



Title of the Project: Action Research Project on Participatory Rural Water Supply in Four Selected Districts of Pakistan to be Funded by Centre on Integrated Rural Development for Asia and the Pacific (CIRDAP)

Project duration: 3-5 years

Estimated cost: Rs. 80.00 million (US\$ 1.00million)

Introduction

Water is essential to human existence. Access to potable water supply is a basic human right and necessary to ensure a healthy population. Provision of safe water supply and sanitation directly serves the objectives of public health by curtailing the spread of vector diseases. The poor are particularly vulnerable when water is either unclean or in short supply. The urban poor spend large part of their income on water from private vendors. In rural areas, fetching water for cooking and drinking, mostly by women, involves lot of time and distance. Continuing urbanization and industrialization have increased water consumption (and correspondingly higher levels of waste), and increasing competition for scarce water resources. Until the water demand is met and managed properly, the productivity, incomes and health of the poor will continue to suffer. Most of the wastewater is not treated and with the expansion of urban water supply and disposal systems without treatment facilities, it will continue to impact the environment adversely. The development of water supply and sanitation facilities has linkages with growth.

As of 2005, approximately 38.5 million people lacked access to safe drinking water source and approximately 50.7 million people lacked access to improved sanitation in Pakistan. By year 2015, if this trend continues, 52.8 million people will be deprived of safe drinking water and 43.2 million people will have no access to adequate sanitation facilities in Pakistan. It is not to calculate what percentages of population have access to a particular service so far and how much numbers of beneficiaries will be added by year 2015; it is to investigate that even if we meet the national and/or regional targets in Pakistan, how much population will still be deprived of these most basic human needs.

The per capita water consumption varies greatly in urban and rural areas. In urban areas, more water is used due to easy access to infrastructural network and better socioeconomic conditions. In case of rural water supply, there is far lesser wastage in domestic use, yet added quantities are required, inter-alia, for rearing of livestock in villages. Presently, more than 65 per cent of the total population in the country has access to safe drinking water, including 85 per cent persons living in more than 500 urban places including the cities and towns. In rural areas, only 55 per cent souls mostly living in about 30,000 large villages are served with planned water supply, while in remaining 20,000 rural settlements the water supply schemes are yet to be developed. Most of the urban water is supplied from groundwater except for the cities of Karachi, Hyderabad and part of the supply to Islamabad, which mainly uses surface water. Rural water supply is mostly from groundwater except in saline groundwater areas, where irrigation canals are the main source of domestic water (source: MTFD 2005-2010).

Drinking water supply demand is increasing rapidly while the opportunities for further development of water resources or maintaining their use to existing levels are diminishing. The current per capita water availability at 1200 cubic meter per person is low, placing Pakistan in the category of a high water stress country. Similarly, the surface water storage capacity has

already lowered. Immediate need is for the development and management of water resources and supply systems, along with the introduction of higher water-use efficiency, curtailing environmental degradation from water sources, and institutional strengthening. Due to insufficient O&M budget, the completed facilities are deteriorating fast and need major investment for rehabilitation and upgrading. As a result of low tariffs, inadequate cost recoveries and administrative inefficiencies, the financial position of urban water supply and sewerage sector agencies is very poor. Only a few providers in large urban areas generate sufficient revenues to make any contribution to investment. In the medium and small towns these entities typically do not collect sufficient revenue to even cover the operating expenses.

Government of Pakistan Policy

The MTFD (Medium term development framework, 2005-2010) aims at sustainable access to the safe clean water supply and hygienic disposal of waste water in both the urban as well as rural areas.

The main challenge in Pakistan is to shift the culture from the provision of water services infrastructure to provision of reliable sustainable and affordable water supply services. The decentralization of service provision can help in the shift. A National Drinking Water and Sanitation Policy along with the Clean Drinking Water for All Programme, have been launched by the Ministry of Environment as an integral part of the MTFD, focusing on provision of clean drinking water to entire population; improving and expanding delivery of water services; ensuring conservation of water and increasing system efficiencies; and to maximize the coverage of sanitation services both in urban and rural areas.

The Policy will link the water and sanitation to national development goals and to protect the environment through: (i) improving water and sanitation management to reduce the inefficient use of water, excessive groundwater pumping; and (ii) reducing pollution by urban and industrial users through the on-site or combined wastewater treatment and reuse.

Until the 21st century, Pakistan's water sector policies were mainly focused on water resources and irrigation. This has been changed with the promulgation of National Drinking Water Policy (NDWP), the National Sanitation Policy (NSP) and the Clean Drinking Water for All Programme, which were prepared by the Ministry of Environment as integral parts of the Medium Term Development Framework (MTDF) 2005-2010. The MTFD provides about US\$2 billion (120 billion rupees) for water and sanitation schemes. In addition, a Safe Drinking Water Act will be adopted under the MTFD to ensure compliance with the Pakistan Drinking Water Quality Standards. A major shift of sector responsibility took place under the 2001 Local Government Ordinance.

