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Provision of drinking water and sanitation in rural areas: Success stories of PPCPs

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This knowledge-sharing paper endeavours to demonstrate the usefulness of PPCP (Public Private Community Partnership) models to effectively address the problems of drinking water and sanitation in developing countries with a view to achieving the Millennium Development Goals (MDGs) by the year 2015. Community participation in provision of drinking water services is transforming the quality of lives of the people in rural areas of West Tripura District, India and providing safe and quality drinking water to the rural poor at affordable costs.

Introduction

Traditionally, the programmes for supply of drinking water in rural areas of India have been government-funded. The creation of new drinking water and sanitation services as well as their day-to-day maintenance was fully with the government. This was based on the premise that the private sector would have no interest in providing those services which give little returns, and that the rural poor could not afford to pay for water and sanitation. There was also the argument that the public sector would be best positioned to ensure quality of these services – an issue that could have direct bearing on the public health.

As a result of implementation of government-driven programmes for many decades, a large number of drinking water sources were created but the community involvement was minimal and many of the sources created were not put to optimum and effective use. The problem of providing drinking water in all the villages could, therefore, not be addressed fully and many villages remained un-covered (without access to safe drinking water).

The Government of India, therefore, introduced reforms in this sector and started a new programme, Sector Reforms Project (SRP). The Project envisaged community participation in creating and maintaining drinking water sources and sanitation facilities. It re-defined the role of the government from being a “provider” to that of a “facilitator”. The Project was to be driven by demand originating from within the community in contrast to the erstwhile practice of thrusting a source on the community without involving them. The community was expected to contribute 10% of the capital cost of any new drinking water source and the Government was to provide the balance (90%) money. The community was given full autonomy regarding the choice of the new source to be created as well as the manner of its execution. Under SRP, once the new source was operationalised, the community was to be fully responsible for its operation and

maintenance (O&M)¹.

Institutional Structure

West Tripura was one of the sixty-seven districts in India that took up implementation of the pilot project for Sector Reforms. With a population of over 1.5 million, West Tripura district is located in the remote north-eastern part of India. Tribals constitute 35% of the district’s population. The district has vibrant rural local bodies in the form of three-tier Panchayati Raj¹ institutions.

At the district level, District Water and Sanitation Mission (DWSM) was set up as the nodal body responsible for implementation of the Project. Chairman of the Zilla Parishad², the Sabhadhipati, was designated as the Chairman of DWSM and the District Magistrate (DM) as its Member-Secretary. The DWSM was granted financial and operational autonomy by registering it as a society. A District Water and Sanitation Committee (DWSC) was set up as the executive wing of the DWSM. An Executive Engineer of PHE³ Department was brought in as Member-Secretary to the DWSC to assist the Committee in operational and technical matters.

Village Water and Sanitation Committees (VWSCs) were constituted at the village level to facilitate direct interface with the community and assess their felt needs as to the choice of a drinking water source. The VWSCs were to work in close coordination with the DWSC for smooth execution of the drinking water projects.

Awareness generation (IEC activities)

The Sector Reforms Project started its functioning in West Tripura in the year 2001. To start with, the DWSM undertook extensive Information, Education and Communication (IEC) activities to propagate the concept of paying for a new drinking water source. The community was informed that they would own the asset once it was created; and sincere efforts were continued to instill this sense of ‘ownership’ in

the community. The motivational programmes stressed the need for access to safe and clean drinking water, as also the need to follow practices of basic hygiene and cleanliness at home, like boiling water before consumption, proper storage of drinking water, clean sanitation facilities, washing one's hands with soap after defecation, to mention a few. During the awareness campaigns, an idea that was used repeatedly was: "pay ten or twenty rupees⁴ now and save two hundred rupees you will have to pay later for meeting the fees of a doctor".

Deliberate efforts were made to involve women and students in the process of awareness generation – women because they traditionally spend a large part of their time in collecting water for the household; and students because they are the future citizens of the country and since they can be an effective medium for disseminating the message within the family.

The DWSM has spent nearly four million rupees on these IEC activities. Wall writings, posters and festoons were used, as were radio and television, for wide publicity. Awareness seminars were organized at the Gram Panchayat level for making the community aware of the new programme. Self-help groups of women and other women's organizations as well as the schools and colleges were also used for propagating the message. Local, cultural and traditional forms, like street plays, folk songs, puppet shows, etc., were used for wider dissemination. The DWSM also started a bi-lingual newsletter by the name Gram Vaarta for exchanging information about success stories in effective provision of drinking water and sanitation in various villages.

Success Stories

The response of the community was lukewarm to start with. As a result of the intensive motivational campaign taken up by the DWSM in the first few months of its functioning, proposals started trickling in from the VWSCs for sanction of new sources along with 10% community contribution. Many new drinking water sources were, therefore, taken up. One such source was a 'deep tubewell⁵' taken up in AD Nagar village of Dukli block. The VWSC collected 1,60,000 rupees from the community – the prospective users – for constructing a new deep tubewell and pipework in this village. While commissioning of this source costs nearly 1.9 million rupees, the VWSC was able to manage the execution work efficiently and complete the work for only 1.76 million rupees. Tap water (domestic) connections were provided to nearly 300 households, with the VWSC deciding to charge seven hundred rupees from each family for a tap connection as their initial contribution.

