submergence area as submitted in the EIA

POLAVARAM RESERVOIR	
Elevation (m)	Surface Area (sq kms)
55.00	1130.2
45.72	637.0
40.00	333.0
36.00	238.0
32.00	160.0
24.00	60.0
18.00	22.5
13.50	0.0

Benefits:

- There would be minimal submergence confined to areas within the riverbanks thus saving fertile farmlands and avoidance of displacement.
- There will be minimal sedimentation due to a barrage
- The money saved can be used to construct the HEP cum barrage at Dummugudem to generate 450 MW
- As the National Highway Authority of India and the Vijayawada Urban Development Authority are already contemplating to acquire land for a six-lane bypass road from Gannavaram to Rayanapadu, the road can be laid on the banks of the proposed canal that would run through this area avoiding duplication of land acquisition.
- The canal can be used as an additional flood flow diversion for the Budameru River into the Krishna preventing floods in Vijayawada city.
- Over Rs 5000 crores can be saved in R & R costs.
- There will be no threat of increased naxalism.

2. A No Dam option: Dummagudem – Vijayawada link[27] The AP govt. is also taking up the Dummugudem HEP and Lift irrigation scheme about 35 kms upstream of Bhadrachalam where there is already an old anicut that was built by the British. The NWDA had proposed a Dummugudem – Vijayawada link canal to transfer 85 TMC to the Krishna delta by gravity. This canal would provide irrigation to the intermediate areas of Khammam and W Godavari districts most of which are tribal areas. This would serve the Right canal and also facilitate transfer of 85 TMC to the Krishna delta.

For the left canal ayacut the Nelakota project on the River Sileru that was conceived by the AP Irrigation dept could be taken up as it would irrigate the upland areas of E Godavari districts that are not proposed to be covered under the Polavaram project and also the areas to be covered under the Polavaram project. This would entail using the regulated waters of the Sileru after HEP generation at Lower Sileru and also facilitate power generation at Nelakota.

3. **Using a Low Lift of 15 m to supply water to both the canals** The proposed cropping pattern envisages water supply only during July - Nov. No water will be provided to the ayacut and the Krishna delta during the Rabi season. As there is enough water in the Godavari in the monsoon months water can be lifted to a height of 15 – 20 m into both the Left and Right canals. The govt has already been supplying water through various lift schemes in the Godavari districts like Chagalnadu, Thorigedda, etc which have been successful. Thus water can be supplied to the whole ayacut and also to the Krishna delta. Presently there are 50,000 bore wells each in the ayacut of the PLMC and PRMC, with an average of 15 hp pump sets which aggregate to 4.5 lakh hp totally.[29] The govt. is presently supplying free power to these for 8 hours. Thus the govt can install pump sets

and pump water into the PRMC and PLMC and save over 10 000 crores. This is a very small lift compared to the lifts that the govt has already started construction on. In Devadula LIS water will be lifted 280 m over 5 stages, the Handri Neeva LIS entails lifting water to a height of 460 m in 10 stages.

A barrage or low dam at Polavaram that can store about 75 TMC can cater to the needs of the rabi crop in the Godavari delta. About 450 MW of power can be generated at the barrage. If the govt wants to supply water to 3 lakh acres in the Krishna delta during the Rabi then the water can be supplemented from the Sileru reservoirs by generation of power. The water from the Sileru in addition to the water stored in the Yeleru reservoir can also supplement the needs of Visakhapatnam city. In Oct-Nov when the water needs are low, water can be pumped into the upstream reservoirs and lakes like Yeleru, Tandava, etc so that the water can be used in the non monsoon months.

Conclusion The construction of the Polavaram project would entail massive social and environmental problems. Most of the over 2.5 lakh people are tribes and dalits. Construction of the dam would displace them. Most of them would be forced to resettle in the higher reaches take up shifting cultivation in the forests in the hills which would result in serious erosion of the slopes thus reducing the life of the dam very quickly.

We would like all concerned to recommend cancellation of the Project, its Environmental clearance and strongly push the AP govt to implement an alternative plan rather than the extremely destructive Polavaram Project. The excavation of canals should stop immediately as once they are excavated the govt. would try to justify their alignment for a higher dam.

Venkat Naagesh (Vijayawada, AP)

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Polavaram a constitutional violation

Brinda Karat, Polit Bureau member of the Communist Party of India (M) has said that Polavaram is a disastrous project and is in clear violation of the Fifth Schedule of Constitution as it alienates large tracts of tribal lands without consulting the tribals, in the name of development. She said that the project submerges 3728 ha of prime forest land but the environment clearance was given in two days. She said both the centre and the state govt has not considered the less destructive options that would reduce the flooding by constructing three dams and promised that the issue will be raised in the Parliament. (The Hindu 200206)

SRI UPDATE

No discussion on SRI at SAARC workshop on water efficiency? The 6th SAARC workshop on water saving technologies organized by the United States Educational Foundation in India, in collaboration with the Dept of Botanical and Environmental Sciences and Guru Nanak Dev University was held at Amritsar. It is reported (The Tribune 240206) the experts recommended restricting the cultivation of Rice, and not adoption of SRI to reduce water consumption for rice.

Rural Water Supply Ministry of Rural Development

To get an idea of the Govt of India activities on this issue, here we give relevant information from the Annual Report of the Ministry for 2004-5. Drinking water supply and sanitation are state subjects, included in the 11th Schedule of the Constitution among the subjects that can be entrusted to Panchayats by the States. The Dept of Drinking Water Supply in MRD has to centrally sponsored programmes, namely the Accelerated Rural Water Supply Programme (launched in 1972-3) and the Central Rural Sanitation Programme (launched in 1986).

Coverage As on 1.11.'04, the status of habitations with regard to drinking water coverage is as under: Not covered: 5368 habitations, Partially Covered: 60884 habitations and Fully Covered: 1356 031 habitations, total coming to 1422 664 habitations, including 381 uninhabited/ migrated habitations. It is useful to note that Rajasthan has 2785 NC habitations, which means over half of the uncovered habitations. Maharashtra has 23743 partially covered habitations, more than in any other state. Some states that have claimed that they have no NC or PC habitations include Andhra Pradesh, Bihar, Chhattisgarh, Haryana, Jharkhand, Madhya Pradesh, Manipur, Orissa, Tamil Nadu, Tripura, Uttar Pradesh, W Bengal, Delhi, Daman-Diu and Chandigarh. This list clearly shows that this claim needs to be taken with a large portion of salt, raising the credibility of the overall figures.

⇒ **No water since independence?** Villages under the assembly segments of Nagrota and Samba in Jammu region have no water supply since independence. According to reports (Indian Express 220206), water is supplied to these villages through tankers and repeated requests have not helped.

Quality issues Water quality survey data has revealed that 216 968 (15.25%) habitations are affected with quality problems including contamination due to excess fluoride (31 306), excess Arsenic (5 029), excess salinity (23 495), excess iron (118 088), excess nitrate (13 958), multiple reasons (25 092). The Dept estimates that Rs 10 000 crores are required to tackle this problem and a project has been posed for the World Bank funding.

Excess Fluoride According to the 2002 Planning Commission Assessment, "High fluoride concentration in ground water, beyond the permissible limit of 1.5 ppm, has come to stay as a major issue affecting a large segment of rural population to the tune of 25 million spread in over more than 200 districts in 17 states in the country. The population at risk is estimated at around 66 million."

⇒ Over 190 villages in Pench river basin in Chhindwara district and 54 villages in Jaisynagar, Rahatgarh, Kaisli and Deori blocks of Sagar districts are facing increased incidence of fluoride contamination, according to reports (Dainik Bhaskar 240206). Against the norm of less than 1.5 ml per litre, the new survey showed that the water sources in Chhindwara villages were having 14-21 ml per litre fluoride. In Sagar district, 108 pumps have been marked red for high fluoride content.

Excess Arsenic According to the Planning Commission Assessment of 2002, "The presence of excess Arsenic in ground water has been reported from West Bengal. Nearly 13.8 million people in 75 blocks are reported at risk. It is also reported that around 0.2 million people in W Bengal have arsenic related skin manifestations."

Unkept Promises The Union Finance Minister his budget speech in Feb 2005 had promised that drinking water quality will be tackled in 2.2 lakh habitations. A year later (The Times of India 220206), the finances are yet to be tied for this.

Ineffective expenditure In the meantime, the people of affected villages of Unnao district in UP continue to suffer the fluoride affected water (Rashtriya Sahara 200206) as the scheme implemented at an expense of Rs 64 crores to lift water from deep tubewells remains useless due to the stealing of electric wires. The issue has been raised in the state source finding committee for the last five years, without any impact.

Operation & Maintenance The total estimated cost of O & M of water supply networks created so far is estimated at Rs 6750 crore per annum, whereas the total funds being utilized for O & M purposed under ARWSP are approximately Rs 450 crores only, about 6.67% of the required amount.

Unsatisfactory progress The Ministry accepts limited progress when it says:

⇒ "Though about one lakh habitations are covered every year, the number of problem habitations has not declined proportionately".

⇒ "The availability of drinking water in rural areas, especially during the summer months is not satisfactory".

Reforms As part of the efforts towards ensuring sustainability of the systems, reforms were introduced in 1999 to achieve a shift from supply driven, norms based, centralized form of funding to one based on demand responsiveness, community leadership and decentralised management. Initially reforms were introduced in 67 pilot districts. In Dec '02, Swajaldhara was launched to scale up the reforms across the country. Under this, the individual water supply schemes are supposed to be planned, designed, implemented, operated and maintained by the community through village level committees.

The Central outlay for Rural Water Sector for 2004-5 was Rs 2900 crores.

ARWSP Fund allocation under this programme is as under:

⇒ 15% to be spent for O & M, centre: state = 1:1

⇒ 15% to be spent to tackle quality problems, centre: state = 3:1

⇒ 5% to be spent to achieve sustainability, centre:state = 3:1

⇒ 20% for Swajaldhara, centre: state to share the costs in 90:10 ratio.

⇒ 5% for DDP area, 100% grant

⇒ 5% for natural calamities and emergent situations, 100% grant

⇒ PM scheme announced on 15.8.'02 for installation of one lakh hand pumps, revival of 1 lakh traditional sources and DW to 1 lakh rural schools.

Crucial Omissions The Annual report of the MRD is totally silent about the destruction of rural water supply sources due to pollution from industries, urban or agricultural sources or due to the rivers drying up in the downstream areas due to dams in the upstream areas. This is indeed very crucial omission as a significant number of villages are losing their water sources due to these reasons.

Rural Sanitation About 22% of the rural households are estimated to have toilet facilities as per 2001 census. The Total Sanitation Campaign was launched with effect from 1.4.1999 to achieve community led and people centered approach to give emphasis to Information, Education and Communication. The TSC is being implemented in 451 districts with sanctioned outlay so far of Rs 4413.19 crores comprising of centre, state and beneficiary contributions of Rs 2620.89 crores, Rs 979.9 crores and Rs 812.40 crores respectively.

Planning Commission Assessment India Rural Water Scene described above should be looked at in light of the Assessment done in 2002 for Planning Commission and sponsored by WHO-UNICEF. This report, *India Assessment Water Supply and Sanitation* (www.dwas.nic.in). Sunder Subramanian, who wrote the report, made is clear in the preface, "… the data… do not take into account infrastructure that have become permanently defunct in the interim. The figures also do not reflect seasonality of supply, adequacy of storage and treatment or financial viability of systems. Another problem with 'coverage' data is that it does not take into account water quality issues."

