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Strategic Report 6

Institutional Support Mechanisms for Community-managed Rural Water Supply & Sanitation Systems in Latin America

by

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In addition to working on the general design and evaluation of rural water supply and sanitation projects, his particular areas of interest are institutional reform, sustainability of projects and support to community-managed systems. He has previously worked on EHP activities, most notably in Central America and the Dominican Republic.

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Abbreviations

BID/IDB	*Banco Inter-Americano de Desarrollo* Inter-American Development Bank
DFID	Department for International Development (UK government)
EHP II	Environmental Health Project *Proyecto de Salud Ambiental*
ISM	Institutional Support Mechanism
MoH	Ministry of Health
MOU	Memorandum of Understanding
NGO	Non-Governmental Organization *Organización no Gobermental* (ONG)
LAC	Latin American and Caribbean region
O&M	Operations and Maintenance *Operación y Mantenimiento* (OyM)
OPS/PAHO	*Organización Panamericana para la Salud* Pan-American Health Organization
RWSS	Rural Water Supply and Sanitation
USAID	United States Agency for International Development
WASH	Water and Sanitation for Health Project (EHP Predecessor)
WB	World Bank *Banco Munidal*
WS	Water Supply
WSS	Water Supply and Sanitation

Costa Rica

AyA	*Insituto Costarricense de Acueductos y Alcantarillados* Costa Rican Water Supply and Sewerage Institute
AR	*Acueductos Rurales* Rural Water Supply (a department within AyA)

Dominican Republic

ASOCAR	*Asociación Comunitaria de Acueductos Rurales* Community Rural Water Supply Association
INAPA	*Instituto Nacional de Aguas Potables y Alcantarillados* National Water Supply and Sewerage Institute
INAPA/AR	*Acueductos Rurales* Rural Water Supply (a department within INAPA)

El Salvador

ANDA	*Administración Nacional de Acueductos y Alcantarillados* National Water and Sewerage Administration
ANDA/GSR	*Gerencia de Sistemas Rurales* Rural Water Supply Division (a department within ANDA)

Honduras

AHJASA	*Asociación Hondureño de Juntas Administrativas de Agua y Saneamiento* Honduran Water Board Association
APP	*Agua Para el Pueblo* Water for the People (a Honduran NGO)
CODEM	*Comité de Desarollo Municipal* Municipal Development Committees
IRWA	International Rural Water Association
PROSAR	*Programa de Saneamiento Rural* Rural Water and Sanitation Project
SANAA	*Servicio Autónomo Nacional de Acueductos y Alcantarillados* National Water Supply and Sewerage Company
SDC	Swiss Agency for Development and Cooperation
SIAR	*Sistema de Información de Acueductos Rurales* Rural Water Information System
TSA	*Técnico de Salud Ambiental* Environmental Health Technician

TOM	*Técnico de Operación y Mantenimiento* Technician in Operation and Maintenance

Nicaragua

ENACAL	*Empresa Nicaragüense de Acueductos y Alcantarillados* Nicaraguan Water Supply and Sewerage Company
ENACAL-GAR	*Gerencia de Acueductos Rurales* Rural Water Supply Management (a department within ENACAL)
SINAS	*Sistema de Información Nacional de Agua y Saneamiento* National Water and Sanitation Information System
UNOM	*Unidad de Operacion y Mantenimiento* Operation and Maintenance Unit

Colombia

AquaCol	The Association of Community-Based Organisations Providing Water Supply Services in South-western Colombia
CINARA	The International Research Center at the University of Valle

Executive Summary

The sustainability of rural water supply and sanitation projects has long been of concern to those working in this area. Despite continued large-scale investments by governments and international donor agencies, there is widespread evidence to suggest that after a number of years of operation, or less in some cases, many rural systems will face a variety of problems. These can include technical failures as well as financial or management challenges.

It is now recognized that there is a limit to sustained community management and that a majority of communities will require some form of external assistance in the longer-term. Historically, the responsibility for providing such support has been with national agencies that have the mandate for rural water and sanitation service provision. However, in many instances, these agencies have not been able to do this effectively because of limited financial resources, staffing constraints and the highly centralized nature of many of these institutions. The lack of such long-term support increasingly is being seen as one of the main impediments to the sustainability of rural water systems.

Purpose and Target Audience

The ***purpose*** of this document is to provide guidance to organizations and individuals involved in the design and establishment of support mechanisms that contribute to a greater capacity for sustained community management of rural systems. Drawing on lessons from a review of existing examples, the document provides a framework for the establishment of such support mechanisms, explores key issues to be taken into consideration and includes a range of potential institutional models. In addition, the document can be considered as a resource tool to support advocacy efforts in highlighting the problem of sustainability and to raise awareness among key actors, including the major policy and donor agencies, about the importance of post-project support to communities.

The primary ***target audience*** of this document therefore includes those organizations that will utilize these guidelines directly or support their application through financing. These audiences include bi-lateral or multi-lateral donor agencies, national government officials from relevant ministries or institutions and implementing agencies such as non-governmental organizations (NGOs) or municipal governments (*Alcaldías*).

Concept of Institutional Support Mechanisms

Although there has been much work done on the concept of community management, there is far less understanding of the range of institutional options available for providing backup support to rural communities. This document addresses these specific issues, proposing that this form of support can best be described by the

concept of an ***Institutional Support Mechanism***, or ISM. Such an ISM is designed to provide assistance with the full range of challenges confronting a rural community and is not limited to traditional notions of (technical) operation and maintenance. It should be emphasized from the outset that this form of external support is not intended to undermine the primacy of community management, nor engender long-term dependency; rather its aim is to sustain community management capacity over time.

It is also critical to stress that the design of an ISM must, wherever possible, be carried out within the framework of the broader water supply and sanitation (WSS) sector strategy and any ongoing sector reform in the country in question. Even where an ISM is being established for one part of a country on a pilot basis, it must be designed to be in-line with national policies, regulations and legislation relating to the rural WSS sector. The danger of treating an ISM in isolation from overall sector strategy is that it is likely to become "projectized" and thereby will fail to become fully integrated (and therefore more generally accepted) as part of the institutional setting of the sector.

Potential Models

In recent years the Environmental Health Project (EHP), with support from USAID, has been actively focusing on issues concerning post-construction support to rural communities, largely in the Central American region. On the basis of these experiences a number of examples have been documented that, when taken together, form a body of knowledge about the various models used and the elements that are common to successful approaches. Broadly speaking, it is possible to identify and describe four main models through which support services can be provided to rural communities. They include:

- **Centralized Model:** where support services are provided by a government agency or ministry operating from a centralized point, directly engaging with community management structures in rural areas

- **Deconcentrated Model:** under which support services are provided by a central government agency operating, with a degree of autonomy, through regional or departmental level offices

- **Devolution Model:** where the authority and responsibility for provision of support services is transferred from a central government agency to a decentralized tier of government, usually at the municipal level

- **Delegated Model:** where the responsibility for provision of support services is delegated from a central or local government agency to a third party, which could be an NGO, a private sector company or a relevant user association

In this document several examples of ISMs are used to illustrate these models, but no single example is presented in preference to any other. It is also fully recognized that

all of them will have limitations and problems when put into practice. These examples illustrate an important lesson. In reality there is rarely one "blueprint" solution. Instead it is common practice to see hybrids of the models, with a combination of institutional actors involved and with shared responsibilities.

Core Components

In carrying out a comparative analysis among the various ISM examples, it has been possible to identify some of the core components that are common to all, regardless of scale or context, and to draw general conclusions about what is important in the design of a successful ISM. These components can be grouped together in three broad areas:

- The functions of institutional support provided to communities, including technical advice, training, monitoring, and coordination with external entities

- The specific thematic or content areas of such support, including both technical and non-technical aspects, such as legal support, health promotion, environmental issues and management capacity-building

- The essential programmatic elements that must be in place to make an ISM function properly, including clearly defined roles, norms and standards, operating procedures, monitoring and information management systems and logistics.

Contextual Issues

In developing the material for this document several overarching, or contextual, factors have been identified that impact greatly on the nature and scope of the ISM in question. Simply stated, these issues refer to what planners need to know, or should be aware of, in the process of preparing for and designing a successful ISM. They include the following considerations:

- The characteristics of the target rural population and associated levels of development

- The structural characteristics of the WSS sector and the status of the decentralization process

- The nature of the water resources of the country or region in question, the topography, and the predominant water supply and sanitation technologies used in system construction

- The situation with regard to legal ownership of WSS assets, or the rights of the community to maintain and administer those assets, in the country in question

- The capacity of communities to manage their rural water supply and sanitation (RWSS) systems and the levels of preparation necessary to develop their capability

- The actual, or potential, role of the private sector in the provision of services for rural water supply and sanitation.

Financing and Implementation

Perhaps unsurprisingly, this review concludes that financing of recurrent costs is one of the most problematic areas in the establishment of any effective ISM. There are no examples of direct user fees covering all operating costs, and it would appear that this option is not a viable one in the medium term future. A number of other examples of financing exist, ranging from reliance on international donor funding to somewhat irregular sources provided by municipal governments at the local level. It will be necessary to adopt innovative approaches in order to strike the balance between sustainable funding resources and over-reliance on donor financing. A degree of cost sharing among all actors would appear to be the preferable solution in the near and medium term.

To assist in the overall design and execution of an ISM, the document identifies four main phases within a typical project cycle. These include: an assessment phase, in which background issues are researched and explored; a detailed design stage where the ISM model is finalized and the budgetary requirements are defined; a third stage for preparation of infrastructure and training of staff; and a fourth phase of full implementation, including an ongoing monitoring component for both the community systems and the overall ISM effort.

1. Introduction

1.1. Problem Definition

The sustainability of rural water supply and sanitation (RWSS) projects and of the benefits such projects bring to communities has long been of concern to those working in the sector. There is much anecdotal evidence from project staff, program managers, and practitioners from all parts of the world reflecting this concern, reflecting too many poorly maintained or non-functional water supply systems and unused sanitation facilities. Although the literature is sparse on sustainable coverage, some estimates suggest that at any given moment, 30%–40% of rural water supply systems in developing countries may be inoperable (Evans 1992).

Conventional notions of sustainability in the water sector have tended to focus largely on technical and financial aspects and, more recently, on the continuing capacity of community management structures. Less emphasis has been placed on the need to sustain the health and environmental benefits of projects. Although this position is now changing among policy makers, in practice these issues are rarely addressed in the field or supported in the long term. Indeed, it is questionable whether health and environmental benefits are even fully realized during the implementation cycle of many projects.

When considered in terms of provision of these projects on the national level, the drive for sustainability of services is even more critical, with current levels of investment in many developing countries barely able to keep pace with rates of population growth. As more and more systems break down and fail to sustain adequate services over planned life spans, targets for increased coverage, let alone full coverage, remain as far off as ever. During the late 1980s and early 1990s, community participation and community management were promoted as key responses to sustaining RWSS services. Under this approach management is devolved to the lowest possible levels, with users themselves involved in the planning and implementation of projects. Over recent years, ever-increasing emphasis and resources have been placed on increasing community management capacity as an integral part of the project cycle.

As elsewhere in the world, these concepts of community management have become firmly established in Latin America and much progress has been made in promoting the involvement of communities and in empowering them as decision-makers. Improved training, a focus on operations and maintenance (O&M) issues early on during the project cycle, and the use of appropriate technology all have contributed to improved sustainability. Throughout the region many of these approaches have become standard as part of best-practice program design. In addition, for a significant

number of programs it is now the norm that the community contributes a percentage of the capital investment costs in cash, rather than in the more notional form of community labor inputs.

Lessons from various countries show that the extent to which communities can successfully operate, maintain and administer their RWSS systems can be increased dramatically by incorporating these types of approaches in the design and execution of projects. However, concerns about sustaining project benefits over the long term remain and it is now increasingly recognized that the majority of communities will be unable to manage their own WSS systems without some form of external assistance. Even with improved approaches focusing on increasing management capacity, it is simply not realistic to expect rural communities to be completely self-sufficient, especially in the first years after the systems have been constructed.

Box 1

Bolivia: Lessons from the Yacupaj Pilot Project, 1991–1996

- **Institutional Support is Essential:** "Most RWSS projects aim to deliver services managed by the community without further government intervention. However, the Yacupaj experience shows that communities need long-term technical and institutional support. Communities rarely undertake preventative maintenance or undertake water quality monitoring. Although the private sector can provide skills and spare parts, communities continue to need training and technical assistance to solve some problems, especially when water committee members leave the community. Yacupaj demonstrated the need for local governments to play a role in RWSS projects."

World Bank, May 1996

Widespread evidence exists to suggest that after a number of years of operation (or less in some cases), many rural systems will face a variety of problems and obstacles if they are to maintain services. Many of the problems, summarized in the following list, stem from inappropriate technical or financial designs:

- Problems with physical infrastructure, such as system breakdown or lack of availability of spare parts
- Financial problems largely associated with the failure to pay tariffs or with high operating costs for systems relying on electricity for pumping
- Managerial, or organizational problems, such as the breakdown, or the politicization, of management committees

- Health problems caused by the failure to maintain improved hygiene practices, relating to the proper use of water and excreta disposal facilities

- Environmental problems leading to a reduction in source water quantity or quality.

While a few communities will have the resources and capacity to address some of these issues without outside support, most will not and therefore will continue to require some form of external assistance if the intended project benefits are to be sustained. Historically, the responsibility for providing such support has been with national agencies that have a mandate for rural water and sanitation. However, in many instances, these agencies have been unable to do this effectively in a centralized manner. There are many reasons for these shortcomings, including a lack of financial and human resources and the absence of clearly defined systems and procedures, or simply because the population requiring support is too large or too highly dispersed. In some instances, the problem of long-term support has been exacerbated by the success of internationally-financed implementation programs. As more and more projects are built and come on line, coverage levels increase and there is a corresponding increase in the caseload of already overstretched central agencies. To date, only a small number of donor agencies have shown much interest in what happens after these systems are constructed, and even fewer have invested in this area in any substantive way, although this situation now appears to be changing.

Finally, the process of reform and modernization of the water sector in Latin America has further complicated the situation in rural areas. In many countries, the interests of the urban sector have clearly driven the reform process forward. Consequently there are cases where the newly reformed laws have little, if anything, to say about the fate of the rural sector. This can lead to ambiguities and confusion among institutions about who exactly is responsible for service delivery to rural communities over the long term.

1.2. The Limits of Community Management

The widespread promotion of the community management approach among donor agencies and policy makers undoubtedly has contributed much to the sector in recent years. However, there has perhaps been a risk of viewing this approach as a panacea, which would solve the problems of sustaining investments in RWSS entirely and, along the way, also divest governments of much of the responsibility to address the issue in any substantive way. There is now a body of evidence from many countries in the Latin American region that suggests that this clearly is not the case by highlighting the fact that there are definite limits to community management. For example, in El Salvador, despite the relatively high levels of coverage for access to potable water in rural areas cited by the government (61%), a recent report indicates that approximately half of these systems are either functioning poorly or are on the verge of total breakdown (Karp, May 2002).

One way to conceptualize these limits is to consider that communities can be expected to handle about 80% of what is required to sustain their systems, but will always need assistance with the remaining 20% of tasks. Of course, the percentages used are arbitrary and the split will vary by country and region and will depend on the technology and general levels of organization within communities, among other factors. There are also dangers in promoting the idea that rural communities should receive continuing external assistance. After all, this approach may lead to dependency on such support and may actually become counter-productive to the principles of community management.

Nonetheless, there is also a real danger in failing to acknowledge that community management has its limitations. Every year in Latin America tens of millions of dollars are invested in constructing new community-managed RWSS projects by a combination of central government funding and international donor agencies, but a significant proportion of these projects will fail to sustain the intended benefits over time. This situation represents a high cost both in terms of original capital investment as well as in other, harder to quantify, areas such as costs associated with failing to maximize potential health benefits, reduced livelihood opportunities and social conflict within communities over failed systems.

1.3. Purpose

Although there is broad acceptance of the community management approach for the routine operation of systems (the "80%" portion), there is much less understanding of the range of institutional options available for providing the backup support to rural communities after systems have become operational.

The specific solution which this document addresses is the "20%" of support required to make most community-managed RWSS systems sustainable in order to realize their full potential over time. This form of support can best be described by the term, ***Institutional Support Mechanism***, or ISM. Such a system is designed to provide backup and assistance for the full range of issues and constraints that affect a community managing its RWSS system.

