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WATER AND SANITATION PROGRAM: **GUIDANCE NOTE**

Rural Water Supply and Sanitation Challenges in Latin America for the Next Decade

Lessons from the "Cusco+10" International Seminar

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Rural Water Supply and Sanitation Challenges in Latin America for the Next Decade

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Preface

In Latin America, nearly half the population living in rural areas is without access to improved sanitation services and approximately 20 percent is still without drinking water. Responding to this situation is crucial for the region's social and economic development agenda.

Aware of this situation, the World Bank Group is working hand in hand with governments to provide access to improved water and sanitation in accordance with the differing realities in each country. As a result of this effort, in recent decades it has been possible to evaluate a variety of approaches and intervention models.

In 1999, the World Bank Group convened a meeting of experts in the rural water and sanitation sector to analyze, compare, and develop proposals aimed at improving conditions in rural areas. A decade later, in 2010, a new meeting was convened to analyze progress and challenges in this area, discover the lessons learned, and set new targets for another decade of work.

This opportunity for contemplation was the international seminar "Challenges of Rural Water and Sanitation after a Decade," also known as "Cusco+10." To capture and preserve the knowledge generated and identify the most valuable lessons learned, it has been decided to publish the present document.

We would like to give special recognition to the collaborative work of the World Bank Group teams who made this important expert exchange — as well as the present analytical document — a reality, in particular: Miguel Vargas-Ramírez, Senior Water and Sanitation Expert; Lizmara Kirchner, Water and Sanitation Expert; María Angélica Sotomayor, Senior Economist; Iris Marmanillo, Senior Water and Sanitation Expert; Oscar Castillo, Community Development Expert; Mercedes Zevallos, consultant on sanitation markets; consultants Rafael Vera and Gladys Aristizábal; Yehude Simon, Communications Officer; Verónica Valcárcel, communications consultant; and Marisol Noriega, Team Assistant. This work also received valuable support from the Water Partnership Program and the Swiss Agency for Development and Cooperation (SDC).

The specialists who participated in the technical review were David Michaud, Senior Expert in Water and Sanitation, and Juliana Menezes Garrido Pereira, Infrastructure Expert. We thank them for their valuable recommendations and comments, which have made the production of this document possible.

We reiterate our commitment to continue creating opportunities for the exchange of experiences in our region with a view to reducing the gap between those who have more and those who have less and between urban and rural areas. We hope that ten years from now the figures for Latin America will be much more equitable. Until then, we will continue working, learning, and sharing.

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Executive summary

Slightly more than a decade ago, in 1999, the World Bank held a seminar-workshop entitled ***Improving the Sustainability of Water and Sanitation Projects in the Rural Area*** in Cusco, Peru, for the purpose of identifying best practices in the rural area. One of the key issues during this seminar was understanding the scope and contribution of a demand-based approach in relation to the sustainability of services.

Ten years later, in May 2010, an opportunity was provided to review the lessons learned, the progress achieved, and the new challenges for water and rural sanitation within the framework of the seminar ***Challenges of Rural Water and Sanitation after a Decade***, also held in Cusco.

The participants in "Cusco+10" concluded that, during the course of the past decade, there had been progress in the rural sector, but certain challenges remained in terms of sustainability of the services. While there is optimism that Latin America and the Caribbean will meet the target under the Millennium Development Goals (MDGs) for safe drinking water, it is more questionable whether the region will meet the target for access to improved sanitation services, given that seven out of every ten people who remain without access in Latin America live in rural areas.

The Cusco+10 analysis ended up identifying ***five main challenges*** that must be taken into account over the next decade to help ensure the sustainability of water supply and sanitation services in rural areas.

In the first place, the challenge of ***seeking sustainability for basic rural sanitation*** continues. In response to this challenge, it was recommended to develop a comprehensive vision to be shared for investments in basic sanitation and other investments in drinking water and environment protection, and at the same time to draw up a menu of options for solving the sanitation challenges faced by households that are still without access.

The second challenge to be identified was ***thinking beyond the project cycle with the demand-based approach***. Just as the virtues of the demand-based approach are well recognized within the project cycle, there are also opportunities to perfect this approach in a number of contexts (for example, greater inclusion of marginalized populations), as well as to incorporate it into strategic medium- and long-term municipal decisions.