Slipping Achievements The Planning Commission assessment is eye opener to show how the so called achievements of coverage soon slip into problem areas. It says:

"For example, in 1972, surveys revealed that out of 580 000 revenue villages there were 150 000 drinking water 'problem villages' in India. By 1980, some 94 000 villages were covered by Govt and 56 000 were left uncovered. However, the 1980 survey put the number of problem villages actually at 231 000 and not merely 56 000. By 1985, all but 39 000 villages were covered but the new survey showed 161 722 problem villages. Again, by 1994, there were all covered leaving only 70 uncovered villages. By this time, the inadequacy of the 'village' as a unit for measuring coverage was recognised, and 'habitation' was chosen as the unit. The 1994 survey revealed 140 975 problem habitations." (Preface)

⇒ "Andhra Pradesh is the only state in which water supply and sanitation is the exclusive responsibility of the Panchayat Raj Engineering Department." (page 26, Annual Report of Ministry of Rural Development for 2004-5)

Scientists demand Uniform standards At the end of a symposium in Delhi, scientists have called for a uniform national standards for drinking water in India. (The Hindustan Times 140206)

HP Budget unspent till Feb end The Himachal Pradesh govt has been unable to spend over 50% of the amount budgeted for rural Water Supply in Shimla district with just a month left before the financial year ends. Out of allocation of Rs 2.24 crores, till Jan end, Rs 0.8 crores were spent. (The Tribune 270206)

Bharat Nirman proposal HP assembly discussed the serious water scarcity situation development in the state due to the over 75% deficiency (68.7 mm rainfall compared to normal figure of 285 mm) during Oct to Feb this year. HP has sent a Rs 1750 crore proposal under Bharat Nirman to the centre to augment drinking water supply to 30 222 habitations that were not getting water as per the norm set by the state at 70 lpcd including that for cattle. (The Tribune 240206)

RURAL WATER OPTIONS

Palar Basin Water Resources Research Exnora has urged Tamil Nadu govt to take a fresh look at the report submitted by an expert group four years ago, which recommended the construction of six checkdams across the Palar and one across the Cheyyar (a tributary of Palar) so that groundwater in the region is recharged. It also called for checking the pollution of Kolavoy lake at Chengalpattu, revival of Palar Basin Management Board and stopping illicit sand quarrying from the riverbed. (The Hindu 060206)

URBAN WATER SUPPLY

Move to privatize bill collection in Delhi? The Delhi Jal Board has called applications from private companies for taking up bill collection work on behalf of DJB. The move has been criticised by the DJB workers Union. (Hindustan 240206)

Janhit report on Meerut Water A report by Janhit Foundation, an NGO for environment protection and water conservation makes the shocking revelation that at least 124 people have died over the last five years in Jai Bheem Nagar, a slum in Meerut and the nearby Government Medical College is the reason for the deaths. Most of the deaths were due to asthma, cancer, diarrhea. Janhit study shows that water from the GMC pond has 12 times the permissible mercury content. Chromium and lead were found to be five times the permissible limits in the GMC pond that has been in existence since 1968 when the college was built. The sewage from the college pour into the pond. The water from the pond seeps into groundwater and hence all the water from the nearby hand pumps is contaminated. The groundwater also has high levels of cadmium, lead, iron and mercury. There are 462 hand pumps abandoned by the people. At least 90 families have left the area in search of cleaner water as people are sandwiched between the polluted pond and the polluted Kali River.

Janhit Study Findings

(micro gms per litre)

	Max permissible limit	Level at GMC pond	Level at Handpump near Kali
Iron	300	410	3860
Chromium	50	196	78
Cadmium	10	62	116
Lead	50	280	152
Mercury	1	12	2.5

Polluted Kali River Meerut's entire sewage is dumped into the Kali. So its toxicity is being leached into the groundwater which is used by the residents through hand pumps. When Jannhit wrote to the UP Pollution Control Board about the Pollution in Kali in 2003, it replied that the govt did not have the required Rs 88 crores to clean the river. A June 1999 report of the Central Pollution Control Board on pollution of Kali River showed that chromium is 140 times above permissible limit, cadmium 333.3 times and iron 33 340 time over. It said, "samples collected from the handpumps at Ajhauta, Jalalpur, Ulashpur, Bachaula mandir and Gesupur villages of Meerut were found light to dark brownish in colour, turbid and with some peculiar smell… It is evident that groundwater is being contaminated with wastewater… alternative arrangements for potable water supply to the inhabitants of the affected areas be made immediately." Over Six years latter, there are no alternative arrangements in place.

Action Janhit is in the process of filing a PIL suit with the Supreme Court to ensure industries located on the banks of the Kali install common effluent treatment plants. Janhit has also made a number of demands to the UP govt. (Janhit, Tehelka 180206)

Dewas BOT Water Supply Project Over 60 industrialists have signed an agreement with MSK Projects (a Gujarat based road construction company) to supply water to Dewas on Built-Own-Transfer basis at the rate of Rs 26.5 per KL, which is about Rs 10 more than normal rates. There are about 57 big and 450 small industries in 5 industrial areas spread over 1736 acres. The industries need water supply of 13 MLD and current supply is Rs 10.5 MLD. The new scheme, to be ready in 18 months, will lift water from Narmada river at Nemavar, about 133 km away from Dewas. The Rs 85 crore new scheme will supply 23 MLD water and the additional water will be supplied to entities in Dewas. The survey for the 30 year BOT project was done by Mahindra and Mahindra. (Dainik Bhaskar 020306)

WATERSHED DEVELOPMEN UPDATE

Ministry of Rural Development Continuing the WSD update from page 20 of the previous issue of *DRP* (Dec '05-Jan '06), we give below more details of the various watershed development programmes under this ministry from the Annual Report for 2004-5.

Integrated Wastelands Development Programme

State	No of projects	Project area lakh ha	Rs crore released from 1.4.95 to 31.1.'05
Andhra Pradesh	58	4.88	129.75
Bihar	20	0.99	8.81
Chhattisgarh	28	1.83	39.74
Goa	2	0.10	0.83
Gujarat	47	3.66	69.20
Haryana	15	0.88	16.46
Himachal Pradesh	34	3.03	64.94
Jammu & Kashmir	12	0.81	17.90
Jharkhand	14	0.78	7.09
Karnataka	42	3.29	87.40
Kerala	6	0.45	9.91
Maharashtra	39	3.08	48.86
Madhya Pradesh	69	4.68	122.48
Orissa	46	2.96	66.26
Punjab	8	0.30	3.58
Rajasthan	47	3.22	72.86
Tamil Nadu	45	2.78	72.22
Uttar Pradesh	67	5.41	118.36
Uttaranchal	24	1.64	25.11
W Bengal	7	0.29	2.84
Arunachal Pradesh	20	0.96	9.97
Assam	74	4.74	70.94
Manipur	19	1.49	23.68
Meghalaya	14	0.63	7.63
Mizoram	22	1.94	28.37
Nagaland	34	3.16	74.92
Sikkim	12	0.96	15.06
Tripura	4	0.19	3.22
TOTAL	**829**	**59.11**	**1230.92**

Presently, 829 IWDP projects sanctioned after 1.4.1995 to treat a total project area of 59.11 lakh ha are at various stages of implementation. As against the budget of Rs 368 crores for 2004-5, Rs 257.78 crores has been released till 31.1.2005 and 165 new projects have been sanctioned in 2004-5 to cover an area of 8.32 lakh ha.

DFID schemes in AP and Orissa In addition to the above, DFID (UK aid agency) funded IWDP schemes are ongoing in AP and Orissa. In AP, Rs 155.87 crores and in Orissa Rs 16.98 crores have been released for this purpose. These *Rural Livelhihood Projects* are implemented through Dept of Land Resources in Ministry of Rural Development.

⇒ **AP** The 7 year Rs 320 crores project was launched on 13.11.1999 in Mehboobnagar district. The project to be completed by 31.7.'06 is being implemented in Anantpur, Kurnool, Mehboobnagar, Nalgonda and Prakasham districts with 100 micro watersheds, each of 500 ha is taken up in each of the districts. The AP Academy of Rural Development is entrusted with the task of process evaluation of the watersheds of two districts and WASSAN has been entrusted with the task in three districts. By 31.1.'05, Rs 155.87 crores have been released.

⇒ **W Orissa** This Rs 230 crores project was sanctioned in June 1999 and launched on 18.8.2000, to be completed by 31.7.2009. The project initially covered Bolangir (14 blocks) and Nuapada (5 blocks) and has included Kalahandi (6 blocks) and Bargarh (4 blocks) during 2004-5. Total of 290 watershed projects, each of 500 ha is to be taken up under the project. By 31.1.2005, Rs 16.98 crores has been released.

Drought Prone Area Programme

State	No of Districts	No of Blocks	Area in lakh ha
Andhra Pradesh	11	94	99.218
Bihar	6	30	9.533
Chhattisgarh	8	29	21.801
Gujarat	14	67	43.94
Himachal Pradesh	3	10	3.319
Jammu & Kashmir	2	22	14.705
Jharkhand	14	100	34.843
Karnataka	15	81	84.332
Madhya Pradesh	23	105	89.101
Maharashtra	25	149	194.473
Orissa	8	47	26.178
Rajasthan	11	32	31.969
Tamil Nadu	16	80	29.416
Uttar Pradesh	15	60	35.698
Uttaranchal	7	30	15.796
W Bengal	4	36	11.594
TOTAL	**182**	**972**	**745.914**

DPAP, the earlier area development programme of the Union govt, was launched in 1973-4. Its overall impact, in the words of the Ministry, "in effectively containing the adverse impacts of drought was not found to be very encouraging". A committee appointed to review the programme in its report in April 1994 attributed following factors for the unsatisfactory performance of the DPAP: activities spread over vast area, expenditure thinly spread over vast areas, least or no participation of the local people and too many activities taken up.

Centre and states bear the cost in 75:25 ratio since 1.4.1999 and a uniform norm of Rs 6 000 per ha has been adopted since 1.4.2000. Totally 18803 WSD projects covering 94.01 lakh ha with total cost of Rs 4804.2 crores were sanctioned by 31.3.2004, out of which 4803 projects were completed by then. In 2004-5, 2550 projects have been sanctioned with a total cost of Rs 765 crores and total project area of 12.75 lakh ha. From 1.4.1995 to 31.1.2005, Rs 1711.68 crores have been released for this.

Desert Development Programme DDP was started in five states (Gujarat, Rajasthan, Haryana, J&K, HP) in 1977-8. From 1995-6, coverage has been extended to a few districts of AP and Karnataka. A review in 1994-5 said that the performance was below for the following reasons: area development was not taken up on watershed basis, people's participation was non existent at planning or execution stages, too many activities and too few trained personnel. From 1.4.1995, the programme is being implemented on watershed lines. Currently DDP is active in seven states as per details given below.

State	*No of districts*	*No of blocks*	*Area in Lakh ha*
Andhra Pradesh	1	16	19.136
Gujarat	6	52	55.424
Haryana	7	45	20.542
Himachal Pradesh	2	3	35.107
Jammu & Kashmir	2	12	96.701
Karnataka	6	22	32.295
Rajasthan	16	85	198.744
TOTAL	**40**	**235**	**457.949**

The project is funded in 75:25 ratio by the centre and the state and the fund is directly sent to DRDA/ ZP and Rs 6 000 per ha of area is the norm. The details of the number of projects sanctioned and funds released from 1.4.1995 to 31.1.'05 is given in the table below.

State	Projects sanctioned	Funds released Rs Crore
Andhra Pradesh	772	74.6
Gujarat	2272	259.55
Haryana	890	103.83
Himachal Pradesh	458	46.02
Jammu & Kashmir	617	71.49
Karnataka	1164	95.35
Rajasthan	5303	619.45
TOTAL	11476	1270.29

Out of the 11476 projects sanctioned so far, 2041 projects have been completed covering an area of 10.205 lakh ha.