Box 2

Defining the Limits of Community Management

The community that can adequately manage its own RWSS system over the long term without any form of external assistance is the exception rather than the rule.

Rural communities can, and should, be expected to carry out the majority of tasks required to sustain their systems, but they will almost always need some form of support, guidance and backup. The scope and frequency of external support will be case-specific and defined by the limits of the capacity of the community in question and other factors relating to technology choice and the nature of water resources exploited, as well as the capability of the organizations selected to provide this support.

It is critical to stress that the design of an ISM must, wherever possible, be carried out within the context of sector reform and the overall sector strategy of the country in

question. Even where an ISM is being established for one part of a country, it can only work if it is supported by relevant policies, regulations and legislation. The structure and institutional stakeholders that make up any given ISM will vary according to the specific country or regional context and may involve a combination of players including central government, local government, private sector companies, non-governmental organizations (NGOs) or water user associations (see Box 3).

The concept of an ISM presented in this document is predicated on the community management model for rural systems. Clearly, this is not the only possibility, and in practice alternative options do exist where communities can delegate day-to-day management of their system to others, including private sector operators. However, these exceptions are rare and community-management remains the predominant model in most rural areas in Latin America. Therefore, this document uses the community management model as a conceptual entry point when considering the issue of long-term support and backup.

The Environmental Health Project (EHP) has carried out a number of activities related to the creation of institutional support mechanisms for community-managed RWSS systems in the Latin American and Caribbean (LAC) region. More specifically, over the past several years, EHP has carried out the following activities:

- Development of a proposal to provide backup support to communities in El
- Salvador (EHP/CARE Draft, May 2002)
- Development of a community-based O&M strategy for INAPA in the Dominican Republic (EHP Activity Report 105, October 2001)

Box 3

Defining the Concept of an Institutional Support Mechanism (ISM)

- An ISM is designed to provide support services and assistance over the long term, following the completion of system construction.
- The support provided under an ISM is never intended to substitute for the need for community involvement in the operation and administration of their own system.
- The support services provided under an ISM address a full range of tasks including health and environmental issues and are not limited to the traditional technical work of operations and maintenance.
- An ISM contributes to the enabling environment by supporting the sustainability of RWSS projects, both at the operational level, by supporting community management structures, and by creating capacity at national or regional levels.
- The design and establishment of an ISM should be carried out as part of an overall sector strategy and take into account relevant policies and regulations, even where these may be only partly developed for the rural sector.

- Development of case studies to create institutional support mechanisms in Honduras and Nicaragua (EHP Strategic Document No. 1, January 2001).

The activities cited above include a careful documentation of the elements of lessons learned in regional and national programs. These experiences, coupled with years of experience on related issues in the LAC region and other parts of the world, have resulted in a substantial body of knowledge about the different models that can provide this type of backup support to rural communities. This document collates and analyzes this and other existing knowledge concerning the development of institutional support mechanisms.

Specifically, the purpose of the document is to provide a reference framework for the design and establishment of an ISM in any given country or region while offering a range of potential institutional models.

Furthermore, the document can be a resource to support advocacy efforts in highlighting the problem of sustainability and to raise awareness among key actors, including the major policy and donor agencies active in the sector, about the importance of post-project support to communities.

It should be noted that it is ***not*** the intention of this document to promote one particular approach, or model, in preference to any other. Indeed, throughout the document emphasis is placed on the need to be flexible and to adapt to specific local, regional or national conditions and constraints. Given these variations, it also is important to highlight that this document is not intended to be a detailed blueprint, or a step-by-step manual for establishing an ISM; rather it is intended as a ***framework*** that highlights pertinent issues, potential constraints, and bottlenecks in the overall process.

1.4. Audience

A number of important audience groups have been identified that are likely to benefit from this document, including those engaged in implementation and sector reform. They include:

- Donors and external support agencies, including those supporting direct implementation efforts through the funding and design of RWSS programs

- Donors and other institutions supporting sector reform efforts throughout the LAC region, such as the Inter-American Development Bank (IDB), the World Bank (WB), USAID and PAHO

- National government agencies, primarily water and sewerage institutions or ministries with the mandate for RWSS, but also potentially ministries such as health and agriculture or others engaged in the rural sector

- National and international NGOs working at the national, or at significant regional levels, in LAC countries and engaged in the construction of new RWSS systems or the backup support for communities with existing systems

- National level associations, including associations of municipal governments (*Alcaldías*) or of water user groups from the rural sector, who are engaged in supporting communities with RWSS systems.

1.5. Parameters

In the development of this concept, EHP has identified a number of important parameters to define the application of these guidelines for establishing an ISM in any given country context. These are:

- The establishment of an ISM is primarily aimed at ***rural communities***

- The development of an ISM is based on, and even assumes, the pre-existence of ***community management structures*** of some kind (regardless of whether they are weak or strong) among the target rural population that is to receive backup services

- The services provided under an ISM focus primarily on ***communal water supply systems and household level sanitation, while acknowledging*** that there may be other circumstances with differing requirements for long-term support (such as family-owned water supply systems).

Although EHP acknowledges that there is a universal need for long-term support for rural communities and that some of the generic lessons could be easily translated to other regions in the world, the ISM models described in this document have a Latin American focus. At the same time, the document does include references to successful models, or lessons learned, from other countries when they serve to illustrate an important aspect of the development of an ISM.

Box 4

Documenting the Value of Ongoing Support to Rural Communities

In 2000, the British NGO, **WaterAid**, carried out a participatory impact study involving four country case studies from Africa and India. One of the central hypotheses questioned in it was whether the impact of RWSS projects had been influenced by longer periods of external support to community organisations following the actual construction of systems.

The study assessed project impacts in 48 communities (including a number of control communities in each country), with a range of system types, from simple hand pumps to gravity-fed and pumped-piped supplies. The study covered projects constructed during the period 1991–1993.

The results of this study revealed that, in general, continued and ongoing external support to community organizations contributed both to an increase in the impact of interventions and to the length of time over which these impacts were sustained. This positive result was not limited to sustaining technical aspects of projects, but also, in at least one case, to sustained improvements in hygiene behaviours.

However, by contrast to these positive findings, in at least one case it was noted that the longer the period of project support to the community, the higher the sense of dependency the community had on external agencies.

"Looking Back," WaterAid, June 2001

1.6. Uses

The potential uses of this document reflect the principal purpose, namely as a tool for designing and implementing ISMs. The potential uses are as follows:

- As a tool in the design of projects aiming to establish Institutional Support Mechanisms at national or regional levels
- As a guide, or reference tool, for the actual implementation of an Institutional Support Mechanism at the national or regional level
- As an evaluation framework (with some minor modification) for assessing the performance and results of an existing Institutional Support Mechanism
- As a general resource to inform policy debate, especially regarding the water sector reform process, and in highlighting some of the most critical constraints facing the rural sector, particularly those relating to maintaining benefits over the long term.

1.7. Organization and Layout

The remainder of this document consists of five main sections.

Chapter 2 presents a number of potential models for providing institutional support to rural communities with existing water supply and sanitation systems. These models are illustrated by a variety of examples, mainly drawn from Central America and the Caribbean, although they obviously share many common aspects with countries in South America.

Chapter 3 presents the core elements of an ISM and is the most comprehensive part of the document in terms of providing details for the design of an operational model. This information is based upon the varied experiences of EHP and other organizations over the years and draws generic conclusions about the roles of institutions, specific areas of responsibility, and the common programmatic elements of any ISM, regardless of country-context.

Chapter 4 explores a number of overarching or contextual issues, all of which are considered to be central to the design of an ISM, such as the status of the reform process and the extent of decentralization.

Chapter 5 addresses the critical issue of financing an ISM, including both set-up costs and, most importantly, recurrent costs, again using material from well documented examples.

Chapter 6 provides a working guide to the main implementation steps in the process of thinking through, designing and implementing an ISM. It is presented in graphic form and is intended as a reference tool, summarizing the most important issues and factors to be addressed from the outset of the design process for planners at the national or regional levels.

2. Potential Models

In recent years EHP, with support from the United States Agency for International Development (USAID), has been actively focusing on the issue of post-construction support to rural communities. A number of technical assistance tasks have been carried out for various clients, either directly involving the formulation of long-term support strategies (Dominican Republic and El Salvador), or documenting examples of work in progress that show promise (Honduras and Nicaragua). In addition, EHP (and its predecessor, WASH) has had long experience with work on related issues outside of the LAC region including a national effort in Tunisia engaging in a policy debate about effective models for community management and the establishment of backup support mechanisms for all the governorates in the country.

The common approach adopted by EHP in carrying out these tasks has been to analyze the challenges to and potential solutions for sustaining rural systems within the framework of the overall sector strategy of the country in question. As such, the examples documented by EHP consider a range of issues, including the status of the decentralization process, the norms and regulations, existing institutional capacity, and the resources made available by governments for the rural sector. The significance of these contextual issues is discussed at greater length in Section 4.0.

On the basis of these experiences a number of examples have been documented that, when taken together, form a body of knowledge about long-term support to rural communities, the various models used and the elements that are common to successful approaches. Broadly speaking, it is possible to identify and describe four main generic models through which support services can be provided to rural communities. These approaches are summarized in the box below:

Box 5

Main Models for the Provision of Support Services

- **Centralized Model:** support services are provided by a government agency or ministry operating from a centralized point, directly engaging with community management structures
- **Deconcentrated Model:** support services are provided by a central government agency operating through regional or departmental level offices that have a degree of autonomy
- **Devolution Model:** authority and responsibility for the provision of support services are transferred from a central government agency to a decentralized tier of government, usually at the municipal level

Delegated Model: responsibility for provision of support services is delegated (by contract) from a central or local government agency to a third party, which could be an NGO, a private sector company or a relevant user association.

The most salient features of these models are presented in greater detail in the boxes on the following pages (Boxes 6–11), using various case studies as illustrative examples[†]. It is important to note that, in reality, there is rarely one "blueprint" solution and that it is normal to have ***hybrids*** of the models, with a combination of players involved. In fact, it is possible that variations will exist *within* any one model between geographic or administrative areas.

In general, the government agency referred to in Box 5 will be the rural directorate of a national water and sanitation ministry or agency. However, this is not always the case as other agencies or ministries may have primary responsibility for rural areas, for example, health, agriculture, or environment and natural resources. In one well-documented case study from Tunisia, the Ministry of Agriculture is responsible for RWSS through its Rural Engineering Department. Tunisia has a small and highly dispersed rural population (only 15% of the total) and the arid terrain in rural areas means that drinking water needs must compete with irrigation requirements for agricultural production. This ISM is based on a deconcentrated model, with promoters from regional offices of the Ministry of Agriculture working to support water user associations for every rural water system. Systems rely on groundwater held in deep aquifers (250–300 meters in depth), requiring complex mechanized pumps. This ISM has been driven by these factors, which require sophisticated and skilled backup support. Yet the model has proven to be highly effective and since 1992 it has been adopted for many other areas of local development nationwide and is now used to provide support to all rural systems in Tunisia (WASH Activity Report No. 300).

[†] For a full description and analysis of the Nicaraguan example and the three examples from Honduras, please refer to EHP Strategic Paper No. 1, January 2001.

Box 6

COSTA RICA—HISTORICAL CASE STUDY
CENTRALIZED MODEL

❑ IMPORTANT NOTE

This model is based on the system previously employed by the Rural Water department within the Costa Rican Institute for Water Supply and Sewerage (AyA). The department is in the process of reforming the way in which backup support services are delivered to rural communities and is moving from a centralized to a deconcentrated model, under which six regional offices are being established to bring service delivery closer to rural communities. Therefore, although now obsolete, this case study is included as an example of how a centralized model functions.

❑ SUMMARY

This model for providing backup support was based on a centralized system, with one government agency, the Rural Water department of AyA, located in the capital city of San Jose, providing coverage for the entire country. AyA delineated six zones within Costa Rica, each of which was covered by a chief engineer, with technical promoters and other staff that worked on the social and commercial aspects of community-managed projects. Community management of RWSS systems has long been established in Costa Rica as the standard approach. In the early 1990s, legislation was modified to allow for the rapid formation of legally recognized community water management associations, which have the delegated authority to administer and maintain water supply systems on behalf of the state.

Rural communities within each zone received visits on a regular basis from the AyA technical promoter, who was responsible for supervising the work of the community water association. The promoter provided advice and recommendations and was also responsible for monitoring certain aspects of system performance such as water quality, chlorine levels, and protection of watersheds. In addition, the technician was responsible for data collection, which was used to monitor the status of systems and which was also fed into a national data set. In cases where complex repairs were required, the technical promoter called upon the chief engineer in the zone for further advice, or directed the water board to a private sector company.

Under the new deconcentrated model, the Rural Water department within AyA will continue to provide the same backup support services for rural communities, but will now be operating from regional offices.

Under the new deconcentrated model, the Rural Water department within AyA will continue to provide the same backup support services for rural communities, but will now be operating from regional offices.

❑ FINANCING

Funding for the AyA backup support activities was derived from budget allocations from the central government treasury. The rural communities themselves are responsible for covering the recurring costs for operating and maintaining individual water supply systems, but are not required to help fund the costs of the AyA technicians.

Further details about the work of the Rural Water Department in Costa Rica can be found through their website: www.aya.sa.cr.

Box 7

NICARAGUA - MUNICIPAL O&M PROMOTER
DECONCENTRATED – DEVOLUTION HYBRID MODEL

❑ ***SUMMARY***

This model for providing backup support is based on a collaboration between the regional office of the Nicaraguan Water Supply and Sewerage Company's Rural Water Supply Management (ENACAL-GAR) and local municipal governments in the administrative departments of Matagalpa and Jinotega, located in the northeast of the country. The two departments have a combined rural population of approximately 540,000 people with average coverage levels for water supply and sanitation of 35% and 36%, respectively. To date the system has been established in nine out of 20 municipalities, providing support services to around 55% of the rural population in communities benefiting from improved WSS systems.

The model builds upon the existing structure of community water committees and regional promoters of ENACAL-GAR by adding a key link at the local level in the form of a municipal O&M promoter. These promoters are usually employees of the municipal government, but work under the technical supervision and guidance of the regional ENACAL-GAR office. Each municipal promoter is responsible for an average of around 30 communities, with the frequency of visits determined by the nature of problems facing the system. However, ENACAL-GAR norms dictate that each community must be visited at least once every six months. Once the municipal authorities have agreed upon a suitable candidate, ENACAL-GAR regional staff provides training in technical and administrative areas as well as hygiene promotion.

❑ ***ROLES AND TASKS***

The principal role of the municipal promoter is to support the rural community water committees within the municipal boundary in maintaining their WSS systems by providing advice and guidance on operational, administrative and sanitary aspects. The promoter will also guide communities in cases where they need support from other external agencies by providing advice and contacts via the municipal government.

In addition, the municipal O&M promoter provides regular information about the status of systems to ENACAL-GAR. That data are collated at regional and national levels as part of the overall monitoring effort. Where there are serious difficulties that are beyond the ability of the municipal promoter, he may call on the regional promoters for specialist assistance.

❑ ***COORDINATION***

Coordination among different agencies at the local level is one of the key features of this model. Although the process is facilitated by ENACAL-GAR, a range of institutions is involved, including municipal government, community water committees and line ministries such as Health, Education and Natural Resources. Once an agreement is reached, each of these agencies become signatories to a municipal contract.

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❑ ***FINANCING***

Financing is undoubtedly the most critical challenge facing this model since lack of funding has caused problems, particularly with mobilization of promoters. Funding for salaries and operational costs is usually the responsibility of the municipality, with ENACAL-GAR providing (used) motorbikes for transport. Because of budgetary constraints, one or two of the promoters carry out dual functions when visiting rural communities, working both on WSS systems and another unrelated area, such as agricultural extension

Box 8

HONDURAS—TECHNICIAN IN OPERATION AND MAINTENANCE DECONCENTRATED MODEL

❑ ***SUMMARY***

This model is based on the "circuit rider" concept used in the United States by the National Rural Water Association, a concept that was adapted in Honduras and re-named the "Técnico en Operación y Mantenimiento (TOM)." With support from the USAID, a pilot program was launched by the National Water Supply and Sewerage Company (SANAA) from 1993 to 1995 and subsequently was extended to the national level in 1995. It is now truly national in scale, providing backup support to over 4,000 rural water systems servicing more than two million people of a total rural population of just under 3.2 million.

