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WATER, SANITATION AND HYGIENE: CHALLENGES OF THE MILLENNIUM

Community Management of RWSS in Northern Pakistan

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DONOR FUNDING MADE available to NGOs has considerably supplemented the efforts of the government agencies to facilitate rural communities with potable tap water. The national estimates of overall coverage of water supply and sanitation schemes in Pakistan for rural drinking water supply is 45% and 10% for water and sanitation respectively. A study conducted in Northern Pakistan shows a similar picture in that there is a 42% coverage for water and 20% for sanitation.

Partnering with communities

Review of past experience shows that resources will be wasted if enough thought is not given to the need of long-term operation and maintenance of water supply schemes. (Ahmed, 1996, IRC, 1993). Donors can mainly finance the construction of the water supply schemes, and have limited input in subsequent running costs. It is imperative that communities maintain and operate their schemes with all costs being borne by the respective communities (in line with user pay principles) and that a formula for operation and maintenance be in place at the outset. Hence, donors need to involve communities as partners to share the responsibility for operation and maintenance - in addition to the traditional community role of providing labour and local materials during construction. To make communities real partners it is imperative to involve them right from the planning phase.

Community Experience

The concept of community management is as old as the settlements started here about a thousand years ago. The management of irrigation channels independently by communities is common in the region. Apart from this, taking care of pastures and forests has been another active practice in community management. Nevertheless, community management of RWSS has not been a successful experience in northern Pakistan despite the fact that community management is an inherent prevailing practice in the region. The prime reason being that communities never "owned" the RWSS projects.

Current Status

In order to assess the status of water supply schemes a study was conducted in 1994-95 to produce a quantitative data base and situation report about traditional and improved water supply and sanitation schemes in the area. (Ahmed 1996). The results of the study are presented in table 1. This table shows that a considerable number of RWSS are non functional. The major reason has been a lack of community participation and community management, misuse of allocated funds, and other unscrupulous practices within the sector has resulted in partial coverage and poor quality construction.

Table 1. Status of Water Supply Schemes

Category	# of villages	Percentage
Total number of villages visited	986	100
Villages with completed WSS	417	42 % of 986
WSS totally non functional	85	20 % of 417
Villages with partial coverage	127	30 % of 417
Villages with full coverage	201	48 % of 417
Villages where WSS is 33 under construction	3 % of 986	

Committees were formed on an ad hoc basis often with varied interests. Although these committees were responsible for the implementation and post implementation management of the schemes, enough attention was not given to making clear the roles for post implementation management. As a result systems did not last long enough to take care of operation and management of the schemes. Table 2 shows the existence and the functionality of the committees in 502 communities. In over 95% of cases, committees no longer existed to take responsibility for scheme operation and maintenance.

Table 2. Existence and functionality of committees

Description	No. of villages	Percentage
Non existent	479	95.5
Existent but not functioning	5	1
Existent and functioning	18	3.5

Initiative for Change

The International Water and Sanitation Center, IRC of the Netherlands initiated a Participatory Action Research (PAR) Project on "The role of communities in the management of Rural Water Supplies in 4 villages of Northern Pakistan along with another 5 countries around the world. Under this initiative separate water committees both for men and women were formed in all

communities. The capacity of the water committees was built through a series of workshops, exchange visits and meetings. These committees, by involving other community members, introduced water tariff systems and fines on misuse of water. These measures significantly improved the O&M of the existing RWSS, but not the desired level. Major reason had been the inequitable access to tap water.

Taking its lead from the lessons learnt in the PAR project WASEP introduced a unique system of community management into its interventions. The following section will describe the salient features of the WASEP approach to community management.

WASEP GOAL AND APPROACH

Goal and specific objective

The broad objective of WASEP is to enhance the quality people's lives in Northern Pakistan. In particular the programme will develop local capacities for integrated implementation of drinking water, sanitation and hygiene education in order to reduce by 50% water and sanitation related diseases. Specific objectives include: To build up the organizational and managerial skills, to increase awareness among beneficiaries about hygiene concepts, to enhance the availability, accessibility, reliability and quality of water.

Physical investments include piped water supply systems bringing water to household tapstands and construction of improved latrine facilities. Infrastructure is complimented with water quality sampling and health and hygiene education. Considering the extent of investment being made into communities, WASEP is concerned about the ability of the village to implement and sustain both the physical infrastructure and health benefits. It is held by WASEP that a project designed and implemented with the principles of inclusiveness, equitable access, and a true sense of community participation guarantees its long-term sustainability. As the figure 1. shows, WASEP's input into projects focuses on developing community capacity to manage, operate, and sustain both the hardware (infrastructure) and software (health and hygiene) intervention.

Development of application form and distribution

Prior to any work being carried out in a village, an application form is filled out by the community. In addition to providing basic village information top WASEP, the form requires 75% of household to sign and endorse the request. The application is a community's formal request for assistance and indicated that it is a community wide initiative.

