

Discrimination in an Irrigation Project

Rising population and over-exploitation of groundwater for irrigation has aggravated conflict among farmers located at the upper reaches and the tail end of the Palkhed canal system of the Upper Godavari project of Maharashtra. The formation of water users' associations did alleviate the conflict to some degree, but there continues to be disagreement between the government's water department and the WUAs on the terms of allocation and other measures.

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The Upper Godavari Irrigation Project in Nashik district, Maharashtra, is a multi-storage, multi-canal system. There are two storage reservoirs – Karanjwan and Palkhed on Kadwar river, one each at Waghad on Kolvan river and at Ozarkhed on Unanda river. All of these are tributaries of the Godavari. Each of these reservoirs has an independent canal system for irrigation and sundry utilisation. The balance water is pooled at Palkhed to feed the Left Bank Canal (LBC), the longest and largest canal running through Niphad and Yewala talukas.

The Right Bank Canal (RBC), ex-Palkhed dam, was in existence before 1947. Other sub-projects were completed between 1975 and 1990, and water was released for irrigation in 1990-91. The Palkhed Left Bank Canal (PLBC) was the last one to be completed.

Iniquitous Distribution

Since the dams were completed ahead of the canals, the areas commissioned in their upper reaches received abundant water pending the completion of the canal network. Because there was surplus water in the initial years it was possible to lift some from the upstream sub-project canals and such permission was granted.

Due to increase in population and over-exploitation of groundwater for irrigation purposes, there has been a significant drop in the availability of groundwater for domestic use. Many villages and towns in the vicinity are demanding drinking water from the storage reservoirs and canals. But since no storage for drinking water was

ever planned, frequent water release for this purpose has also led to much greater seepage and loss through evaporation, reducing the water available for irrigation by larger amounts than what is apparent.

For the reasons enumerated above, the farmers on PLBC command area stopped getting water as per the plan. The problem became severe when the farmers in the upper reaches of canal started siphoning out water illegally by installing pipes in the canal banks at bed level or even below bed level and drawing water 100 to 200 m away from the canal to directly fill their dug wells directly in order to water their fields. These unauthorised pipes, locally called 'dongala' pipes are difficult to detect when the canals are flowing. Reportedly there are more than 4,000 such pipes in the Palkhed system. Because of these pipes it is common for those at the tail end of the canal not to get adequate water in most of the gravity canals; this is what has happened in the case of the Yeola farmers of the PLBC taluka.

Participatory Irrigation Management: A New Phase

In the early 1990s, Participatory Irrigation Management (PIM) was taking root in the state. Under this system, water users' associations (WUAs) were formed at the minor level with operational areas ranging from 300 to 500 ha. Water was delivered to these WUAs on a volumetric basis; water management was also the responsibility of the WUAs.

In Maharashtra, the system is that the water resources department (WRD) and WUA sign an agreement specifying their respective rights, responsibilities and

functions. The WRD is supposed to allocate water and supply it to the WUA keeping in mind the ratio of the WUA's operation area to the total culturable command area (CCA) of the project as per seasonal quotas fixed, and water availability in normal year. This is indicated in the agreement. The WUAs in turn are expected to allocate and supply water to farmers, maintain the system and recover the water fees from the farmers. The association has to pay water bills as per the volumetric rates fixed by the Maharashtra government for different seasons. The WUA has the freedom to grow any crops within the sanctioned quota.

PIM Forces the Issue

This process provided some solutions for reliable, equitable and timely supply of available water to all the farmers in the command area. Under the PIM, the WUAs have to sign a memorandum of understanding (MoU) with the WRD, spelling out the terms and conditions, rights and responsibilities of both parties.

Having realised the benefits of the system, farmers in Yeola initiated about 32 WUAs by 2000-01, signed MoUs and started getting reliable water supply. The water quota allotted to these WUAs was 3,000 m³ per ha at minor head or 4,478 m³ at canal head. This quota was determined by WRD on an ad hoc basis, pending exact information about seepage/transit losses, drinking/domestic water demands and commitments or sanctions for lifts in the upper reaches.

