



Scaling up rural water and sanitation projects

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THIS PAPER DESCRIBES how large scale rural water supply and sanitation projects can be scaled up and sustained using a demand based approach in order to reach the unreached in the 21st Century.

Introduction

Despite the growing level of investment in water and sanitation over the past decade, an increasing number of people lack access to adequate water and sanitation services in rural and peri-urban areas. While experience demonstrates that no fixed formula works, the direction that should be taken to improve service delivery has become more clear. A set of principles has emerged that provides the framework for delivering improved services on a sustainable basis.

Based on these principals a new approach to project design and implementation can be adopted that encourages governments and implementing agencies to apply more consistent rules and policies than in the past. It is also becoming clear that the building of systematic learning component into projects which aim to continually improve the delivery of rural water and sanitation services within projects are an important tool in this new approach.

The traditional approach

Experience has clearly demonstrated that rules which favor highly centralized decision-making about service allocations and the level and intensity of local demands have not produced either efficient or sustainable services. Many large investments were based exclusively on technical merits and did not fully respond to what the targeted communities wanted. Examples of such traditional rules that have not worked well include:

- The selection of communities to be served by planners on the basis of external determination of "need" for service, rather than economic "demand" for service.
- The selection of levels of service to be provided (and by implication, technologies to be employed) based on "affordability", rather than on "willingness to pay".
- The provision of the prescribed service level on a grant basis without procedures to negotiate with the selected communities on cost-sharing arrangements, which may differ from a uniform allocation of such responsibilities.
- The extensive involvement of government personnel, rather than local decision-makers, in decisions re-

garding the location, construction, operation, and maintenance of community facilities.

There are now numerous examples of projects which have successfully modified some of these traditional institutional rules with positive effects.

The new approach

The new approach to RWSS is based primarily on two of the principles that were developed by the Nordic donor community and endorsed at the 1992 International Conference on Water and the Environment in Dublin. These principles emerged at the end of the International Drinking Water Supply & Sanitation Decade when the sector began to agree that projects must focus to a greater extent on demand and sustainability. They are:

- Water is an economic as well as a social good and should be managed as such.
- Water should be managed at the lowest appropriate level, with users involved in the planning and implementation of projects.

These principles have broad implications for water resources management and development in general. Managing water as an economic good requires careful attention to issues related to the allocation of water among users and to the principles that should guide allocation, for example, between urban and rural areas or between the water supply and irrigation sectors. It is essential that the principles are considered in decisions about the use of public and private funds as well when investing in rural development.

Managing water as an economic good also implies that projects must be designed to provide incentives for the efficient and effective use of facilities. There must be a balance between the economic value of water to users, the cost of providing services to users, and the prices charged for these services. Typically, in RWSS projects, these elements are not in balance. The government usually determines the cost of providing services through the technical options it offers, and it also sets the prices charged to users. But this price does not necessarily correspond to the value that users attach to the service or to the cost of providing services.

To achieve water uses and investments in which the value that people (the users) attach to a given service is greater than the cost, and consequently, is a service for which they are willing to pay.

In order to manage water at the lowest appropriate level, criteria must be developed to determine what that level is for different activities. The most robust criterion appears to be that major management decisions should be made at a level that encompasses, but does not go beyond, the range of demands being addressed. In other words, a decision should not be made at a higher level, if it can be made effectively at a lower level.

In RWSS projects, demands for community water supply and sanitation services are localized demands. Therefore, managerial decisions about levels of service, locations of facilities, and cost-sharing should be made locally as well. The main role of higher-level government agencies should be to establish institutional rules, regulations, and processes that encourage such local decisions.

Translating principles into action

Translating these principles into action requires that project planners establish rules and procedures that encourage efficient and effective choices, permit valid inferences about the level and intensity of local demands, and reduce transaction costs. An increasing number of projects financed by the World Bank and other external support agencies (ESAs) are applying these principles as a means to create incentives that encourage demand-responsive services. Four broad and inter-related rules have been identified.

- **Eligibility criteria:** Eligibility rules for participation should be broad enough so that eligibility does not, by itself, guarantee that every eligible community will receive service during a particular time period. Services should follow, not precede, community initiative in seeking the improvement.
- **Technical options and service levels:** Communities should be actively involved in selecting service levels. A range of technical options and service levels should be offered to communities, and their related cost implications made clear.
- **Cost-sharing arrangements:** The basic principles of cost-sharing should be specified and community responsibility for costs (capital and operation and maintenance costs) made clear from the outset. These principles should aim at negotiated cost-sharing arrangements in which the local community chooses the levels of service for which it is willing to pay.
- **Responsibility for investment support:** Particular emphasis should be placed on responsibility for the sustainability of investments. Rules should be set regarding asset ownership, operations and maintenance, and the recovery of system costs.