Externally Aided Projects In addition to the DFID projects (AP & Orissa) mentioned above, following EAP are funded through the Dept of Economic Affairs.

⇒ **Tree Growers Cooperative Project** The Foundation for Ecological Security is implementing a Rs 45.99 crores TGCP with the assistance of the Canadian International Development Agency in AP, Karnataka, Gujarat, MP & Uttaranchal. As against the expected project outputs of organization of 300 village institutions and 11 400 ha to be brought under vegetative cover, 305 institutions have been organized and 11 157 ha has been brought under vegetative cover so far. The MOU was effected from March '93 and is valid till March '06.

⇒ **Attappady Wasteland Comprehensive Environmental Conservation Project** The project is being implemented in Palakkad district of Kerala with the assistance of Japan Bank for International Cooperation at a cost of Rs 219.31 crores, JBIC providing Rs 176.89 crores. Sanctioned in '96, the project aims to develop 50 700 ha in 13 watersheds, to be completed by March '03. Extension has been recommended by Dept of Land resources upto March '10.

⇒ **Haryana Community Forestry Project** The Rs 97.8 crore European Commission and Rs 28.2 crore Haryana govt contribution to the project for watershed related activities in 300 selected villages of 43 blocks in 10 districts of Haryana has an area of 1.25 lakh ha including 39 000 ha of cultivable land. The financing agreement was signed on 24.1.97 and became operational on 30.11.98 for a period of 9 years upto '07-8.

⇒ **MP Rural Livelihood Phase I** This DFID aided Rs 114.87 crore project was sanctioned in Dec '03 in the tribal districts of Jhauba, Dindori, Badwani, Mandla, Dhar & Shahdol, to be extended to other 11 tribal districts after a review. Launched on 20.2.04, it is to be completed by 30.6.'07, the work began in July '04.

Watershed News **HP** The CM has on Feb 19, '06 launched the Rs 365 crores mid Himalayan WSD project at Parohi village in Kothipura of Bilaspur district. The project will cover 545 identified gram panchayats of 42 blocks of 18 districts. (The Tribune 200206)

Water Bodies Restoration The Union Finance Ministry would soon approach the World Bank for a Rs 4 482 crore project to restore 20 000 local water bodies spread over 1.47 m ha in four states of AP, TN, Karnataka & Orissa. The centre is to provide a grant of Rs 1120 crores and the rest is to come from the WB funding. The Finance Minister is also thinking of Phase 2 for 20 000 more water bodies. The Planning Commission has raised objections. (Business Standard 210206)

LAKES **Dal Lake** The Union Water Resources Minister would like to put Dal lake on the UNESCO world heritage site, for which some 6 000 families cultivating vegetables around the lakes will have to be relocated. The govt is taking Austrian help in this. (The Times of India 210206)

WALMI Research on old Bhoj Tal lake WALMI Bhopal is conducting Research on Palaeo-hydrological and modern hydrology of Ancient Bhojtal Lake, Bhojpur under director WALMI for exploring its existence and possibilities of utilization. Dept of Science & Technology, Govt. of India has sanctioned the Project for 2004-7.

During 1010-1055 AD, there was a vast lake here. It extended from Bhojpur to the suburb of Bhopal city. The lake was constructed by Parmar king Raja Bhoj. A geo-morphological feature around Bhojpur is the existence of a hillock which some believe has got the shape of "OM" and the associated valley therefore it is called OM valley.

The existence of the old lake has been demarcated by the satellite imagery of IRS P6 LISS III data of April '04. This hillock had served as a natural barrier from three sides, a barrier for the construction of the big lake of the past; a barrier in the form of blocks of stones and eastern filling material was constructed across the narrow outlet of river Betwa near Bhojpur Temple. Its Remnants are still found there. Similarly the course of river Kaliyasot was checked near Mendua, a village and the course of a stream were checked near Bangrasia. Its Remnants can be seen at three places such as near Kiratnagar, Mendua, & Bangrasia villages.

This lake was in existence during 1010-1405 AD. At present, the lake does not exist. It is worth appreciating the choice of the area for the lake considering that the Physiography of this region is fit, according to Geo-engineering consideration for the construction of the dam. It was an earthen dam lining of sandstone was given by using the sand stone block.

It is believed that the lake was destroyed by Hoshang Shah of Malwa (AD 1405-34). The Lake was emptied in Three years and its bed was not habitable for thirty year's afterwards (Gazetteer Sehore and Bhopal).

Lake Bhojpur was a one of the biggest international fresh water body. The lake had a total area of about 421.8 Sq. Km and Capacity of the lake was 4428.9 MCM, its Perimeter was about 207.2 Km. The lake was having a maximum depth 30 m and mean depth 10.5 m. The information regarding the origin and the existence of Old Bhojtal Lake was available from the historical descriptions.

The studies to be done include the past occurrence, distribution and movement of surface and groundwater, the geo-morphological conditions and geological process which were responsible for the origin and the existence of old Bhojtal, the palaeoclimate issues, past and present water flows of the present and old feeding channels of old lake. The Palaeo-hydrological investigations could prove the previous origin and existence of old Bhojtal Lake.

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WETLANDS

A Bengal bill to make ecological vandalism lawful?

Heinous and destructive measures can acquire legitimacy through a stroke of the legislator's pen. Such seems the purpose of the current East Calcutta wetlands (conservation and management) bill. It is being reviewed by the assembly's standing committee after an outcry. The land revenue minister protested that the bill describes certain water bodies as settlements, thus regularizing two unauthorized housing estates. If that were all, the matter could be rectified.

The real danger lies elsewhere. The bill empowers the executive to modify (hence to exclude or curtail) any area under wetland cover and its land-use pattern. There is specific mention of "the greater interests of urbanization and infrastructure", and a provision to replace one water body by another — presumably elsewhere, while the East Calcutta site is depleted. Some reports even suggest that such moves will be immune from legal scrutiny. In other words, the survival of the wetlands will be at the mercy of local politicians and officials.

The East Calcutta wetlands provide a unique model for natural management of urban waste. People from across the world come to study it, though enlightened Calcuttans drive past it uncaringly down the E Bypass. Calcutta has no mechanical plant to treat either solid or liquid waste. The entire city's waste is directed eastward, to vast dumping grounds where it fertilizes kitchen gardens; and even more importantly, to a network of canals that purify the water, support fish farms, and finally drain into the Sundarbans.

The whole system costs amazingly little. It generates immense gainful activity — so much so that people fight and kill to create or seize fisheries. Above all, it positively sustains the environment. If we replaced it by sewage treatment plants, we would need hundreds of crores to set up and run them — if we could run them. The only such attempt, at Bagjola, broke down soon after the commissioning.

In 1928, the system was in danger of collapse. The river Bidyadhari, which used to take the outflow, was declared a 'dead river'. Mayor Chittaranjan Das persuaded Dr Birendranath Dey to leave a lucrative career in London, join Calcutta Corp, and devise an alternative outflow through the Kultigong. This is substantially the system still in use. If it silts up, we have no alternative left. The city could choke on its own filth.

Obviously, this is not a case of 'development versus beautification'. We need the wetlands, not simply to provide some empty green space (though that is needful enough) but to keep the city functioning at its most basic physical level. Without it, there could be no software parks, no corporate houses, no shopping malls, no condominiums. Besides, the wetlands generate enough economic activity.

Much damage was done in an era when we were less environmentally conscious. It was not foreseen that the Salt Lake reclamation scheme would blank off a whole segment of the area, or the E Bypass block drainage flow. We have less excuse for letting Rajarhat New Town jostle the wetlands, or the Bantala Leather Complex virtually encroach on it (ironically, in the name of environmental protection). The latest addition is the Salt Lake-Rajarhat Bypass; and we are hearing of two more expressways that will cut through the wetlands.

It is not a matter of the actual area occupied by these projects, but the way they impede the natural outflow, break up the total space within which ecological processes operate, and thus reduce a viable biosphere (also a vibrant agro-economic sphere) to unsustainable fragments. This has happened already to the W flank of the wetlands — i.e., the area W of the E Bypass.

Worse ecological vandalism is endemic in Calcutta's outer suburbs. Huge water-bodies like Bodai Bil are seriously depleted. The river Sonai has virtually disappeared; even the Churni and the Ichhamati are threatened. Small streams and ponds are routinely filled up from Kalyani to Baruipur. Nearer home, the Metro extension may throttle the Adi Ganga. Even the outflow channels flanking the VIP Road and E Bypass have been filled up with impunity.

Blessed with abundant water, Bengal seems set to annihilate nature's gift. Our underground water reserves, have been over-tapped to create the world's biggest arsenic zone. The countless ponds, lakes and streams across S Bengal provide — even more crucially than water to use (which may be unhygienic) — micro-level, cost-free, natural drainage outfalls. By blindly filling them up, we have crammed the suburbs with sewerless middle-class slums. If the wetlands are impaired, high-rise Calcutta will go the same way: the wetlands are to the inner city what ponds and lakes are to the region.

The people destroying this most vital, most neglected urban space constitute the 'development' lobby. As for the realtors themselves, some are small-time players with an eye to nothing beyond today's profit. Others are giant operators who, having brought Calcutta to choking-point within decades, will move their money elsewhere. It is like acquiring tea gardens or jute mills to wring out their resources and leave them terminally sick.

This is where the law should play a part. But the proposed bill would confer immunity on what can now, at least, be challenged in law. It also defies the Ramsar Convention whereby the E Calcutta wetlands are protected under state guarantee from encroachment and change of land use. This anomaly could prevent the bill from becoming law. (The Telegraph, 020306)

Get serious about wetlands

The Union Ministry of Environment and Forests has failed to protect the wetlands, a tragic instance of the ministry not recognising environmental values

Wetlands, which cover 7 m ha in India, are described as the "kidneys of the ecosystem." They ensure the health of the land by filtering out excess water and waste. They are vital also because they provide services such as prevention of storm damage, control of flood and water flows, and support of fisheries. Many smaller human-made wetlands exist, fulfilling key community needs, not the least of which is providing water security. Given the significant role they play in natural processes, wetlands should qualify for sound protection on the lines of forests and wildlife. That this is not the case is a tragic instance of national policy not recognising larger environmental values. State Govts have generally failed to classify wetlands separately in their revenue records; in most cases, lakes and marshes are treated as wasteland. The Union Ministry of Environment and Forests has failed to make adequate use of an excellent opportunity to protect more wetlands under the Ramsar Convention of 1971: it has designated only six new sites (Hokera and Surinsar-Mansur in Jammu and Kashmir, Chandertal and Renuka in Himachal Pradesh, Rudrasagar lake in Tripura, and Upper Ganga River in Uttar Pradesh) on World Wetlands Day this year. There are now 25 national sites listed under the Convention, which seeks to conserve and facilitate judicious use of wetlands through local, regional and national actions, and international cooperation.

The MoEF has not consulted the States with any degree of seriousness. The Govt must enact a law that provides the highest protection to all identified wetlands, similar to the Forest and Wildlife Protection Acts but with provision for compatible community use.

The national report submitted to the Ramsar Convention in Uganda last year acknowledged that there were 199 wetlands in India - assessed by the Salim Ali Centre for Ornithology and Natural History - that met more than one criterion for inclusion. India's wetlands suffer more than other ecosystems. Many are encroached upon for short-term gain, for example to be developed as house-sites. In its report on inland wetlands, the Salim Ali Centre points out that nearly half the water bodies in India have been lost over the past decade. Those that survive are being heavily polluted with pesticide, fertilizer, sewage and industrial waste, putting at risk the local communities and a large number of threatened bird species. This awful rate of attrition must be reversed through urgent intervention at all levels. (From Editorial in The Hindu, 22020)

RIVER LINK PROPOSALS

Soz says National Water Grid not possible

The new Union Water resources minister has been quoted as saying (The Tribune 260206) that "a national water grid may not be possible". Answering a question about interlinking of rivers, he said "I have not gone into the depth".