The TOMs are employees of SANAA and work from regional offices that have substantial authority to make decisions, independent from higher levels of the national institution. There are currently 86 TOMs operating from six regional offices. Each is responsible for an average of 50 communities and is expected to visit each system at least twice per year. The TOMs are provided with an intensive 12-week training program in theoretical and practical aspects of community development, technical repairs and engineering design, education and communication as well as water and sanitation concepts.

❑ ***ROLES AND TASKS***

The principal role of the TOMs is to support community water boards in all aspects of system operation, administration and maintenance by providing informal training, advice, and encouragement. The TOMs are not intended to replace the need for community management and O&M, but rather to support the communities, particularly in areas where they do not have the resources or skills to resolve specific problems.

One of the main tools used by the TOMs is a water system classification table, which charts the progress of projects according to four categories, ranging from non-functional systems, requiring major effort and resources to rehabilitate, to self-sustaining systems, which only require periodic visits.

❑ ***COORDINATION***

Although there are no formal, institutional relationships with other government agencies, there is an increasing level of coordination at the local level with both municipal governments and NGOs. Both municipal authorities and NGOs can now request assistance from the regional TOMs for training of rural water boards for new or rehabilitated systems being built independent of SANAA.

❑ ***FINANCING***

The TOM program had a total budget for the year 2000 of approximately US$ 1.25 million, which was funded jointly by SANAA (65%) and USAID (35%), with the former providing salaries and program administration overhead costs and the international donor supporting operational costs such as fuel, per diems, equipment, maintenance, and technical studies.

Box 9

HONDURAS—RURAL WATER AND SANITATION PROJECT DECONCENTRATED MODEL

❑ ***SUMMARY***

This model is managed jointly by the Ministry of Health (MoH) and the Swiss Agency for Development and Cooperation (SDC), and is known by its Spanish acronym, PROSAR. Under PROSAR, environmental health technicians (Técnicos de Salud Ambiental or TSAs) are responsible for coordinating construction of new projects, training, and backup support to communities with existing systems. PROSAR operates in two departments of Honduras, incorporating 33 municipalities that comprise "Health Region No. 3" as defined by the MoH. Services are provided to 905 communities. PROSAR is a discrete project that began in January 1998 and is expected to continue with support from both of the main stakeholders.

There are currently 37 TSAs, all of whom are employees of the MoH and operate from the health centers in rural municipalities, with each one responsible for around 25 communities. Typically, each TSA will manage about four or five new or rehabilitation projects with the remainder of their time dedicated to support services. The TSAs are supervised by four area coordinators, who in turn are supported by technical and managerial staff.

❑ ***ROLES AND TASKS***

The principal role of the TSAs is to encourage sustained improvements in the operation and administration of community water supply systems. However, unlike the TOM model in Honduras, they also address other health-related issues such as solid waste management and sanitation. The PROSAR program initiates activities in a community by carrying out a comprehensive review of the environmental health situation and then presents the results to the whole community. The TSA serves as a facilitator to help the community draw conclusions about the deficiencies of its WSS system; the aim being for the community itself to decide about any actions that should be taken and to then assign responsibility.

Visits to a community by a TSA are triggered in a number of different ways, including direct requests for assistance and requests from either the health center (based on a high incidence of diseases related to environmental conditions) or the municipal authorities.

❑ ***COORDINATION***

An important PROSAR strategy is to support the Municipal Development Committees or Comités de Desarrollo Municipal (CODEMs) with environmental health advice and training by the TSAs. This direct collaboration with municipal authorities has led to a spin-off, with at least 10 of the Alcaldías in the areas covered by PROSAR having hired promoters to advise communities on water, sanitation, and environmental management.

❑ ***FINANCING***

PROSAR has a budget of approximately US$ 1.3 million over the three-year project period. The SDC provides about 69%, with the MoH contributing 25%, and the remaining balance of 6% coming from diverse sources.

Box 10

HONDURAS—AHJASA
DELEGATED MODEL

❑ ***SUMMARY***

The Honduran Water Board Association (known by its Spanish acronym, AHJASA) was established by the International Rural Water Association (IRWA) and "Agua Para El Pueblo," a Honduran NGO. AHJASA is an association of community water boards operating in six departments in the country and has grown from 17 member communities in 1990 to over 300 by 2001. The association offers training, and technical and managerial advice to its members, and acts as a forum for communities to offer assistance to one another, independent of the government.

Under this model, circuit riders, paid by AHJASA, provide support to member communities, but without a fixed schedule of visits, instead relying on requests from members to trigger assistance. AHJASA consists of four circuit riders, one coordinator and one administrator as well a board of representatives elected from community members. Community members of AHJASA are required to pay a regular –though nominal - fee for services,, covering only about 10% of total operational costs, with the balance covered by funding from the IRWA and Agua Para El Pueblo.

Box 11

COLOMBIA—AQUACOL
DELEGATED MODEL

❑ ***SUMMARY***

The Association of Community-Based Organisations Providing Water Supply Services in South-western Colombia (known by its Spanish acronym, AquaCol) is in the process of being established with support from CINARA, the international research center at the University of Valle. AquaCol is a not-for-profit organization offering mutual support to its members, which currently number 27 communities drawn mainly from rural areas around the city of Cali. Unlike other examples, the association does not have staff or promoters who visit communities. Instead members meet regularly to discuss problems of individual systems and use the association as a platform for channelling proposals to external agencies and to attract resources. The association is also actively engaged in national policy dialogue on matters affecting the RWSS sector.

AquaCol has no overall institutional agreement with the government concerning delegated authority to support communities, but it does seek agreement and approval for specific projects from sectoral agencies or municipal authorities on a case-by-case basis. CINARA provides technical assistance free of charge, but all operating costs for the association are met through inscription fees and regular monthly contributions.

Further details about the AquaCol model in Colombia can be found by contacting CINARA at ***www.cinara.org.co****.*

The preceding examples from various countries in Latin America serve to illustrate the types of Institutional Support Mechanisms that have been effective in providing support services to rural communities. These examples are country, or even area, specific and no single model is presented in preference to any other. All these examples demonstrate different strengths and weaknesses, and certainly none of them is completely problem-free. Financing of the ISM is often one of the most critical areas. In financing one may find an over-reliance on donor funding, as is the case of the TOM program in Honduras, or erratic levels of funding from under-resourced municipal governments, as we can see in the Nicaraguan example. The issue of financing for ISMs remains a critical one and is therefore addressed in a separate section of this document.

The examples represent a full range of potential models for establishing an ISM to support rural communities in managing their own water supply and sanitation systems. This includes the highly centralized approach, as was the case until recently in Costa Rica, a model perhaps most applicable in small countries or island states where it is logical to have a centralized operation. At the other end of the spectrum are examples of ISMs based on the concept of mutual support and sharing of resources, such as the community associations in Honduras and Colombia. These are successful examples of horizontal mechanisms through which groups of communities can reach economies of scale, while at the same time maintaining an active engagement with government authorities, both at the national and local levels.

Another lesson illustrated by these case studies is that although an ISM can be established and work effectively, regardless of the sector reform process and clarity about legislation, the long-term sustainability of an ISM is clearly linked to the overall sector strategy. For example, the support system in Costa Rica clearly benefits from the modification of laws specifically governing the formation of community water associations. This allowed AyA to link zonal technicians in support of strong and enabled community management structures. In Nicaragua, on the other hand, the municipal promoter system was expanded at a time when the reform process was still under way and was driven forward in one particular part of the country, where the regional office had considerable autonomy from the center.

One common, and extremely important, principle emerging from all the ISM examples, addresses the underlying relationship between the external support-service provider and the community. There is an explicit recognition that backup support is not designed to replace the need for the community to carry out the majority of tasks necessary to operate, administer, and maintain their own WSS systems. There is no intention of substituting the role and function of the community management structure, or of engendering greater levels of dependency on an external agent. Rather, the aim of these ISM systems is to provide support, training, guidance, encouragement, and where necessary, act as a linkage with other external entities, whether from the government or private sector. These examples also share many other common elements and components, which are the focus of the following section.

3. Core Elements of an Institutional Support Mechanism

In carrying out a comparative analysis between the various ISM examples, it has been possible to identify some of the core components that are common to all models, regardless of scale or context, and to draw general conclusions about what is important in the design process. These findings can be grouped together in three broad areas:

i. The roles, or functions, of institutional support provided to communities

ii. The specific thematic areas, or content, of such support

iii. The essential programmatic elements that must be in place to make an ISM function properly.

All three of these areas are addressed in detail in the following section, which is intended to be used as a practical reference guide to planners who are in the process of designing an ISM. As such, specific examples from ongoing systems are presented throughout the text to illustrate particular points.

It should be noted that the services of an ISM might not be necessarily limited to working in support of community management structures alone. Although providing backup support and advice at this level will account for the majority of the workload of a promoter, it is also quite probable that within the overall ISM there will be elements of capacity-building and support at other levels, such as municipal government offices and even local offices of decentralized ministries. In such cases, the promoter may not provide these services directly, but rather they may be provided by higher-level personnel within the lead agency managing the ISM, or by an external person or organization contracted specifically for this purpose.

3.1. Role and Functions of an Institutional Support Mechanism

In all the examples describing ISMs, we see that some form of support is provided by an institution to groups of communities on a more or less regular basis following completion of the project. In most cases, this support is provided at the field level by a promoter who visits each community and engages with members of the organization that are mandated to manage the water supply system. The same promoter may or may not also visit individual families to offer support for household-level sanitation. The role that a promoter provides in support to the communities, and the functions

that he fulfils (there are very few instances of female promoters), can be grouped into four main areas (below), with each expanded upon in the text that follows:

- **Technical Assistance:** providing advice and guidance on a range of topics in support of the community management structure, as well as providing independent advice in cases where some form of arbitration may be necessary

- **Training:** on-going training of the relevant committee members in a variety of disciplines, from physical operation and maintenance to bookkeeping and hygiene promotion; capacity building at the community level

- **Monitoring and Information Collection:** regular monitoring of system performance and feedback of information for remedial action

- **Coordination and Facilitation:** helping to establish linkages between community management structures and external entities, either from the state or private sector.

It is most common to find that the support services within an ISM are provided by a promoter, but assistance could also be provided in other forms, for example by an auditor who checks the committee accounts once per year. The actual authority of such an individual, in terms of enforcement of regulations or norms, presents somewhat of a challenge. In some cases, there may be no clear regulatory framework supporting the work of promoters. More likely, where norms do exist, it may prove difficult to apply them with precision. Clearly the ability of the promoter to enforce regulations relies on such a framework being in place at the outset.

However, in many poor rural communities people may be in no position (economically) to improve their system to the required standards in the short-term, even if they would like to do so. In such cases, and in the majority of the examples cited in this review, the role of the promoter is more that of an advisor, working collaboratively with communities to try to improve their situation within given resource constraints. Furthermore, aggressive and persistent attempts to enforce unrealistic regulations will not help in establishing the trust and open communication that are required for the promoter to engage productively with the community.

i. Technical Assistance

The promoter will provide technical assistance in a range of areas and disciplines aimed at supporting and guiding community management structures as they resolve challenges in sustaining the physical and social infrastructure of their project. It is important to underline the fact that under an ISM, the promoter's objective is not to replace the water committee or water board or to carry out routine tasks. For example, the promoter is not expected to actually pick up a tool and carry out a repair or change a spare part himself. Rather his role is to offer guidance and advice to the relevant committee member about when this should be done, who should do it, how

to do it, and where spare parts are available. It is probable that technical assistance will be provided in all or some of the following areas:

- Technical design of systems
- Routine or preventative maintenance
- Corrective repairs
- Water system expansion or upgrading
- Calculating water tariffs and accounting
- Water quality and chlorination
- Organizational issues and (re-)constitution of the water committee
- Legal issues and obtaining *Personería Jurídica*
- Interpretation and application of national norms and standards
- Environmental issues and water source protection
- Household-level sanitation
- Health and hygiene promotion.

One of the key areas of technical assistance provided under an ISM is in setting tariff levels and in auditing the accounts of the water board or committee (see Box 12). Establishing and collecting an adequate tariff is unquestionably one of the most difficult issues facing rural communities, especially those that must rely on electricity for pumping as part of the system. Therefore, one of the key technical assistance roles of the promoter will be in advising the water committee on how to calculate the tariff level for their specific system. In addition, he can support the committee in meetings where tariff levels are to be discussed and work with the community to analyze when tariff rates need to be increased, and by how much.

In countries where there are clear norms and standards set for the operation and administration of RWSS systems, a promoter working within an ISM framework would be expected to advise communities about these norms and encourage their adherence. In Costa Rica, for example, one of the tasks of the AyA promoter is to take water quality samples measuring levels of residual chlorine. Where these fall below the accepted norms, it is his task to inform the community, to investigate, with the water committee, why this may be the case, and to offer advice about remedial action.

Perhaps the greatest contribution a promoter of this type can make in the context of rural communities is to act in the capacity of an external agent from a recognized

authority in matters relating to water supply and sanitation. As such, the advice and guidance of the promoter can help resolve potential problems before they become compounded and end in outright conflict. Conflicts within rural communities over water supply systems are common, often focusing around the payment of tariffs or rights of access, and even may become violent. The promoter can act as an independent arbitrator to diffuse internal conflicts, such as challenges to the water committee's authority, or to resolve external conflicts, such as disputes over the ownership of water resources or upstream pollution of water sources.

Box 12

Honduras: Technical Assistance in Tariff Calculation and Auditing

In the TOM model from Honduras, one of the key tasks in the area of technical assistance is to assist the water board in the calculation of tariff levels and to make periodic reviews of the accounts. The promoter is not expected to actually do the bookkeeping for the water board, but he should audit the accounts about once a year, in time for a general assembly, at which there is a public statement of the financial position of the system.

This is an important function, both in terms of checking the accuracy of the book keeping and in providing transparency and accountability by having an independent person involved in the process. This provides the individual community members with a degree of confidence in the system of tariff collection and expenditure. Without such a system of external checks and balances, it is likely that there would be a higher level of conflict within communities about the handling of money provided for maintaining systems.

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ii. Training

Training of the water committee members is another of the key functions of the promoter in all the examples of ISMs documented under this review. In this context, training is almost always provided on an informal basis, through hands-on collaboration and knowledge transfer. However, when feasible, groups of committee members can be brought together in a central location to address specific themes, in order to achieve efficiencies and economies of scale. The ongoing nature of the training provided under an ISM helps to provide continuity, particularly in cases where water committee members leave, or where the entire committee is replaced. The scope and depth of training needs will depend upon a number of factors, including how much training has been delivered to committee members during the execution of the project, how long ago training was received, the level of retention, and the requirements of the system itself (level of complexity, cost recovery requirements, etc.).

Generally speaking, the promoter will focus training efforts on the relevant members of the water management committee, which normally includes individuals or sub-committees responsible for the following areas: technical O&M, tariff collection and bookkeeping, health and hygiene promotion, and environmental protection. The extent of the training provided under an ISM will, in part, depend upon the qualifications and aptitudes of the promoter and whether he is capable of addressing all of the above themes.

For example, in Nicaragua and Honduras, where systems are fairly simple, it is realistic to expect that one promoter could be equipped to provide basic training in all areas. But even in this context, the knowledge and skills required across all disciplines (health, environment, administration, finance, etc.), may still be a challenge and beyond the capacity of any one individual. On the other hand, in Costa Rica and in a proposed model for El Salvador where systems are much more complex and demanding, there is clearly the need to share the responsibilities for training among more highly qualified specialists in each area, such as engineers, accountants or social scientists.

As noted above, the training function within an ISM may not be limited to the community itself. Depending on the context and actors involved, it is likely that capacity-building and training would be offered at other levels within the system. Hence, municipal government staff may be identified as key recipients of training, both in order to increase their understanding of the issues involved and to provide them with the practical skills needed to support the work of the promoter, and indirectly, the communities in their municipality. One of the most important themes for municipal government staff is likely to be in understanding legislation concerning ownership of systems, rights to manage and administer the systems, and in strengthening community capacity through the formation of legally recognized community bodies.

iii. Monitoring and Information Collection

The regular collection of information and monitoring the performance of community RWSS systems is central to all the ISM models described in the various examples. Monitoring serves several basic functions under an ISM: First, it allows for the collation and analysis of information about groups of communities across geographic or administrative zones to be fed into permanent information management systems at regional or national levels (see Box 13). Second, and more immediately, it allows for decisions to be made at the local level about which communities require additional assistance and about where to commit the time and resources of promoters.