Third, there is the challenge of maximizing the process of ***decentralization in the municipalities*** to support services in rural areas. It was recommended that the municipal authority play a larger role in promoting demand and contributing to municipal funding, in facilitating technical assistance, and in following up and monitoring the services and the quality of the water resources that affect more than one rural community.

Fourth, it was agreed that one of the pending issues is the need for ***sector policies and financial policies*** on water and rural sanitation. It was therefore recommended to look for ways of placing water and rural sanitation on the sector's agenda, while at the same time promoting consistency and alignment between national efforts and international cooperation.

And fifth, the participants agreed on the need to emphasize the ***long-term sustainability of monitoring systems***. Emphasis was placed on the importance of financial sustainability to ensure the viability of short-, medium-, and long-term goals (for example, administration-operation-maintenance-replacement-expansion), as well as the importance of environmental sustainability. The Cusco+10 analysis concluded that monitoring systems are a fundamental piece in long-term sustainability, and yet there continue to be very few of them in the region.

Finally, in the discussions at Cusco+10 the participants agreed that ***five cross-cutting trends*** have emerged in recent years that will have to be taken into account in the strategies for addressing the challenges of the next decade. These cross-cutting trends are: (i) recognition that the demand is diversified; (ii) the importance of water resources management; (iii) the importance of inter-sector coordination; (iv) financial management of the services over the medium and long term; and (v) the use of public-private-social partnerships as a tool for enhancing synergy.

Introduction

The rural population of Latin America and the Caribbean exceeds 120 million. Of this number, approximately 20 percent lack access to improved water services and 45 percent lack sanitation services,[1] without considering the quality and continuity of the services. At the same time, a World Bank study conducted in Bolivia and Peru[2] shows that, for the population that has access to these services, although drinking water services in rural areas cover their operation and maintenance costs, they are not financially sustainable in the medium term and require additional capital to replace the current infrastructure or expand coverage. What is needed at this point is to call attention to the importance of mobilizing institutional and financial efforts in the sector to improve the sustainability of quality water and sanitation services in the rural areas of Latin America.

To identify best practices in the rural area, the World Bank held a seminar-workshop entitled ***Improving the Sustainability of Water and Sanitation Projects in Rural Areas***.[3] Ten years after that event, in Cusco, Peru, there was another opportunity to review and analyze the lessons learned, progress achieved, new challenges, and new perspectives for rural water and sanitation in the region at the beginning of the 21st century. A group of 55 experts and professionals from 13 Latin American countries came together in May 2010 for this international seminar entitled ***Water and Rural Sanitation Challenges a Decade Later***. Resuming the analysis begun in 1999, they focused on identifying the rural water and sanitation challenges that remain and will drive the sector for the next decade.[4]

In 1999, the objective was to share the experiences of program-executing institutions and drinking water and rural sanitation projects. One of the key issues that drove the first seminar was the promotion of "demand-based" projects within the framework of a participatory process in which the communities decided on their degree of commitment to the projects and identified the level of service they expected to receive and how much they were willing to pay to make it sustainable. A decade later, at "Cusco+10," the intention was to analyze any new challenges that had arisen from a more sectoral standpoint and within the framework of the social, economic, and political changes that had taken place in the region.

For this purpose, the Cusco+10 analysis was organized around six main blocks:

i) Demand- and practice-based approaches;

ii) Sectoral policy and financial policy;

iii) Participation of communities and municipalities in the project cycle;

iv) Sustainable sanitation: myth or reality;

v) Long-term sustainability of the services; and

vi) Progress achieved during the decade and challenges for water and rural sanitation.

This report summarizes the current context of the water and rural sanitation sub-sector and the analysis thereof undertaken at the Cusco+10 Seminar. The first part of

1 WHO-UNICEF. Joint Monitoring Program (JMP). Progress on Sanitation and Drinking Water. 2010 Update. http://www.wssinfo.org

2 Bakalian, A. and Wendy Wakeman. 2009. "Post-Construction Support and Sustainability in Community-Managed Rural Water Supply." Case Studies in Peru, Bolivia, and Ghana. The World Bank; Ministry of Housing, Construction, and Sanitation: "Estudios de base para la implementación de proyectos de agua y saneamiento en el Area Rural [Base Studies for Implementation of Rural Water and Sanitation Projects]." MVCS, Cosude, PAS, Lima 2003.