Objectives of Action Research Project

Major objectives of the project are:

1. To assess need, availability and gap
2. Build, operate, train and transfer the operation and management to the community
3. To monitor and evaluate the performance of water supply system and operational and management aspects by the community to provide advisory services as and when required
4. To devise mechanism for self sustained participatory supply of safe drinking water in rural areas.
5. To emancipate the rural women from additional burden of fetching water from far flung areas.
6. To improve the living standard of rural people, establish improved hygienic and healthy environment and reduce water borne diseases.

Issues in Water Supply in Pakistan

Public sector investments in the water supply sector are inadequate. Pakistan spends around one quarter of a percentage point of its GDP on water supply and sanitation. Water is a

key factor of production in agriculture, manufacturing industry, power generation and mining. It sustains the natural environment; it is not only the quantity of water which is critical but quality also. For this reason, both sanitation services and activities which can pollute water and render it unfit for use must be controlled.

The majority of the population in the country is exposed to the hazards of drinking unsafe and polluted water. Based on the National Water Quality Monitoring Programme, carried out by the Pakistan Council of Research in Water Resources, the bacterial contamination in 2004 ranged from 48 per cent in Islamabad to 100 per cent in Ziarat. Arsenic testing of drinking water supply across the country has indicated that the districts of Bahawalpur, Leiyah, Multan, Rahim Yar Khan and D.G. Khan in Punjab and Dadu, Mirpur Khas, Khairpur, Nawabshah, Shikarpur and Ghotki in Sindh were high risk districts with several areas indicating Arsenic levels at more than 50 parts per billion (ppb). The other contamination problems relate to the Nitrate and Fluoride contamination which is more than 10 ppb in several districts including Risalpur, Chakwal, Jhelum, Mianwali, Khushab, Faisalabad, Bahawalpur, Loralai, Ziarat, Mastung, Mirpur Khas and Karachi.

The major issues of the water supply sector are:

- (i) absence of an integrated approach,
- (ii) sub-optimal use of water,
- (iii) inadequate storage capacity,
- (iv) extensive system losses,
- (v) inadequate operation and maintenance and poor cost recovery,
- (vi) excessive groundwater pumping,
- (vii) unsafe disposal of wastewater,
- (viii) lack of private sector participation,
- (ix) inefficient institutional performance,
- (x) poor linkage among urban and rural water development projects,
- (xi) lack of awareness and community participation, and
- (xii) water pollution including metal contamination generating public health hazards.

Role of Ministry of Local Government and Rural Development

Under the Local Government Ordinance (LGO) 2001, the urban and rural limits have been abolished. The responsibility of water supply and sanitation, as per new institutional arrangement under the LGO 2001, has been devolved to Tehsil Governments. The water supply and sanitation resources will be allocated according to the Water Supply and Sanitation Action Plan, to be prepared by each Local Government in consultation with the respective Provincial Government. Such implementation measures will be adopted by the Local Governments, which along with capacity building of the Tehsil and District Governments would ensure timely implementation of the water supply and sanitation programs and projects.

The success of water supply and sanitation programs would depend on governance issues in the sector, including better management of the scarce water resources at both the individual and collective level. This requires broad range of appropriate measures, including proper regulatory frameworks for integrated water resources management and development of improved water service delivery mechanisms, through participatory approaches.

The measures would include (i) improved governance by implementation of the devolution process completely, (ii) supporting social mobilization for effective broad based local community participation and service delivery, (iii) required budgetary allocations and timely releases of funds for water supply and sanitation, especially for the less developed areas/regions, (iv) adoption of measures for adequate and equitable distribution, and (v) monitoring and evaluating the outcomes and impacts for feedback and timely rectification.

The main aim of the strategy is to improve the performance and utilization of water supply and sanitation systems and reduce financial dependence on the Federal/Provincial

Governments by: improving planning and management capabilities of the involved agencies; encouraging the involvement of communities; and promoting sense of ownership by the community, particularly for operation and maintenance. The strategy includes (i) adoption of an integrated approach, rational resource use, and the introduction of water efficient techniques, (ii) containment of environmental degradation, (iii) institutional strengthening, capacity building and human resource development, (iv) improving performance and utilization of local systems through better planning, management and community participation; (v) improving quality of and easy access to water supply, especially for women, (vi) improving sanitation through sewerage and drainage schemes, (vii) improving the understanding of the linkages between hygiene and health through community education campaigns, especially among the women.