The initial MoUs were for three years with a provision for extending/renewing the contract for a longer duration after mutual consultation. But when the WUAs requested a renewal they found that there was no response from the WRD; meanwhile, there was steady shortfall in supply. In 2000-01, even though the reservoirs

Table 1: Sub-Projects and Their Allocations in the Upper Godavari Irrigation Project

Sub-Project	Live Storage (mm ³)	Canal Length (km)	Culturable Area (ha)
Palkhed	21.30	LBC – 130	59400*
		RBC – 20	3700
Waghad	72.23	LBC – 15	2357
		RBC – 45	7285
Ozarkhed	60.32	LBC – 49	14856
Karanjwan	166.22	LBC – 16	2284

Note: * Of which 22,000 ha are in Yeola taluka and the remaining in Niphad taluka.

Source: Office of the chief engineer, North Maharashtra Region, Nashik.

Figure 1: Upper Godavari Project

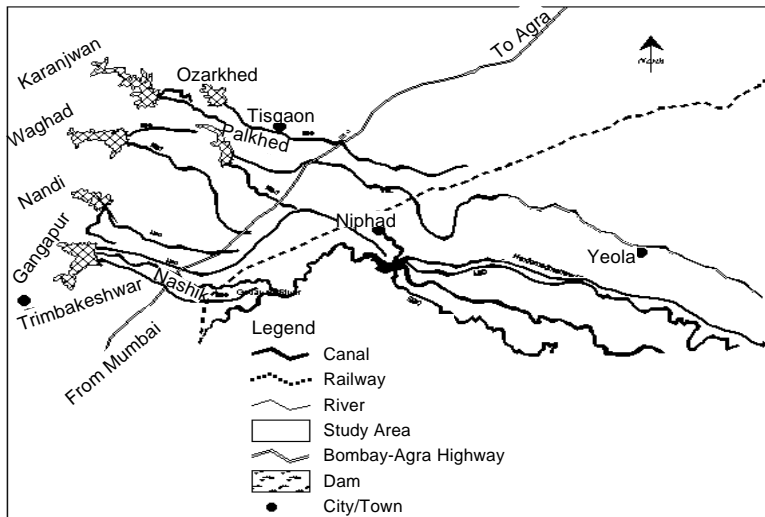
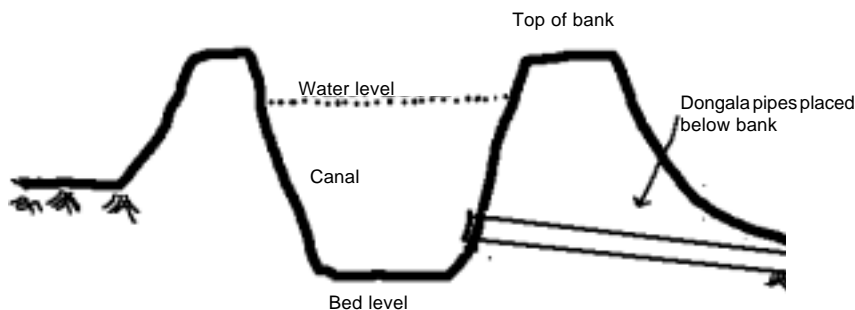


Figure 2: Illegal Water Drawing



were 90 per cent full, the water supplied was less than previous years when the reservoirs has much less water.

Associations Federate

The WUAs, finding that the WRD had reneged on the agreement, came together under a single umbrella organisation called Balirajya Pani Vapar Sahakari Sangh (BPVSS) to represent their cause. The BPVSS served a legal notice on April 16, 2001 to the officials of the WRD and the collector, Nashik. The allegation was that water supplied was less than sanctioned quota while the upper reaches of PLBC in Niphad taluka and other sub-projects/canals received more. The sangh requested the WRD to immediately restore supply to Yeola taluka but the department replied that (i) the losses in the canal were high (45 per cent), (ii) there was no conscious injustice done to the WUAs for after all the WRD has the rights to reduce water quota, and (iii) the collector had set aside a sizeable quota to meet drinking water needs.

The BPVSS was not satisfied with this

rejoinder and continued to negotiate with senior officers. Meanwhile the WRD introduced new conditions into the contract. Among these was reduced quota; a clause that measurement of water would be done at distributary head and not at the entry points of operational areas as had been done earlier; the condition permitting freedom of crops grown within the quota, carrying over the balance from rabi to summer and storing water that was not used up in the kharif season, was also withdrawn. The changes were not acceptable to the BPVSS.