3 Water and Sanitation Program (WSP). Water and Sanitation Group of the World Bank and Water and Sanitation Program: Report of the Seminar-Workshop: "Mejoramiento de la sostenibilidad de Proyectos de Agua y Saneamiento en el Área Rural [Improving the Sustainability of Water and Sanitation Projects in the Rural Area]." Lima, July 1999.

4 Participants in the Cusco+10 Seminar were representatives of sector institutions, professionals, and experts from Bolivia, Brazil, Chile, Colombia, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, and Peru.

the report, ***Basic Rural Services at the End of the 20th Century***, summarizes the situation as it stood in the 1990s and the conclusions reached at the 1999 seminar-workshop. The second part, ***Trends in the First Decade of the 21st Century***, identifies some of the new variables that have emerged and are shaping the context as work continues toward establishing sustainable services. The third part, ***Challenges for the Next Decade***, reports the findings from the Cusco+10 analysis and sums them up in five major challenges to be addressed. Finally, the fourth part, ***Conclusions***, looks to the future and suggests some new trends that are affecting the five major cross-cutting themes.

Creating a regional overview of the subject of water and rural sanitation is not easy, considering the heterogeneity that exists in Latin America, with different levels of rural and institutional development, different systems of government, and different ethnic customs. Nevertheless, the effort has been highly rewarding and valuable for identifying best practices and highlighting the best lessons learned so that they can be transferred and replicated. It is hoped that the analysis emanating from a future Cusco+20 will be able to show major achievements at the regional level with ever smaller numbers of people without access to basic services and more countries providing sustainable services for their entire rural population.

Coverage figures have improved in the past decade, but even so, a sizable percentage of the rural population remains without access to drinking water and improved basic sanitation.

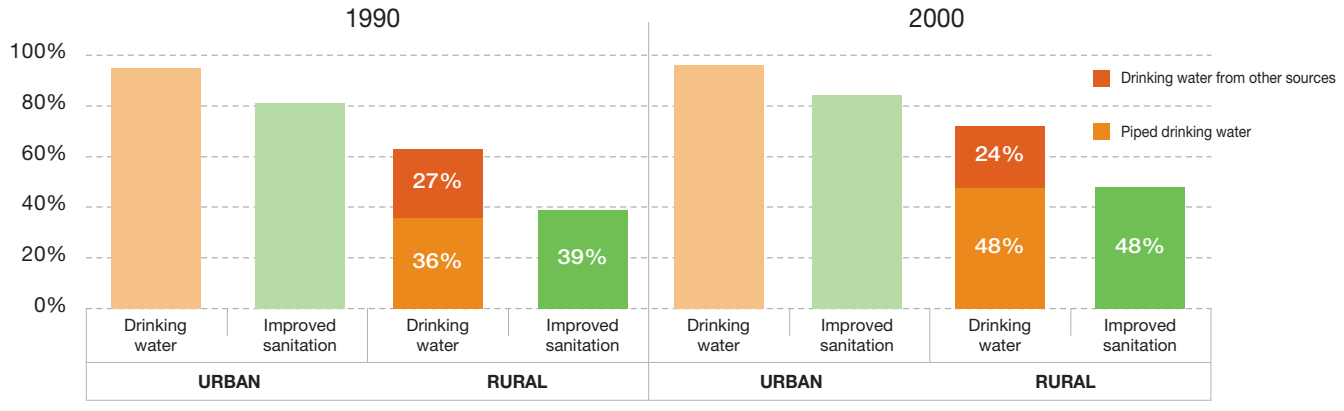
I. Basic rural services at the end of the 20th century

The evolution of basic rural services in Latin America in the 1990s

In the region as a whole, there was a marked difference between urban and rural areas at the beginning of the 1990s in terms of access to drinking water and improved sanitation (Figure 1).[5] While access to drinking water in rural areas was 63 percent, this figure masks the fact that only 36 percent of the rural population had a household connection that supplied safe drinking water. The inequity is even more pronounced for basic sanitation, with a coverage index in urban areas more than twice as high as for their rural counterpart. A breakdown of figures for the region shows that, at the beginning of the 1990s, several countries in Central America and the Andean region had rural coverage tariffs that were even lower.