In addition to these functions, the design of an ISM is ideally suited to the incorporation of community-based monitoring and evaluation approaches. A number of the examples studied under this review include at least some community-based monitoring, although this is normally focused on technical aspects and repair of system components when they fail to

Box 13

Monitoring and Information Collection

The information collected by promoters working under the ISM models in both Nicaragua and Honduras is fed into macro-level data management systems, which are maintained by the central ministries responsible for RWSS.

In Honduras, SANAA operates the Rural Water Information System or "Sistema de Información de Acueductos Rurales" (SIAR), which is used to facilitate the development of medium to long-term O&M strategies and to identify common problems and regional performance. This system relies on information provided by the TOMs.

In Nicaragua, ENACAL-GAR operates a similar system, called the National Water and Sanitation Information System or "Sistema de Información Nacional de Agua y Saneamiento" (SINAS). The information provided by the municipal O&M promoters and other ENACAL-GAR promoters is compiled together and used for analyzing coverage levels and long-term planning for investment of new financing, and to identify common O&M issues.

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function properly. However, given the broad range of backup services under an ISM, it is possible to include simple indicators relating to key issues such as hygiene behaviors and financial management, which can be monitored by members of the water committee or individual families.

Although there are numerous potential fields of information about which to collect data, most monitoring systems will be limited to the following main areas, either by the ISM promoter or by the community members themselves:

- Technical performance of the WSS system and current status
- Administration and finance
- Organization and management, including the status of the water committee
- Sanitary conditions, risks, and hygiene practices
- Environmental conditions, both at the water source and at household level

iv. External Coordination and Facilitation

The final group of generic functions commonly carried out by promoters under an ISM model, are focused on performing a coordinating or facilitating role between communities and external entities. This is an explicitly stated role in all of the examples and provides a very important, although hard to quantify, service. This is particularly true for more isolated and vulnerable communities, which may lack the necessary communication skills and contacts.

Linkages and contacts may be required for a range of issues (looking for spare parts, applying for a loan, presenting a funding proposal, seeking specific advice about a particular health problem, etc.) and may be directed towards a range of third party organizations, including central government ministries, NGOs, local government authorities, or private sector companies.

The facilitation services provided under an ISM should offer impartial advice and serve to inform community water management organizations about the types of resources and support that are available and where to find them. In the absence of clear government norms and guidelines for the rural sector, this type of service may amount to a crude form of consumer protection for rural communities. For example, in a recent evaluation of a large-scale RWSS program implemented by a major international NGO in El Salvador, most communities were found to be very well trained and organized, and relatively sophisticated in terms of management capacity. Nevertheless, one of the clearly articulated needs was found to be advice about where to go for reliable and honest private companies providing spare parts and repair services (EHP Activity Report 103, September 2000).

Finally, it should be noted that one very important role of the promoter is fulfilled simply by visiting a community and providing encouragement. There is much

anecdotal evidence, especially from members of water management committees, that having someone take an interest in their work is very uplifting. After all, committee members often face difficult dynamics within the community and, in many instances, are unpaid volunteers. Therefore, the value of the moral support provided by a periodic visit from a sympathetic outsider should not be underestimated.

3.2. Thematic Areas of Support

Regardless of the way in which support is delivered to communities (through technical assistance, training or monitoring), the ISM should address the full range of issues and challenges facing the management of an RWSS and not be limited to only the technical aspects of the O&M of the physical infrastructure. The proper upkeep and repair of physical components of any system, of course, is essential. However, there is widespread evidence to suggest that other aspects—such as the ability to collect adequate tariffs and sustained management capacity—are equally important in the long-term. Maintaining health benefits, through ongoing education and communication activities and the protection of water sources, is also of primary importance in realizing the full potential of a project's impact over many years.

Therefore, regardless of country context, it is essential that practitioners address a complete range of thematic areas of support and intervention when designing an ISM. The following checklists are intended to illustrate the areas of support that may be envisioned. Please note that these lists are not exhaustive and each case should be assessed on its own specific needs:

i. Technical

- Preventive and corrective maintenance necessary for the upkeep of communal water supply systems and household sanitation facilities
- Availability of spare parts and reliable service providers in the case of complex repairs requiring private sector companies
- Chlorination of water supply systems, advice on dosage and availability of chlorine in different forms
- Inspection of communal water supply systems and household sanitation facilities

ii. Administrative and Financial

- Establishing and calculating adequate tariffs (including differentiated rates for vulnerable groups where appropriate), and when to modify tariffs
- Collection of tariffs and receipting as necessary, including the possible use of water meters at points of consumption

- Planning and staging special community fundraising events
- Bookkeeping, basic accounting and financial recording
- Periodic auditing of accounts
- Recordkeeping, drafting minutes of meetings and formal correspondence

iii. Legal Support

- Interpretation and explanation of legal issues relating to system ownership, transfer of title or delegated authority for operation and administration
- Assistance with acquiring legal status as a community organization and in obtaining *Personería Jurídica*

iv. Organization and Management

- Formation of management committee or water board, establishing roles and responsibilities, and restructuring the committee as necessary
- Training in management techniques, how to plan and run committee meetings and community general assemblies
- Training in communication and conflict resolution
- Arbitration and conflict resolution

v. Sanitation and Health

- Sanitary surveys and risk assessments at system, community and household levels
- Assessment of hygiene behaviors and high-risk practices
- Continued training and motivation aimed at changing high-risk hygiene behaviours
- Theory and practice of disease transmission relating to water and sanitation

(*Note: some or all of the above activities could be carried out in coordination with a health promoter from the Ministry of Health*)

vi. Environment

- Assessment and conservation of local water source and water protection issues relating to quality and quantity

- Reforestation and protection of micro-water sheds
- Control of discharge into surface water sources, change of behaviors, and intake protection works
- Assessment of risks posed by chemical run-off from agricultural activities
- Assessment and improvement of household level environment, including grey water disposal, surface drainage, solid waste management and disposal.

It should be acknowledged that in the examples illustrating the various ISM models, the sanitation, health and environmental components are generally weak and the tendency is still largely to focus on technical and administrative issues. Only in the case of the PROSAR model in Honduras and the Municipal O&M Promoter in Nicaragua is health and hygiene behavior included as one of the specific tasks to be addressed during the course of community visits. However, in the latter example this area of support is given much lower priority than the more traditional functions relating to infrastructure repair. In part this can be explained by the expectations of the communities themselves, as well as in the preparation and motivation of the promoters.

It is important to make the distinction that without these components, which all address broader aspects of sustainability, the ISM would revert to a typical O&M approach, focusing almost exclusively on technical areas. Therefore it is vital to keep them on the agenda and address them throughout the ISM design process.

3.3. Core Programmatic Elements

It is clear from the range of examples that there are a number of core programmatic elements in any ISM that are necessary to enable the mechanism to function properly and to deliver support services down to the community level. Some of these may appear to be rather obvious (such as a reliable funding source for recurring costs), some relate to logistics, while others are concerned with systems and standard operating procedures. In designing an ISM, planners should be aware of these generic components and account for them in the process of drawing up proposals, since they will have significant implications for budgeting and staffing requirements. The common programmatic elements identified by this review include the following, each of which is addressed in further detail in the text that follows:

- Funding of recurrent costs
- Logistics and transport
- Norms and standards
- Clearly defined roles and responsibilities

- Systems and operating procedures
- Field promoters, including required qualifications and training
- Monitoring and information systems
- Marketing strategy

i. Funding for Recurring Costs

A reliable source of funding is critical to cover the running costs of the ISM, including salaries of field level promoters, regional coordinators and administrative staff if applicable. Budgeting also will be necessary for fuel and other travel allowances for regular visits to communities. Depending on where the ISM structure sits institutionally, there also may be the need to cover costs relating to office rental, computer and equipment maintenance, and office supplies. In other scenarios, where the ISM is housed within an existing institution, these costs may be covered as part of the general overhead. It is probable that there will also be one-time costs such as the design and production of marketing materials or educational tools associated with maintaining project benefits. These may be covered by funding from other ongoing RWSS projects. As flagged earlier, because the issue of financing ISMs is so important, and often very problematic, it is treated separately in the following section of this document.

ii. Logistics and Transport

In any ISM there will be a need to make periodic visits to rural communities and engage directly with the management organizations. This will require at least some degree of mobility and, depending on the terrain, distances involved and population distribution, may imply the need for anything from a bicycle to a four-wheel drive vehicle. In most existing ISM models, promoters have access to some form of dedicated transport, although those based in municipal governments may also have to rely on shared transport, and, at times, local buses.

In practice, the type of transport available to the ISM promoter will normally be dictated by budgetary constraints and will conform to whatever is the accepted standard in the country. For example, in Honduras the TOM system has received new vehicles and motorbikes from USAID-Honduras as part of its support to the program. In Nicaragua, the regional ENACAL-GAR office passes on used motorbikes to the *Alcaldías* for use by promoters for travel.

iii. Norms and Standards

One of the key components of an ISM is having established and agreed upon norms that are, where possible, based on official national guidelines. However, in many countries in the LAC region, the norms and standards regulating the rural sector for long-term operation and administration of systems may be ill defined or minimal at best. Where this is the case, it is perfectly legitimate for the planners of an ISM to

engage in a debate with major sector stakeholders (central government ministries, large NGOs, municipal authorities, etc.) and to establish mutually agreed upon minimum standards. Wherever possible, such standards should not be limited to the technical aspects of O&M, but should also cover health and hygiene, environmental protection issues, and the organization of community management structures.

However, care must be taken to use such norms as reference points or benchmarks to encourage improvements and not as punitive tools. For example, in Costa Rica there is a system in place of delegated authority for system operation. So in theory AyA could reclaim the rights to operate a particular project if it were proven that the community was not able to meet minimum standards. However, in practice these norms are rarely applied since the state has little interest, and very limited capacity, to take over the day-to-day management of large numbers of rural systems. As mentioned previously, the principal role of the promoter is to advise communities and to assist them in maintaining, or improving, their systems, rather than acting as an enforcer of regulations. However, it is the obligation of the promoter (and the agency responsible for the oversight of the ISM) to be aware of norms and standards regulating rural systems and to encourage communities to adhere to them wherever possible.

iv. Roles and Responsibilities

It is very important to establish clearly defined roles and responsibilities. Laying out what is to be expected from the various actors within the ISM at different levels. It is particularly valuable to delineate what is expected of the community, and to underscore the point that the ISM is not designed to replace any day-to-day management tasks, or the "80%" of operation and administration that falls to the community. Decisions about who is responsible for which activities can be reached by involving a broad range of stakeholders, from community water management committees, to project staff and government regulatory agencies.

It is likely that much of this information will already be known and acknowledged, but it is still very useful to record the essential tasks and disseminate them widely; in practice, this is done in only a limited number of the ISMs studied in this review. For example, in the case of the Nicaraguan model, an agreement, or "*convenio,"* is signed by all parties, establishing what is expected of each institutional partner, identifying the lines of reporting and management, and spelling out the financial obligations of the different stakeholders in the ISM.

In the Dominican Republic, the Rural Water Directorate of the National Institute for Water Supply and Sewerage (INAPA/AR), with assistance from USAID and EHP, has recently established a matrix describing the roles and responsibilities at various levels of the ISM. This proposed model has three separate tiers including the community management association or ASOCAR (as it is known by its Spanish acronym), zonal or municipal level promoters of INAPA/AR and the central administration of INAPA/AR. In addition to these three main actors, there also is a

separate but related group at the local level, including municipal authorities, NGOs and private sector companies (see Box 14).

v. Systems and Operating Procedures

As with any operational program, the activities carried out under an ISM should be described by well-defined and recognized systems or procedural guidelines; these largely relate to the activities of the field promoter and include a variety of elements, including:

- **The Caseload of the Field Promoter:** This describes the accepted ratio of communities to each promoter. Generally this is already fixed by the number of rural communities within any given administrative area, but there are often cases where a promoter from one area will incorporate some of the communities from a neighbouring area where access is constrained by poor roads, mountain ranges, or other physical barriers. In the case studies, there are examples of caseloads ranging from a low of about 20 to a high of around 50 communities, giving an average of about 30–35 communities per promoter.

Box 14

Dominican Republic: Defining Roles and Responsibilities within an ISM Proposed Model

Actor /Level	Key Tasks and Services
COMMUNITY WATER ASSOCIATION **Working at community level on day- to-day management and operation**	• Routine and preventative O&M, including chlorination • Corrective O&M and system repairs; • Routine management tasks and organization of the community, including voting of new members of the Junta Directiva and decision-making • Continued health and behavior change motivation for individuals and households; organization of community activities • Establishing system tariffs, tariff collection, accounting and annual reporting • Regulation and control of new connections and system expansion • Fundraising events and build up of renovation fund • Protection of the water source and/or water-shed as appropriate • Environmental sanitation/solid waste management and drainage
INAPA/AR PROMOTER **Serving communities in several municipalities across one zone- provides regular backup to community water associations**	• Regular monitoring visits and contacts with community (frequency depending on condition of system) • Advice to the ASOCAR, organizational support and conflict resolution • Assistance in calculating and establishing system tariffs • Monitoring and information flow to central level • Technical advice and specialist services or provision of specialist tools • Reliable and impartial advice on localizing spare parts or specialist services • Acting as network/linkage between community and other institutions or agencies, especially municipal government, INAPA/Operations, Ministry of Health and NGOs • Development of coordination plans at local level for support to communities • Ongoing health motivation and interventions, at household and community levels • Facilitating water quality testing (including feedback, where necessary, for corrective actions) in coordination with the Ministry of Health • Advice on technical and social aspects of system expansion • Advice on regulation, standards and legal issues • Advice on fundraising, leverage of funds and procedures for loan applications • Advice on legal issues and obtaining Personería Jurídica

PRIVATE SECTOR COMPANIES, NGOs, BANKS, MUNICIPAL GOVT'S, etc. **Municipal/local level**	• Provision of spare parts and chlorine • Provision of specialist tools • Provision of specialist services for system repair and/or upgrading • Provision of design services for system expansion • Provision of legal advice and representation • Water quality monitoring • Ongoing health motivation and interventions, at household and community levels • Advice on fundraising, leverage of funds and procedures for loan applications • Lobbying or channeling applications for funding for system expansion • Provision of loans for system expansion
INAPA/AR **Operating at central or national level in support of zonal staff**	• Establishment and dissemination of official policies relating to O&M; • Establishment and dissemination of norms and standards relating to O&M • Management of monitoring, including feedback to local levels • Technical, logistical, and administrative support to INAPA/AR zonal staff • Provision of specialist design services for system expansion • Provision of specialist legal advice and representation • Inter-institutional coordination at central level
EHP Activity Report 105, October 2001	

- When considering an optimum ratio or caseload, it should also be remembered that the status and needs of communities will have a great bearing on the time required to provide backup support. In communities that are practically self-sufficient, short periodic visits will be adequate to encourage the continued good work. In other cases, where the systems are close to collapse, the promoter will have to make repeated and lengthy visits (see below); as such, the frequency of visits is a factor in determining the total caseload.

- **Triggering Mechanisms for a Backup Visit:** In most ISM examples, the decision to visit a community is based on a fixed schedule of monitoring. For example, in Nicaragua, communities are classified according to their overall status and those that are considered "self-sufficient" are only visited twice per year, which is the legal minimum according to national norms. Others, with more fundamental problems, are visited as often as necessary (and practicable) until the issue is resolved. In some ISMs, such as the AHAJSA example from Honduras, a member community of the association must make a request in order to activate a visit from the circuit rider. In the PROSAR model, also from Honduras, visits can be made at the request of the Ministry of Health on the basis of results of epidemiological surveillance data. The design of the mechanisms for triggering visits to the community, and the frequency of such visits, should therefore take into account national norms, the number and mobility of promoters and the types of likely problems to be encountered.

- **Duration of a Visit and Typical Tasks:** Once a project has been incorporated into the ISM system (a process that may take up to several days in order to carry out proper baseline surveys and describe the community in detail), a routine visit to a community without major problems can be expected to last from four to six hours. Precise details of activities will vary from case to case, but a typical visit would include the following:

  – A meeting and open discussion with the members of the water committee or water board to go over progress and any outstanding problems

  – A review of the accounts and financial status of the project

  – Water sampling and providing feedback to the committee from previous sampling

  – A sanitary inspection of the water system, checking on the water source and protection measures

  – A review of general environmental conditions in the community, including surface drainage, solid waste, and the condition of latrines if this is flagged as an issue by the committee

  – A discussion among householders about the current health situation.

