



A strategy for operation and maintenance of rural water supplies, Dominican Republic

Harold Lockwood

The responsibility for rural water supply, operation and maintenance in the Dominican Republic is moving from the central agency to community-based water-user associations. This article describes the proposed system and the first steps towards establishing it.

In the Dominican Republic, responsibility for the rural sector lies with the *Ace ductos Rurales* (Rural Water Supply, or AR), a department of the National Institute for Water Supplies and Sewage (INAPA). At present, coverage for water supply in rural areas is just under 50 per cent, with around 2500 projects serving approximately 1.5 million people.¹ The technology employed in these schemes ranges from hand pumps and simple gravity-fed systems with individual household taps, to more technically complicated piped systems with electro-mechanical pumps.

Although there is now general agreement over the use of demand-based approaches and community-

management models, many of the water-supply systems constructed by the government in the past had a strong engineering bias, with limited focus on social and organizational development. As a result, some communities cannot manage, operate and maintain these systems effectively; in a significant number of cases systems have fallen into disrepair, are under-financed, or are not working at full capacity.

Reforms have until now concentrated on potentially profitable urban markets

In common with many other countries in the Latin American region, the water sector in the Dominican

Republic has been going through a process of legal reform and restructuring of institutions responsible for the supply of services. As with other countries, these reforms have largely focused on potentially profitable urban markets, with less emphasis given to the rural sector.

Policy shift

Over the last two years the United States Agency for International Development (USAID) has provided co-financing and technical assistance to INAPA/AR to develop their capacity to work together with non-governmental organizations (NGOs) in promoting greater community participation in the design, execution and long-term management of rural water supply projects. This approach, known in the Dominican Republic as 'Total community participation' has now been adopted as the standard working methodology by INAPA/AR for the joint execution of projects with NGOs. Under this methodology, INAPA/AR and other agencies directly implementing projects are committed to the creation of legally recognized community water-user associations, or *Asociaciones Comunitarias de Ace ductos Rurales* (ASOCARs).

This support has been undertaken at the same time that the parent agency, INAPA, has announced a policy shift in its function away from direct implementation to becoming a normative body for the rural sector. Technical assistance has been provided through the Environmental Health Project



(EHP), a global USAID programme, offering expertise in the fields of water supply, sanitation and environmental health. EHP has been helping INAPA/AR to assume its new institutional mandate and responsibilities by developing its staff, policies and procedures. One of the key areas for support is in helping INAPA/AR find the most appropriate follow-up and monitoring strategy for the country so that rural communities that are operating and maintaining water supply systems independently from the government can still have access to reliable, long-term support and guidance.

The context

In working with INAPA/AR to develop such an operations and maintenance (O&M) strategy, experience from local conditions in the Dominican Republic were reviewed. These included the

The water department is working with NGOs to achieve greater community management of rural water supplies

work of NGOs, bi-lateral programmes and the government itself. In addition, the lessons learned from alternative models, which have proven successful in similar contexts in the region, were assessed with staff from INAPA/AR. The author drew on personal experience of national government approaches to O&M in Nicaragua and Costa Rica, as well as examples from Honduras and El Salvador provided by EHP.

In terms of existing O&M efforts, to date INAPA/AR has not had sufficient resources to develop and implement any formalized model for supporting communities managing their own water supply systems. However, an informal support system has been built up in three zones of the country (out of eight zones in total) where INAPA/AR has permanent representatives. These individuals perform a largely facilitating role with respect to post-project support for O&M and serve as a point of reference for communities that encounter problems. This current approach to O&M does not address areas such as household-level sanitation, environmen-

tal sanitation or maintaining health benefits through improved hygiene practices.

In reviewing the rural water sector in the Dominican Republic a number of important factors were identified:

- Despite official policy, which states that INAPA/AR has a mandate for systems in rural communities defined as those with 2000 inhabitants or less, there is still a blurring of responsibilities in the field between AR and INAPA/Operations, an INAPA department which operates through provincial and municipal offices.
- The relatively new government policy of 'decentralization', or the transfer of management responsibility for rural water supply systems from INAPA/Operations to communities, is now widely accepted and is advertised politically as the way forward, with a goal of transferring some 300 systems in the next three years. This trend will have obvious repercussions for an increase in the O&M workload of INAPA/AR.
- INAPA/AR remains a largely centralized and under-funded department, with serious constraints in terms of logistical and transport resources and computing hardware.
- There is no global, centralized database or information system within INAPA/AR which holds details of systems constructed by the agency itself, nor is there any comprehensive data on the many systems built by other agencies in the country (NGOs, bi-lateral programmes, social investment funds, and so on).

