INNOVATIONS IN DEVELOPMENT

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METERING AND BILLING WATER USE IN RURAL PUNJAB

Punjab Rural Water Supply and Sanitation Project

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SUMMARY

Rural Punjab introduces water meters and pilots 24/7 water supply

Even in prosperous Punjab, villagers face an acute scarcity of water. Demand for water is rising with a growing population that wants improved service levels, but supply is increasingly constrained on account of falling water tables and the deteriorating quality of ground water. While 17 percent of Punjab's villages do not have water supply systems at all, the remaining 83 percent receive only intermittent supply and, in some areas, the water is contaminated with heavy metals such as uranium.

In 2006, the Punjab government launched a medium-term program under the World Bank-supported Punjab Rural Water Supply and Sanitation Project (2006-2013). It aimed to provide all the state's 15,170 habitations with 70 litres per capita per day (lpcd) of safe drinking water by Dec 2013. The project sought to make rural communities responsible for construction and management of their own water supply systems and to make the systems financially sustainable, with consumers paying for operations and maintenance on an ongoing basis.

Each scheme cost between Rs.37 and Rs.58 lakhs ($82,000-$129,000) and built a piped distribution network to households by accessing ground water aquifers or canal water. They also built overhead reservoirs to store water.

Metering and billing is being promoted to encourage people to save water and prevent leakage and waste. By January 2013, 200 out of the 840 villages covered under the project had opted for metered household connections, and fifteen of these had round-the-clock (24/7) water supply. About 90 percent of consumers are paying their water bills regularly, while the others are being persuaded to do so. Some villages now have sizable savings in their Operations and Maintenance (O&M) accounts—varying from Rs. 35,000 to Rs. 10 lakhs (Rs. 1 million).

A new online complaint redressal system is reaching out to over 16 million people in more than 15,000 habitations. This is helping check absenteeism or non-performance of staff in remote villages and making the management of the system more transparent, accountable and citizen-friendly.

The Punjab government plans to expand the scheme to all its villages in a phased manner. A new state water policy for the rural areas is being drafted to encourage metered water connections, financial sustainability and, where possible, 24/7 water supply.

CHALLENGES

This was the first time that Punjab was implementing a community-based project to decentralize rural water supply and sanitation services

The project faced a number of challenges. Strong political commitment was necessary, especially since this was the first time that Punjab was implementing a community-based demand-driven project that aimed to decentralize rural water supply and sanitation services to local governance institutions across the state. Project functionaries had to work very hard to win the support of the political leadership by creating awareness about the long-term benefits of decentralization. Commitment and ownership by the senior bureaucracy were also essential, as the ways of working by engineers in the state's water supply department needed to be transformed. Enormous efforts were needed to build capacity at all levels.

For the schemes to be financially sustainable, at least 70 percent of households in an average-sized village - about 220 households - needed to opt for water connections. If these households regularly paid Rs 60-70 per month as water charges, revenues would be enough to meet ongoing O&M expenses. However, it was a challenge to convince villagers to shift to metered connections and pay for the volume of water they consumed. Despite vigorous Information, Education and Communication (IEC) campaigns, villagers were just not willing to pay their contributory share or to sign up for the program until the cost sharing rules were modified. In fact, the program began to take off only a year and a half after the project began, when the upper limits for community contributions were reduced from Rs.1,500 to Rs. 800. Contributions were even lower for border villages, those that were prone to floods and water logging, and those with predominantly hilly terrain.

In addition, while the project called for the active participation of beneficiaries, few NGOs existed to support the consultation and implementation process.

To encourage households to opt for metered connections, a number of innovative measures were adopted:

Metering and Billing

An innovative communication campaign was undertaken

Innovative means of communication were used to build support among rural residents. This included seminars and workshops, involving children via competitions, as well as conveying messages through school rallies, slogans, road shows, radio, TV and the print media. The mobile water testing kits, which provided quick feedback on the quality of drinking water, were extremely successful in initiating dialogue with communities about the need for safe drinking water. Regular telephone calls to the village head by the Executive Engineers and other senior officers were also used to communicate and obtain feedback.

Communities reached consensus

Once the entire village understood the advantage of subscribing to the scheme and the kind of commitment it required, a Gram Panchayat Water and Sanitation Committee was formed. The committees consisted of people willing to lead the village in adopting metered connections and who would help run the system in a sustainable manner. They were headed by the village 'Sarpanch' – the elected village head – and included representatives of the weakest members of society, including women. Committees were responsible for collecting the contributory amount from the villagers and negotiated the hours of water supply, as 24/7 supply was not feasible in all villages due to the non-availability of power round the clock.

