

LESSONS FROM ADB OPERATIONS IN WATER SUPPLY AND SANITATION SUBSECTOR

1. Some of the key lessons from the *Impact Evaluation of Water Supply and Sanitation projects in Selected Developing Member Countries* are: (Available: http://www.adb.org/Documents/IES/Water/ies_reg_2002_17.pdf):

- (i) Stakeholder roles in planning, implementation and operating water supply systems have been limited. The study noted that perhaps the greatest obstacle to successful participatory development is convincing institutional players that it is indeed possible. Maximizing stakeholder involvement in project decision-making and implementation goes against the institutional culture in some developing member countries (DMCs). Success stories from Malaysia and the Philippines show that often just one committed person can lead the way and achieve customer participation. Consistent with ADB policies that specify the importance of such participation, project designs should make a more concerted effort to realize this objective.
- (ii) An effective demand-side management (DSM) program is a simple and cost-effective alternative to supply expansion, particularly in water-scarce areas. DSM succeeds with political support and appropriate campaigns to promote customer awareness of the need for conservation, as observed in Dalian. Particularly in water-scarce areas, all ADB-financed medium- to large-scale water supply and sanitation (WSS) projects should include a DSM program of achievable and cost-effective actions, appropriate to the situation, to develop demand-side alternatives to supply-side expansion of system capacity. The program's activities should be prioritized according to their net impact in terms of the amount of water potentially saved and according to their cost-effectiveness in decreasing cost per unit of water saved. Project preparatory technical assistance documents should address the full range of tasks needed to design and implement a DSM program, including (i) technical assessments and recommended actions; (ii) financial (for instance, water tariff structure) and economic assessments; (iii) customer conservation awareness campaigns; and (iv) political support requirements.
- (iii) Asian Development Bank (ADB) needs to give serious attention of implementing effective sanitation, hygiene, and health promotion programs in its WSS projects. The traditional emphasis on simply providing adequate quantities of good quality water is not enough to achieve the full benefits of improved individual and community health. Carefully crafted sanitation, hygiene, and health promotion programs, such as the Society for the Promotion of Area Resource Center's projects in India, are needed for project beneficiaries to become much more aware of the critical links between water, sanitation, hygiene behavior, and health.
- (iv) Most WSS projects experience significant delays in implementation. These delays result from an interplay among institutional, design, policy, and administrative factors that include institutional and capacity constraints commonly encountered in DMCs, overly complex project designs, proliferation of policy requirements of both external funding agencies and recipients, administrative procedures that are not always well understood, and cumbersome domestic procurement procedures and decision-making processes. Insufficient attention by ADB to project management and monitoring causes slow loan disbursements, adversely affecting project implementation and performance. In turn, this can

lead to increased project overhead costs and customer dissatisfaction. ADB should consider how best to address this complex but important set of issues. Success stories from nongovernment organization-implemented projects in India point to innovative approaches, such as turnkey contracts, that ADB might consider as elements in a more streamlined approach to project management for expeditiously implementing WSS projects.

2. Experience from the Greater Mekong Subregion based the valuation study of *Selected Advisory Technical Assistance for Institutional Development and Capacity Building in the Water Supply and Sanitation Sector* (Available: http://www.adb.org/Documents/TPARs/REG/tpa_reg_200307.pdf) revealed that the community health and hygiene programs, associated with water supply and sanitation projects, will be more effective when they can be implemented by a professional organization, which is already operating the same or similar types of activities. Where this arrangement is possible, there is a good chance that such activities will be continued after the completion of the advisory technical assistance. The study also highlighted that coordination and timing between an advisory technical assistance (ADTA) and the associated project is also important. ADTAs should be implemented only when the new water supply infrastructure provided by the project is in place. If an ADTA is related to technical matters, it is more appropriate for it to be implemented before or at the beginning of the project so that project implementation may receive the greatest benefit from the ADTA. If an ADTA is providing support for management and financial matters, coordination with an attached or related project may be less significant.

3. Country/Project level OED studies also provide many useful lessons. Key highlighted lessons from Indonesia include: improvement in operations and maintenance, reduction in level of unaccounted for water, cost-effective and environmentally responsible approach, need for identifying and instituting performance indicators for institutional strengthening, and participation of local communities in the planning, design, and implementation of projects (<http://www.adb.org/Documents/PERs/ie-59.pdf>); caution in adopting standard technical designs to suit local conditions, building appropriate organizational set up and strengthening, effective coordination at all levels of project implementation, recognizing risks and effective risk monitoring and mitigation measures, emphasis on demand-driven and consumer oriented approach, recognition of local knowledge in the design process, and assessment of implementation capacity of the government at all levels and due adjustment to implementation modalities (http://www.adb.org/Documents/PCRs/INO/pcr_IN26102.pdf).

- (i) Project evaluation from Nepal indicates that the participation of local communities from the start of rural water supply projects is a basic determinant of success. Using demand management in the design and implementation of such projects could improve both performance and sustainability. Significant advantages would be secured in offering service options that provide alternative water consumption levels and in structuring water charges to reflect levels of water consumption. Synergies would be obtained by coupling these innovations with building the users' awareness of the efficient use and conservation of the resource. Furthermore, where the availability of source water poses no problem, rural piped systems should be designed to an appropriate supply capacity with allowance for some proportion of household connections beside public standposts (PSPs) and for an adequate average water consumption level. If the design capacity is limited and only PSPs are allowed, the operational efficiency could be threatened. Many among the intended beneficiaries would not get their share of the water supply. The recovery of costs would be jeopardized as less could be

collected from higher income households (<http://www.adb.org/Documents/PERs/PE494.pdf>).