An O&M strategy

Although it may be desirable to have a nationwide strategy, existing resource constraints and INAPA/AR's lack of presence in all areas of the country make it virtually impossible to consider any kind of nationwide approach for the foreseeable future. Therefore the strategy developed under the EHP technical assistance has three main components designed for the short to medium term, addressing some critical areas in preparation for an expansion when conditions permit in the future.

O&M Pilot Project. This is to be executed in a limited number of municipalities in two locations over a 12 month period, covering about 30 systems and designed to include the full range of components that would be expected in a nationwide approach. The objective of this pilot project is to build up experience within INAPA/AR with a manageable number of communities, and is to include as many features of a full O&M system as possible, such as the development of a monitoring and classification system, guidelines for sanitary inspections, audits of project accounts and the formation of legally recognized user associations. The management model proposed for the pilot project is in keeping with the broader objective within INAPA/AR of decentralizing its presence to the zonal level and in the change in function to a normative body for the rural sector.

Under this model, policy decisions, the establishment of norms and strategic planning are all carried out at the central level. At the regional (or, in this case, zonal) level, the same agency is to have a permanent presence and will carry out a facilitating and monitoring function to ensure adequate follow-up to rural communities; it also carries out limited direct O&M interventions as appropriate. The communities and ASOCARs form the third, and most comprehensive, tier of the system, with direct responsibility for day-to-day O&M and system administration (see Figure 1).²

Institutional activities. These are designed to address some of the existing structural weaknesses. The activities are to be addressed in parallel with the O&M pilot project and include the dissemination of strategies and norms, the clarification of certain key legal issues relating to the formation of ASOCARs, the promotion of improved inter-institutional co-ordination at the central and local levels, and the promotion of a more independent and distinctive public image for INAPA/AR.

Information management system. The design and establishment of a relatively simple database will allow INAPA/AR to begin the process of consolidating information relating to system construction and maintenance, including projects implemented by other agencies active in the sector.

