# Making rural water supply and sanitation projects sustainable

Robert A. Boydell

**The long-term sustainability of projects not only involves communities being active in selecting technical options and service levels; end users also need to take some responsibility for cost-sharing and investment support.**

**Approaches which favour highly centralized decision-making about service allocations have not produced efficient or sustainable services.**

Despite the growing level of investment in water and sanitation over the past decade, an increasing number of people still lack access to adequate water and sanitation services. While experience demonstrates that no fixed formula works, the way forward is becoming clearer. A set of principles have emerged which provide a framework for delivering improved water-supply services on a sustainable basis.

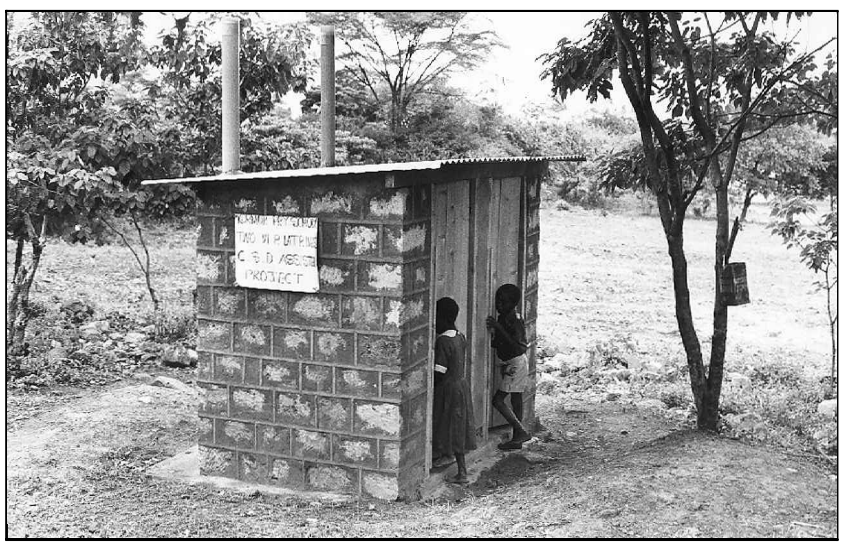
Based on these principles, a new approach to project design, implementation and operation can be adopted that encourages governments and implementing agencies to apply more consistent rules and policies than in the past. It is also becoming clear that building systematic learning components — monitoring, evaluation and feedback mechanisms — into projects is an important step in fine-tuning this new approach.

## The traditional approach

Experience has clearly demonstrated that approaches which favour highly centralized decision-making about service allocations do not produce efficient or sustainable services. Many large investments, based exclusively on technical merits, did not fully respond to what the targeted communities wanted. Examples of such approaches include:

- the selection of communities to be served by planners on the basis of an external determination of 'need', rather than the communities' 'demand', for services; and
- the selection of levels of service to be provided (and by implication, technologies to be employed), based on an external perception of 'affordability', rather than on the communities' desire or 'willingness' to pay.

The Berege Village case study, by **Victoria Boydell** on page 9, is a good example of where these traditional approaches have failed.



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A VIP latrine should be the technology choice of the community — not just the planners' 'most affordable option'.

## A demand-driven approach

The new approach to RWSS (Rural Water Supply and Sanitation) is based primarily on two of the principles developed and endorsed at the 1992 International Conference on Water and the Environment in Dublin. These principles emerged at the end of the Water Supply and Sanitation Decade, when there was an increasing consensus that projects must focus to a greater extent on demand and sustainability. The principles state that:

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

Managing water as an economic good requires careful attention to issues relating 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. 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, and the prices charged for these services. In most RWSS projects, these elements are not in balance.

If water is to be managed at the lowest appropriate level, criteria must be developed to determine what that level is for different activities. In RWSS projects, demands for community water supply and sanitation services are local demands; therefore, managerial decisions about levels of service, location of facilities, and cost-sharing should be made locally. The main role of higher-level government agencies should be to establish institutional rules, regulations and processes that encourage such local decision-making.

## Translating principles into action

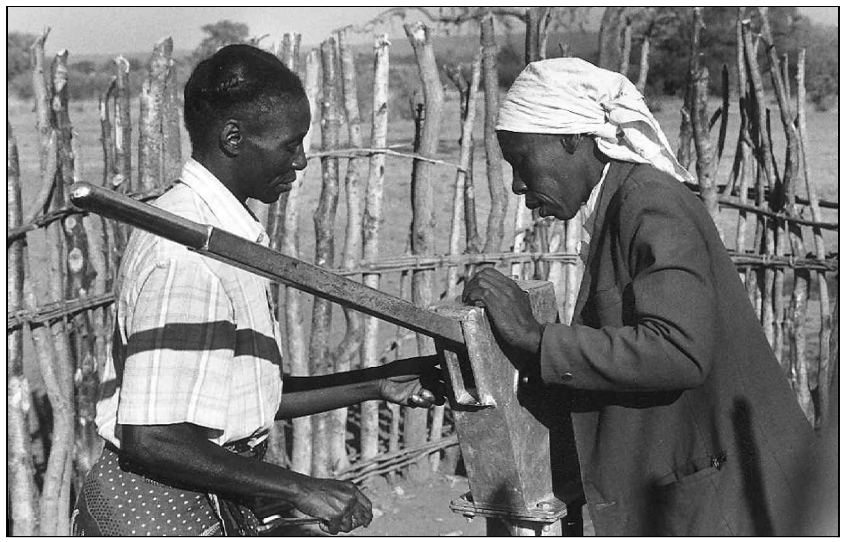
Translating these principles into action requires that project planners establish rules and procedures that encourage efficient and effective choices. An increasing number of projects, financed by external support agencies, are applying these principles as a means to create incentives which encourage demand-responsive services. Four broad and inter-related rules have been identified:

### *Eligibility criteria*

Eligibility rules for participation should not guarantee that every eligible community will receive services during a particular time period. Rather, services should follow, not precede, community initiatives in seeking the improvement. Demand-driven projects must ensure that community selection is not based only on need, but that communities themselves 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 should set eligibility rules on how communities can become eligible for services.

### *Technical options and service levels*

A range of technical options and service levels should be offered to communities — and their related cost implications made clear (for example, communities should pay incrementally more for incrementally higher levels of service). 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 some project designs now offer a range of technical options for water-supply provision, many still do not fully allow communities to choose their preferred technical option, or have campaigns to promote certain options above others. This underscores the importance of training intermediaries and project staff in demand-based approaches and developing methodologies for negotiating service levels with communities.



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Engineers installing a pump in Zambia. Communities should have a choice of technical options and service levels.

### *Cost-sharing arrangements*

The basic principles of cost-sharing need to be specified, and community responsibility for costs — of both capital, and operation and maintenance (O&M) — 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, based on a full understanding of the implications of that choice (i.e. capital and operational costs are likely to increase for higher levels of service). Experience shows that, for schemes to be sustainable, communities should pay for O&M, and should make a 'substantial' contribution to capital costs (this contribution will vary from project to project, but should be substantial enough to generate a feeling of ownership).

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### *Responsibility for investment support*

Particular emphasis needs to be placed on responsibility for the *sustainability* of

investments. Rules should be set regarding community ownership, O&M and the recovery of system costs. Although many projects require that communities assume responsibility for O&M, the majority do not transfer system ownership to the communities as a matter of government policy. 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, the construction of facilities, and O&M.

## Social intermediation

When using a demand-responsive approach, social intermediation is a critical factor for project sustainability. The purpose of social intermediation is to disseminate the rules and provide information to assist the community in decision-making. It should also assist in capacity building within the community and should not be confused with health and hygiene education, which is an important but separate function. Social intermediation is usually best carried out by NGOs or social teams. Examples of this can be seen in the case study from Pakistan (by **Inge Lagerweij** and **Cees Vulto** on page 5) and in the Indian project featured in **Parameswaran Iyer's** article on page 25.

## The learning agenda

The main project stakeholders must be actively involved in developing the rules of a project, and must be committed to their enforcement. The best sets of rules are simple, transparent and cannot be bent or manipulated. The fewer the rules, the better, so long as they are internally coherent and promote community decision-making, ownership and O&M, as opposed to rules that force an external choice upon a community (such as a government engineer choosing the technology). Rules must be widely disseminated, understood by all, and consistently applied by stakeholders. It is also essential that sector policy supports these rules at the national level. 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. 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. **Nilanjana Mukherjee's** study from Indonesia (page 13), which discusses different ways that have been tested to measure sustainability in a variety of cases, provides a good guide as to how this can be carried out.

There are major gains to be made in the quantity and quality of services provided to low-income communities by moving towards demand-responsive service delivery. However, much remains to be learned about the processes which work best in different settings. In the field, project rules and procedures should be systematically monitored , and fine-tuned when required. At the global level, we must facilitate exchanges between countries and synthesize the results. Some burning questions to be addressed include:

- What rules create the right incentives?
- What level of payments, and thresholds of financial contribution, reflect economic demand?
- What technical options and 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 on organizational arrangements for implementation and O&M?

Finally, the application of a demand-responsive approach to the provision of sanitation also warrants further research. The case study from Uzbekistan (by **Frank Haupt**, on page 30), provides some interesting ideas on financing and promoting sanitation in a demand-responsive way. ■

**about the author**
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## Coming up in the October 1999 issue

**Assume nothing – learning lessons from the field**
Every sector suffers from assumptions — and water and sanitation is no exception; assumptions about how projects should be designed, assumptions about how services and facilities are used by communities, and assumptions about the impacts that external interventions will have. In October's issue, fieldworkers and consultants report from west, east and southern Africa, the Middle East, and central America, where project staff and external evaluators have been asking the right questions, and making some startling discoveries about hand-dug well construction, community ownership, domestic water supply, and income-generating taps and toilets. Our writers contend that, by maintaining a questioning outlook, and actually responding to such findings, we will benefit from better project designs, greater impacts, and more sustainable results. The accepted wisdom and assumptions of donors, academics, governments — and even NGOs — are there to be challenged.