  The visit may include technical advice and assistance for on-the-spot repairs, conflict resolution measures or a hygiene awareness orientation, as necessary. The promoter will also be required to carry out pre-planned visits to coincide with specific activities in support of the water management committee, such as assisting in general community meetings, voting to restructure the committee itself or communal work days.

vi. Field Promoters, Qualifications and Training Needs

Although this may appear to be an obvious element of any ISM, it is important to remember that there must be an individual who actually visits communities and provides support services on the ground, at an operational level. In some cases there may be more than one promoter, each of whom specializes in a particular subject, or it could be just one person who is able to address a number of different thematic areas, although to less exacting standards. The decision concerning the number of promoters and the level at which they are expected to operate will be determined by a number of factors including budgetary constraints, the complexity of the infrastructure involved and the type of population receiving support.

Depending on the specific ISM and the resources available, the field promoter, who may be responsible for providing backup support to RWSS projects, is also responsible for carrying out other unrelated tasks. For example, in Nicaragua, where many of the *Alcaldías* cannot afford a dedicated employee for only one function, some of the municipal O&M promoters actually have dual functions and take

advantage of "contact time" with communities to address different tasks, including infrastructure projects and food-for-work programs. Although this is not ideal, there must be flexibility within the design of an ISM to account for these types of real world constraints.

Determining the qualifications and training needs of the promoters under an ISM will involve issues such as the complexity of the system and the types of communities that are to receive backup support. In short, planners of an ISM must address the following questions: Will the promoter be likely to work in well-organized communities, where there are educated professional people, and complex systems with electro-mechanical pumps? Or will the support be aimed at much more simple systems (hand pumps and gravity-fed projects) in communities with little management experience and low levels of literacy?

Different scenarios will require different sets of skills and will demand different qualifications of the promoters. For example, in a proposed ISM model for El Salvador, the design calls for highly qualified professionals in disciplines ranging from engineering, to accountancy and the social sciences. At the other extreme, the municipal promoters from the Nicaraguan case study are always drawn from the local population, may have limited educational qualifications, and are selected in part because of their ability to relate to, and understand, local issues and community dynamics.

Regardless of the qualifications of the proposed candidates for field promoters, there are a number of key areas and skills that should be included in the design of a training program for field promoters under an ISM. These include:

- Water and sanitation theory and concepts
- Community participation and management
- Gender issues and involving women in system management
- Monitoring, including community-based approaches
- Education, communication and conflict resolution
- Legal issues and transfer of ownership
- Health impacts of water and sanitation and disease transmission
- Environmental sustainability and water quality
- Technical concepts and water system design
- Operation and maintenance issues
- Norms and standards for the rural sector.

Some of these training topics can be delivered in the classroom and some are more suited to on-the-job situations where the promoters can learn by doing. It may be that some training needs can easily be met by placing ISM promoters into existing courses already provided by ongoing implementation projects, NGOs, or health agencies. Clearly, some of the more specialized training needs will have to be met by custom-made training programs; it is therefore important to think about the requirements for developing such programs, the training of trainers and to plan for the extra costs involved.

vii. Monitoring and Information System

As described earlier, monitoring and information collection are key functions within the overall design of an ISM. Depending on the country context, planning for an ISM may require the modification of an existing system, or the establishment of some completely new type of monitoring framework. This should include a classification system, indicators, and some form of assessment and reporting procedure that enables the information to be used effectively. Monitoring and evaluation approaches under an ISM can be based on the concept of an external agent (i.e., the promoter) collecting information and providing feedback. Alternatively, the strategy may also include elements of a self-monitoring approach, whereby the community itself decides on a few simple indicators and thresholds that trigger corrective actions. The latter approach would require a certain amount of preparation and training, both for community members and the promoter responsible for overall support to the community.

As with any monitoring system, care should be taken to avoid collecting too much information, or collecting irrelevant information that adds no particular value. Such systems can range from simple hand-written information to the extremely sophisticated computerized data management systems like those developed by SANAA in Honduras and ENACAL-GAR in Nicaragua. In most examples of ISMs there are five or six main data fields that are required, including the following:

- **Fixed information:** collected at the beginning of the design process and including community characteristics, WS system design and sanitation facilities; this information may be periodically updated as required

- **Technical information:** about the condition and functioning of physical infrastructure, including quality, quantity and continuity of service

- **Organizational information:** about the functioning of the management structure and level of community participation

- **Administrative information:** tariff collection, account balances and levels of non-payments

- **Health information:** about key hygiene behavior patterns, use of latrines and, where appropriate, the incidence of diarrhea in children less than five years old

- **Environmental information:** about the status of the water source and environmental conditions at the household and community levels.

It may be possible to consolidate some of this information and reduce the number of fields for ease of manipulation. It is also possible that certain information can be collected by agencies other than the one directly responsible for the ISM. For example, promoters from the health ministry may monitor the incidence of diarrhea at the community level. To avoid duplication, any monitoring system developed under an ISM should take into account the efforts of other agencies operating in the same geographical area.

Obviously the raw data collected at the level of the community are not very useful until they can be summarized and collated in a form that can be readily analyzed. By highlighting which communities are experiencing problems and establishing exactly the types of problems, decisions about the allocation of resources and the time of promoters can occur in an informed manner. Most important, this process should allow for proper and timely feedback to communities about problems and advice for remedial actions. Where the monitoring strategy includes self-monitoring and evaluation by the community itself, guidance will be required from the promoter (at least in the early stages) about the process of information analysis and decision making concerning remedial actions to be taken, changes in system management, or efforts to modify behaviors at the household level.

Classification systems have been developed under several of the examples, allowing promoters and others managing the ISM to gauge the condition and progress of any particular RWSS project in relation to others in the same region. The system used by the TOM promoters in Honduras is presented in Box 15.

viii. Marketing Strategy

Regardless of the model adopted and the specific institutional players, there will always be a need to market the services of the promoter within the rural population to be served by the ISM. Such advertising is particularly important in cases where it is anticipated that part of the recurring costs of the ISM will be raised through fees from communities benefiting from the support offered by this system.

The nature of this marketing strategy will vary according to the particular context and depend on factors such as population distribution, literacy rates, common communication channels and resources available to fund this kind of program of information and orientation. Marketing can range from verbal information given during face-to-face visits to communities to radio spots and poster campaigns.

Box 15

Water System Classification and Remedial Action: A Case Study from the TOM/SANAA Model in Honduras*

Category	Description of the System	Action Required
A	All the physical components of the system are working well; the water supply is being chlorinated and there is continuous or regular service; the water board meets regularly and takes effective decisions; tariffs are adequate to cover costs and are being collected regularly.	Motivate the water board and community members to continue the good work.
B	Technically the system may or may not be functioning; there are operational problems that can be resolved without major investment. The water board may or may not be functioning properly; levels of non-payment are above a desirable level. With some effort on the part of the TOM the system can be moved up to the "A" category.	Work together with the water board to resolve minor problems in administration, operation, and maintenance.
C	Technically the system may or may not be functioning; there are operational problems and there may be technical problems with the water supply (quantity, quality, or continuity); Moving the system up to the "A" category will require certain investments, but these are still within the capacity of the community, given some external advice and guidance.	Work together with the water board to resolve operational problems. Advise and motivate the board on necessary system improvements and costs involved for the community to raise the required capital.
D	The system is not functioning technically and may be abandoned completely; there are many problems and the community is relying partially, or completely, on alternative and unsafe sources. There are multiple problems with many aspects of the administration of the system. Moving the system up to the "A" category would require substantial investment, probably greater than the economic capacity of the community. **EHP Strategic Paper No. 1, January 2001**	Report the case of the community to the regional SANAA office and assist the community in locating potential sources of financing and external assistance to rehabilitate the system.

**Note: The original system was only designed to address support to communal water supply systems, but it could easily be modified to account for household sanitation and health and environmental aspects.*

4. Contextual Issues

Based on an analysis of the establishment of various ISMs over recent years, a number of overarching, or contextual, issues emerge, all of which can greatly impact the design and scope of the model in question. All these factors will vary from country to country and, most likely, between regions in any one country. Therefore, this section is not intended to provide any concrete positions associated with these issues, but rather to highlight their importance, and the need to analyze each one on a case-by-case basis in designing an ISM.

As mentioned previously, it is extremely important to understand fully, and account for, the sector context within which an ISM is intended to function. This is particularly true of issues relating to reform, decentralization, water resource policies, and efforts to promote a greater role for the private sector. The danger of treating an ISM in isolation from overall sector strategies is that it is likely to become "projectized" and will fail to become fully integrated (and therefore accepted) as part of the institutional setting of the water sector.

Simply stated, these contextual issues refer to what planners need to know, or should be aware of, in the process of preparing for and designing a successful ISM. Each of these main issues is addressed in the following section in greater detail and includes:

- The characteristics of the target rural population and associated levels of development
- The structural characteristics of the water sector generally and the status of the decentralization process
- The nature of the water resources of the country or region in question, the topography, and the predominant water supply and sanitation technologies used in system construction
- The situation with regard to legal ownership of WSS assets, or rights of the community to maintain and administer those assets, in the country in question
- The capacity of communities to manage their RWSS systems and the levels of preparation necessary to maximize their potential
- The actual, or potential, role of the private sector in the provision of services for rural water supply and sanitation.

4.1. Characteristics of the Rural Population

One of the key contextual issues that will inform the design of an ISM for community-managed systems is the level of "ruralness" of the specific target population. This concept can be understood more concretely when considering rural populations from two different countries in the LAC region. For example, rural communities exist in both Bolivia and El Salvador and yet the characteristics of these communities, their respective levels of development, and the available human resources vary enormously, as illustrated in Box 16. Even within a single country, such as Honduras, there are differences between those populations living in isolated and poor rural communities in the Atlantic coast region of the country and those living in the relatively more developed rural parts of the Pacific and central regions that are much more integrated with the urban, cash-based economy.

It is important to account for these varying levels of "ruralness" when considering the development of an ISM and the specific functions to be carried out in terms of backup support to communities. Different rural populations will require different levels of service and will have different expectations and capacities. These factors will, to a great extent, dictate the characteristics of the ISM, the profile of the promoters and the level of training and preparation that may be required.

Box 16

Assessing the Characteristics of a "Rural" Community

Rural Bolivia	***Rural El Salvador***
• Low population densities • Small dispersed communities • Difficult transport and access • Little or no electrification • Largely subsistence economy • Little or no cash in circulation • Very low levels of formal education • Little or no formal management experience other than indigenous structures • Little or no experience with external institutions • Lack of presence of government structures at local level	• Very high population densities • Larger concentrated communities • Relatively good transport and access • Widespread electrification • Largely cash-based economy • High levels of remittances • Higher levels of formal education • Greater management experience • Extensive experience with external institutions • Greater access to government structures at local level

The preceding box illustrates some of the most important criteria for assessing the characteristics of a rural population, but there may be others that are also important in specific contexts. For example, large-scale economic migration of males and the

impact of the civil war on the demographics of the population in both Nicaragua and El Salvador in recent decades translate into a significant number of female-headed households in some rural areas. Such households may require different types of support and their needs must be assessed on a case-by-case basis.

One of the most critical factors in the development of an ISM is the general level of human resources and management capacity of the communities in question, since this will determine the level of sophistication and preparation of the promoters who are required to visit communities. Simply put, will they have to engage with largely illiterate peasant farmers, as would be the case in the highlands of Bolivia, or will they be working to support communities that include lawyers, teachers and engineers as would quite probably be the case in parts of rural El Salvador?

Taking the comparative example of Bolivia and El Salvador one step further, it is possible to see the differences in what the communities may be able to handle by themselves and where they may need additional support from an ISM (see Box 17).

Box 17

Roles, Responsibilities, and Support Tasks for an ISM

Rural Bolivia

Dug well with hand pump and household latrines

- ***Community Alone***
  - Limited O&M tasks (based on need)
  - Limited tariff collection (in response to system failure)
  - Rudimentary accounting
  - Hygiene promotion activities
  - Watershed protection activities
  - Sanitary inspections of household latrines

- ***Support Required from the ISM***
  - Monitoring of system performance
  - Ongoing training
  - Facilitation/provision of basic spare parts
  - Facilitation/provision of chlorine
  - Technical assistance for system repair or expansion
  - Water quality monitoring
  - Ongoing capacity-building of management structures
  - Assistance with bookkeeping, auditing, tariff-setting and fundraising
  - Conflict resolution and arbitration

Rural El Salvador

Pumped (electro-mechanical) piped water system and household latrines

- ***Community Alone***
  - Regular weekly or monthly O&M tasks, including system inspection
  - Regular billing, tariff collection and invoicing (possibly based on meter readings)
  - Accounting and bookkeeping (possibly computerized)
  - Direct procurement of spare parts, consumables, and other materials
  - Management of system, new connections, or expansion/upgrading
  - Hygiene promotion activities
  - Watershed protection activities
  - Grey water drainage and household solidwaste management
  - Sanitary inspections of household latrines

- ***Support Required from the ISM***
  - Monitoring of system performance
  - Ongoing training
  - Facilitation and vetting of private sector suppliers of goods and services
  - Assistance with supply and installation of water meters
  - Assistance with establishing billing and invoicing systems
  - Coordination with MoH or private laboratories for water quality monitoring
  - Assistance with negotiating loans, or credit from banks
  - Coordination with possible donors for new funding
  - Lobbying or negotiation with electricity companies over tariff rates
  - Technical assistance for legalization of community assets
  - Conflict resolution and arbitration

In assessing the rural context, definitions should be flexible and should be consistent with what is prescribed locally. This varies from an absolute population level in some countries (i.e., all communities with less than 5,000 people), to a much more open-ended definition in other countries, where all communities outside of the principal municipal town, or *cabecera municipal*, are considered rural (even when some of these communities are actually larger in size than the main town).

4.2. Sector Reform and Decentralization

Another very important set of issues that require careful consideration in the design of an ISM, is water sector reform and the process of decentralization of service provision. The long-term poor performance of the water and sanitation sector has prompted governments in many Latin American countries to implement sector reform programs. These reforms, aimed at improving services and decreasing the role of central government agencies in delivery, have been heavily supported by major donor agencies throughout the region. Although the new policies adopted in many countries have shown promise for improving service delivery in urban areas, there are serious concerns about service delivery to rural populations. The shrinking role of the central government in service provision has left a void in rural areas, where conditions generally have not significantly improved (Rosensweig and Perez 1996).

As noted earlier, in many countries in Latin America the interests of the urban sector have driven the reform process forward, resulting in cases where the newly reformed laws have little, if anything, to say about the fate of the rural sector. This can lead to ambiguities and confusion among the various institutional stakeholders in determining responsibilities for support services to rural communities over the long-term.

The general movement toward reform and modernization of the water sector in Latin America has been accompanied by a parallel trend towards decentralization, on a broader basis, of the delivery of essential services. In most cases, responsibility for these functions has been devolved to local governments at the municipal level. In some sectors (such as electricity distribution), national governments have passed legislation aimed at increasing the role of the private sector. However, in the case of water and sanitation service delivery, increasingly local governments are now legally mandated to ensure that the entire municipal population is adequately provided for (note that in Latin America the term “municipal” often refers to counties that include both the urban center and surrounding rural communities).

In a number of countries in the LAC region the legislative process of decentralization has been formally completed, but in practice there are many constraints and problems facing municipal governments in taking on their new responsibilities—some of the most pressing can be summarized as follows:

- While legal responsibility may be transferred to municipal governments for service delivery, there is rarely a corresponding increase in the share of the budget

allocation from national treasuries, making local authorities hard-pressed financially to cope with new tasks.

- Linked to the above constraint is the fact that, in some instances, municipal governments may be legally limited in their ability to levy taxes and collect certain types of revenue.

- Local governments at the municipal level often lack the managerial and technical capacities and logistical resources to provide adequate support to rural communities.

- Because of the political realities in many municipalities, the locally elected government will usually address the needs of the urban population in the main town(s), at the expense of rural communities, which tend to have less political influence.

Even when there may be official or legal clarity about institutional responsibilities, the reality on the ground may still be very different, as the example from Colombia illustrates in Box 18. In this particular case, a newly formed water users association has stepped in to provide support to member rural communities in a part of the country where the municipal authorities are ill equipped to carry out their mandate.

Box 18

Colombia: Legal Reform, Decentralization, and Meeting the Needs of Rural Communities

"The Colombian Constitution and the Public Services Law number 142, allow for community organizations to administer public services, while the state exercises regulatory, oversight, and control functions. However, the law does not clearly define the responsibility for assistance and training in support of communities with problems that they cannot solve themselves. In this sense the process of decentralization has created a vacuum for the provision of technical assistance to rural communities. This is precisely why the Association (AquaCol) was proposed, as an alternative to cover this gap."

