Water and Sanitation Program

An international partnership to help the poor gain sustained access to improved water supply and sanitation services

South Asia Region

Field Note

Community Partnership in Operation and Maintenance

Public Sector Water Corporation Leases out O&M to Users (Meerut, India)

This Field Note describes the piloting of a new community-based approach to Operation and Maintenance (O&M) of a public sector constructed multi-village rural piped water scheme. It also highlights the key lessons learned from the experiment.

Message

Despite large capital investments, Rural Water Supply (RWS) service delivery in Uttar Pradesh (UP) has had a poor sustainability record. The key reason for this is inadequate Operation and Maintenance (O&M) of the ongoing schemes. One way of addressing this issue is to give users the responsibility of O&M management.

Towards this end, a pilot project was conducted by the District Administration, Meerut in partnership with the Water and Sanitation Program – South Asia (WSP–SA), with support from UNDP. In this pilot, the UP Jal Nigam (UPJN) leased out the O&M of the recently constructed Ramraj multi-village water supply scheme to the user community for a period of 15 years. The users have formed a registered society to manage this scheme and are charging an appropriate tariff from the community to recover their O&M costs. The pilot has been successful and the lessons learned from it would be useful when the experiment is sought to be replicated in other parts of the state.

Mr Sanjay Agarwal
District Magistrate, Lucknow,
(Formerly District Magistrate, Meerut)
December 1999

The Problem

Most rural piped water schemes in UP are both constructed and maintained by the UPJN (the state-owned water corporation). About a third of these schemes are out of order at any given point of time. This is chiefly due to poor O&M. The two main reasons for the inadequate O&M are: (i) lack of funds and (ii) non-participation of the users. User charges, if levied, are rarely recovered and this results in a big deficit between recurrent expenditure and revenue, as the table here reveals.

Recurrent Income and Expenditure on UPJN's Piped Water Schemes (1998-99)

(in Rs crore)*

	Expenditure (Rs)	Revenue (Rs)	Deficit (Rs)
UP Plains	33.23	3.59	29.63
UP Hills	5.67	1.14	4.52
Total	38.90	4.73	34.15

*1 crore = Rs 10 million; $1 = Rs 43
Source: *UP Jal Nigam – A Program-wise Expenditure 1998-99*

With a deficit of Rs 34.15 crore, the financial viability of existing O&M operations is a serious question.

Key Features

- A four-village piped water scheme costing Rs 47.6 lakh (1 lakh = Rs 100,000) and serving a population of 10,990 (Census: 1991).
- UPJN leases out O&M of completed scheme to the user community for 15 years.
- Users set up four village level O&M committees and one legally registered apex multi-village RWS society for the entire scheme.
- Elections to the RWS society are mandatory every three years.
- The RWS society is charged with the responsibility of collecting full O&M costs from the consumers. For this, it is empowered to levy and collect a household connection fee as well as a monthly water tariff.
- All consumers have the right to access financial and operation-related information from the RWS society.
- RWS society can employ technical personnel for O&M operation.

The Pilot

The Meerut pilot seeks to pilot a new community-managed and financed approach to O&M of rural piped water supply schemes. The main objective of this new arrangement is to test its financial and institutional viability and learn lessons in the process. The key features of the pilot are given in the box (left).

Consumer signing a receipt on payment for a household connection

Sequence of Events

1989
UPJN commences construction on the Ramraj (Meerut) multi-village piped water supply scheme.

1989-98
Construction inordinately delayed and finally completed only after 10 years.

June 1998
Community requests the District Magistrate (DM) of Meerut and UPJN to allow them to take over O&M of the scheme.

September 1998
On the recommendation of the DM Meerut, the Government of Uttar Pradesh (GOUP) issues a Government Order (GO) allowing UPJN to lease out the O&M of the Ramraj scheme to the users for 15 years.

October 1998
Tripartite agreement signed between DM, RWS society and WSP–SA. WSP–SA to provide technical assistance to the community, with the financial support of the UNDP.

November 1998
The Ramraj RWS society is registered under the Societies Registration Act of 1860.

Highlights of Technical Training Provided to Society Members

- Overview of possible faults and defects and ways to rectify problems in pumping plant, chlorinator, OHT and distribution system.
- Procedure for leak repairs.
- Technical requirements for installation of household connections.
- Maintaining and monitoring water quality.
- Cost estimates for O&M.
- Tariff setting and calculation of income and expenditure on O&M.
- Devising formats for record keeping of house connections, collection of revenue, functioning of mechanical installations, leak repairs, water testing, inventory etc.

Practical demonstrations were given to members and the pump operator-cum-valveman hired by the society for operation of pumping plant, chlorinator, valve operations, testing of residual chlorine, repair of valves, and pipeline leakages. An O&M manual on technical and financial issues, with sample formats, was distributed to the participants.

Financial Performance

The O&M of the Ramraj scheme is proving to be financially viable. The minimum number of household connections required for the society to cover its O&M costs is 335, while the number of subscribers is already 350. The table (right) brings out the comparison with UPJN's O&M costs.