Projects must design operational procedures that offer alternatives for community support. The local community should be able to choose who assists them with proposal preparation, construction of facilities, and operations and maintenance (O&M). The role of intermediation is recognized in order to disseminate rules and

information to guide community decision-making. Administrative procedures must encourage efficiency in service delivery. The cost-sharing arrangements should also be made clear prior to the decision by the community.

A project's long-term success depends on adherence to a clear set of rules and procedures that create proper incentives. For example, rules about levels of service and financial policies should be such that communities contribute enough to the project to have a stake in getting the service they want, knowing full well the cost implications of sustaining this service. Although the rules provide a framework for all activities, the project should be designed so that lessons from earlier project phases can be fed back into subsequent phases of the project. This adaptive project design requires continuous review and modification throughout planning and implementation and is critical to the improved performance of the project and investment sustainability.

Moreover, project rules must provide incentives for appropriate behavior. The main project stakeholders must be actively involved in developing the rules and be committed to their enforcement. The best set of rules is the simplest: transparent and not subject to interpretation. The fewer the rules, the better, as long as they are internally coherent and promote desired behavior. Rules must be widely disseminated, understood by all, and consistently applied by stakeholders. It is essential that sector policy supports the rules on a national level.

Applying the rules

In the late 1980s, the UNDP/World Bank Water and Sanitation Program assisted with the implementation of a series of RWSS pilot projects, in countries such as Ghana, Indonesia, Kenya, and Pakistan. These projects were designed to test financial, institutional, social, and technical interventions at the community level. In recent years, the Program has worked with governments, beneficiaries, NGOs, the World Bank, and other ESAs to incorporate lessons into the design of large investments. The program currently supports RWSS initiatives in 20 countries and large World Bank-funded projects in 15 of these countries. The Program's experience with RWSS has shown that project planners are applying the rules as a means to encourage demand-driven investments. Described below are the results of a survey on how the rules are being applied in recent projects with Program involvement (reference).

Eligibility criteria for participation

Demand-driven projects must ensure that communities are not being selected based only on need, but that communities take the initiative to improve their services. The idea is that project planners should not prepare lists of communities that should be served, but rather set eligibility rules on how communities can become eligible for services. The eligibility rules should allow more communities to be eligible than can be served, and then prioritize communities based on expressed demand.

All of the surveyed projects have eligibility criteria requiring communities that request services to contribute to the costs and assume responsibility for long-term O&M. However, there is still substantial confusion between eligibility criteria based on need and criteria based on demand. Need-based criteria include health and poverty indicators, infant mortality, water scarcity, water quality, and distance to source. Other examples of eligibility criteria are back-stopping by local government, development potential of the community, and participation in other project components. These criteria can be used by governments to choose the geographical regions that will be served first, as long as communities that are selected have shown evidence of their demand.

Once eligibility has been established, prioritization criteria will determine which communities get served first among those that have clearly expressed a demand. For example, a large RWSS project in Bolivia established the following prioritization criteria: first come, first served; communities who agree to pay a higher percentage of costs; and areas where the municipal government co-sponsors investments and there is a critical mass of communities. This critical mass will help achieve economies of scale and lower costs.

Technical options and service levels

Technology options and levels of service are integral elements of the new approach. They directly relate to the choices communities make about the services they want and for which they are willing to pay. Although most project designs now offer a range of technical options to communities for water supply provision, many projects still do not fully allow communities to choose their preferred technical option or have promotional campaigns favoring certain options. Examples of this situation can be found in projects in Mali, India, and the Philippines. This underscores the importance of training intermediaries and project staff in demand-based approaches and developing methodologies for negotiating service levels with communities.

Service levels are closely linked to the project's financial policy and are usually defined by the amount of water that will be provided and the proximity to the house. A demand-based approach requires that communities choose their preferred service level based on their willingness to pay. However, many projects influence this decision by offering higher levels of subsidy for the technical options that they want to promote. This situation most frequently occurs for piped water systems (pumped or gravity), and rarely for boreholes fitted with handpumps. In piped systems, projects often provide high subsidies for public standpipes, but require beneficiaries to fund house connections, as is the case in Ecuador. In sanitation, less than one-third of the projects offer higher levels of service than latrines, although most projects allow beneficiaries to choose between a VIP and a pour-flush latrine. Preliminary indications are that communities often want, and are willing to pay for higher levels of service.

Many projects have adopted technical standards into their design. In projects in Ghana, Philippines, and Ecuador, technical standards coincide with those established by government, but in Bolivia they have been adopted as national standards as a result of the project. Other projects have developed standards independently as in Indonesia and Nepal. In projects where new standards have been prepared, they have replaced the "over-designed, urban-biased" standards of the past, and closely approximate rural reality (for example, water consumption rates of 20-50 liters per capita per day). They also promote the use of low-cost technology. When adequately designed, standards have a positive impact on quality, design, and investment costs. However, standards can also have a negative impact by limiting technological innovation and, therefore, cost reductions.