"For example, the Municipality of Cali has drawn up a decree that grants the responsibility for technical assistance to rural and peri-urban communities to the Public Service Municipal Company of Cali (or EMCALI as it is known by its Spanish acronym). But this company only has two people to attend to 164 rural water supply systems. Other municipalities haven't even yet considered how to resolve this situation."

Association of Community-based Organisations Providing Water Supply and Sanitation Services in South-western Colombia (AQUACOL), July 2002

Understanding the dual processes of water sector reform and decentralization is vitally important when considering the design of an ISM for rural communities and therefore must be carefully analyzed during the preparatory stages. The current status of the legal reform process within any given country should be accounted for in order to establish an "institutional map" of where responsibility lies for long-term support to rural communities. It may well be that there is little progress in the reform process or lack of clarity about which institution is responsible. For example, in El Salvador

progress on draft reform legislation for the water sector has been stalled for a number of years, with the result being a continuing uncertainty about the exact role for the national agency responsible for rural water supply in the future (the Rural Division of ANDA).

The institutional focal point for backup support may well lie with municipal authorities, in which case a pragmatic assessment should be made about whether the municipalities concerned have the resources and capacity to carry out these responsibilities. It may also be that line ministries other than Water and Sanitation have a role to play. For example, in many countries in Central America, the Ministry of Health is legally mandated to provide sanitation to rural areas and sometimes, both water and sanitation. In cases where there is shared responsibility between ministries, it is important to clarify roles and responsibilities both in official, legal terms and, perhaps more importantly, in practical terms. Any analysis should also factor in the existing norms and standards (covering both technical aspects and organizational and administrative issues) for the rural sector, particularly those relating to long-term operation, administration, and maintenance. It is equally important to determine cases where such norms are poorly defined, or do not exist, in planning for an ISM.

The critical questions to be answered when considering the status of the water sector reform and decentralization can be summarized as follows:

- Where does the official institutional responsibility lie for long-term support to rural communities (as opposed to RWSS system construction)?

- Regardless of legal mandate, does the institution (or institutions) have the capacity to fulfil these responsibilities in practical terms, and if not, who may be able to step in and fill this gap?

- Do adequate norms and standards exist for the rural sector covering the operation, administration and maintenance of WSS systems?

4.3. Water Resources, Topography and Technology

The long-term challenges facing rural communities will, to a great extent, be determined by the type of technology employed and the level of service provision (single point supply or household connection). These, in turn, will shape the nature and scope of services to be provided under an ISM to any given population. For example, systems based on electro-mechanical pumps will require a different type of support system than those based on dug wells equipped with hand-pumps; not only in terms of technical O&M tasks, but also in the level of organizational support, complexity of management issues, and need for constant revenue streams.

Although conscious government policy decisions about technological solutions and design norms will have an impact, it is the availability of water resources and the

nature of the geology and topography that will largely dictate the type of systems most commonly employed in any given context. Reliance on surface water sources as opposed to groundwater will have obvious implications for the selection of technology, as will the need to exploit deep aquifers with boreholes, rather than relying on shallow wells with simple hand pumps. The final choice of technology will be influenced by a number of factors including reliability, cost, local manufacturing capacity, accessibility of spare parts, and the availability (and costs) of electricity for pumping. Box 19 contrasts the situation in the Dominican Republic, where there are many RWSS projects based on more complex pumped-piped systems with that of Honduras, where there are more gravity-fed systems.

Box 19

Factors Determining the Nature of Rural Water Supply Systems: A Comparative Illustration

	Dominican Republic	***Honduras***
Water endowment*	• 20 km^3 annually	• 83 km^3 annually
Topography	• Limited mountain ranges interspersed with valleys and plains	• Largely mountainous with coastal plains on the Atlantic side
Water resources	• Largely held as groundwater in relatively deep aquifers	• Abundance of spring sources and surface streams and rivers
Energy sources	• Limited options for gravity systems; many systems rely on electrical or diesel-powered pumps	• Able to rely on gravity- flow systems in majority of areas; limited reliance on electrical pumps
*(*Gleick, P., 1998)*		

Due consideration must also be given to the status of water resource policies (i.e., beyond drinking water only) in the design of an ISM. It will be necessary to account for strategies relating to competing demands on water use among domestic, industrial, and agricultural users, especially in countries where water resources are more limited. Consideration of water resource policy should be part of the overall assessment of the water sector strategy, early in designing an ISM.

4.4. Legal Ownership of RWSS Assets

Increasingly, the matter of legal ownership and transfer of title to communities is being recognized as critical to the long-term sustainability of systems. In the case of household sanitation, for obvious reasons, the issue of who owns the physical facility is less complicated. However, the communal ownership of a physical asset, such as a water supply system, provided with financing from the state or an external support agency, has proven to be much more problematic.

In many instances, international donors supporting RWSS projects require that system ownership be transferred to communities upon completion with the community then assuming responsibility for its operation and maintenance. It is common to stage a public handing-over ceremony upon completion of a system, at which many of the stakeholders sign a document acknowledging this ownership transfer, often in the presence of local government dignitaries and other officials. However, despite the fact that a document has been signed publicly in the so-called "Acta de Entrega," in many countries in Latin America there is no legal basis for the transfer and the act remains purely symbolic in nature. The principal reasons for this are:

- In many countries, current legislation may make it impossible to actually transfer assets belonging to the state to communities; rather it is only possible to transfer, or delegate, the *authority to administer and maintain* those assets (this is true, for example, in Costa Rica and the Dominican Republic).

- In Latin America, the majority of water committees in rural areas do not have any legal status, although they may be *de facto* owners and operators of their systems. Therefore, where transfer of ownership of the asset is possible, communities may still not be in a position to receive them, until they are organized into an officially recognized body, with legal representation, or "*Personería Jurídica.*"

Box 20

Nicaragua: Overcoming Obstacles to Legal Transfer of Ownership of Assets to Communities

Under existing Nicaraguan law, rural communities can organize themselves into legally recognized bodies in one of several ways: through the formation of an Association, a Foundation or a Cooperative. All these models are defined as not-for-profit organizations with a social end, and may therefore be granted Personería Jurídica. But all these options can prove to be time-consuming and expensive, and in the case of rural cooperatives, politically sensitive.

In order to resolve these constraints and to speed up the process of legal transfer of title for rural WS systems to communities, a new law, entitled "The Law of Citizen's Participation," is currently under review by the National Assembly. This law is designed to establish a much quicker and less bureaucratic mechanism for granting Personería Jurídica to community organizations at the local level through the municipal authorities. It is anticipated that this law will be passed in the next year.

EHP Strategic Paper No. 1, January 2002

Even in countries such as the Dominican Republic and Costa Rica, the delegated authority to operate and maintain systems can only be granted once the community is organized into a legally recognized body, conforming to the relevant rules and constitutions that govern not-for-profit community organizations. In many other countries in the LAC region the main obstacle to legal transfer of ownership of assets, or the delegation of authority to administer assets, is the convoluted and onerous requirements for obtaining legal recognition. For example,

currently in the Dominican Republic, each community applying for *Personería Jurídica* has to present a case to the National Assembly. This creates a time-consuming (and expensive) process to legally establish water associations.

Another example illustrating the importance of this issue is from Honduras, where most communities currently do not have legal status, and therefore, there is no legal recognition of the water committee or water board as the system operator. Even though the community is the administrator and may be *de facto* owners of the system, there is no legal basis for this. The main impact of legal status (or lack thereof) is the introduction of accountability and the ability to be regulated by the state. In this case the water board could then theoretically be prosecuted if it was seen to fail in meeting the legal norms and standards applied to water system operation (EHP Strategic Paper No. 1, January 2002).

Clarity about who is the legal owner of a community-managed water supply system, and how the process of legal transfer works, matters in the design of an ISM for several reasons. First, given the current state of affairs in most countries in the region, one of the principal aims under an ISM is to provide technical assistance and guidance about establishing legal ownership of systems or delegated authority to administer systems. This, in turn, has implications for the training and preparation of the field-level promoters who are to work with communities on these issues. Second, where transfer of title and legalization of water committees is to comprise a large part of the work under an ISM, there must also be adequate provision for access to legal advice about the interpretation of the law and procedural issues.

The legal status of WS systems is highly significant from the perspective of community users, who will generally exhibit a greater sense of ownership and willingness to invest in the maintenance of that system, even to the point of possibly paying a contribution toward external support services (as is the case in one model from Honduras). However, asset ownership needs to be differentiated for household-level WS systems, which exist in certain areas where groundwater conditions allow, mainly in the form of shallow hand-dug wells with hand pumps. The issue of legal ownership is much less problematic in these cases, but there is still the requirement for providing some form of long-term support, albeit on a more limited scale.

4.5. Community Management

The benefits of community management for the operation and administration of systems and a correlation of such management with sustaining project benefits over time has been well documented within the sector and is now widely accepted. Taking a partnership approach, under which rural communities, government, NGOs and the private sector all have a potential role, is also broadly accepted, with the sharing of costs and responsibilities varying from case to case (DFID/WELL 1998).

The community management model is not the only option for rural systems, and there are examples of alternative approaches, although these remain relatively uncommon. However, in many instances the community management approach is in fact the

preferred, or only, option for RWSS in most countries in the region. Consequently, one of the most important elements for the establishment of an ISM is the presence of a clear policy that supports community-managed RWSS systems. In fact, the existence of such a policy and community management structures (irrespective of whether it is effective or not) are pre-conditions for the ISM to function effectively. In order to provide services, there must be some type of organized community structure with which to engage.

In most cases in Latin America it can be assumed that some attempts will have been made to organize and train the community during the process of project implementation, especially in programs designed within the last five years or so. There are certain exceptions, most specifically the so-called Social Investment Fund projects, which are usually supported by loans from the international development banks and focus more on employment generation, rather than on community-level capacity building.

Most commonly a water committee or water board is formed and empowered to operate and administer the system. In some countries such as Nicaragua, the concept of community management is now well established and forms part of the government's sector policy and national norms. In others, such as the Dominican Republic, the community participation and management approach is relatively new.

In certain situations, especially where there is a majority indigenous population, the external concept of forming new structures, specifically for managing water supply systems, can prove to be counter-productive. Recent experience with community management of projects in the Miskito and Nayagna Indian populations in the extreme northeastern part of Nicaragua shows that linking with existing, traditional community structures can be more effective (EHP Activity Report, December 2001).

Box 21

Dominican Republic: Retro-fitting Community Management Structures

Historically RWSS systems in the Dominican Republic have been built with a heavy bias towards engineering and with less attention given to social and organizational aspects, such as strengthening community management structures. However, in the last several years, with support from USAID and EHP, the Rural Water Supply Directorate (INAPA/AR) has established the concept of community participation and management as the standard approach for new RWSS projects.

Now INAPA/AR is going back to communities with "old projects" and carrying out a full program of promotion and training aimed at establishing, or re-structuring, Community Water Supply Associations (ASOCAR) in preparation for the delegation of authority to administer systems from the state. For each community a total of US$ 1,000 has been budgeted, to cover the costs of carrying out this work in training, promotion and capacity building.

EHP Activity Report 105, October 2001

Irrespective of the type of community structure, the principle of engagement and assistance remains the same under the ISM approach. In designing the model and assessing the roles and responsibilities of the field-level promoters it is necessary to first understand the type of existing community structures, their general management abilities, and the likely needs for capacity building.

4.6. Private Sector Involvement

Given the generally low level of economic development among the majority of rural populations in the region, it may appear that the role for the private sector in RWSS is negligible. Conventional thinking tends to focus on constraints facing private sector involvement, such as low household disposable incomes, low population densities and high transport costs. In short, there is little profit to be made from the rural poor. While these arguments are generally valid, there are a number of areas in which the private sector does have a role and where there is potential for increased involvement, especially in those countries with a less marked disparity between rural and urban populations. With the changing nature of the role of central government agencies, and the limited capacity of many local government authorities, it is reasonable to assume that there is potential for growth in the involvement of the private sector. Therefore, the key questions for planners and practitioners are: how can rural communities gain access to these important services and, furthermore, how does the establishment of an ISM facilitate this process?

The first steps in addressing private sector involvement in the design of an ISM is to identify which type of services may be required for the given target population, which services are currently available, and therefore, where it may be necessary to address gaps in the market. The potential areas or services that can be provided by the private sector in RWSS may include, but are not necessarily limited to, the following:

- Supply of components for water supply systems (including hand pumps)
- Supply of spare parts and/or specialist tools (including water meters where appropriate)
- Supply of specialist technical assistance for complex repairs (especially on mechanical and electro-mechanical pumps)
- Contracting and skilled labour for major reconstruction or expansion of infrastructure
- Provision of engineering and design services for system expansion or up-grading
- Transport and logistics (including customs clearance and importation)
- Drilling services for boreholes

- Supply of mass-produced specialist materials (for example, latrine slabs)
- Supply of chlorine or other chemicals for disinfection
- Supply of water testing kits, reagents, and laboratory services for more comprehensive water sampling analysis
- Water quality monitoring services
- Provision of legal advice and representation
- Provision of credit for system repair, expansion or upgrading.

In spite of the growing emphasis placed on so-called software development in RWSS projects (training, capacity-building, education and communication, etc.), there remain only limited examples of private companies offering these types of services or inputs. Where software components such as hygiene communication packages are outsourced by major implementation programs, these are generally provided by NGOs rather than private companies.

Clearly the potential for private sector involvement will vary from country to country, as well as within each country, from one area to another. The level of development of any particular rural population, its proximity to urban markets and services, and the ability to generate funds will all be determining factors as to whether, how and which private companies will become involved in service provision. The earlier comparative example between Bolivia and El Salvador (see Box 17) serves to illustrate the differing types of support services required by rural communities and therefore the potential for the private sector to step in and meet an outstanding need. In countries such as El Salvador, the Dominican Republic and many others in South America, there are highly developed private sector

Box 22

Nicaragua: Private Sector Involvement

One of the most widely recognized success stories of private sector involvement in RWSS in Central America comes from Nicaragua, where a low-cost hand pump has been developed and refined over the past decade. The rope-and- washer hand pump, or "**Bomba de Mecate**" as it is commonly known in Spanish, is produced locally and has now become one of the sector standards for rural communities, because of its simplicity of design and relative ease of maintenance.

The development of the rope pump was supported by the national agency for RWSS, with strong financial backing and technical assistance from the Swiss Development Agency. The original design of the pump has been modified over the years and a range of options is now available depending on pumping requirements and groundwater table depths.

This pump has become so successful that it is now being produced and sold in neighbouring countries for rural communities. The popularity of the rope pump is proven by the growing demand for direct sales, rather than exclusive distribution through development aid projects.

industries capable of delivering services across the supply chain, from importation to on-site delivery and construction. Even in relatively poor countries of the region, such as Nicaragua, private sector involvement has proven to be possible and sustainable over time, albeit with considerable support from development programs in the early days (see Box 22).

Given that the private sector can make an important contribution towards sustaining community management capacity, the second stage in the development of an ISM is in determining what can be done to encourage the involvement of the private sector, while at the same time protecting the interests of the (potentially vulnerable) rural population. In many instances this is a difficult issue to address, either because there are only ill-defined regulatory norms and standards for RWSS, or because of effective monopolies in the case of particular goods or services. In addition, it may be that the "lead institution" responsible for an ISM, such as a water users association or municipal government, does not have the skills to negotiate and monitor services provided by a private company.

The above constraints notwithstanding, the various examples of ISMs highlight an important role in providing access to private sector services for rural communities. In practice this is done through facilitation, communication and coordination between communities and companies operating in the same geographic areas. In some cases it may be that community management boards are simply unaware of the range of services and goods that may be available through the private sector. In other instances, the role of the ISM may be in vetting, or pre-approving, companies that meet certain standards or are known to be reliable and offer value for money. Other examples of ISM involvement include helping to negotiate discounts on bulk purchases of materials, facilitating distribution systems through rural stores, and helping access sources of commercial credit.

5. Financing

As noted throughout this document, identifying reliable, long-term sources of financing is probably the greatest single constraint, or challenge, to the successful establishment of an ISM. In this respect it is important to make a clear distinction between set-up costs and recurring costs for operating the ISM in the long-term. In the case of the former, there is often strong support from (international) donor agencies to pay for costly items such as vehicles, computers or office furniture (as in Honduras with the TOM system, to a lesser extent in the Dominican Republic, and in the proposal for the ISM in El Salvador). In most countries in the LAC region it is anticipated that securing funds to cover set-up costs for an ISM would not be too difficult.