The O&M cost comparison reveals that the Ramraj scheme recovers its costs when there are 335 household connections, while the UPJN does not. The main fixed cost of the UPJN is on their large staff, while the society's cost on their personnel is only Rs 4,000 per month.

Monthly O&M Income and Expenditure of UPJN and Ramraj
A Comparison of 350 Household Connections

(in Rs)

Estimated Expenditure	Ramraj Society	UPJN Norms
Electricity	6000	6000
Bleaching powder	560	560
Staff	4000	17600
Pipeline repair	2000	400*
Pumping plant repair	500	800
Miscellaneous expenditure	300	0
Total:	13360	25360
Revenue (The monthly water charge per household is fixed at Rs 40 and Rs 18 for the society and UPJN respectively).	14000	6030
Net Revenue	640	–19330

(UPJN circular, 1991)
1. The estimates given in the table exclude cost of replacement and major repairs. The society has accumulated a corpus of Rs 2,42,168, of which Rs 2 lakh has been invested in long-term deposits as a reserve fund to meet emergencies including replacement of machinery and major repairs to the scheme. UPJN has no such scheme.
2. The calculation assumes pumping of 2.3 hours daily in both UPJN and Ramraj systems.
*UPJN's real cost of repairing pipelines is at least Rs 2000, but their norms permit expenditure of only Rs 400, which is grossly inadequate.

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WSP–SA consultants provide technical and management assistance to the society members. The society decides not to provide any public standposts and only have household connections. WSP–SA undertakes a training need assessment (TNA) exercise for capacity building of the community. Training is imparted to the society members and their staff, and an O&M Manual is prepared and distributed.

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- Individual household connections reach 350.
- The society recovers full water charges from the consumers.
- The society charges Rs 590 per household connection (Rs 500 connection fee, Rs 50 installation fee and Rs 40 advance charge for the first month).
- The following O&M tasks are undertaken by the RWS society. These include:
  - Repairs to the distribution system
  - Giving individual household connections
- Monthly monitoring meetings held and minuted.
- Prudent financial management – the society has a credit of Rs 2,42,168, of which Rs 2 lakh is in the form of a fixed deposit.
- Ledgers maintained and records kept.
- Monthly financial statement produced.

Lessons Learned

Clear Implementation Guidelines

Even for small experiments like Ramraj, it is important that the government issues clear policy guidelines in the form of a Government Order (GO). In this project, the users demanded issuing of a GO before they took over the scheme. Their argument was that they did not want to levy user charges unless the government authorized them to do so. The equivalent of this in a scaled up scenario would be the setting up of a regulatory framework.

The guidelines also need to assure the consumer of the following:

- Water quality
- Service standards
- See to it that the poor are not excluded
- There is transparency in the functioning of the society.

RWS society staff giving a household connection

Reform Champion Needed

The success of this pilot has depended greatly on the support of the DM, the entrepreneurial nature of the community and the dynamism of the society's Chairman. The latter worked almost single-handed to make the pilot a success. Hence, every such innovation needs an individual or a group of individuals to take up the challenge and see the innovation through.

Impact of Subsidized Schemes in the Neighborhood can Undermine Cost Recovery

The prevalent subsidized UPJN schemes in the neighborhood initially undermined the demand for individual household connections in Ramraj. The monthly water charge in a UPJN-supplied neighboring scheme is about half of what the society charges. The initially skeptical consumer needs to be wooed gradually and it is difficult to convince him to pay for services if the neighboring villages are getting it for free.

The Need for Involving the Community in the Planning and Construction

In the Ramraj RWS scheme, the community was not consulted in the planning and design of the scheme. Consequently, the distribution system became a *fait accompli* and was not consistent with demand. Branch mains should have been laid depending on the demand for connections. Collection of token contributions prior to laying of the pipelines is one way to ensure sufficient connections on a particular line and also to recover a percentage of the capital costs.

Willingness to Pay Established

The converse of the lesson above is also true. Once convinced that they will get better services, the consumers are quite willing to pay for them.

Transparency in the Functioning of the RWS Society

The credibility of the society depends largely on whether it is transparent in its functioning. The four village-level committees were kept actively involved in the management of the scheme. Transparency in the functioning of the Ramraj society has been one of the major reasons for its success.

Involvement of Panchayat

Gram Panchayats have recently been given extensive powers in relation to rural water supply. The Ramraj pilot model does not involve the Gram Panchayat mainly because it is a multi-village scheme and cuts across more than one Panchayat. This could lead to future friction between the Gram Panchayat(s) and the Ramraj society. In future projects, it may be better to involve Gram Panchayats, as they have a constitutionally mandated role. Some linkages between the two need to be worked out, especially as GOUP funds for maintenance of local projects are now being routed through Gram Panchayats.

Spread Effect

Another rural community in the same district of Meerut has now expressed an interest in taking over the O&M of their own local RWS scheme from the UPJN. Chhor village in Sardhana tehsil had expressed an interest in undertaking a similar project and approached the DM for permission to undertake a Ramraj-type scheme. Others are likely to follow. Beyond the district, GOUP could experiment with this model in other parts of the state.

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