MP for Narmada-Kshipra link Considering the water crisis in Malwa region of W MP the state govt is considering linking of Narmada and Kshipra rivers. It has been decided to constitute an expert committee to study the proposal and its alternatives. (BUSINESS LINE 130106)

Rajghat Dam never filled to FRL According to the Annual report of Union Ministry of Water Resources for 2004-5, Rajghat dam was constructed upto the crest level in 1992 and since than the reservoir storage is being utilized in downstream in Betwa Canal System and Bhander Canal System (both UP). The impounding of water above the crest level started in 1999-2000. The reservoir was filled upto the following level since then. It is clear that the reservoir has not reached the Full Reservoir level of 371 m even once in last six years.

S No	Year	Filling level, m
1	1999-2000	365.70
2	2000-01	366.00
3	2001-02	368.35
4	2002-03	367.00
5	2003-04	370.00
6	2004-05 (5.10.04)	370.20

Under the proposed Ken Betwa Link Project, four dams are to be built in Betwa basin upstream from Rajghat dam and then the water situation at Rajghat dam is likely to get much worse as even less water will reach Rajghat Dam.

No need for water augmentation in Betwa: Navdanya A team from Navdanya during a trip of Betwa basin to assess the water situation in the basin in the context of Ken Betwa link proposal found that there is no need for augmentation of water in Betwa basin. What is required is adequate distribution and management. The Kaliasote tributary of Betwa begins its journey from Upper lake near Bhopal and it was found to be black carrying Bhopal's untreated wastewater. At Mandideep industrial estate outside Bhopal it found that Betwa was a dark stream carrying untreated effluent from the industries. (Bija Vol 38)

Parbati Kalisindh: Meeting postponed for 3rd time The meeting of irrigation ministers of Rajasthan and MP for finalization of the Memorandum of Understanding for the proposed Parbati Kalisindh River link in the *Hadouti* region has been postponed for the third time in two months. (Dainik Bhaskar 210206)

GROUND WATER

CGWB: Over use in 30% of India A new survey on groundwater by the Central Groundwater Board shows that 30% of India should be concerned about its groundwater reserves. Delhi and most northern states are mining more groundwater than is being recharged every year, according to the latest groundwater survey. Some southern states too are overexploiting their groundwater reserves. 'Dynamic Groundwater Resources of India 2005', the first such report to be conducted by the CGWB in a decade, tracks shallow aquifers mined and recharged annually.

The survey, which assesses only water quantity not its quality, finds that water in the east and northeast hasn't been mined much. For the first time, the CGWB has assessed not only how much water has been extracted, but also withdrawal trends over the past decade. If withdrawal is over 70% and the long-term trend, either pre- or post-monsoon, shows a drop in water levels, the unit is labeled either 'semi-critical', 'critical' or 'overexploited'.

839 (15%) of the 5,723 units -- blocks, taluks, mandals and districts -- assessed are overexploited, up from 673 a decade ago, 4% critical and 10% semi-critical. Although officials concede that the figure isn't comparable, since a different survey methodology has been employed this time.

Delhi, Haryana, Punjab, Rajasthan, Daman and Pondicherry are all overusing their groundwater reserves. Up-market Gurgaon too figures on the list, while the southern state of Andhra Pradesh has the highest number of overexploited units.

In Gujarat, Karnataka, Tamil Nadu and Uttar Pradesh, an average of 70% of available groundwater has been used. CGWB "strongly suggests" that these areas need regulatory systems.

The agricultural (but tubewell-dependent) Punjab has developed (usage compared to availability) its groundwater up to 145%. Thirteen of the state's 17 districts currently mine over 100% of their groundwater reserves, while Jalandhar and Kapurthala have mined a shocking 254% and 204% respectively. Of the 137 blocks assessed in the state, 103 are overexploited, five are critical and four semi-critical. The deep aquifers may be capable of sustaining heavy -duty tubewells.

Delhi is mining over 170% of its groundwater, with seven of its nine districts figuring in the 'overexploited' category, north and central Delhi being the only exceptions.

The total replenishable water had actually gone up from 432 billion cubic meters in 1995 to 433 bcm in 2005, possibly due to better assessment methods. The countrywide groundwater development is 58%. (infochangeindia.org Feb '05)

Levels up in Chennai Following above average monsoon in 2005, the water level in agglomerate of deep borewells in the Araniar-Kosathalaiyar basin in N and NW of Chennai has gone up substantially compared to 2003 and 2004 level, though they are still about 1-1.5 m below the 1996 levels. These fields supplied on an average 100 MLD water during 2003 and 2004. (The Hindu 190206)

SC: Set up panel to examine cola contents The Supreme Court has on Feb 27, 06 directed the Centre to constitute an expert panel in three weeks to find out whether there were any harmful chemical contents in soft drinks. The Court ordered that the panel would also go into the broader issue of all lethal contents in soft drinks and not restrict to pesticide content. The interim direction came on a PIL by the Centre for Public Interest Litigation. (The Indian Express 280206)

⇒ **Union Budget reduces tax on Colas** In a shocking incident of callousness of the Union govt towards health of the people of the countries, the Union Finance Minister in his budget for 2006-7 reduce the excise duty on aerated soft drinks from 24% to 16%. So in stead of taking some strong action against the aerated drinks market monopolized by the MNCs and who are rampantly mining water and putting at risk lakhs of people, the Union Govt has rewarded them with decrease in taxes.

POWER OPTIONS

SMALL HYDRO **Annun Project, HP** The Annun HEP (2 X 1 MW) has invited tenders for hydro mechanical works (Cost: Rs 1 crore), Electro Mechanical Works (Rs 2 Crores) and Civil works (Rs 5 crores) for the project to be set up in Mandi district in HP. (The Tribune 200206)

⇒ **Valmikinagar HEP, Bihar** Bihar State Hydroelectric Power Corp has invited tenders for works related to escape arrangements for the 3 X 5 MW Valmikinagar HEP on Eastern Gandak Canal (assisted by OECF) in W Champaran dist at a total cost of Rs 5 crores. REC has sanctioned funds for this work. (The Hindustan Times 220206)

Labourers killed at 2.5 MW HEP Two labourers were killed and five injured when they got buried under a mass of earth at a construction site of the 2.5 MW on the UBDC canal at Babaehali village, ten km from Gurdaspur on Feb 25, '06. Three labourers were missing. The contractor and his supervisor fled the scene as soon as the accident occurred. The work had been entrusted by PEDA to a private company and adequate steps for safety of the workers were not in place. The Police has booked the contractor under IPC section 304, but work being done under the supervision of the Irrigation Dept and PEDA did not have muster rolls. (The Tribune 260206, 270206)

Gharats to produce power in HP A 3 KW project at Dugari village a 5 KW project at Smaana village have been installed in Kullu district with cooperation of the forest dept in Himachal Pradesh. (Dainik Bhaskar 280206)

Wind Power **Indowind project in Tirunelveli** Indowind Energy Ltd, a Chennai-based wind farm developer, has firmed up plans to set up a 9 MW wind farm in Tirunelveli district investing Rs 41.4 crore. The project is to be funded by loan from Power Finance Corp (Rs 20 crore) and Bank of India (Rs 8.98 crore). The company was planning to raise fund through a public issue also. Indowind has 19.85 MW wind farm projects in Tamil Nadu and Karnataka and it sells the power to the Tamil Nadu Electricity Board at the rate of Rs 2.70 for a unit. With high capacity, hi-tech machines that generate power even during the lean wind months, Indowind hopes for an average plant load factor of 30%. The company has obtained host country approval for submitting the project under the clean development mechanism (CDM) for carbon credits. It is planning to seek the approval of the United Nations Framework Convention on Climate Change. (Financial Express 230206)

SOLAR POWER **Solar Diesel Plant** Country's largest Solar Diesel plant (50 KW) was commissioned at Bangaram Island in Lakshadweep by BHEL. (Business Standard 210206)

DAMS

SC on Mullaperiyar The Supreme Court in its order on Feb 27, '06 said that the water level in the 111 year old lime and mortar Mullaperiyar dam can be raised to 142 ft and that the Tamil Nadu should be allowed to do the strengthening work necessary to raise the water level to 152 ft. In rejecting Kerala's objections for raising the water level due to the concerns of safety, the Court relied on the report of the committee set up by the Union Ministry of Water Resources. The order said that only after independent experts and CWC is satisfied about the strengthening works, should the proposal of raising the water level to 152 ft be considered. The water level at the dam was reduced in 1979 to 136 ft following concerns about safety of the dam situated in Kerala, but managed by the TN. In Aug 2003 the Kerala Assembly had passed a legislation reserving for the State the right to decommission a dam if found unsafe, by draining out the water. Kerala has sought legal opinion for the options before it, including filing a review petition. The CM said that an all party meeting will be convened on March 6 to decide the next course of action and that the dam could not be allowed to be a threat for people of five districts. (The Hindu 280206, 030306)

Pench Dam clearance The MP CM told the legislative assembly on Feb 23, '06 that the Technical Advisory Committee of Union Ministry of Water Resources has given a clearance to the Rs 583.4 crore Pench Diversion Scheme on Pench river near Machagora village in Chourai block in Chhindwara district on Feb 22, '06. 5607 ha land is to be submerged and no forest land will be affected, it is claimed. 31 villages will face submergence, 8 completely. It is not clear what R&R plan has been made for the people to be displaced. The project was earlier cleared by the Planning Commission on Oct 25, 1988, but work could not start for lack of resources with MP. The project to be completed in eight years is to irrigate 30 364 ha in 108 villages in Chhindwara and 33414 ha in Seoni district. It is also expected to provide 61.68 MCM water for the 500 MW Pench TPS, 7.4 MCM drinking water in command area, and help irrigate additional 7141 ha through groundwater in the command area. The latest CWC clearance was came in Nov '05. (The Hindu, Dainik Bhaskar 240206)

In principal nod for Lower Kolar project The Union Environment and Forest Ministry has given permission for the survey of the Lower Kolar Project under the phase II of the Kolar Water Augmentation Project. 524 ha forestland is expected to be submerged by the proposed Lower Kolar dam. Out of these, 382 ha will be of the Ratapani Sanctuary. Water resources department is preparing the project to be submitted for the administrative sanction from the Government of India. The Lower Kolar dam is proposed near Khajuri village, about 25 kms downstream from the existing Kolar dam. It is expected that the proposed dam will yield about 76 cubic meter water at 75 % of its capacity. This will be equivalent to 42 % of the Kolar dam. With this the drinking water requirements of the capital as well as the need for irrigation would also be met in future. For this, the Water Resources Department had requested permission from the Chief Conservator of Forest for the survey of the forestland in the Ratapani Sanctuary. The Forest and Environment department has granted permission on 10 Feb '06. A survey of the area under submergence and the number of the trees etc will be prepared. Later on the Water resources department will plant trees to the tune of four times the number of trees that are cut in the process. (Central Chronicle 270206)

Amnesty critical of lathi charge on Narmada affected The Amnesty International (Adhikaar Dec '05) has deplored the excess use of force by police during a peaceful demonstration on Dec 17, '05 in Badwani, MP. AI called upon the MP govt to immediately set up an independent inquiry into this incident and ensure that the right of peaceful assembly is upheld. Hundreds of people were peacefully demonstrating against the illegal cash compensation to the SSP affected when police beat up the people. Twenty people, including five women were injured and one 13 year boy sustained multiple fractures.