Terms of Partnership

A detailed terms of partnership has been developed and is signed by all the households of the respective community. Roles and responsibilities of the community and WASEP are made clear in this document. Features of the TOP are: Formation of a democratically elected water and sanitation committee (WSC) through a general forum where at least 75% of the households are present. The WSC is responsible for coordinating the village's participation in all aspects of the scheme including planning, construction, and maintenance. Communities select a village plumber (Water and Sanitation Operator – WSO) and a female health and hygiene promoter (Water and Sanitation Implementer – WSI) and fix their remuneration. The collection of an operation and maintenance (O&M) fund and monthly tariffs are parts of the TOP included to assist the community in developing financial systems. The TOP signifies a community's acceptance of working towards improving community health and establishes that the scheme is owned by and the responsibility of the village.

Community needs assessment

During WASEP's 5 year tenure 105 villages are to be covered, but over 600 applications for water supply and sanitation schemes have been received. In order to target those communities where there is a balance between need and ability to carry out and sustain an intervention, WASEP performed a series of Participatory Rural Appraisals in a shortlisted set of villages. Detailed information about the social and technical issues vital for water and sanitation interventions are obtained using different PRA tools. Village mapping has been a major exercise to get the required information. Such exercises are conducted separately with

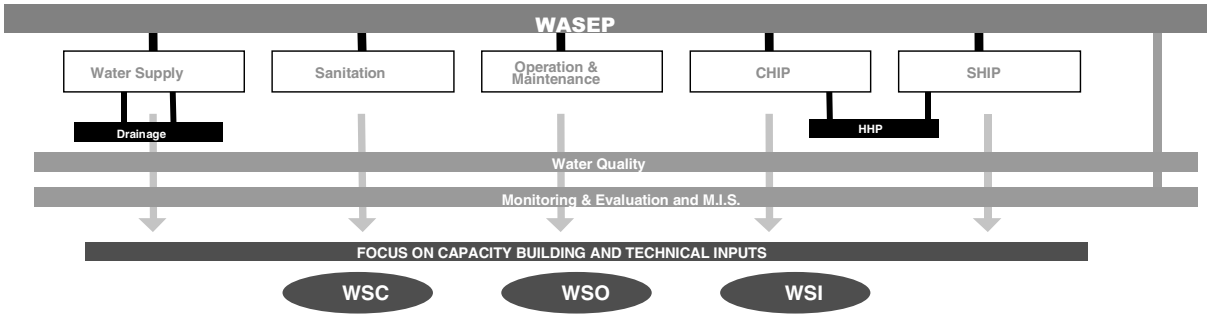

Figure 1. The WASEP Approach

men, women, and children. These maps are used not only to find out about physical and socio-economical information, but also gives a good opportunity for the community to get involved in the planning of the project. In case of differences in choice for proposed source, preference-ranking exercise is conducted and consensus is drawn for the source preferred by the majority of the villagers. Through PRA, the community is able to assess its real needs and abilities, and WASEP is able to use this information to select potential partners. On the basis of the findings villages are selected for the further process and are asked to deposit their operation and maintenance (O&M) fund. (See details below) Collection of O&M fund confirms for their need and commitment to contribute for construction and management of the scheme.

Equitable access

During the topographic survey, the route proposed by the villagers during the PRA exercise is followed if feasible. In case of a problem with the proposed network, a consensus is drawn for a possible route before proceeding further to avoid conflicts during construction. No willing house shown on the village is left un-surveyed. Men and women are both consulted on routing and design matters from source selection to tapstand location. This level of involvement in the process helps to create a sense of community participation and decision making authority in the implementation of the scheme.

Appropriate designs and choice of material

One of the major causes of interrupted supply of tap water has been the inappropriate choice of construction material and laying of pipes within frost level (PEPAC, 1993, a third party evaluation of RWSS in Northern Areas). Communities are confident that their WASEP assisted schemes will work as the materials chosen for construction are similar to North American standard pipe (HDPE) and due attention has been given to quality construction. Pipes are laid at 4 feet depth with villagers investing their labour into the excavation task. State-of-the-art computer software is used for hydraulic calculations, whose results are shared with the community. Again, involvement in the planning and implementation of schemes creates a sense of ownership and true participation.

Selection for different sanitation options

Communities are facilitated in choosing appropriate sanitation options taking into accounts the technical feasibility and social acceptance. Pour-flush is preferred by those in the lowlands, Dry Pit by those in the highlands, and Twin pit Composting latrines by those with a preference for manure fertilization. The coverage and usage of latrines is surprisingly high from 100% to a minimum of 60%. Comprehensive hygiene education and a token incentive of < 15% of total cost has boosted up the coverage and usage. (Ahmad, Alibhoy, 2000) Having households decide on the technology of their choice has gone a long way to facilitate the use of latrines.