On the other hand, locating long-term financing for recurring ISM costs is usually much more problematic. In planning for the establishment of an ISM, it is necessary to make realistic estimates of all costs that are likely to be incurred on a regular basis. Typical expenses may include, but are not to, the following categories:

- **Salaries:** For field promoters and any higher-level managerial or support staff; the costs for salaries should include all social benefit payments and any other provisions added to the basic salary.

- **Mobilization costs:** These will cover all costs involved in regular visits to communities and would include items such as *per diems* (where paid), fuel, lubricant and repair costs for vehicles, or fares for using public transport.

- **Office overhead costs:** Rent for office space, utilities, telephone and local taxes if applicable, as well as operating costs for computer and other office equipment and stationery items.

- **Training costs:** To cover any additional, or on-going training of the promoters or other staff engaged in the ISM.

- **Miscellaneous costs:** These would cover one-time payments for services that are sometimes necessary, such as consulting a legal expert on matters relating to interpretation of legislation, or production of educational materials for hygiene campaigns.

Depending on the institutional framework of the ISM in question it may be possible to avoid some of these recurring costs. For example, in the case of the PROSAR promoters in Honduras, all salaries and office overhead are covered through the

Ministry of Health. It is also quite likely that promoters would be offered subsidized places at relevant training courses by implementing agencies or line ministries.

Traditionally, international donors have taken the position that communities themselves must take responsibility (including the financial burden) for long-term O&M of their systems. This position has largely been supported by national governments in the LAC region. For both donors and national governments, it is a convenient exit strategy following construction as public monies are used for highly visible and politically attractive facilities. However, there is inevitably less interest when the same standpipe is falling apart and providing an erratic supply of contaminated water.

Nonetheless, there is evidence that the perspective of major donor and policy agencies is beginning to change in this regard. For example, in a newly designed RWSS program financed by the World Bank in Peru, there is an explicit recognition of the importance of post-project support to communities. In this case the program is to contract with the same NGOs responsible for the execution of individual projects, to also carry out post-construction support for up to one year in the communities with new systems. Financial remuneration for the NGOs during this period will be linked to measurable indicators of project sustainability across a range of indicators, not only limited to technical performance of the systems. In addition, the program plans to provide institutional support to a number of municipal governments with responsibility for the geographic areas where projects are to be implemented. The aim of this component is to increase locally-based capacity to support rural communities in the long-term, well after project implementation agencies have departed[†].

As has been documented previously, rural communities in the LAC region have differing requirements and capacities than urban populations, and it is unlikely that they will be able to pay the full costs of an ISM in the short-term. Therefore, the priorities afforded the rural sector, along with the political will of the current government of the day, to a great extent, will determine funding solutions for recurring costs.

From the examples of ISMs reviewed for this document, a number of possible sources of funding emerge for recurring costs. In summary, these are:

- **Central Government:** Departments or ministries responsible for RWSS or the rural sector more generally; in this case funding sources may not be limited to the national water and sewerage agencies, but may include Health or Agriculture; this source of funding is most common in the centralized and deconcentrated models.

[†] Finance, Private Sector and Infrastructure Department, Latin America & the Caribbean Region, The World Bank, September 2002

- **Donors or External Support Agencies:** Donors involved in support to RWSS either through direct implementation programs or strategic support. This group could also include NGOs that may be able to cover part of the costs of an ISM by cross-subsidy of program funds.

- **Municipal Government:** Local authorities using funds either allocated from the central government or raised locally through taxation for the provision of support to a part of their constituency. However, in many cases municipal governments do not have sufficient budgets and finding additional monies can be problematic.

- **User Associations:** Funds raised directly from individual households and communities benefiting from services; in practice it is very rare that this source of funding is capable of meeting the full costs of an ISM.

- **Cross-subsidy:** Where profits generated by urban water and sewerage systems operated by central government agencies can be used to support rural communities. Obviously this requires that the appropriate legislation be in place.

Box 23

Direct Central Government Funding: Costa Rica and the Dominican Republic

Financing for all recurring costs of the ISM models in both Costa Rica and the Dominican Republic are provided by the central governments. In each case service provision is based on a deconcentrated model.

The national water and sewerage institutions in both countries are responsible for paying all salaries for promoters, for overhead, and travel costs. There is no further contribution from either the end-users or municipal authorities.

EHP Activity Report 105, October 2001

Box 24

User Association and Donor Funding: A Hybrid Model from Honduras

The AHJASA user association model described earlier has an annual budget for running costs of approximately US$ 38,000, providing services for 300 member communities.

Funding relies on three different sources: nominal contributions from the member communities amounting to about 5% of the budget, 80% provided by the International Rural Water Association, and the balance of about 15% provided by the national level NGO, Agua Para El Pueblo.

EHP Strategic Document No. 1, January 2002

Much like the examples of potential ISM models, it is important to note that funding arrangements to meet recurring costs will rarely fit into any one single category. The key consideration when assessing potential financing for an ISM is flexibility and

avoiding a highly prescriptive blueprint approach. Even in cases where there is substantial funding from (international) donor agencies, care must be taken to avoid dependence on an unsustainable source of financing. This is partly true in the case of the TOM model in Honduras, which has been heavily reliant on USAID support. This funding has so far continued, but may be reduced or withdrawn at some future date, with serious consequences for the viability of the ISM itself.

It is likely that there may be a number of funding sources for the overall ISM, and that even within any specific ISM model there may be further diversification of funding. For example, in the Nicaragua model, funding is usually derived from a combination of municipal government revenues and central government allocations via the National Water Supply and Sewerage Company, (which includes an element of cross-subsidy from income in urban systems being transferred to the rural directorate for O&M activities). However, in one municipality, the Ministry of Health pays the salary of the promoter and the municipal government continues to pay for mobilization costs. In another municipality, the salary and benefits of the promoter are paid for by a local NGO concerned with environmental protection. In both cases the promoter carries out activities for two separate organizations when visiting the same communities.

These are examples of an imperfect situation, but one in which a pragmatic and flexible approach to financing has allowed at least some degree of support to continue to rural communities struggling to maintain their WSS systems. In spite of these innovative approaches within the municipal promoter model, lack of financing continues to create problems, resulting in low-paid staff and lack of reliable transport budgets.

Another interesting solution to the problem of financing for backup support services comes from a region of western Uganda, where the Directorate of Water Development of the Ministry of Water, Lands and Environment, has developed a system based on local taxation[†]. In Uganda there is an advanced system of local tax collection, whereby every male over the age of 18 pays a so-called "graduated tax" according to his income. This tax is paid locally to the district council (which would be the equivalent of a municipality in most LAC countries). In two districts, Mbarara and Bushenyi, the local councils have also decided to levy a fixed tax on top of the graduated income tax, collected at the same time (annually). This fixed amount is equal to roughly US$0.50 per taxpayer per year and is kept in a special fund administered by the district council. There is a high level of transparency in this system as it relies on two different sets of independent auditors; therefore people are willing to contribute a nominal sum towards a common service, a sum that is held by local government officials.

Each year, such taxes are collected from about 4,000 men in the region, providing a lump sum of about US$2,000, which is then used to pay for major repairs to water

[†] Directorate of Water Development, Ministry of Water Lands and Environment, Government of Uganda, July 2002

supply systems, repairs that are beyond the means, or technical capacity, of the communities. Under this model, services are provided exclusively for technical or infrastructure-related O&M and no attention is given to other aspects of project benefits. Individual family users continue to be responsible for contributing money on a regular basis at the point of supply to cover minor repairs. Where legislation allows, and there is the political will at the local level, it is possible that this type of model could be replicated in certain countries in Latin America.

6. Putting Institutional Support Mechanisms into Practice

6.1. Major Implementation Steps

In the preceding sections of this document, many of the key issues and detailed components involved in the establishment of an institutional support mechanism have been outlined. Examples have been used to illustrate particular aspects of the process, but it has been stressed throughout that the characteristics of any new ISM will be influenced by the opportunities and constraints presented in each individual country context. In some of the examples cited, the decision to establish an ISM was taken consciously and given formal backing by government authorities. In other cases, the mechanisms have evolved over time, in response to a specific demand for services, but without systematic or formalized planning. In most cases, the ISMs were established on a pilot basis and then expanded to cover larger parts of the country, as was the case with the TOM model in Honduras. In other instances pilot projects, or proposals for an ISM, have not been fully realized because of a lack of funding for recurring costs.

In most of the examples reviewed for this document, the ISM was developed by national water and sewerage authorities (at different levels), in collaboration with international donor agency advisors. Regardless of who may be responsible for the design and development of an ISM, the overall process should be treated much like any other project, subject to the same approaches and management practices.

In order to assist in the planning process for the establishment of an ISM, the key steps can be described in a schematic format. The flow charts in Boxes 25–28 on the following pages provide a reference guide for a typical project cycle covering the four main phases:

- **Assessment Phase:** The review and analysis of the RWSS sector and strategies of the particular country, with attention given to the key policy and contextual issues that inform the extent and scope of the ISM. This phase also includes a review of potential sources of financing.

- **Design Phase:** The detailed design of the ISM model based on the assessment phase, including the definition of institutional roles and responsibilities, the development of a detailed budget, and a monitoring system.

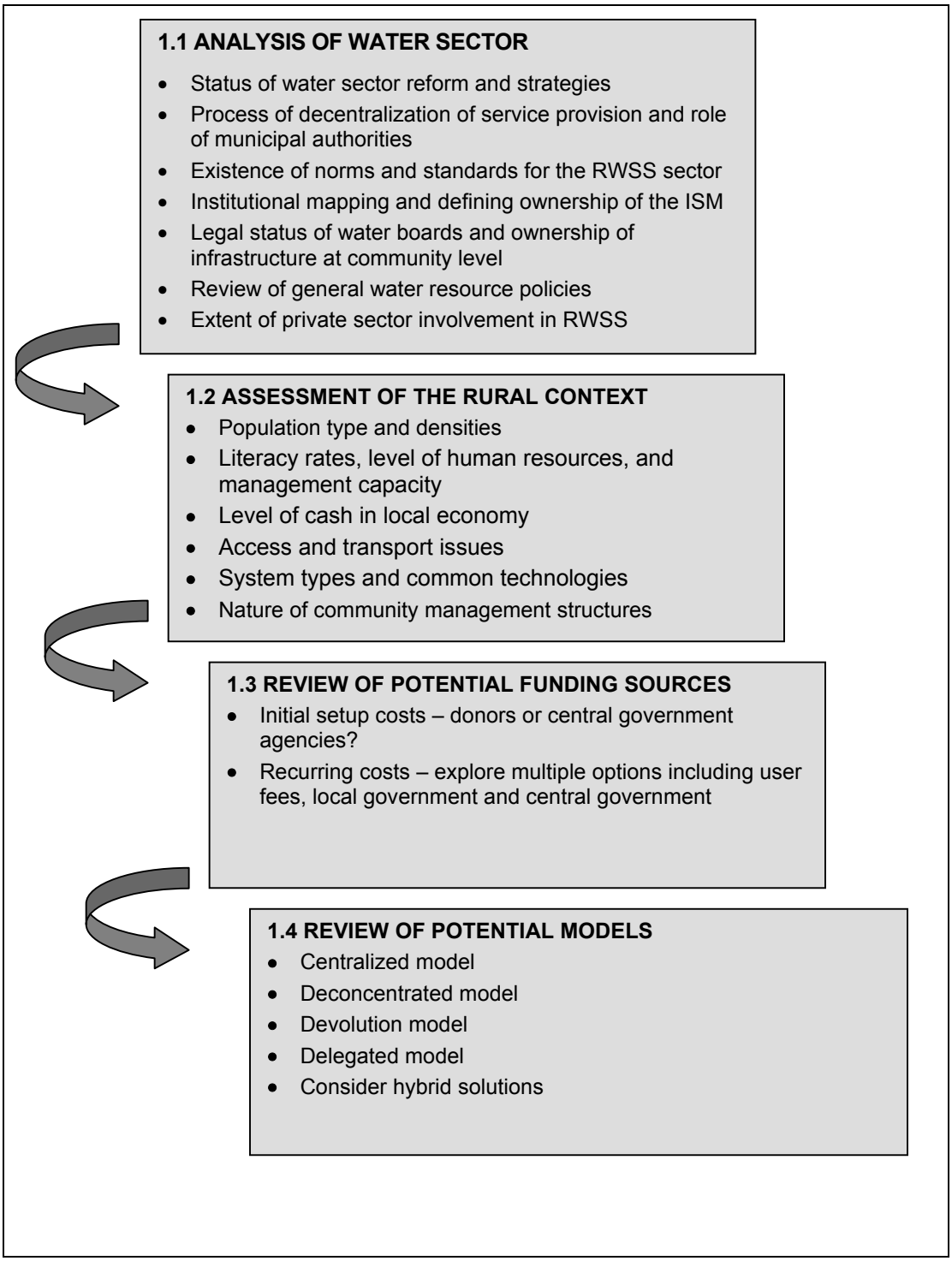
- **Preparation Phase:** The procurement of equipment, establishment of offices, recruitment and training of key staff, including training of trainers as necessary, as

well as the development of a marketing program to inform key stakeholders likely to be involved with the ISM. This phase also includes training and capacity-building efforts of other entities, such as municipal government officials.

- **Implementation and Monitoring Phase:** The execution of the actual ISM program and provision of the full range of support services to target communities. This phase will also include ongoing monitoring and adjustment of the overall program itself.