Rajasthan Mahi Basin Plan Rajasthan govt has invited tenders for preparation of a draft feasibility report for utilisation of surplus water from Mahi basin to Jalore-Barmer districts at a cost of Rs 1 crore, to be completed in 4 months. (The Times of India 270206)

HYDRO POWER

HP

Rampur HEP: Violations, inadequate EIA

People to be affected by the proposed Rampur HEP in Sutlej basin in Himachal Pradesh have written to the concerned state, central authorities and to the World Bank about violations that occurred in the process of the public hearing. The letter demands that full EIA should be made available in local language, facilitation meetings should be held and only after that should there be a public hearing, to be chaired by independent panel where govt officials or political bigwigs. In a letter SANDRP has supported the concerns of the affected people and also highlighted the fundamental inadequacies of the EIA and asked for a fresh EIA to be done by a more credible agency. The World Bank proposes to fund the project to be executed by the Sutlej Jal Vidhyut Nigam Limited.

In the letter signed by a current and a ex President of the Gram Panchayat from the affected area and also by presidents of Mahila Mandals (Women's Forum) of two villages from the affected zone, it is stated that the affected people did not know about the public hearing till a few days before the scheduled date. Nor did they have access to the EIA documents. Under the circumstances, how could the public hearing be held at all? How could the state govt give their consent to the project? How could the project be even considered for clearance?

Flawed EIA A quick look at the EIA document that was put up on the website of the HPPCB, shows that the EIA is fundamentally flawed in many respects, in addition to having a number of other basic deficiencies.

Incomplete EIA The EIA needs to study the project area at least across one year, but it is based on observations done at just two dates. This is clearly not acceptable and this alone disqualifies the EIA to be adequate. The EIA does not cover impacts of the proposed transmission line, due to the quarry to be used for the project (see page 6 of executive summary). The EIA does not have disaster management plan, does not include a cumulative impact assessment study of the various projects existing, under construction and planned in the Sutlej basin. Nor does it have the carrying capacity studies. The EIA does not analyse the situation about the possible land slides, erosion and such impacts that would happen in the project area and the consequences thereof.

⇒ The EIA says that more land will be required for the project "temporarily… for storage of quarried material", but it does not give how much, where, what will be impact, etc. The EIA should have full information about the land requirement, which it does not have.

Incomplete Information The EIA does not have clear maps of the proposed dumping sites, the protective measures required to ensure that the dumped material does not enter the river nor a clear information if the dumping sites are indeed above the HFL mark.

Biases The EIA gives exaggerated energy generation figures. For example, it says that 90% dependable energy generation would be 2077.84 MU (on page 1-2 of salient features, 2021.98 MU on page 1-5 of salient features), whereas the World Bank Project ID gives the figure as 1800 MU. If we look the performance of the upstream Nathpa Jhakri Project (also World Bank funded and Rampur is supposed to depend on NJP for water flow for power generation), we see that this level of power generation is impossible.

⇒ The EIA shows its biases (see bottom of page 1-6 of the salient features) when it concludes that "The project features suggest that the scheme is technically feasible and economically attractive and should be immediately implemented". This is a shocking statement to be in EIA in any case. Moreover, there is absolutely no material before the EIA to reach such a conclusion. This in fact makes the EIA agency as unacceptable to take up the task of taking up EIA.

Incomplete Hydrology data The EIA says (page 1-4 of salient features) that it has used discharges observed from 1970 to 1986 to generate the discharge series from 1963 to 2004. This is very strange. Why have they not used the actual discharge figures from 1986 to 2006?

High Cost, no options assessment The cost figure of Rs 2424 crores for a 412 MW HEP without having to construct a dam or a desilting mechanism is very high. None of the project features justify such a high cost. The EIA does not go into the issue of options assessment in any credible manner to assess the non project options of comparable costs and benefits. Himachal Pradesh already being power surplus, does not need the project for its own requirements. Moreover, most HEPs in N India, as is the case with Rampur, do not provide peaking power, which is in short supply in Northern Grid. Under the circumstances, there are serious question marks about the justification of such a high cost project.

⇒ The statement (page 1-6 of salient features) that "The cost per MW of installation works out Rs 5.39 crores." is wrong if we care to look at the previous page, where the per MW figures are indicated to be almost Rs 6 crore per MW.

Contradictions The design flood figure given on page 1-4 (salient features) is 7151 cumecs and on page 1-7 (salient features) as 5660 cumecs. This clearly shows the callousness and ignorance of such crucial factors of the project on the part of EIA agency.

⇒ The callousness of the EIA agency is also reflected at many other places, including: Table 2 on page 23 of Executive agency has no units for water flow discharge figures, table 4 on page 5 of Executive summary has no units for the figures given,

Wrong Statements The EIA makes a number of statements that shows that the EIA agency has no idea about the reality or is trying to mislead the people. For example on page 7 of Executive summary it says "However, downstream of NJ dam site sediments get settled in the reservoir. Thus, water is relatively silt free downstream of dam site." This statement is not only wrongly constructed, but it also gives wrong impression as the fact is that silt separated from water at NJP is released to the river downstream from the diversion site.

⇒ If we look at the fact that only 18.3593 ha of land is to be used for disposal (see page 7 of Exec Summary) of 2.76 million cubic meters of muck, we see that average height of muck at the sites would be 15 mts, which is too high considering the terrain of the project area.

Question mark of compliance We have seen that many of the crucial measures of EMP for NJP are yet to be completed even two years after project completion. Moreover, NJP faced a lot of surprises during project construction and operation due to inadequate appraisal. We see that worse mistakes are being committed in case of Rampur. The EIA has no credible mechanism to ensure that what is promised in the EMP will indeed happen. Thus there is a big question mark about the possibility of implementation of the proposed management plan.

Many of the crucial measures of Environmental Management Plan for the World Bank Nathpa Jhakhri Project are yet to be completed even two years after project completion.

It is clear that the current EIA done by WAPCOS (A ministry of water resources organization) is totally acceptable. It is strange that such an inadequate EIA was given go ahead by the state monitoring committee under the chairmanship of Secretary Environment, Science, Technology of Himachal Pradesh. Under the circumstances, there is need for a fresh EIA to be done by a more credible agency, in full consultation with the people of the area and others concerned and only on the basis of such an EIA and EMP can the project be considered for clearance. Till such time, all works related to the project should be stopped in the interests of the people of the area, state, country and in the interest of power sector.

HP writes to Centre on Karcham Wangtoo clearance The Himachal Pradesh govt has written to the Centre for ignoring the HP concerns while giving clearance to the controversial Karcham Wangtoo HEP. While recommending clearance to KWP HP had earlier said that the project should be given clearance with some 30 conditions that the project developer had agreed to in presence of the affected people. However, the clearance letter from the centre does not include any of the state govt conditions. The affected people are continuing the agitation against the project. (The Hindustan Times 270206)

Bad Omen for ADP

Malana shut down for tunnel leakage

The 86 MW Malana HEP run by Malana Power Company has been shut down since Feb 4, '06 as the rockslide inside the mountain has blocked the 3.3 km long tunnel of the project. This has exposed chinks in the engineering of the project within 3 years of its commissioning. The blockade came to light when the MPC called experts to inspect the tunnel. The engineers had detected the leakage in the tunnel a few months ago, but the MPC had ignored it then. The experts have blamed the company for not observing the earthquake proof norms in the design. The Project General Manager says that the blockage is a result of a tremor in October 2005 in nearby Manikaran valley. MPC has been shutting down the project off and on since January 20. 12 workers pressed into service for the repairs experienced breathlessness, fainted inside the tunnel and were rushed to the Kulu Hospital. MPC is losing Rs 4 lakh per day due to the loss of power generation. (The Tribune 060206)

How does this affected ADP? Firstly, the Allain Duhangan Project under construction is being constructed by the same company that built and owns Malana Project. Secondly, both project are in the same Beas river Valley, in similar geological situation, not very far from each other. Thirdly, the ADP project authorities and the International Finance Corporation (the private sector arm of the World Bank that is funding the project) have consistently refused to make the report on geological aspects of ADP public. SANDRP has been asking for this report for over two years now, but both the authorities have refused to make the report by Lahmeyer International, the independent engineers for the project, public. The affected people of Jagatsukh village have been expressing their concern about the project in general and about geological risks in particular, without credible response.

The International Finance Corporation (the private sector arm of the World Bank) has consistently refused to make the report on geological aspects of the Allain Duhangan HEP public. ADP is being constructed by the same company that built and owns Malana Project, which has seen this serious geological mishap

ADP work awarded to Nagarjuna The Nagarjuna Construction Company Ltd said on Feb 23 '06 that it has got an important order for Allain Duhangan HEP in Himachal Pradesh. In order to construct head race tunnel and undertake Duhangan upstream works for the Allain Duhangan HEP, the company has also secured an order valued at Rs 45 crore, to be completed in 28 months. (Newkerala.com 230206)

UPDATE

Why Baspa II could become the Enron of HP

Baspa power cost is high as per HPERC tariff order If one looks at the tariff order given by HPERC for the year 2004-5 for determining power tariff of HPSEB, we see that the power purchase from Baspa II is putting the highest burden on HPSEB and in turn on the people of HP as is apparent from the relevant facts from the above mentioned order. The page numbers mentioned below are the page number given on the HPERC order as is available on www.hperc.nic.in.

⇒ We can see that in the proposal from HPSEB to HPERC given in the table (p 225-6), HPSEB had proposed power purchase of 1006 MU from Baspa II at the rate of Rs 2.6 per unit. This would have meant the total cost of Rs 261.56 crores for HPSEB for the purchased power (this is in addition to the cost of "Free Power" due to HPSEB from Baspa II). This amount is the highest burden on HPSEB among all the power purchases and the rate proposed at Rs 2.6 per unit is much above the average rate proposed at Rs 1.82.

⇒ HPERC tariff order for HPSEB says (p 248): 'From Baspa II the power is proposed to be purchased at 260 P/Unit. This tariff is high especially when compared to 250 P/ Unit approved, for projects upto 5MW and 225 P/ Unit for Patikari HEP, by the Commission."

⇒ The same order on pp 257 says: "The Board is purchasing costly power from Baspa @ 260 P/Unit while the average realization is of the order of 240 P/Unit, causing a loss of 20 P/Unit."

⇒ Again as mentioned on pp 268, the consumer representative was critical of HPSEB buying entire power produced from Baspa II at high rate of Rs 2.6 per unit when average purchase price was much lower (Rs 1.82 per unit, see p 225). The proposed rate was also 22% higher than the previous year (p 338).

⇒ "There has been a significant increase in energy sold outside the state, which rose from 688 MU in FY2002-03 to 1688 MU in FY2003-04 i.e. an increase of 245%. As compared to this, the sales within the state have increased by only 151 MU in 2003-04 as compared to 1000 MU outside the state. A similar level of outside sale has been proposed at 1322 MU for FY2004-05 at the rate of Rs 2.4 per unit. It is inferred that increase in energy purchases from Baspa (Rs 2.6 proposed for 2004-05) and Nathpa Jhakri (Rs 2.8 proposed for 2004-5) has been proposed mainly to meet the outside sales, where the average realization is lower than the purchase rates from the above stations." (p 298-9)

⇒ HPERC had only as an interim measure allowed pricing of power purchased from Baspa II (at cost) at Rs 2.41 per unit for 2004-5, pending final order on the supplementary agreement (p 336-41).

⇒ We can see from the table on page 340 that in its final approval, HPERC allowed total purchase of 3199 MU of hydropower at total cost of Rs 457.52 crores (average rate of Rs 1.43 per unit). Out of this over 64.4% cost of Rs 294.76 crores was to be paid for the single purchase of 39% of power (1225 MU) from Baspa II at the rate of Rs 2.41 per unit, which is 68.5% higher than the average cost of purchase of hydropower by HPSEB.