Given the level of resources

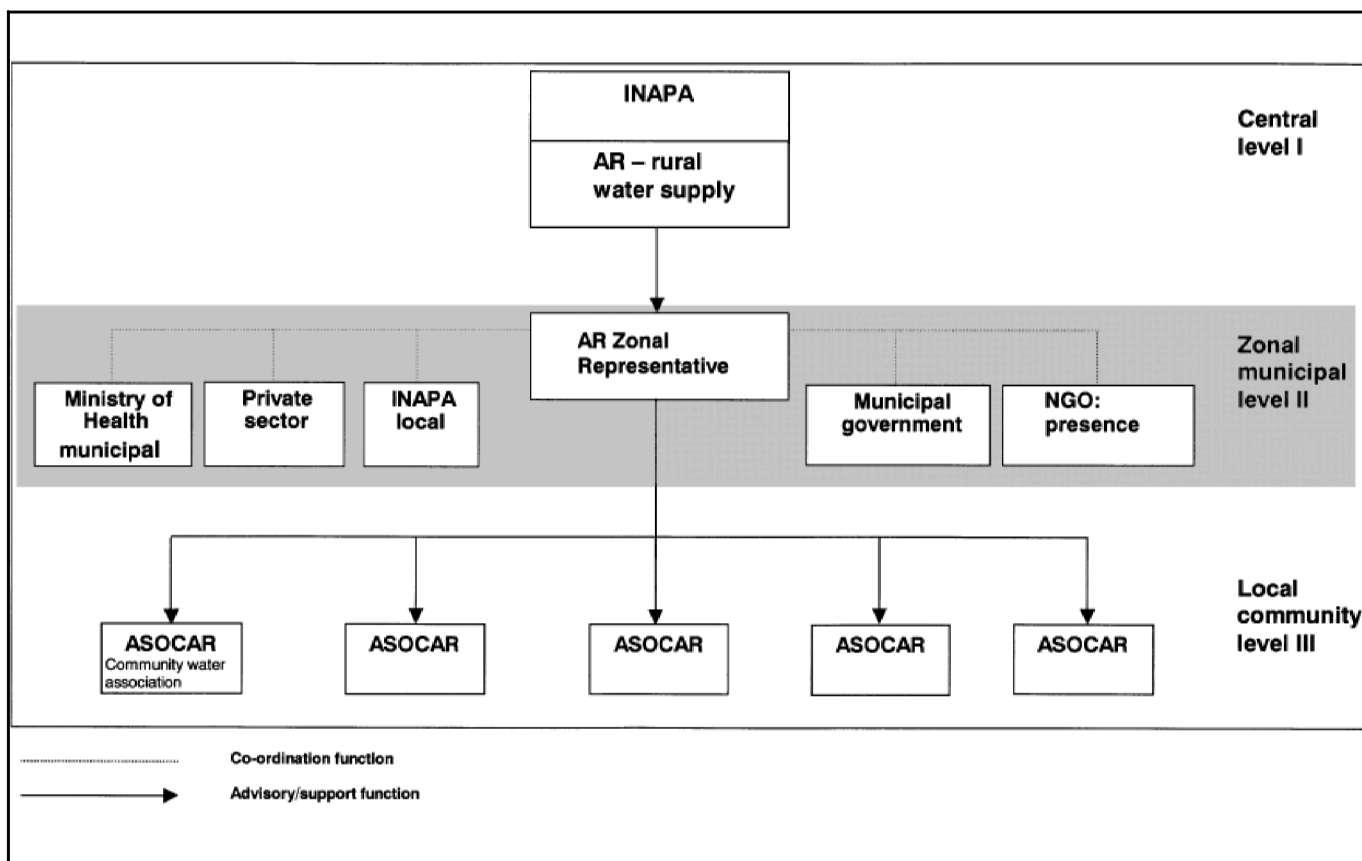


Figure 1 Proposed three-tier management model for plot project

available to INAPA/AR at present, this database is not envisioned as being sophisticated to start with, however, it should contain the basic fixed data about systems and communities and at

There is no centralized database within INAPA/AR which holds details of all the systems operating

least a minimal amount of variable data that would allow for a meaningful analysis of O&M-related problems over time. Four main aspects of O&M are to be included in this database: technical condition and performance; organizational functioning and community participation; administrative issues and tariff collection; and health benefits, including household-level sanitation.

Conclusions

The O&M strategy was developed by working together with INAPA/AR's Director and staff and it was agreed that it should be implemented over

a period of 12 months in the first instance, after which an overall evaluation will be made to consider progress under the various components. Since this strategy was developed at the end of 2001, there has been some progress in terms of developing new procedures and information gathering in a new zone, El Seybo, in the east of the country. INAPA/AR has worked to promote a more recognizable profile and has also lobbied successfully for one new vehicle and several computers which will facilitate the work of the department.

The work of EHP in developing an O&M strategy with INAPA/AR forms part of their broader efforts to contribute towards an enabling environment in the Dominican Republic at the national level to help support community-based water supply and sanitation in the rural sector. The O&M strategy that was finally arrived at does not necessarily constitute a new approach, but it includes lessons learned in other countries in the region, modified to account for the local context and

resource constraints in the Dominican Republic. The problems facing the rural sub-sector within the broader, on-going, reform process have been highlighted by these efforts, and the development of this strategy will hopefully provide a framework for INAPA/AR to fulfil its new mandate.

References

- 1 Figures provided by the Director of INAPA/AR, September 2001.
- 2 Adapted from Roark, Philip, Jonathan Hodgkin, and Alan Wyatt. (1993), 'Models of management systems for the operation and maintenance of rural water supply and sanitation facilities', WASH Reprint: *Technical Report No. 71*. Arlington, Va.: EHP.

About the author

Harold Lockwood is an independent consultant based in England. He has over 10 years of international work experience in water supply, sanitation and environmental health, as well as in disaster management and humanitarian response. For further details visit: www.aguaconsult.co.uk email: AguaConsult@hotmail.com