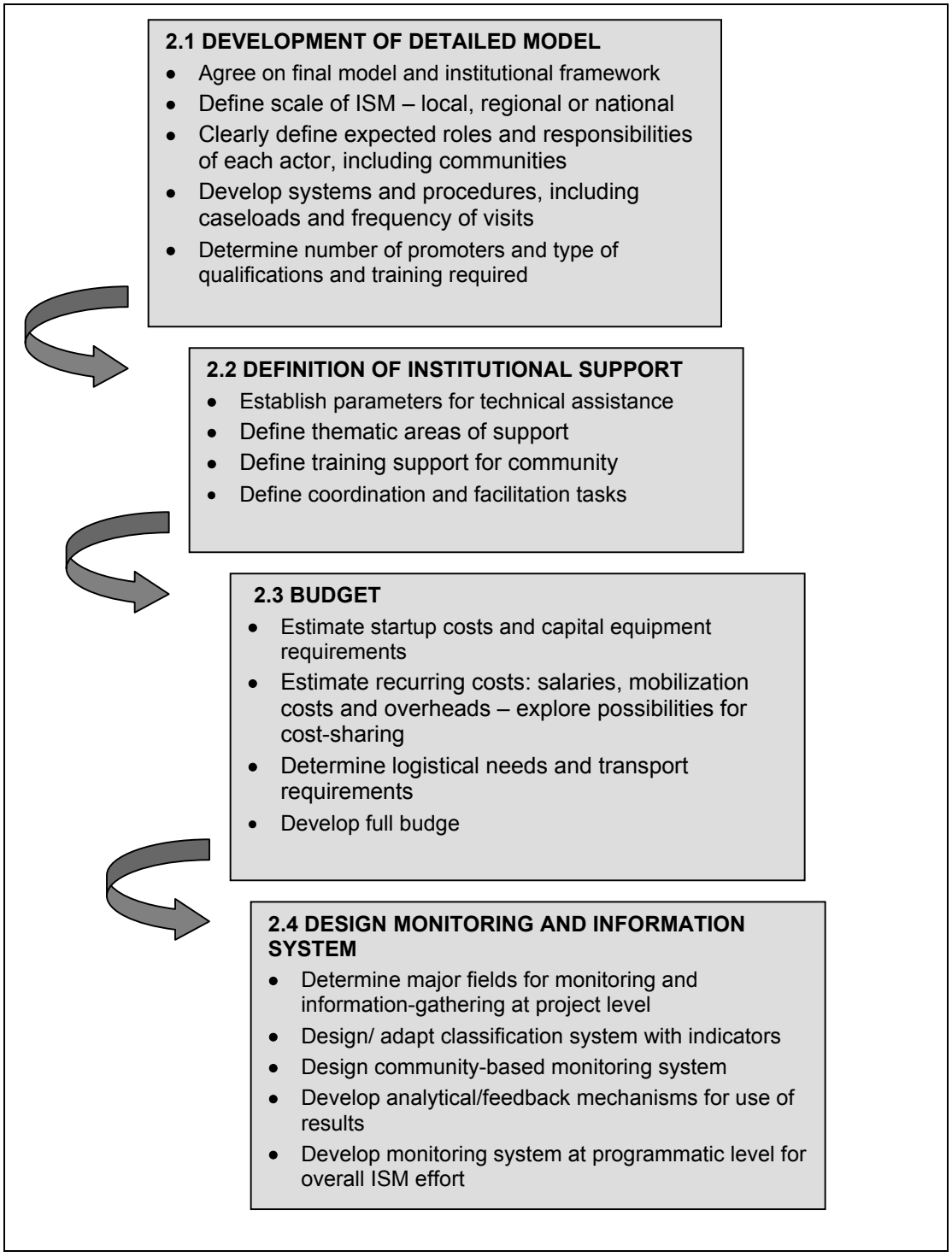
Box 25

ESTABLISHMENT OF AN INSTITUIONAL SUPPORT MECHANISM
PHASE 1: ASSESSMENT



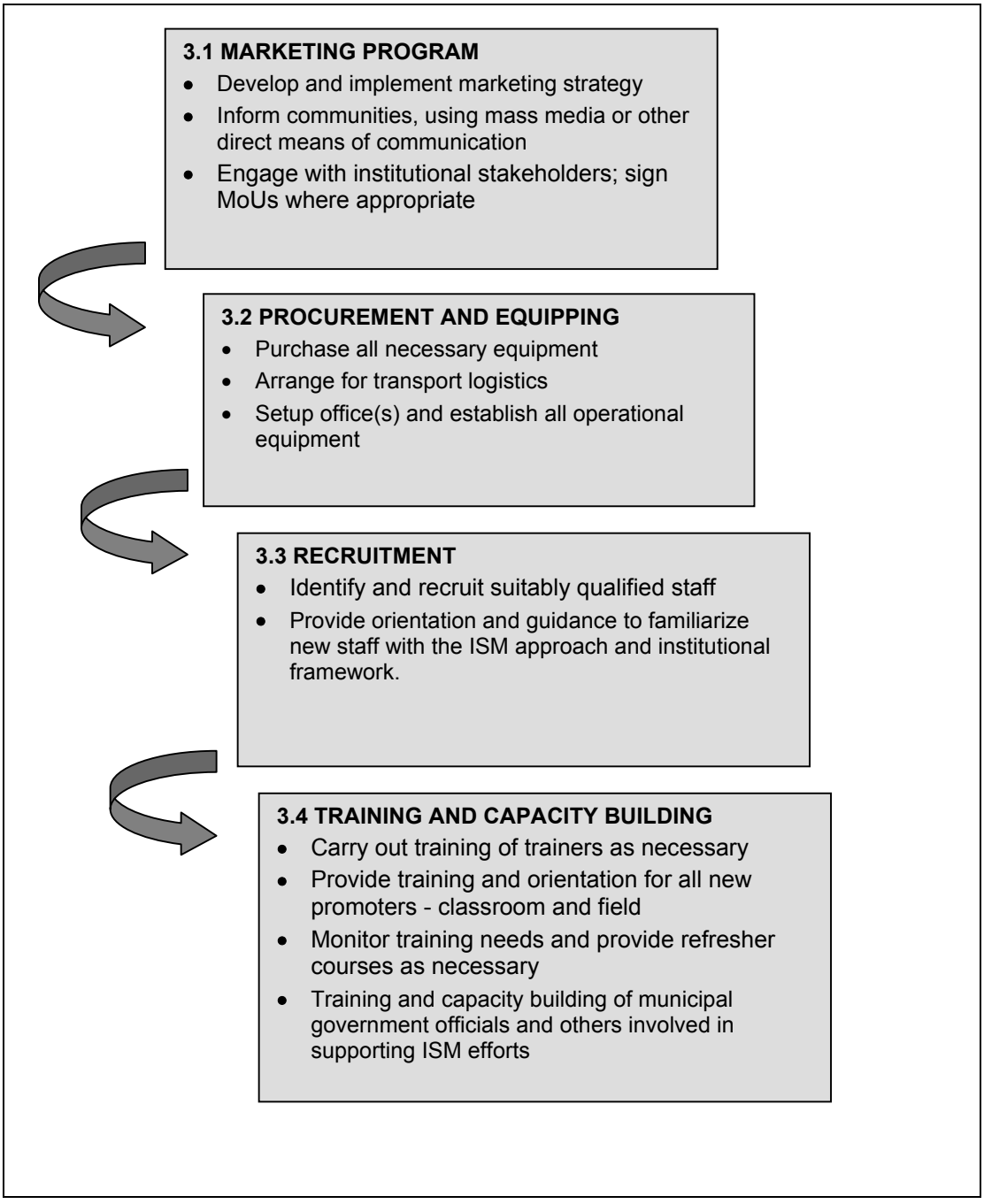
Box 26

ESTABLISHMENT OF AN INSTITUIONAL SUPPORT MECHANISM
PHASE 2: DESIGN



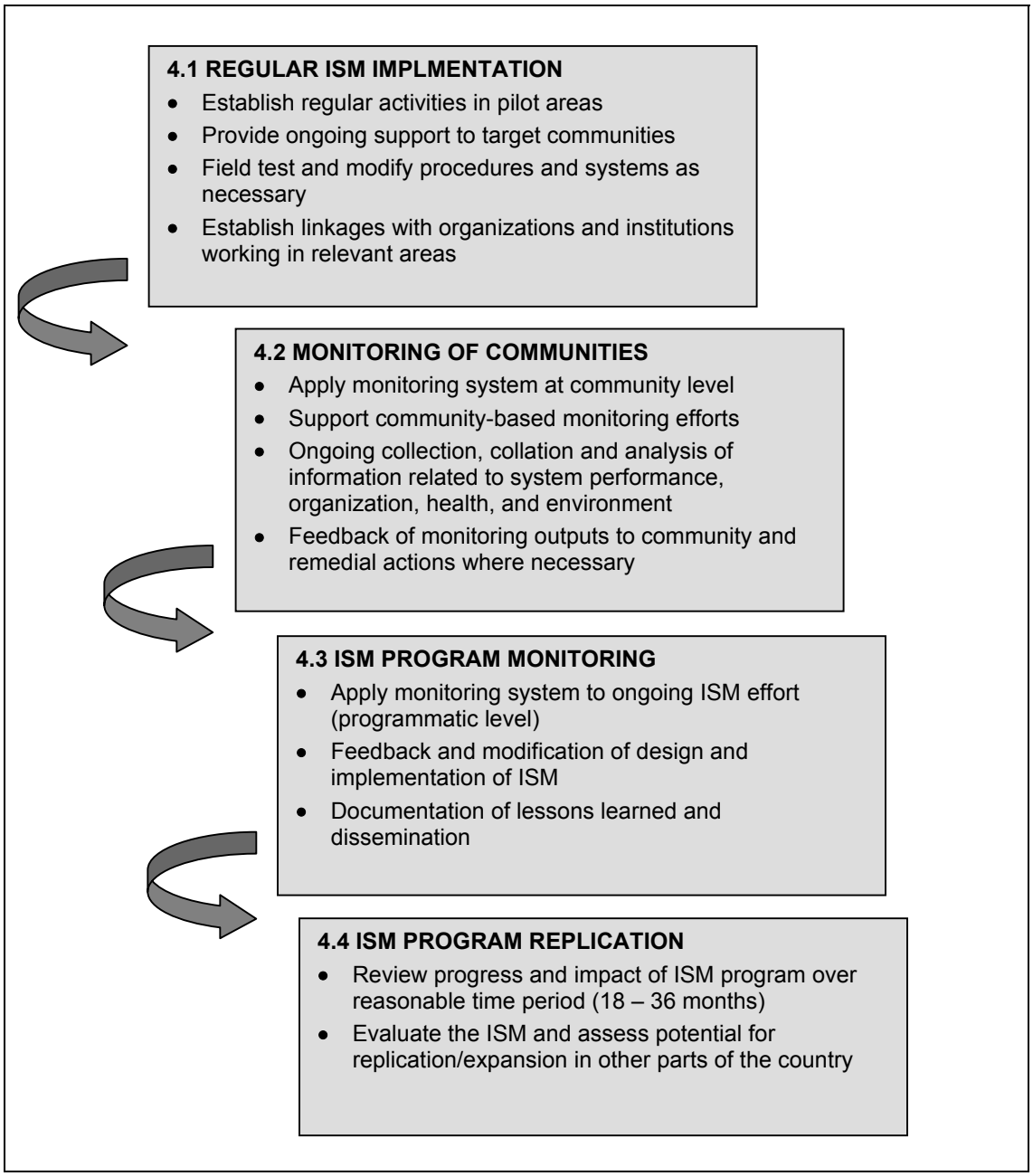
Box 27

ESTABLISHMENT OF AN INSTITUIONAL SUPPORT MECHANISM
PHASE 3: PREPARATION



Box 28

ESTABLISHMENT OF AN INSTITUIONAL SUPPORT MECHANISM
PHASE 4: IMPLEMENTATION AND MONITORING



Each of the phases presented above are further sub-divided into groupings of activities or areas of interest, which should be worked through by the people tasked with designing and managing the ISM in any given country. For some of these areas,

it will only be necessary to collect information to inform decision-making at a later stage. In other instances a specific output or decision will be required (e.g., the need to agree on the particular model for the ISM). As with any other project cycle, it is critical that activities in the preparation and design stages should be thoroughly addressed in order to progress to implementation of ISM services.

The design of an ISM will involve continuous consultations with all the main institutional stakeholders, not least of which will be representatives of the rural communities themselves. As such, it is normally an iterative process, one that should allow for flexibility in approach and in the final model, selected for delivery of support services. Whether the ISM starts on the basis of an intentional decision or evolves in a more iterative way, the planning, design and piloting stages all take time. Although there is no generalized pattern, it can be expected that a project of this nature will take at least two to three years to become established. At that point, it becomes possible to make a well-informed assessment of the ISM and to determine whether to continue or expand the coverage for support services to other regions of the country.

6.2. Conclusions

As mentioned in the introductory chapter, this document is not intended as a detailed blueprint, or "cook book," for the design of an ISM. Rather its objective is to highlight the critical issues and factors during the ISM assessment and design phases. Every country context will have particular challenges to address and opportunities to exploit, and it is hoped that this document will serve as a useful reference tool for planners as they work their way through the process of creating and executing an ISM. Realizing the potential of investments in RWSS over the full design life of projects is a complex challenge, involving many factors, from the selection of appropriate technology and adequate financial design, to maintaining the capacity of the community to manage their own systems. Any effort to create a support mechanism must be undertaken within the context of broader water sector reform and should recognize, and work within, strategies and policies that relate specifically to the rural sector.

Once an ISM has been established and regular implementation is under way, efforts to sustain such a system will continue to face many challenges and constraints. Operating environments are often difficult, with large geographic areas to cover and poor transport infrastructures. Rural societies in most Latin American countries are highly politicized and inevitably this is often reflected in the management of water systems. Municipal governments are often under-resourced, weakly managed and unable to fulfill their mandate to provide social services. In the final analysis, as with any other development project of this nature, success or failure of interventions often comes down to the commitment and character of key individuals in the system, be they field promoters, community leaders, or mayors of small towns. To overcome these real-world conditions, any ISM should be pragmatic in its design and incorporate the flexibility required to respond to these changing constraints over time.

Although there is now an increasing recognition of the importance of sustaining community management capacity in the long-term, there is still much to learn about how this can be achieved in practice. Success in this arena must include a broader range of actors beyond just the implementation agencies and the communities themselves. Central governments, local governments, civil society groups and private sector companies all have important roles to play in creating a supportive environment at the local level. Learning how these disparate actors can come together and interact successfully within a resource-scarce environment is a key objective. There are still many questions left unanswered: Should a typical project cycle be extended beyond the construction and implementation phase to include long-term support? Can the private sector become more directly involved in long-term support? If so, how can this process be effectively regulated? Should donors be expected to pay for long-term support services?

As more and more institutional support mechanisms are implemented, answers to some of these questions will emerge. It is therefore important that successes and failures continue to be documented and that these lessons are disseminated to inform new initiatives. One of the critical issues identified in this document is that of financing. Consequently, this is one key area, among several others, that should be the focus of further research and analysis, in order to contribute to a collective understanding of how community-managed RWSS systems can be sustained over the full life of a project. Some recommendations for further work include the following:

- An investigation into the willingness to pay for long-term support on the part of communities, as well as perceptions by recipients of the most important benefits of these services.

- A detailed financial analysis of the true costs of ***not*** establishing an ISM and the cost-benefits of different types of ISM approaches. These would be useful inputs into the broader policy debate about how donors and governments can best spend finite resources.

- Further research into how private sector companies could be employed to provide support and how their work could be monitored and assessed by the communities receiving such support as well as by central or local government agencies.

- Research into institutional support mechanisms for different types of management models; for example, larger and more complex rural systems where communities hire private operators to carry out day-to-day running of their systems, or water supply systems owned and managed by individual households.

- An in-depth review of past and ongoing sector reform experiences in the Latin America region to ascertain how issues concerning long-term support to rural communities have been considered (or not) as part of the overall reform process.

References

Black, M. September 1998. Learning what works: a twenty year retrospective view on international water and sanitation cooperation. Washington, DC: World Bank - UNDP Water and Sanitation Programme.

Blagbrough, V. ed. June 2001. Looking back: the long-term impacts of water and sanitation projects. London: WaterAid.

Bolt, E. and C. Fonseca. 2001. Keep it working: a field manual to support community management of rural water supplies. IRC Technical Paper Series 36. Delft, the Netherlands: IRC International Water and Sanitation Centre.

Evans, Phil. 1992. Paying the piper: an overview of community financing of water and sanitation. Delt, the Netherlands: IRC International Water and Sanitation Centre.

Karp, A. May 2002. Propusesta preliminar du un programa de apoyo para fortaceler la sostenibilidad de los sistemas rurales de agua potable en El Salvador. EHP/CARE draft. Arlington, Va.: Environmental Health Project.

Katz, T., and J. Sara. 1997. Making rural water supply sustainable: recommendations from a global study. Washington, DC: The World Bank.

Lockwood, H. October 2001. Operations and maintenance strategy for community-managed rural water supply systems in the Dominican Republic. EHP Activity Report no.105. Arlington, Va.: Environmental Health Project.

Lockwood, H. et al. December 2001. Nicaragua: rural water supply sanitation and environmental health program. EHP Activity Report no.106. Arlington, Va.: Environmental Health Project.

Perez, E. et al. September 2000. Mid-term evaluation of the USAID/El Salvador public service improvement project, water and sanitation for health program (PROSAGUAS). EHP Activity Report no. 103. Arlington, Va.: Environmental Health Project.

Perez, P., and F. Rosensweig. September-October 1996. Reform of the rural water supply and sanitation sector. Paper prepared for the Regional Conference on the Reform and Modernisation of the Water Supply and Sanitation Sectors for Mexico, Central America, Haiti and the Dominican Republic.

Reed, B. January 2001. Working together: the sharing of water and sanitation support services for small towns and villages. WELL Task no. 510. London: WELL – Resource Centre Network for Water, Sanitation and Environmental Health.

Roark, P., et al. February 1993. Models of management systems for the operation and maintenance of rural water supply and sanitation facilities. WASH Project Technical Report no. 71. Arlington, Va: Water and Sanitation for Health Project.

Rosensweig, F., et al. May 1990. Action plan: development of the national strategy to create and monitor water user associations in Tunisia. WASH Field Report no. 300. Arlington, Va.: Water and Sanitation for Health Project.

Rosensweig, F. May 1998. Strategies for decentralizing rural water supply and sanitation. Paper prepared for the World Bank Conference on Community Water Supply and Sanitation. Washington, DC: The World Bank.

Rosensweig, F. ed. January 2001. Case studies on decentralisation of water supply and sanitation services in Latin America. EHP Strategic Paper no. 1. Arlington, Va.: Environmental Health Project.

Sara J., et al. May 1996. Rural water supply and sanitation in Bolivia: from pilot project to national program. Washington, DC: World Bank - UNDP Water and Sanitation Programme.

DFID/Water and Environment at London and Loughborough. 1998. Guidance manual on water supply and sanitation programmes. London: Department for International Development/Water and Environment at London and Loughborough.

Water and Sanitation for Health Project. August 1993. Lessons learned in water, sanitation and health: thirteen years of experience in developing countries. Updated Edition. Arlington, Va.: Water and Sanitation for Health Project.

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