For every unit of power that HPSEB buys from JHPL's Baspa II HEP, the state makes a loss of at least Rs 0.2 directly. Why should HPSEB be forced to buy the power from Baspa and make such losses?

It is clear that the cost of power from Baspa II is among the highest, the burden of purchasing all the power from Baspa II is the heaviest on HP consumers, HPSEB is selling off most of the power purchased from Baspa II and the state is at a loss in purchasing power from Baspa II and than selling it at even cheaper rates. On these counts alone one can see that there is no justification for HP to buy power from JHPL and the best option for all is to let JHPL sell the power it generates to open market after giving 12% free power due to HP.

The tariff in JHPL tariff application is even higher If we see the expected revenue figures to JHPL from HPSEB as given in form 1-C of the tariff application, we see that in 2004-5, JHPL is expecting a revenue of Rs 327.53 crores for (actual) sale of 1041.93 MU, which comes to a rate of Rs 3.14 per unit at the connection point, at least 30.3% higher than what was allowed by HPERC to HPSEB as given above (which rate in turn was in any case one of the highest and unjustified as mentioned above). There is absolutely no justification for HPSEB to buy at such high cost the power generated by JHPL at Baspa II.

HPERC extends deadline for filing Baspa objections Following a petition by Navrachna and Centre for Water Policy, the Himachal Pradesh Electricity Regulatory Authority has agreed to extend deadline for filing objections to the tariff application of the JHPL for power from the Baspa II HEP (see the lead story in DRP Dec '05-Jan '06) to March 3 from the earlier deadline of Feb 8, '06. However, even after this extension, when Shimla based lawyer Anand Sharma visited JHPL office on Feb 21, '06 to get a copy of the documents of tariff application, JHPL officials told him that they do not have copies of the same for sale as required under the HPERC public notice and that a copy can only be made available on Feb 24, '06. JHPL refused to provide a copy of the documents till March 1, '06 giving one reason or another. Ultimately, following a fresh affidavit before HPERC on March 1, '06, HPERC helped the applicants to get a set of documents in the evening of March 2, '06. This leaves no time with the applicants and other people to study the documents and raised informed objections and hence the concerned objectors have appealed to HPERC to extend the deadline for filing objections to at least a month after the date when JHPL makes copies of the tariff documents available.

HP's new forest policy

⇒ **NOC from gramsabhas mandatory for use of forest land**
⇒ **Norms of R&R, CAT, dumping sites**
⇒ **Involvement of gramsabhas in planning**

Himachal Pradesh on Feb 7, 2006 has declared a new forest policy under which a no objection certificate from the local gram sabha will be necessary before any project involving use of forest land can be considered for clearance. This policy also applies to industries, hydro projects and mining projects. The state govt has also decided to approach the central govt to seek amendments in the guidelines of the Forest Conservation Act and Environment Protection Act so that loss caused to village communities, under whose jurisdiction the project would be set up, could be considered. The amount for R&R will be taken in advance from the project company. The panchayats, under whose jurisdiction the mining area falls, has also been authorized to impose environmental cess on the mining lessee, says the forest policy. The state govt has decided to amend the panchayat and mining acts to implement this policy. There are provisions in the policy for introducing participatory mechanisms for planning, implementation and monitoring of catchment area treatment plans for hydro projects and mining management plans for mining areas. Special norms will be developed for rehabilitation of mining areas, dumping sites and other associated problems. Principal Secretary, Forests, Ashok Thakur was quoted making these announcements. (Indian Express 080206)

Bhakra case in SC In the Himachal Pradesh's 10 year old Supreme Court suit for recovery of Rs 2199.77 crores as its share in the Bhakra and Beas projects, HP has opposed Centre's move to produce a witness at the last moment. HP has sought its share of 7.19 % power from Bhakra as per the Punjab Reorganisation Act, 1966 and 12% free power from Beas as provided in the 1990 decision of the Centre. (The Tribune 190206)

HP: March against HEP authorities Activists of the CITU marched in Chamba to protest against the HEP authorities not compensating the people whose houses and lands have been affected and not ensuring that 70% of the employed are from the state. (The Tribune 210206)

Tenth Plan The new Power Minister Sushil Kumar Shinde told the Parliamentary consultative committee that hydro capacity of 5380 MW has already been added during the tenth plan so far and he hopes the figure will reach all time high of 10 000 MW by the time tenth plan period is over by March 2007. The hydro capacities added during the 7th, 8th and 9th plan were 3828, 2428 and 4548 MW respectively. The Gross Budgetary Support for hydropower has been increased to 17 511 crores during the tenth plan from Rs 9284 crores in 9th plan. (Business Line 160206)

Bad Performance of Chhattisgarh HEPs The Gangrel and Sikasar HEPs set up at a cost of Rs 70 crores are not able to generate power even for two months in a year due to lack of water. The investigations launched to enquire into the reasons for the same is a cover up operation, as it tried to say that if there is sufficient water, the stations can generate power for 4 hours each. The draft investigation report has been rejected and now the investigation is likely to be done by NHPC. The foundation stone of the projects were laid when Ajit Jogi was the Chief Minister. The Gangrel project (2.5 MW X 4) cost was Rs 40 crores. The under construction (3.5 MW X 2) Sikaser HEP cost is likely to be Rs 30 crores. (Dainik Bhaskar 210106)

Mahagenco's HEP costs goes up The Maharashtra Electricity Generation Company has submitted a proposal asking of substantial hike in power tariff to MERC on the grounds that its outgo on account of lease rent for HEPs has increased from Rs 85 crore to 400 crores. (Business Standard 170206)

Purnai HEP, J&K The work on this 37.5 MW project in Surankote was started in 1989, but was stalled following rise of militancy. Now EPC tenders have been invited & five companies have filed their bids. (Kashmir Times 160206)

North East Private projects in Arunachal Five big HEPs with total installed capacity of 4800 MW & total investment of Rs 24 000 crores have been awarded to DS Construction, Reliance & Jaiprakash.

⇒ Infrastructure major DS Constructions, with no previous experience in hydropower sector have been awarded a 4 X 250 MW project at Naying on Siyom river in W Siang district on build-operate-transfer basis for 40 years. The DS group will have 89% stake in the SPV for the project and the rest will be held by the state govt. The project that is expected to generate 4966.77 MU is to provide 12% of the generation free to the state for first five years, 14% from 6-10 years, 19% from 11-15 years and 18% from 16th year onwards. DSC's order book has grown nearly 20 times from Rs 550 crore to Rs 10 000 crore in just four years.

⇒ Reliance Energy Ltd has said that it has been awarded BOOT contracts for the development of two projects with total capacity of 1700 MW including the 700 MW Tato II and 1000 MW Siyom HEP. The MOU was signed with the state govt on Feb 22, '06. (The Economic Times 280206 The Times of India 280206, 030306)

Subansiri campaign People's Movement to Save Brahmaputra Valley has started a cycle rally from Feb 26, '06 to create awareness among the people. This rally started from Gogamukh to Majuli, with 50 participants from various organisations like NEADS of Jorhat, Bhumiputra Bhumi Suraksha Manch etc. On the first day it collected 2000 signatures and had roadside meetings. The Yatra will conclude March 4 after covering Jorhat, Lakhimpur and Dhemaji districts. (PMSBV 270206)

JBIC funds Umiam HEP R&M The Japan Bank for International Cooperation is providing JPY 1.964 B for Renovation and Modernisation of Umiam HEP II at Umsumer through loan agreement no ID-P156 dated March 31, 2004). On Feb 20, '06 (The Economic Times), the Meghalaya State Electricity Board has issued Notice inviting International Competitive Bidding for the same. The R&M of the 2 X 9 MW units is to be completed in 25 months from the date of the award.

Korean Company in Nagaland? The NEC Energy Ltd, a Korean firm, is presently in Nagaland conducting preliminary survey on the feasibility of investing in phase-II of the Doyang HEP at Napa Doyang area in Wokha district. The firm reportedly is in direct contact with Chief Minister Neiphiu Rio, who is also the Power Minister. The process of preparing a memorandum of understanding is presently on and the State govt is in the process of initiating necessary paper work for land acquisition and compensation to the landowners. The existing 75 MW Doyang HEP-I is being run by the NEEPCO.

⇒ The land owners have sought clarification from Chief Engineer Power Dept, Nagaland. The Korean company has already completed the first of feasibility survey but so far neither the Govt of Nagaland (Power Dept) nor the Korean Company contacted the actual land owners. How could it be possible to sign MoU without the knowledge of the actual land owners? The project would affect more than 15 villages and the main affected villages where more than 50% of land is to be acquired are Moilan, Longchum, Pyotchu, Pyangsa & Lotsu.

⇒ It was learnt that State Power Dept is receiving a very good response to its notice inviting tender for running the 24 MW Likimroh Hydro-Power Project. 5-6 private firms said to have responded to the NIT and the department is presently studying the responses. The State Power Dept is initiating several other power projects including a thermal power project and several mini and micro hydro power projects. (Nagaland Post 100206, 170206)

Company News

⇒ **Ircon interested in HEPs** The Ircon International, the Indian Railways' public sector unit, is looking for partnerships in construction of HEPs and is evaluating some proposals from various players.

⇒ **Gammon gets NHPC contracts** Gammon India has informed Bombay Stock Exchange that it has secured contracts worth Rs 1004.7 crores, including some from NHPC. (Business Line 170206)

NHPC

ECB for Subansiri? NHPC CMD has given contradictory information over the last month in separate statements about getting $ 100 million (450 crores) external assistance for the Subansiri Lower project in Arunachal Pradesh. In an interview to the Economic Times (130106) he said "We have tied via the external country assistance route via Duetsche Bank which is for 17 years at a rate of 3.5%". However a PTI newsreport in Financial Express (180106) quoted him saying "The company is also likely to finalise a $ 100 million (about $450 crore) concessional loan as export credit assistance from Coface of France".

China objection of Upper Siang China has objected to NHPC's plan of 11 000 MW Upper Siang HEP in Arunachal Pradesh as the project could lead to submergence in Chinese territory. The new site that NHPC is looking for could mean scaling down the project to 7000-8000 MW. (BUSINESS LINE 180106)

Teesta IV Bengal project to HCC Hindustan Construction Company has informed the stock exchange that it has been awarded a contract for Rs 395.9 crores by NHPC for the civil works of the Teesta IV project in W Bengal. (Business Line 250106)

PUMP STORAGE PROJECTS

Tehri Rajasthan Discoms have signed an agreement with the Tehri Hydro Development Corp for buying the power from the proposed 1000 MW Tehri Pump storage project (the first such project in North India) during peak hours. The Discoms will supply off peak hours power to THDC for pump back operation. (The Hindustan Times 200206)

POWER SECTOR

Losses mount According to Economic Survey for 2005-6 released in Parliament on Feb 27, '06, the overall GDP losses to the economy have gone upto Rs 300 000 crores on the assumption of power intensity of aggregate output in the economy. The country is estimated to have lost 50 BU or Rs 15 000 crores in foregone generation alone. The power generation grew at 4.7 % to 458.6 BU during April-Dec '05 compared to annual target of 5.8% and lower than the 6.5% growth during the same period in the previous year. The growth in thermal generation has been 1.4%. The total commercial losses of state utilities are estimated at Rs 22 569 crores with a negative rate of return of 26.13%, lower than 23 558 crores and a return of minus 31.94% the previous year. The gross subsidy is likely to be Rs 35 632 crores, (net subsidy Rs 24 070 crores) marginally lower than Rs 36187 crores in 2004-5. (Business Line, The Hindu 280206)

New Tariff Policy criticised The new Power Tariff Policy of govt of India has been criticised by the Confederation of Indian Industries, saying that it provides undue advantage to public sector companies like NTPC by exempting them for five years from following a tariff based competitive route. CII said that the Power Ministry had failed to differentiate between its role as an owner of PSUs and its role as a policy making body for the power sector. The union power secretary has refused any review of the Tariff Policy on these grounds and asked them to execute projects without govt guarantees. (The Economic Times 170206)

The Policy The Ministry of Power, has issued the Tariff Policy on 6th Jan, '06 which says in Para 5.1, "… All future requirement of power should be procured competitively by distribution licensees except in cases of expansion of existing projects or where there is a State controlled/ owned company as an identified developer and where regulators will need to resort to tariff determination based on norms provided that expansion of generating capacity by private developer for this purpose would be restricted to one time addition of not more than 50% of the existing capacity. Even for the Public Sector projects, tariff of all new generation and transmission projects should be decided on the basis of competitive bidding after a period of five years or when the Regulatory Commission is satisfied that the situation is ripe to introduce such competition."