Short of a Solution

A meeting was held in the office of chief engineer (CE) to resolve these issues. Both parties came to a consensus on the issues of (i) storing water in kharif; (ii) carrying of quota not used in rabi to summer; and (iii) measuring the water at minor head but they could not agree on the demand for restoration of quota. The BPVSS also spoke to the secretary, WRD. On March 16, 2004, representatives of the department and the

sangh met at the office of the CE, Nashik to discuss the new water quota. The executive engineer had worked out the net water available at the head of PLBC after accounting for all upstream commitments. After taking into account the loss in the reservoirs and loss due to seepage the WRD could provide only 1,537 m³ per ha at canal head, which works out to about 877 m³ per ha at minor head.

The reduced quota was rejected by the BPVSS. Their arguments were: (i) all losses such as evaporation from reservoirs, silting, etc, were assumed and not actually measured; (ii) quantities of water for lifts were considered according to the maximum area that could be sanctioned and not as per actual sanctions so far; (iii) nearly 4,000 unauthorised dongala pipes in the canal had been siphoning off water thereby reducing the flow to downstream areas; this was camouflaged as losses; (iv) the upstream canal systems like Waghad, Karanjawan, Ozarkhed and PRBC were supplied their full quota as originally planned or demanded and only the leftover water was allocated to the PLBC. This was a case of discrimination/bias; and most importantly (v) all seepage, silting, evaporation and water likely to be reserved for drinking water from the entire Upper Godavari Project was deducted from the PLBC's water quota. A more equitable method of deduction should have been in

Table 2: Quota Sanctioned by WRD for Different Areas

Canal	Water Allocated at Head of Canal (mm ³)	Culturable Area (ha)	Water Quota Per ha (m ³ /ha)
Karanjwan	8.21	2284	3594
Palkhed RBC	22.37	3700	6046
Palkhed LBC	91.35	59400	1537
Waghad	43.311	9642	4492

Note: The cropping pattern is evolved by the WUAs keeping in mind the sanctioned quota of water.

Table 3: Chronology

Year	Event
1990-91	(i) Palkhed Left Bank Canal completed. (ii) Waters made available to Yeola farmers (area: 22,000 ha). (iii) As per project Yeola farmers allotted 4,478 m ³ /ha at canal head.
1997	WRD granted 4,478 m ³ /ha at canal head. Farmers satisfied.
2000	Quota reduced
2001	WUAs file a court case against the government.
2004	Water resources department proposes a quota of 1,537 m ³ /ha at canal head to Yeola WUAs.
2005	WUAs sign MoUs under protest; court case continues.

place by which all sub-projects and sub-systems bore the burden of the losses. The water now being offered by the department was not adequate to meet even requirements for one rabi rotation every alternate year.

The WRD refused to concede to WUA demands and the associations were reluctantly forced to accept the terms for the much reduced quota. While water supply to these areas has resumed for the 2004-05 rabi season for one rotation, the BPVSS has not given up its struggle for a fair deal.

taluka has affected about 17,000 farmer families and their annual loss (jowar, sun-flowers, vegetables) totals approximately 31,000 tonne valued at Rs 30.8 crore.

Table 3 is a chronology of events during the conflict. [EPW](#)

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Eightfold Solution

The problem of shortfall in water supplied for irrigation and the conflict arising out of the situation are going to be a constant feature in the future. The government and the users will have to work out a long-term solution to effect sustainable service. There are various options they can explore: (i) a dialogue between stakeholders; (ii) maintaining transparency; (iii) bringing precision and accountability into the whole business of measuring water; (iv) determining loss through evaporation, seepage, etc, through periodical surveys, testing of canals, and regenerated flows from upstream irrigation; (v) adopting a conjunctive use of surface and groundwater to increase the quantity of water supplied for irrigation, and increase the frequency of irrigation; (vi) recycling water used by industries/municipalities/gram panchayats to make it fit at least for irrigation; (vii) supplying water for irrigation only. (Municipalities and gram panchayats should be told to make alternative arrangements for drinking water. Separate tanks should be constructed to hold such water for the summer and filled once to reduce transit losses due to continuous supply.) and (viii) reducing or eliminating pilferage of water through dongala pipes.

Highs and Lows

The conflict began in 1994-95 when the Yeola farmers stopped getting their share of water. Things showed signs of resolution between 1996 and 1999 when they began to get a little water after the formation of WUAs. The problem resurfaced in 2000-01 and reached its peak in 2003-04 when the WRD refused to accede to the terms of the sangh and would not distribute water though the WUAs until they signed the new MoU.

The inequitable supply of water to the tail end reaches of PLBC in Yeola