All household connections were metered

Rules were simplified to encourage people to

Pipes were laid to connect most households and individual meters were installed at each house

By January 2013, 200 out of the 840 villages covered under the project had opted for metered household connections, and 15 villages had 24/7 water supply.

opt for household connections. Pipes were laid to connect most households, and individual meters were installed at each house. The Punjab government has agreed to finance the installation of water meters in the first 100 villages on a pilot basis and the project is going to finance more based on the demand.

Consumers pay as they use

Meter readings were taken every month in a transparent manner by the operator (and the cashier) in the presence of the consumer. The metered connections not only helped reduce the amount of water used by households, but also benefited the poor as they generally used less water than more prosperous households. By contrast, under the flat rate method, both the prosperous and poor households paid the same amount regardless of the quantity of water they consumed.

O&M costs are met in full

Water tariffs were devised by village water and sanitation committees to cover the system's O&M costs in full. Volumetric charges covered the salaries of the operator and cashier, electricity charges for pumping water, as well as for minor repairs and maintenance. Committees were authorized to revise their water tariffs depending on their actual expenditures.

Village committees are responsible

Village committees maintain the accounts, raise and collect bills, hold non-payers accountable, supervise and manage the pump operator, ensure that electricity bills are paid on time and, last but not least, sensitize the people on the need and importance of water conservation.

24/7 Water supply

Round-the-clock provision of water was piloted in villages where all households had installed metered connections and opted for the scheme. Tariffs were fixed by the village water committee.

Complaint Redressal System

Since a large number of Punjab's villages lie in remote areas, a unique complaint redressal system was devised. In November 2009, a Shikayat Nivaran Kendra was established where rural consumers could call a 24/7 toll free number or register their complaints online, track progress, and request services.

To ensure impartiality, the work was outsourced to an independent agency. Every official is now connected to the online system through telephone, email, and SMS and can monitor complaints directly. The time that should normally be taken to address some typical complaints is spelt out and, if a complaint is not rectified within this period, it is forwarded to a senior officer. Complaints are not closed until the customer is satisfied.

Audits are conducted each time funds are provided

Progress is reviewed on a day-to-day basis at the highest levels, i.e. by the Secretary to the Government of Punjab's Water Supply and Sanitation Department, enabling the administration to initiate remedial measures for common problems to avoid their recurrence in the future.

Concurrent Audit

Providing communities with funds in advance to implement construction works posed a risk. Considering the short implementation period for most of the contracts (6-9 months), several earlier projects had opted for a single audit after the scheme was completed. However, in many cases, it became difficult to resolve audit objections once the scheme had been completed.

It was therefore decided to conduct an audit each time funds were provided-before the second and third installment and again after completion. While this process was initially considered cumbersome since implementation could be delayed by a late audit, in practice audit reports were issued within 15-30 days of the Gram Panchayat's request. The auditors deployed multiple teams to different areas to physically verify assets and provide photographic evidence, and audit reports were issued in a concise pre-agreed format. Since audits were linked with the release of funds, the panchayats' books were regularly updated. The system has ensured that there are no delays in the release of funds, and hence no hurdle in implementation.

Rise in metered connections

By January 2013, 200 out of the 840 villages covered under the project had opted for metered household connections. This was achieved by proactive village committees. Wastage of water is expected to decline from 30 percent to 8 percent and electricity charges for pumping water by some 20 percent.

24/7 water supply in 15 villages

By January 2013, fifteen villages had round-the-clock (24/7) metered water supply. With 24/7 water supply, illegal connections become redundant, the chances of water contamination are reduced, and households at the tail end of the system get their fair share of water.

Systems remain financially sustainable

About 90 percent of consumers are paying their water bills regularly, while the others are being persuaded to do so. Some villages now have sizable savings in their O&M accounts—varying from Rs. 35,000 to Rs. 1 million. Savings have been re-invested to extend distribution networks, procure standby pumps and diesel generators, or landscape water works.

The new online complaint redressal system is reaching out to some 15 million people in over 15,000 habitations. It is helping check absenteeism or non-performance of staff in remote villages, making the management of water supply more transparent, accountable and citizen-friendly, and boosting people's confidence in the system.

THE ROAD AHEAD

Going forward, Punjab plans to provide 24/7 water supply to all the 3,161 villages targeted under its ongoing Medium-Term Programme with no financial support from the government. Subsequently, it plans to extend the scheme to all Punjab villages in a phased manner. A new water policy is being drafted to promote metered water connections in the rural areas, ensure financial sustainability and, where possible, provide 24/7 water supply.

The Government of India has recommended that other states replicate Punjab's online complaint redressal system. Officials from West Bengal and Andhra Pradesh have already visited Punjab to study the system and Bihar and Rajasthan have inquired about its working. The Punjab government's health, education and electricity departments are also exploring the provision of a similar service to their customers.

A new water policy is being drafted to promote metered water connections in the rural areas

Contributions

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