CERC seeks clarifications According to a Release from the Central Electricity Regulatory Commission (wwwcercind.org 170206), CERC has sought a clarification from the Ministry of Power about the above, making the following points, among others.

⇒ There are some private sector projects which have made considerable progress before announcement of the Tariff Policy. It may not be advisable to discard all such projects and start the process of competitive bidding, in view of the prevailing shortages in the country. The developers of a couple of such projects have filed petitions before the CERC. CERC has sought to interpret the expression "future procurement" to distinguish it from existing firm procurement, so that there may not be any uncertainty in this regard.

⇒ The CERC is of the view that in cases where one of the following conditions for procurement of power has been fulfilled prior to the 6th Jan '06, such procurement shall be construed as firm procurement, and the provision of Para 5.1 of the Tariff Policy shall not be attracted for such procurement: Where PPA has been signed and approved by the Appropriate Commission, Where PPA has been signed and is pending before the Appropriate Commission, but subject to approval by the Appropriate Commission, Where 'in principle' clearance of the project cost and financing plan has been given by the Central Commission, but subject finally to approval of the PPA by the Appropriate Commission, Where financial closure has been achieved.

CERC cap on trading margin The CERC in its order on Jan 23, '06 has fixed a ceiling of four paise per unit on trading margin of electricity traded "to avoid arbitrary exercise of power by traders to fix their own margins of profit and to avoid keeping consumers at the whim and vagary of the traders. Earlier CERC noted that traders were charging 530 paise per unit of electricity traded. (The Hindu 270206)

Mandate to regulators Union Power Ministry has mandated the state electricity regulatory commissions to bring down cross subsidies to a band of 20% in five years. (Business Line 260206)

Cost & time overruns According to the June 05 status report from Ministry of statistics and programme implementation, of the 648 live projects, 79 projects had both time and cost overruns. The break up of the figures for projects of Ministry of Power and Water Resources from among these 79 projects is as under.

	Original cost	Anticipated cost	Inflation impact	Logistics impact	
				Interest impact/ fund constraint	Others
Power	5114	15 036	30%	26%	45%
Water Resources	543	1069	2%	1%	97%

(The Economic Times 270206)

Captive Plants

⇒ **JK Cement** To rationalize power cost, the company plans to put up a 13.2 MW waste heat recovery power plant and install a 20 MW petcoke based power plant. (The Hindu 180206)

POWER OPTIONS

India has highest T&D losses in S Asia Power Minister told Rajya Sabha on Feb 23, '06 that India has the highest transmission and distribution losses in power sector in whole of S Asia at 31.05% in 2004-5. Bangladesh and Sri Lanka looses are at 18% and China has just 7% losses. (The Times of India 240206)

MNES unable to spend money The Union Ministry of Non Conventional Energy Sources have been able to spend only 22% of its budgetary allocation of Rs 599.75 crores for 2005-6, according to the latest update from the Comptroller and Auditor General of India. (The Times of India 190206)

IRRIGATION

Maharashtra

Farmer Killed in Police Firing at a Dam A protest by farmers in Amravati district went out of hand on Feb 20 when the police shot and killed a 23-year-old boy in their attempt to quell the protest by farmers demanding release of water from Chargarh dam to nearby villages. The victim, identified as Prafulla alias Pappu Raut (23), a resident of Khed-Morshi village, was declared dead on arrival at a hospital in Chandur Bazaar town. The state govt has ordered an enquiry and in the mean time suspended the district police chief after strong protests by local farmers, who refused to cremate Prafulla unless some action was taken. (NDTV, Reuters, PTI 210206)

MP **1700 farmers threaten suicide in Jhabua** About 1700 farmers have threatened to commit suicide in Petlawad block in the tribal-dominated Jhabua district in western Madhya Pradesh following harassment by bank officials for recovery of loans granted for failed minor irrigation projects, the MP Legislative Assembly was informed on Feb 24, '06. Dr Govind Singh (Cong) and Dr Sunilam (Samajwadi Party), who raised the issue

through a call attention notice, said the harassed farmers, in a letter to the President of India, had sought permission for committing suicide. Rural Development Minister in his reply announced that efforts would be made to revive the irrigation schemes as 81 of the total 208 schemes had failed. Technical fault, lack of maintenance, drying up of water sources and non-payment of electricity bills were the main factors for the failure of the minor lift irrigation schemes launched in 81 villages. A committee led by Petlawad sub-divisional magistrate was inquiring into the reasons for the failure of the schemes and loan recovery by cooperative bank would remain suspended till the inquiry was completed. The cost of minor lift irrigation schemes came at Rs 19 000 per ha, much lower than the schemes implemented by the Water Resources dept. Dr Sunilam said the Gram Sabhas in 23 villages had adopted proposals for reviving the schemes. (UNI 240206)

Haryana 1st to devolve major irrigation to PRIs

Haryana is the first state in the country to devolve major irrigation to three tier Panchayat Raj Institutes, including administrative and financial powers. Union Panchayati Raj Minister said he would shortly write to all CMs to follow Haryana's example. Haryana has transferred functions, functionaries and funds of its ten depts. To PRIs, including agriculture and forests, besides major irrigation. (The Hindu 180206)

Shbad-Dadupur-Navi Canal A new Shabad-Dadupur-Navi canal is being constructed at a cost of Rs 262.27 crores. The capacity of Siwani Canal is being doubled.

⇒ **New Bhakra link canal** The Haryana CM laid foundation stone for the 109 km long Bhakra Mainline-Hansi Branch-Butana Branch multipurpose link canal on Feb 18, '06 near Nimnabad village in Safidon assembly constituency in Jind district. This Rs 260 crore project is supposed to help Haryana fully utilize its share of 3.83 MAF of Ravi Beas water. CM said that the state has been able to use only 1.62 MAF and major part of it has been flowing to the tail of Bhakra main canal. The new canal is to originate from the left of RD 340115 of Bhakra Mainline near village Azimgarh in Kaithal district and have a capacity of 2000 cusecs. It would merge with Hansi Branch and Butana Branch at Anta Head in Safdon assembly constituency in Jind district after passing through 53 villages of Kaithal, Kurukshetra, Karnal and Jind districts. It supposed to help equitable distribution of canal water in the 16 districts of Jind, Kaithal, Karnal, Kurukshetra, Ambala, Hansi sub division of Hisar, Bhiwani, Mahendragarh, Rewari, Gurgaon, Mewat, Faridabad, Jhajjar, Rohtak, Sonepat and Panipat. The canal is also help checking the flood problems in Guhla, Cheeka, Assandh, Kaithal and Rajound. It is also to help in utilizing surplus waters of Ghaggar and Yamuna rivers. Govt had acquired 1367 acres land and paid compensation of Rs 97.06 crores. (The Hindu 190206, 210206)

Andhra Pradesh Telugu Ganga Canal path to be changed The path of the TG Canal in Cuddapah district is to be changed following directions from Central Empowered Committee appointed by the Supreme Court. The canal is passing through the Sri Lanka Malleshwara wildlife Sanctuary, home to the rare bird called Jordon's Courser. The CEC has asked the Bombay Natural History Society to find an alternate path that will not affect the sanctuary and also be acceptable to the AP irrigation dept, by March 8, '06. CEC took up the case following petition by Bittu Sehgal, editor, Sanctuary. (The Pioneer 160206)

The CEC (Supreme Court) has asked the Bombay Natural History Society to find an alternate path of Canal that will not affect the sanctuary

Record outlay for irrigation AP has made the highest ever outlay of Rs 10 000 crores for irrigation in the outlay for 2006-7, comprising of Rs 7777 crores from state resources, Rs 1200 crores from AIBP, Rs 750 crores from RIDF and Rs 261.46 crores from external sources. Irrigation, Agriculture and power account for Rs 19551.9 crores that is 61% of state plan outlay.

⇒ **Jalayagnam** The CM has included 30 major projects with the total cost of Rs 90 000 crores. Irrigation dept is contemplating raising of Rs 6300 crores from market as budgetary allocation is insufficient. Tadipudi and Pushkara LIS require over Rs 200 crores this year for completion, but Rs 50 crores has been allocated to each project. Somasila project gets Rs 150 crore though it still requires over Rs 600 crores. Telugu Ganga and Chokka Rao LIS-I (Devadula) have been given significant allocations. The ongoing irrigation projects in Mahbubnagar district like Kalwakurthy, Bhima, Nettempadu and Koilsagar have been allocated Rs 600 crores where has tenders have been called for Rs 6 000 crores. In Anantapur district, for projects like Handri Neeva and Penna Ahobilam, the allocation is Rs 425 crores, whereas tenders have bee approved for over Rs 2 000 crores. Galeru Nagari Sujala Sravanthi was allocated Rs 350 crores, but works of Rs 1550 crores have been taken up.

⇒ **Irregularities in award of contract** It was alleged in the assembly on March 2, '06 that the cost of Sripadasagar LIS in Karimnagar district was increased to 1344 crores to Rs 1725 in three days on award of contract, effecting an escalation of Rs 381 crores at concept stage itself. Major Irrigation Minister claimed that this was because the scope of irrigation from the project was raised from 1.36 lakh acres to 2.00 lakh acres. (The Hindu 210206, 030306 Deccan Chronicle 260206)

HP Bharat Nirman The Himachal Pradesh govt has sent a Rs 688 crore proposal to the centre under the Bharat Nirman Plan to irrigate additional 90 000 ha over the next three years. (The Tribune 240206)

INTER STATE DISPUTES

MP farmers break UP dam gate in Ken basin On Feb 22, farmers of MP, facing acute water scarcity, it is reported (Dainik Bhaskar 230206), went to UP dam site at mid night and broke open the gate at the dam site to release the water reserved in the dam for drinking water supply in summer.

Urmil Dam: Salient features The live storage capacity of this 18.34 m high dam near Shamshera village in Mahoba district in UP is 115 MCM. The 29.4 km long main canal is suppose to provide irrigation to 6800 ha in Mahoba & Chhattarpur (MP). Completed in 1984, the project irrigates 4769 ha on an average and provides 1.7 MCM drinking water.

Orissa-AP on Vamsadhara Demand for Tribunal The Orissa CM has demanded that the PM should set up a Tribunal to resolve the AP-Orissa dispute on use of water from Vamsadhara River. In a letter to the PM, the CM has expressed serious concern over the construction of Vamsadhara Phase 2 project by AP and has demanded stoppage of the same till the dispute is resolved.

