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PEOPLE-CENTRED APPROACHES TO WATER AND ENVIRONMENTAL SANITATION

Institutionalization of community participation in rural water supply, Pakistan

M.A. Memon, Pakistan/Japan

Community participation is a basic requirement for improving financial and managerial capacity for operation and maintenance of rural water supply schemes. Institutionalization of community participation requires a detailed action plan, which involves institutional reforms in the public sector as well as the formation of effective village and women's organizations. In Pakistan, the Public Health Engineering Department was reorganized to include three new departments: Community Participation, Human Resources and Training, and MIS. The project teams were hired and trained to assist villages in carrying out the community participation process. This process includes formation of representative village development associations (VDA) and women's organizations, conduct of regular meetings, collection of user fees, health and hygiene education, and provision of in-kind contribution. After the completion of water supply schemes, VDAs are required to take-over operation and maintenance. The post-operational study shows that this approach has helped to improve willingness to pay (WTP) due to improved quality and reliability of water supply.

Reasons for community participation

Rural water supply is mainly hampered by financial and managerial challenges. Governments fail to provide required subsidies, and most of the rural households do not pay charges on the pretext that water supply is unreliable, due to the poor management of the public sector. In previous studies on willingness to pay (WTP), women and children in households were considered as negative factors, as they provide free labour for the collection of water from distant sources (Altaf et al. 1997).

There were no differences among households in relation to quality and reliability of piped water supply and canal/well water, with both showing poor quality and negative implications on health. Furthermore, the supply frequency of piped water was not reliable and most days, households were not able to access water due to either pump failure or leakages in the pipeline. Hence, households found piped water less convenient than fetching water directly from the canal. Hence, if the quality and reliability of piped water supply could be improved, then water-related negative health impacts could be reduced, together with improved convenience. This would result in higher WTP (Memon 2001), which could lead to the resolution of financial challenges in maintaining and operating rural water supply (Figure 1).

The improvements in rural water supply could be achieved through effective community participation, where communities have a voice, and choices in decisions which affect them directly (Narayan 1995). The optimum type of community participation depends on the size of the community, as well as on the local socio-political characteristics. In Pakistan, international agencies observed that public management of

rural water supply is ineffective, resulting in poor quality and low reliability of water, which in turn leads to non-recovery of the revenue to meet maintenance and operation costs. This vicious circle has virtually made many water supply schemes non-operational just after construction.

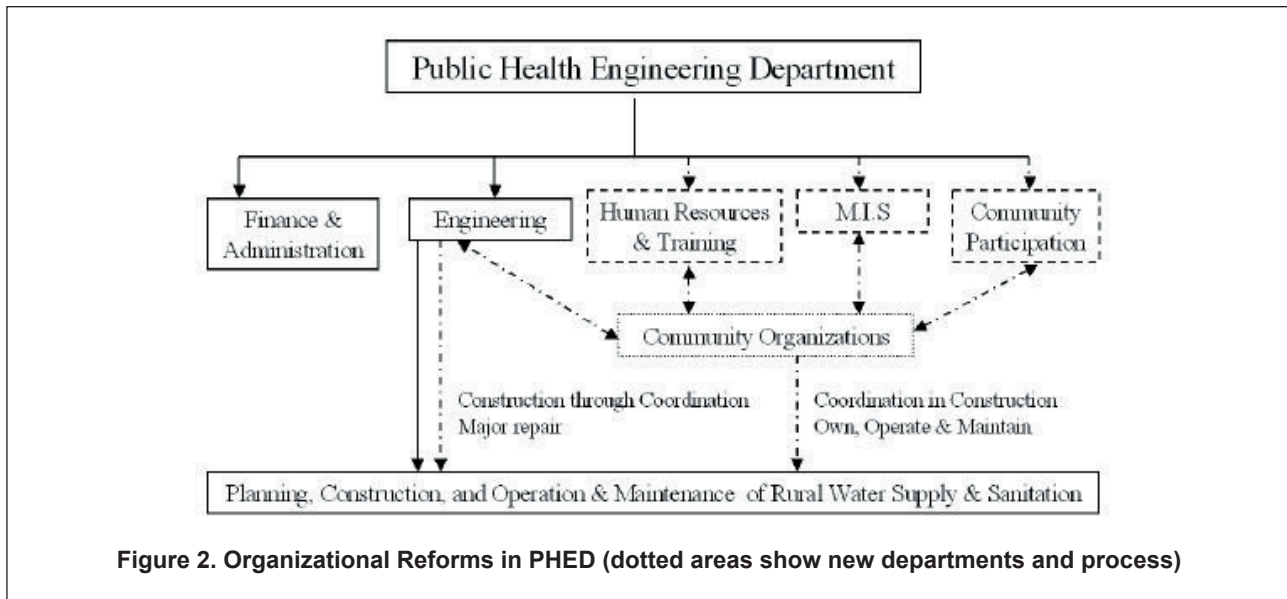
The donors suggested that to change this vicious circle into a virtuous circle, the communities should have ownership and operate these water supply schemes by collecting user charges from the households. This is easier said than done in Pakistani villages, where ethnic, tribal, gender, economic, and other socio-political differences are intense.

The public agency that was responsible for rural water supply, the Public Health Engineering Department (PHED), was a traditional bureaucratic department. The decisions for construction of water supply were being made on a "Blue Print" basis, and there was no role for communities. Changing the entire concept of rural water supply management was a big challenge. Institutionalization of community participation was set as the main objective to achieve the goal of sustainable rural water supply. In this regard, the following process was adapted with the help of IDA, national and local governmental agencies, and civil society.