Akhtar Hameed Khan National Centre for Rural Development (AHKNCRD) and Municipal Administration, being the part of Ministry of Local Government and Rural Development and an apex research and training institute, could play an important role in imparting on-campus and off-campus training to staff of concerned Government and Non-Government Organizations along with motivating and organizing the community for participatory approach of development in water supply sector. In addition, AHKNCRD also undertakes action research in order to test pilot projects for replication on wider scale.

Project Activities

Activities to be accomplished under this project during the first phase are:

- Recruitment of manpower
- Establishment of District and Tehsil level Offices
- Formation of working team
 - o Sites selection and setting up of Beneficiaries' Organization (BO)
 - o Evaluation of previous work in the same area and or nearby areas (to enlist successes and failures)
- Benchmark survey: Socioeconomic status of the targeted society, water availability (time, quantity and quality), present level of per capita water consumption, amount spent on domestic water, hygienic conditions, occurrences of water-born diseases etc.
- Devise an amended strategy to avoid the previous failures

Operational Methodology of Action Research on Participatory Rural Water Supply

Participatory process oriented approach will be adopted in order to elicit community participation through a participatory process of diagnosis of life conditions, minimize element of subjectivity in the identification of potential beneficiary for implementation and management of the programme. The partners in this process will be local activists, the institutional agents whose job is to assist, advise, train, guide and teach the communities in order to plan, implement, manage and monitor improvements of life condition especially civic amenities including provision of potable water.

The process will involve the following main steps in a sequential order:

- i. Organization of various teams and committees besides selection of volunteer workers in the selected villages of 4 districts.
- ii. Selection of hardware for selected sites
- iii. Prepare of specifications, BOQ, cost estimates and float tender for execution
- iv. Conduct of training for planning and collection of household data through community self survey following participatory approaches like Participatory Rural Appraisal (PRA) Logical Framework Analysis (LFA) etc.
- v. Conduct of training in management for village committee members and officials of the partner agency at various levels for Water Supply Programme Implementation and sustainable management.
- vi. Devise mechanism for cost recovery of investment, meet the running cost(O&M) in consultation with the economists and community
- vii. Finally to handover the system to the community.

Institutional Mechanism for Implementation

At the programme Headquarter level; a programme management unit (PMU) will be set up to ensure coordination, supervision and monitoring of the programme implementation. The composition of PMU will be as under:

- Chairman: **Director General, AHKNCRD&MA**
- Members:
 - Director (Research) / Project Director
 - District Nazim/Administrator
 - XEN Physical Planning and Housing Department and or Assistant Director, LG&RD (Representative Partner Field Agency)
 - Administrator of Union Council
 - **One Community Member**

The main functions of District Management Unit (DMU) will be to:-

- i. Facilitate planning, management monitoring, and coordination of the programme.
- ii. Consider the planning, management of technical training teams and supervision of the same.
- iii. Manage the programme,
- iv. Consider advice and pass decisions in all such matters referred to the unit for its consideration and advice by the Project Director from time to time.

The other appropriate teams and committees will also be constituted at the project headquarter, district, union council and village levels. The main objective behind constitution of these teams / committees is to assist the project management in training, planning, management, monitoring, reporting, and follow up actions during implementation of Participatory Rural Water Action Research Project.

The third phase i.e. after transfer to the community of the project, the activities should include:

- Monitoring
- Evaluation (technical, economical, social and environmental)
- Impact analysis
- Feedback mechanism
- Rectification and amendments (if required)
- Dissemination of success stories for large scale adaptation

The Area to be covered

Four districts will be covered under proposed action research pilot project i.e. District Sukkur from Sindh, District Mianwali from Punjab, District Pishin from Balochistan and District Abbottabad from NWFP province. While selecting these districts besides project demands many other factors like backwardness of the area, its characteristics, provincial distribution and minimum operational cost during implementation of the project have been kept in mind in order to make this project operationally more acceptable and viable.

Physical Targets

The project intends to cover 4 districts. Under the project survey of these four districts will be carried out for determining the water supply gaps and management issues. Also the action research aims to find out possible solution in collaboration with concerned water supply departments and line departments. Detailed year wise phasing of the physical targets and expenditures could be spelt out if the proposal is considered for funding/implementation by CIRDAP. However, initially the project has been planned for three (3) years with a scope of 2 years extension if required. A tentative estimated cost has been put to Rs. 80.00 million (US\$ 1.00 million).

SUGGESTIONS

It is proposed that CIRDAP may consider this Pilot Action Research Project in order to test innovative participatory approaches in safe drinking water supply in four districts of Pakistan (one district from each province). If CIRDAP agrees for consideration of funding of Pilot Action Research Project detailed survey of the districts will be carried out in collaboration with line departments of Provincial Governments and Federal Ministry of Environment. Experiences in rural water supply suggest that for sustainability of water supply schemes participation of community is essential. Therefore, under this action research project participatory approach will be tested and if found feasible, then to replicate all over Pakistan and member countries.

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