⇒ **Orissa Plans** The Orissa govt is contemplating construction of Upper Vamsadhara project near Munigora and Lower Vamsadhara near Minnajola in Rayagada district at a cost of Rs 970 crores. These schemes will be used to transfer water to Rushikulya basin, to irrigate 30 000 ha in Ganjam, Rayagada and Gajapati and also provide drinking water to Berhampur. According to AP major irrigation minister, orders have been given for survey and investigation and AP is concerned about the same. AP has sought an appointment with the Union Water resources minister and Central Water Commission. AP says Orissa plans are in violation of the agreements between the two states in 1962 and 1974 to share the 70 TMC water available in the river on a 50:50 basis.

⇒ **AP plans** AP plans to utilize its hare through Vamsadhara I (17.84 TMC) and Vamsadhara II (17.16 TMC). AP diverted water allocated for stage II project through Neredi barrage, 16 km from Guntur town. Orissa objected to it, but AP did not entertain the objections. The project is expected to benefit farmers of Srikakulam district. Neredi barrage is likely to submerge 106 acres in Orissa and the dispute has been going on since 1970. AP laid the foundation stone on Dec 19, '05 and released Rs 16 crores as mobilization fund to the contractor. Earlier AP had completed the first phase of the Gotta barrage. Orissa alleges that AP is trying to manipulate an agreement for Gotta barrage phase II and the Neredi barrage. (The Asian Age 150206, 270206 The Hindu 250206, 260206)

Maharashtra-AP over Babli Project The Andhra Pradesh has lodged formal complaint with the Central Water Commission against Maharashtra for starting work on Babli irrigation project on Godavari River, saying it violated earlier CWC orders. The work has been started as the water level at Sriramsagar project fell below 1071 ft, as a consequence, it backwaters which so far prevented have receded. (The Hindu 030306)

Krishna Commission starts work The new 3 member Krishna Water Commission set up by the centre under the chairmanship of the former Supreme Court justice Brajesh Kumar has started its work in January '06. It is to look into the dispute between Maharashtra, Karnataka and Andhra Pradesh after the lapse of the Bachawat award in 2000. Bachawat Commission Award in 1974 had allocated 560 TMC to Maharashtra, 700 TMC to Karnataka and 800 TMC to AP.

⇒ Maharashtra argues that there is additional 300 TMC water in Krishna basin that should be allocated to the three states. It also argues against the increase in height of Almatti dam in Karnataka that affects the upstream areas in Maharashtra, and also argues for removal of restricts posed by the earlier commission against use of water from Koyna and Tata dams in Maharashtra.

⇒ AP argues that since Maharashtra and Karnataka failed to fully utilize the water allocated by the earlier commission before the deadline of 2000, all the additional water should be allocated to AP. (Business Standard 240206)

Floods 2005 losses among top 20 disaster According to the Swiss Re's annual disaster report, the floods in Mumbai, Gujarat and parts of MP in July '05 caused insured losses of Rs 3 800 crores ($ 844 m) and total damages of Rs 15 000 crores, making it among the top 20 worst insured losses of 2005. The total worldwide losses due to natural disasters in 2005 was $ 83 B. The floods left 1050 dead, 100 missing and thousands homeless. (The Economic Times 270206)

AGRICULTURE

The unprecedented crisis

⇒ **Worst crisis since Independence**
⇒ **Coffee growers face doom under global forces**
⇒ **Per capita food consumption at Bengal famine rate**

According to Kisan Sabha, the largest farmers' organization in India (1.88 crore members), rural India is facing the worst agrarian crisis since Independence. The per capita consumption of foodgrains is now at 155 kg per annum, public development expenditure on rural development was 14.5% of GDP in 1990, coming down to 5.9% in 2001, agricultural incomes have fallen by Rs 150 000 crores per annum. Globalisation has been one of the big reasons for this, WTO has been another. Hundreds of cotton farmers in Maharashtra, Punjab & AP and pepper and coffee farmers in Kerala's Wayanad

have committed suicides. In most of the suicide areas, 82% of the loans came from traders and money lenders.

⇒ The price of coffee beans fell from Rs 90-120 per kg in 1999 to Rs 11-20 today, but the price of coffee powder rose from Rs 450 pre kg in 1999 to Rs 900-1200 pre kg in 2002. The international markets are manipulated and Indian farmers are facing the doom.

⇒ While the govt has done nothing for land reforms, it is encouraging corporate farming and giving concessions and huge tracts of land to companies, many govts have removed land ceiling limits.

⇒ In the period of seven years after quantitative restrictions on imports were removed, India changed from being a net exporter of cotton to net importer, said the KS leader. However, according to an editorial in Business Line on 220206, in last three years, India has turned from importer to exporter of cotton. It says thanks to an output of 24 million bales in current year (same as last year), country can export 2.5-3 million bales.

⇒ We have three dams in our taluka, but we don't even get proper drinking water. All the water goes to Mumbai or a nearby Coca Cola factory, said Vishe from Shahpur taluk in Thane district in Maharashtra. (Frontline 240206)

Budget does not address the crisis The extent of rural distress and the problems faced by cultivators are simply not being taken as seriously as they deserve, despite the fact that it was the political reaction to this distress that has brought the UPA govt to power at the Centre. There was a lot of lip-service to farmers in the Budget speech, but very little in terms of concrete measures. The only significant measure is the promise of debt relief, in terms of reduction of interest rates on institutional credit from 9 to 7 % (although the National Commission on Farmers had recommended a lower rate of 4 %) and some concession on interest payments. (Incidentally, these do not seem to be accounted for in the expenditure budget.) Even now, only a minority of farmers can access banks or formal institutions for crop loans, and most still rely on input dealers, moneylenders and other informal sources for their loans, so this measure will not help them much.

In any case, credit is only a small part of the problem - the real issue is the collapse of viability of farming, the fact that often the prices farmers receive are lower than the costs of cultivation. The National Commission on Farmers has recommended a number of steps to be taken on an urgent basis, such as the establishment of the Price Stabilisation Fund which would protect our cultivators from the vagaries of the international market. But no such step has been taken and no provision has been made in the Budget for this. A necessary step such as increased import duties on cotton, has not been taken despite the fact that several CM of Congress-ruled states have asked for this. (www.macroscan.com, 020306)

Maharashtra HC notice on farmers' crisis The Vidarbha bench of the Maharashtra High Court has given a notice to the Chief Secretary and senior officials of Maharashtra following a PIL petition filed by Vidarbha Janandolan Samiti and a member of the Yavatmal Zilla Parishad. The petition said that the govt had systematically encouraged farmers to take up cultivation of Bt Cotton and failure of successive crops ruined the farmers. The number of suicides by farmers has gone upto 300. Within 24 hours of this, 4 more farmers committed suicides, one each in Nagpur and Buldana and two from Akola. On March 1, a farmer in Yavatmal district ended his life. On March 2, two farmers from the same district and another from Nagpur committed suicide. (The Hindustan Times 270206, 280206, 040306)

The govt's stand that the imports were necessary in view of the depleting stocks also requires a probe as to who allowed the stocks to be depleted by permitting exports for fodder and mismanaging the situation?

Probe Wheat import decision: Former PM The Former Prime Minister Shri V P Singh has demanded a high level probe into the govt's decision to import 5 lakh T of wheat from Australia at a price of Rs 9500 per T. The consignment would reach the country between March and May when it the govt would have already procured over 16 MT of wheat and when the country is expecting production this year at a higher level than last year. Why should India import wheat at Rs 9500 a T when farmers are given a minimum support price of Rs 6500 per T? He said it was unfortunate that exports were allowed for fodder use. The Bharatiya Kisan Union has been agitating against the decision. (The Hindu 270206)

Punjab Contract Farming The Punjab Agro started the initiative to encourage diversification through contract farming in rabi '02 with a coverage of 22 300 acres and 9 100 farmers. The programme now covers 0.56 m acres involving over a lakh farmers. PA has now tied up with Monsanto, Sygenta, Advanta, Pioneer to provide "high yielding" seeds. Private companies like Mahindra Subh Labh Services, Tata Chemicals & Escorts have started activities in Punjab. (Business Line 270206)

⇒ **Water-logged lands on lease** Many panchayats in Gurdaspur district are leasing out waterlogged common land for upto Rs 10 000 per acre for fish farming. The PSEB has now decided against giving power connections for farmers having shorter than 99 year lease and this has led to protests. If the power connections were not given, no farmer would take water logged lands on lease, say farmers. (The Tribune 170206)

Company News Jain Irrigation It has acquired the mango processing business of Parle Bisleri Pvt Ltd in Hyderabad and Chittoor in AP for Rs 14 crores. Along with its existing facility at Jalgaon, the total mango processing capacity of JISL has now gone up to 60 000 T. (Business Standard 210206)

IFC's new standards Risky for people and planet

International civil society organizations have called the new approach of the International Financial Corp, the private sector arm of the World Bank to social and environmental impacts risky and could leave the people and environments affected by its projects more vulnerable than they were before.

This way any dam company can dam any river, any mining corporation can testify itself that cyanide use is necessary in gold mining, that sanctuaries can be destroyed.

The new guidelines allow IFC to accept that sponsors do ESIAs on their own. If a corp testifies that a project isn't feasible in other ways, people can be evicted from their land, Indigenous peoples loose their cultural roots. All in the name of development! In practice IFC has adopted as its main task to deliver cheap money to big dam, oil and mining corps for the exploitation of Latin America's, Africa's, Asia's and Oceania's raw materials. Ecological and social standards seem to be just 'bureaucratic hurdles'. Public money mustn't be used for such a business model. Past experience provides little basis for faith that IFC or its clients will ensure that projects leave communities and ecosystems better off.

The revisions approved by its Board of Directors on Feb 21, '06 leave the IFC behind other lenders on issues of critical importance to sustainable development. Without many of the minimum requirements and concrete benchmarks that provide some guaranteed protections in existing policies, IFC's new standards undermine the institution's accountability for the social and environmental impacts of its operations.

IFC's new standards do not specify when consultation with local populations affected by its operations will take place, do not adequately protect the rights of indigenous peoples to their lands and natural resources, including their right to free prior informed consent, undermine existing World Bank policy with respect to resettlement, and do not require independent assessment and verification of project impacts, relying heavily instead on companies' self-reporting. Experts argue that both the IFC's former policies and a growing body of international norms are more stringent than the new standards. The new standards fail to acknowledge UN norms on human rights.

One example of where IFC finds itself behind is with respect to no-go zones. The mining industry association, ICMM, and some major commercial lenders, including JP Morgan Chase and ABN AMRO, consider UNESCO World Heritage Sites out of bounds for investment. The IFC, however, refuses to recognize any area as a "no-go zone," identifying instead circumstances in which it could support projects in critical natural habitats.

Recently, the IFC has been strongly criticized for its support of highly controversial projects including the Allain Duhangan Hydro project in India.

The IFC has promoted itself more as a consultant to companies. Recently, the IFC has been strongly criticized for its support of highly controversial projects including the Allain Duhangan Hydro project in India, an oil pipeline in Chad and mines in Ghana and Guatemala.

Undercutting the rights of the world's poor to make things easier and cheaper for the corporate clients won't lead to equitable or sustainable development. Rather, it will lead to increased impoverishment and resistance. The IFC has clearly failed to develop rights-respecting standards suitable for the 21st century. (PR 210206)

Shell fined $ 1.5 B for polluting Niger Delta A Nigerian court has ordered Royal Dutch Shell to pay $ 1.5 B in damages to polluting the Niger Delta. A federal High Court ruled that Shell must compensate the Ijaw communities in Bayelsa for degrading their creeks and spoiling crops and fishing. Communities have repeatedly suffered due to Shell letting its oil spill into the rivers of the Niger delta, degrading the environment, spoiling crops and poisoning fish. The Ijaw community has declined an offer of dialogue from Shell and asked Shell to pay or quit. (The Hindu 270206)

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