After erection of the deep tubewell, the VWSC took up the responsibility for its O&M (operation and maintenance). They started charging thirty rupees per household per month for this purpose. With the present level of domestic connections at 336 households, the VWSC is collecting Rs. 10,080/- every month for O&M. The monthly expenditure, including the electricity charges, wages of two pump opera-

tors and minor maintenance of pipelines, works out to around six thousand rupees. Thus, the VWSC is not only able to own the asset and maintain it properly but is also building up an O&M reserve fund which may be used by them later for capital asset replacement or major renovations as and when required.

This is a unique project not only because of the fact that the Government-community partnership has led to an effective solution to the drinking water problem in this village, but also because the VWSC has demonstrated an ability to manage the assets very efficiently. A similar source run by the PHE Department requires Rs. 20,000 to Rs. 30,000/- every month for day-to-day running and maintenance.

The VWSC's efforts did not rest here and the community collected the requisite contribution for erection of an iron removal plant, since the water from their deep tubewell contains iron. This was truly a value-addition by the community and an effort to improve access to quality drinking water for itself. The DWSM promptly sanctioned this project.

The deep tubewells were, however, found feasible only in those areas where a large number of families stay in a compact habitation and in semi-urban areas where the families are relatively better off. For other areas, the DWSM decided to experiment with alternative technology options, which were low-cost but could provide piped water supply to the villagers. One such source, christened as 'mini deep tubewell' by the DWSM, was taken up on experimental basis in Ghaniamara village of Bishalgarh block where water was lifted from a depth of seventy to eighty metres and stored in a water tank (with a capacity of 6,000 ltrs). From this tank, water was distributed to each of the households through pipelines. Each family was given a separate piped connection. A separate tap connection was formerly only a dream for most of the villagers and the new source evoked tremendous response from the community. An added advantage of this new source was that the water did not contain iron.

The mini deep tubewell requires a capital investment of 1,40,000 rupees and an amount of 14,000 rupees as the initial ten percent contribution from the community, which is much easier for a group of 25-30 families in a village to collect and the source provides almost the same service as a full-fledged deep tubewell. Like the AD Nagar VWSC, the Ghaniamara VWSC also collected Rs. 300/- to Rs. 700/- from each family as their initial contribution for providing a domestic connection. The VWSC is also collecting Rs 20/- per month from each family to take care of the O & M requirements of the drinking water source. With the present number of users at 50, the monthly collection works to Rs. 1,000/- whereas the monthly expenditure for O&M of this source, including electricity charges, is Rs. 250 to Rs. 300 only. The mini deep tubewell does not require a separate pump operator and the villagers themselves can do this work.

The Ghaniamara case study is noteworthy because of a unique management style adopted by the VWSC for collection of community contribution. Most of the families in this habitation were poor and BPL⁶ and the VWSC decided to

collect the initial contribution from a family depending on its financial status. The initial contribution varied accordingly from Rs. 300/- for the poorest family to Rs. 700/- for a one that was slightly better off.

While these two stories have many similarities in the approach and style of implementation of the project, it is interesting to look at the pattern of O&M in some more detail. In both the AD Nagar and Ghaniamara examples, the monthly contribution collected from the community is deposited into the bank account over which the respective VWSCs exercise full control. However, there is a slight difference between the two in that while the AD Nagar VWSC has formed a users’ committee for supervision of the project, in Ghaniamara, the users have formed themselves into a self-help group (SHG) and the monthly contribution goes into their SHG account. The DWSM has found both these approaches to be equally effective in proper O&M of the drinking water sources. Table 1 below summarises different aspects of O&M for these two success stories.

Table 1. O & M for drinking water sources

Various aspects of O & M	AD Nagar VWSC	Ghaniamara VWSC
Per capita water availability/ (in litres per day)	97	49
Initial contribution (Rs.)	700	300 to 700
Monthly contribution (Rs.)	30	20
Institutional structure	Users’ Group	SHG

The above-mentioned case studies have been chosen from among many such instances all over the district since they were the first ones to implement the new approach. At present, there are more than twenty such success stories in the district – all providing quality tap water and with a similar style of day-to-day management.

The DWSM is also extending sanitation services to individual households by providing a scientifically designed squatting plate⁸, which costs a maximum of five hundred rupees. The people are motivated to dig a pit 8-10 feet deep on their own and then approach the VWSC to obtain a squatting plate. The family builds the super-structure for the sanitary latrine from its own resources, depending on its financial ability. A structure made out of bamboo or polythene is the popular choice of the rural households in West Tripura though many families have constructed brick-walled superstructures also on their own.