Cost sharing arrangements

Most surveyed projects require beneficiary contributions to capital costs, even for a minimal level of service. Contributions may be in cash, kind, or both. Two alternative approaches have been used in defining cost-sharing arrangements: (1) a subsidy defined as a percent of the investment cost, and (2) an established subsidy ceiling.

Subsidy as percentage of investment cost: Approximately half of the surveyed projects require communities to make a percent contribution to project costs, but have no established investment ceiling. This is the case in projects in Mali, Eritrea, Ethiopia, Philippines, and Sri Lanka. Contributions are typically quite low, ranging from 8 percent to 20 percent of investment costs, and often provided in kind. Because the contribution is relatively small, this policy provides little incentive for the user to push for lower investment costs.

The question remains whether such a relatively small contribution does in fact demonstrate an economic demand for the services. Communities have found it difficult to fully understand this policy, as percentages mean little unless converted to real terms. It is not clear if the community financial contribution is sufficiently high to influence decisions. This policy also raises equity issues, as communities may receive a different level of subsidy depending on the costs of the technologies chosen.

Ceiling imposed on subsidized amount: All projects that apply a ceiling to the amount of government subsidy require communities to contribute a percentage of the investment cost up to the ceiling, and cover full costs above the ceiling. Ceilings are determined in two ways: as a defined minimum level of service or in real terms as a cash value.

Defined as level of service: Governments will subsidize a percentage of the investment cost up to a "minimum" level of service. Above this level, communities must pay full costs. Projects in Ecuador, India, and Nepal have established financial policies based on this concept. Although this policy forces communities to make a choice, it allows a high degree of subjectivity in defining the basic

level of service and does not always produce the most efficient solutions.

In real terms: Government defines its contribution as a fixed amount of money, regardless of the level of service chosen. This is the policy in projects in Bolivia and Indonesia. If the subsidy ceiling is sufficiently low, communities must make financial choices about service levels. Therefore, this policy provides the best incentive for the communities to make choices and influence costs. However, setting the initial ceiling can be arduous and requires commitment to its enforcement by all project stakeholders.

A standard subsidy ceiling adopted at the country level as national policy has two benefits. First, without a ceiling on the subsidy provided by government, there is a risk of financing very costly projects with high investment costs per capital while the same resources could finance projects with lower investment costs and benefit a much larger number of people. Second, governments only subsidize a basic level of service, and communities must bear the additional costs of the project above this level.

Responsibility for investment sustainability

Although most projects require communities to assume responsibility for O&M, the majority of projects still do not transfer system ownership to the communities as a matter of government policy. Even when state governments retain legal ownership of the water system, communities remain responsible for system management. It is not clear if projects are moving towards community management because governments no longer want to assume responsibility for these services, or because of the belief that management should occur at the lowest appropriate level.

Given the distortions created by high levels of subsidy in the sector, it is important to determine if the demand expressed by communities through the selection of the desired level of service and a contribution to the capital costs is an indication of a long term demand to sustain the facilities. For example, a project in Nepal requires the community, in addition to contributing to capital costs, to deposit one year of O&M costs in a bank account prior to initiation of the project. However, it remains to be seen whether communities do in fact assume their responsibilities for O&M. Communities should be given the choice to undertake management directly or obtain services from others. Skills training and technical backstopping should be provided.

Long term sustainability requires that rules be set to address cost recovery and the financing of depreciation and replacement. Despite that this is a critical element of

the financial policy, no surveyed project defined responsibilities for full cost recovery, including the costs of system replacement. However, the project in Bolivia moves in that direction with rules requiring the government to determine the financial policy for full cost recovery within a year.

Conclusions and the learning agenda

There are major gains to be made in the quantity and quality of service provided to low income communities by moving toward demand-responsive delivery of service. However, much remains to be learned about the rules and processes which work best in different settings.

In the field, there should be systematic monitoring of project rules and procedures and their fine tuning when required. At the global level, we should be facilitating exchanges between countries and synthesizing results. Some burning questions to be addressed include:

- What project rules would create the right incentives? What level of payments and thresholds of financial contribution reflect economic demand? What technical options and what mix of services are the most appropriate? Are the rules conducive to providing sustainable services based on what consumers want and are willing to pay for?
- What information do communities need to make an appropriate decision on the levels of service and organizational arrangements for implementation and O&M?
- What types of incentives would reduce costs and lead to efficiency in service delivery, including the costs of intermediation?

The UNDP/World Bank Water and Sanitation Program is continuously increasing its knowledge of what works and does not work in RWSS. It is reaching out to other partners in the sector to gain from their experiences and applying its knowledge to projects in urban and peri-urban areas as well. The ultimate test of the approach will be measurable improvements in water and sanitation services for the unreached.

Reference

A Demand Based Approach: Making Large Rural Water and Sanitation Projects Work. Presented at the Water Supply and Sanitation Collaborative Council Global Forum. Barbados, 1995.

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