Hygiene education

A comprehensive hygiene education programme involving men, women and children is run as an integral part of the water and sanitation scheme. Aim of the activity is not only to raise awareness regarding hygiene issues in the community but also to create a sense of responsibility for operation and maintenance of the scheme among women and children. Women are the prime targets for this information as their traditional roles in their homes allow for changes in behaviour and fostering of values vis-à-vis water and sanitation. Details about the programme are presented elsewhere in this conference. (Ahmad & Alibhai 2000)

Formation of committees and capacity building

Although table 2. shows that in 479 cases there are no committees at all, committees actually existed during the construction phase but didn't stay longer because enough thought was not given for their long term sustainability. In order to avoid this situation, the communities are told that WASEP is equally conscious about long term operation and maintenance along with quality construction. In all 44 partner communities Water and Sanitation Committees (WSC) haven been elected by the communities themselves and are functioning. These WSCs were involved right from the planning phase to the Operation and Maintenance phase of the project. The WSO is responsible for daily maintenance and the WSI is responsible for health and hygiene issues in the village. In addition, the WSI is established as a link between the women of the community and the management structure of the scheme. Both the WSO and WSI are integral members of the committees and as they are compensated by the community and are ultimately responsible to them to carry out their tasks. Other office bearers include the President, Secretary and Treasurer. They are responsible for bringing consensus for various Water and Sanitation related issues, preparation of agenda, record keeping, and to look after the finance issues respectively.

To train the all three office bearers, WSO and WSI, a two day training workshop is organized prior to handing over the project to the community. All five members are given basic training in their respective fields. In addition to attending the training workshop the WSO gets on-the-job training in his village during the construction of the scheme, which generally takes over three months. WSI is trained in conveying health messages and to assess and record health and hygiene data in the village. Special emphasis is given to the training of the treasurer. He is given training in basics of book keeping, whose performance is monitored by WASEP.

Financing

Generating enough funds in order to remunerate the operators and to arrange the spare parts for repairs has been a major constraint for smooth operation of the RWSS in all developing countries. In order to avoid the same problems, WASEP introduced a promising system of collecting required funds for operation and maintenance prior to scheme construction. Communities deposit a sum of PKR 1000 per

Table 3 Community Cost Contribution
(Millions)

Year	# of Comm	Pop	Total pro cost	Share for const.		Share of O&M	
				comm.	WASEP	comm.	WASEP
1998	15	11380	19.42	7.75	10.51	0.703	0.45
1999	25	20212	47.18	16.82	27.01	2.60	0.75
2000	31	28001	60.00	18.72	37.3	3.05	0.93
2000 (projected)	31	30000	60.00	18.24	36.82	4.0	0.93

1 US $ = 60 Pak Rupees

household into a profit bearing fixed deposit account. A nominal amount is contributed to this account by WASEP. The communities use the profit to remunerate the WSO and WSI. In addition, approximately 20% of the fund collected is used to purchase a ***village spare parts revolving stock.*** The community buys spare parts from WASEP at a wholesale rate and sells the parts in the village as required. Table 3 shows the amounts deposited by the communities and how in real terms, their contribution covers over 45% of total scheme costs.

In addition, a monthly tariff is also collected by the community and is kept in the WSC'c account. The income generated through tariffs is to be utilized to repair major breakdowns and to meet the additional costs due to yearly increment in remuneration of WSO and WSI.

LESSONS LEARNED AND CONCLUSIONS

The rate at which communities agreed to the TOP (which is considered onerous with respect to other organizations in the region) showed that communities with real needs were willing to invest in, work for, and take ownership of their schemes. Evaluating each application for its merits and the subsequent PRA sessions assisted WASEP in determining the most likely to succeed partners. However, the time and effort involved caused delays in programme implementation and proved to be a mammoth undertaking. The inclusion of all members of the community in design and construction (men, women, rich, and poor) has assisted in creating a true sense of community ownership and has helped achieve operation and maintenance goals.

WASEP's decision to provide household taps was a direct result of responding to community demand. This level of service coupled with the messages disseminated by WASEP's health and hygiene programme has resulted in increased water use and healthier communities. The significant impact that has been made on diarrhoeal morbidity in partner communities (i.e. a reduction of 50%) is a direct result of consumer satisfaction with the product they have developed and the messages women and children have chosen to adopt.

Community management and capacity building of village organizations is a key to the success of the scheme. However, although WASEP has been successful in creating committees, it has realized that the investment required into building their managerial and financial skills must be increased substantially. Long term viability of the physical infrastructure depends on how effectively committees can plan for contingencies and collect tariffs – systems which are still being developed by WASEP and its partners.

WASEP's experience shows that the likelihood of a scheme to remain functioning is highly correlated with the level to which community participation and management is facilitated. Each component must be addressed as part of a whole, where omission or suppression of one section can result in the entire strategy being compromised.

By addressing community ownership and management as an complimentary component to infrastructure and health and hygiene, WASEP has been able to work towards schemes that are likely to remain functioning in the future and has created an enabling environment for sustainability. The example produced by WASEP is being replicated by other agencies working in the sector, especially by local government agencies. The success of community based management and local operation and maintenance will go a long way in ensuring that schemes remain functional well into the future.

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