- (ii) The evaluation of Rural Water Supply and Sanitation Sector Project in Indonesia (http://www.adb.org/Documents/PCRs/INO/pcr_IN26102.pdf) also provided some technical lessons for designing future projects. These are: (i) lowland villages need a different approach from highland villages both in technical and social mobilization terms; (ii) Perusahaan Daerah Air Minum (PDAM) (regional water supply enterprise) schemes need a different approach from community-managed schemes; (iii) systems based on pumps/treatment plants need to be avoided in small communities and, if unavoidable, need extra attention; (iv) special attention needs to be given to ethnic and cultural differences between areas in the approach, as some communities need more focus in terms of health and hygiene education, and mobilization; (v) willingness of the community to utilize public hydrants should be fully researched; (vi) house connection-based systems need to be offered, based on the principle of recovery of investment and operational costs by the beneficiaries; (vii) pour-flush sanitation systems should not be provided without a suitable water supply; and (viii) school toilets with a connecting water supply have a higher chance of success than public toilets/wash areas.

4. The two rural water supply and sanitation sector projects in the Philippines also provide useful lessons for future ADB operations (<http://www.adb.org/Documents/PERs/PE441.pdf> and <http://www.adb.org/Documents/PERs/pe-536.pdf>). Key lessons are:

- (i) Formation of water user groups and the commitment of their members to pay necessary fees should be a precondition for approving a subproject. Such commitments are necessary for cost recovery and cost recovery is necessary for good O&M. The failure to enforce such requirements, both by the government and ADB, has contributed to the less than fully satisfactory performance of the project.
- (ii) The design criteria, once established, should be reflected in subproject selection and appraisal criteria and the appraisal of subprojects. The criterion for the distance from households to point sources is particularly important as it determines the number of point sources to be constructed, the magnitude of investment needed, travel time for fetching water, and the level of water consumption. While the present criterion requires a maximum distance of 250 meters, the average actual distance to the point sources constructed was only around 50 meters. This suggests that the point sources may have been provided at closer intervals than intended. The selection of the sites for point sources should attempt to provide them primarily to those households beyond the optimum distance from the point sources with a view to maximizing cost-effectiveness.
- (iii) On the planning side, the process of site selection needs to be more demand-driven. The process of consultation with local communities and local government units should be strengthened and structured, and should permit the examination of wider options including different types of level-I facilities and higher level options. Nongovernment organizations may have a useful role to play in this connection. The process also needs to take into consideration community plans to obtain alternative sources of water to avoid developing several different water facilities in an area. Where available, more springs should be developed, and the watershed areas need to be protected. Extension of spring development to

communal standpipes or house connection is something that people appreciate and are ready to pay for and should be promoted wherever practicable. The provision of rainwater collectors, on the other hand, has to be reexamined in view of their frequent failure. Unless cost recovery of rainwater collectors can be solved, investment in them is likely to be wasteful.

- (iv) Rural water supply facilities (wells, spring development, etc.) benefit a large number of people; save time used for fetching water; and promote greater use of water for washing, bathing, and other purposes. Health benefits are the main justification for rural water supply projects, but unless water quality is properly monitored and controlled, the provision of such facilities may not significantly reduce the incidence of mortality and morbidity. A more thorough investigation and testing of water quality is needed during planning and construction phases even if this involves bore hole testing in areas with hydro-geological problems. A number of improvements are needed to maximize project benefits and cost effectiveness. The national health agency's resources and capacity for bacteriological testing could be strengthened, or alternatively, the feasibility of using local government units or private contractors for such monitoring should be explored.
- (v) The responsibilities assigned to the concerned agencies at the central and provincial levels should be clarified; adequate personnel and other resources should be provided; and a system of accountability must be established. This will also have to involve the reeducation of the beneficiaries on the status of ownership of the facilities. Training for testing the quality of water and for organizing water user groups needs to be strengthened and sustained.
- (vi) The capacity of an executing agency to meet the requirements of a sector loan including the selection and appraisal of subprojects requires more careful analysis. Where such capacity is considered insufficient or doubtful, assistance to enhance such capacity should be provided together with the loan. ADB should also supervise implementation of sector loans more closely. An appropriate procedure needs to be established to ensure that applicable loan covenants for subproject appraisal are complied with.
- (vii) Protecting the investment and the quality of water through proper O&M is an urgent requirement. Institutions for the collection of water charges need to be established and they should remain active to ensure cost recovery and proper O&M. Water sources may be contaminated because of poor drainage around point sources and poor water users' habits. More stringent guidelines should be applied in the design, construction, O&M, and training of water users. Alternatives are costly rehabilitation and contaminated water sources.
- (viii) There should be adequate community participation at all stages of the project cycle to foster ownership of project facilities.
- (ix) Simple community-level treatment solutions to improve water quality—filtering, chlorination, removal of iron, sterilization of bacteria—are basic requirements that should be incorporated in rural water supply projects to ensure that the facilities are not abandoned.

5. Forming community-level water users associations and building capacity for improving their skills should precede the actual construction of the water facility. These community organizations responsible for the O&M of projects should first be legally constituted and registered. They require the mandate to regularly collect tariffs which should be set according to the level of service and cover expenses for regular and periodic maintenance. This is a prerequisite for the sustainability of the facilities. The handing over of the facility to the

community should be supported by a “successful test of sustainability” for financial and technical aspects for at least 1 year.