Impact of the programme

In a scenario where formerly even the mention of contribution or payment for a drinking water source in rural areas was unthinkable, the fact that the DWSM have been able to commission so many sources through community contribution is no mean achievement. While the DWSM has commissioned nearly forty⁹ piped water supply schemes, it has also constructed over nine thousand spot sources (hand pumps and dug wells of different varieties) in the 430 odd

villages of West Tripura district.

The impact of the new approach can be judged from the fact that the incidence of water-borne diseases in the district reduced by more than 20% in the first year of implementation itself. There used to be reports earlier of outbreak of epidemics from different parts of the district, but in the last two years, there has not been a single epidemic. However, there were three instances of reports of water-borne diseases in particular pockets and corrective action was taken immediately by the DWSM.

It is also worthwhile to mention here that earlier when the provision of drinking water services was purely government-driven, it was common to find the spot sources out of order within six to seven months of their commissioning. This used to happen since there was little involvement of the community in the construction and maintenance of the spot sources. But in the last two years, there has not been a single instance of this happening anywhere in the district.

Public-Private-Community Partnerships (PPCPs)

The successful models enumerated in the preceding paragraphs are excellent examples of public-community partnerships. The private sector may not be willing to participate in any project for provision of drinking water in rural areas because of inadequate returns expected on investment; the public-private-partnership (PPP) models may, therefore, not be able to address the problems of drinking water in all rural areas.

The best option is to go in for public-community partnerships by suitably fine-tuning the PPP models and we may have what we may call public-private-community partnerships (PPCP). The case studies presented above may be loosely described as “B(T)OO” PPCP models, where the public sector builds the asset after collecting 10% contribution from the community and transfers it to the community who owns it as also operates and manages the asset created.

Conclusion

The purpose in writing this paper is to document the success stories that have become role models of community partnership in solving the perennial problems of drinking water in rural areas of West Tripura. The concept of community contributing for creation of a new drinking water and sanitation facility and taking responsibility for its operation and maintenance has struck deep roots among the community in West Tripura district. The DWSM now holds community contributions of over 20 million rupees for the district as a whole, comprising only the initial (10%) contribution. The monthly contribution collected by the community in the respective villages for O&M is, as stated earlier, retained by the VWSCs only.

The public-private-community partnerships could be an effective solution for the problems of drinking water in the rural areas of India. They will ensure better community



Figure 1. Tap connections from a deep tubewell and a mini-deep tubewell

participation, on the one hand, and free up precious public resources for investment, on the other, for coverage of more and more areas in the country. The PPCPs may really help in achieving the MDG¹⁰ target of “reducing by half the proportion of people without access to safe drinking water by 2015”.

Notes

1. Panchayati Raj refers to the directly elected village councils or the rural local bodies. The Panchayati raj structure has three tiers – district, block and village. In the State of Tripura, these tiers are known as Zilla Parishad, Panchayat Samiti and Gram Panchayat respectively. [‘Block’ refers to the unit of administration at the sub-district level and a Block generally consists of 20 to 30 villages.]
2. Zilla Parishad represents the district level tier under the Panchayati Raj structure and is headed by the Sabhadhipati.
3. PHE refers to Public Health Engineering, a department of the State government concerned primarily with erection and operation of piped water supply schemes. Though an officer of PHE was brought on deputation to the DWSM, the functioning of DWSM was completely autonomous from the PHE or, for that matter, any other government department.
4. Rupee is the Indian currency. One US \$ is 45.30 Indian rupees approximately (as in May, 2004). It is written in short as “Rs.”.
5. A ‘deep tubewell’ provides piped water supply connections to the households. It consists essentially of a pump

house with a motor which pumps water from depths of 150 to 200 metres below the ground level. The pump discharges direct into pipelines, to the villages and the individual households, and hydrant points in each household / habitation. No intermediate storage tank is used.

6. BPL stands for ‘below poverty line’ and refers to those families that are below the poverty line as per definition of Planning Commission of India.
7. The per capita demand is less than the per capita water availability (for both of these case studies), indicating that some more families can be extended piped water supply connections from these tubewells. The DWSM is taking up ‘metering’ of the tap connections in these case studies and it may be possible to assess the exact quantum of per capita demand only after metering is completed. The norm for ‘per capita water availability’ in India is 40 litres per day.
8. The cost of the squatting plate is borne by the government for the poor (BPL) households only. For the APL (above poverty line) households, the cost is borne by the families themselves.
9. Some of these forty odd schemes have been commissioned, on the pattern of the two success stories mentioned earlier, only in the last two to three months and effective O&M will take some more time to stabilize. Another thirty five new piped water supply schemes are expected to be commissioned in the next three months.
10. MDGs (Millennium Development Goals) were adopted by the world leaders at the UN Millennium Summit held in September, 2000. MDGs are eight goals supported by 18 time-bound targets that outline objectives for poor developing countries to be achieved by the year 2015.

Disclaimer: The views expressed are strictly personal and those of the author; and not those of the government/ organization he represents.

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