Process of Institutionalization

The two major approaches were identified to successfully transform community participation into water supply schemes. The first approach was to address the supply side to promote community participation. Hence, organizational changes were required in PHED as shown in Figure 2.

Traditionally, the Engineering Department was responsible for identification, construction, and maintenance of the water



supply schemes. The newly established Community Participation (CP) Department was required to work with the local communities to carry out the community participation process. This process included the formation of a representative community organization (Village Development Association, VDA), a women's organization, which should meet regularly and on democratic principles. This process also included the implementation of health and hygiene education, acting as liaison between the Engineering Department and VDA in identification and construction of the schemes, and follow up with communities in successful operation and maintenance of water supply by VDA after the hand-over.

The Human Resources and Training (HR&T) Department has to create project teams consisting of a sociologist, health and hygiene educator, and technical assistant. These teams will implement CP process, as per the guidelines from the CP department. HR&T also develops various courses for PHED staff, as well as for VDA and women's organizations. These courses cover various titles in management, CP, health and hygiene, and engineering, among others. The VDA and women's organizations were targeted to receive training in organization of meetings, simple accounting for earnings and expenditure, operations and simple maintenance of water supply schemes, and health and hygiene practices.

Management and Information Systems (MIS) are required to create records all activities, including construction of water supply schemes, formation of VDAs and women's organizations, training activities for various groups, and activities by various project teams. This provides quick information on any aspect of the projects. Difficulties can be identified in some villages, and the successful lessons from other villages can be transferred to overcome these difficulties, either in the CP process or in the physical implementation of water supply schemes.

The other approach was the revitalization of the demand side. To seek genuine demand, communities must submit an

application, and agree to the conducting of the CP process with assistance from the CP department. This process aimed for completion in six months, with the next six months earmarked for the construction of a water supply scheme. The CP process includes the formation of the VDA consisting of the representatives from all ethnic groups or castes. The VDA office bearers should be democratically elected, rather than imposed upon the community by feudal or political figures. The VDA should arrange weekly meetings, keep records of these meetings, and must register and also open a bank account. Even though the physical water supply will not be operational until one year's time, the VDA must begin collecting water fees from each household and deposit these in the bank. Hence, households will become accustomed to paying monthly fees.

Despite cultural norms, women's organizations were established, with the assistance of female project staff. These women must be trained in simple health and hygiene practices, so they can further disseminate these practices to other women. This was necessary, as availability of clean water does not in itself provide health benefits, especially for children, unless proper hygiene practices are maintained. The project staff has to continuously visit villages and oversee activities by VDA and women's organizations. Crosschecks from villagers can determine if the VDA is working on democratic norms and fees are being collected. Clean streets and houses, and washing of hands by children can demonstrate that women's organizations are performing their role.

If this CP process is successful at this stage, then the PHED and the VDA will jointly identify a site for the scheme and type of services including piped connection in some streets and community tanks in others, depending on the structure of the houses and affordability. Usually villagers have to provide in-kind contributions in terms of free plots for the water supply scheme, free construction material if available, and free unskilled labour, including a watchman. The VDA

Table 1. Responsibilities of Communities and the Government

Communities (VDA)	Government (PHED)
Formation of community & women's organizations	Facilitate the community participation process, provide essential training and health & hygiene education
Bank account, collection of fees, and health & hygiene education	Oversee activities of community & women's organizations
Maintaining records of meetings and health & hygiene practices	Site selection for water supply and/or wastewater treatment in coordination with the community
Procurement of land free of charge	Construction of the scheme
Provide in-kind labour and material contributions (including operators)	Operators' training
Own the scheme and carry out O&M and collect the fees regularly	Transfer of schemes to the communities

must nominate two to three people as operators. They are trained during the construction phase by PHED staff in the operation of the water supply scheme and simple maintenance practices for the scheme.

After construction and pilot testing of the water supply, it is handed over to the VDA for operations. Major maintenance, is still the responsibility of PHED; however, this should also be phased out, and VDA will be fully responsible for the scheme. The future model will be a type of local

public-private partnership, where VDA will play the role of the private sector, and the profit will be diverted to other community development works or for the future expansion of water supply. The project implementation process is briefly captured in Table 1.

After a few years of operation for various water supply schemes, a contingent valuation (CV) survey was conducted (Memon 2001), and based on the results (Memon and Matsuoka 2001a and 2001b) it is evident that WTP for water supply schemes has increased. The results of health impacts are shown in Table 2. This is due to operation of the scheme by the community which has improved the quality and reliability of water, resulting in substantial health and other social benefits.

References

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Table 2. Health Impacts of Community Water Supply Schemes

Village	Health Effects (ex-ante)			Health Effects (ex-post)			Health Benefits Average Number (Percentage)
	Average (No. of sick episodes)			Average (No. of sick episodes)			
	Diarrhea	Malaria	Skin	Diarrhea	Malaria	Skin	
Vidh	7.73	4.2	4.5	3.3	2.7	2.7	7.8 45.3
K.M.Jarwar	9.0	5.0	4.9	4.7	4.0	4.1	6.0 30.2
UmerSand	9.8	5.0	5.5	4.8	4.5	4.4	6.6 32.2
Bhutto	10.4	5.4	6.2	4.4	4.6	5.1	7.7 34.9
Abdullah Khaskheli	9.5	6.3	4.8	4.8	4.5	1.4	7.7 36.4

Source: Memon (2001)

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Contact address

Dr. Mushtaq Ahmed Memon
Senior Policy Researcher
Institute for Global Environmental Strategies (IGES)
Kitakyushu Office, 6th Floor, International Conference
Center, 3-9-30, Asano, Kokurakita-ku
KITAKYUSHU City, JAPAN 802-0001
Email: mushtaq@iges.or.jp