The evolution of these rural coverage indexes over the 1990s showed improvement, but even so, a large percentage of the rural population remained without access to improved drinking water or basic sanitation. The generation of social investment funds in several countries, together with projects funded by multilateral development banks and bilateral cooperation arrangements, sought to address this chronic gap in rural areas. As these national and international efforts pressed forward, the tide began to turn when the importance of the demand-based approach was recognized and beneficiary communities began to get involved, starting in the preliminary design phases of the projects.

FIGURE 1: PERCENTAGE OF URBAN AND RURAL POPULATION IN LATIN AMERICA AND THE CARIBBEAN WITH ACCESS TO DRINKING WATER AND IMPROVED SANITATION 1990–2000



Source: JMP 1990 / 2000.

5 The Joint Monitoring Program provides the following definitions: i) improved sanitation facility: one that hygienically separates human excreta from human contact (sewer system, septic tanks, pit latrines); ii) improved drinking water source: public taps, wells, protected springs, rainwater collection, or some other mechanism for access to water for human consumption.

Against this backdrop, the first seminar-workshop, ***Improving the Sustainability of Water and Sanitation Projects in the Rural Area***, was held with a view to improving the capacity of the institutions involved in helping communities to obtain water and sanitation services that would respond to the demand and be sustainable. Accordingly, the analysis focused on the institutional framework and policies, as well as the project cycle. The seminar-workshop opened up an important opportunity for discussion and analysis among representatives of programs and projects in eight countries, and it succeeded in identifying six key points for supporting the sustainability of future investments in the sub-sector.

Conclusions from 1999

The 1999 Cusco seminar-workshop identified six key points for the sustainability of water and rural sanitation:

i) Water and sanitation goes beyond investment in infrastructure; it requires a comprehensive, multidisciplinary approach.

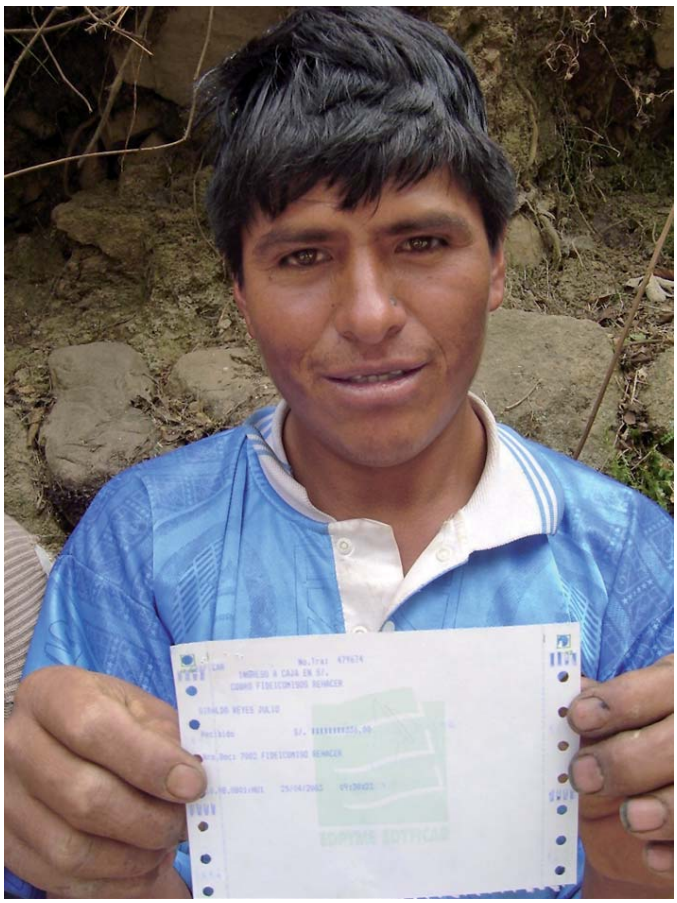
ii) There must be a national policy for the sector that helps to define competencies and includes a financial policy.

iii) Community development, evidenced in participative processes, including the gender perspective, is crucial to providing sustainable services.

iv) The providers of goods and services play a proactive role in all phases of the project cycle.

v) The preinvestment model should ensure that there is effective demand in the community, that commitments have been made, and that the project is technically viable.

vi) Efficient management should take steps to ensure good long-term operation (safe water; efficient administration, operation, and maintenance; and provision for certain replacement costs).



A culture of payment for services should be instilled to guarantee the quality and sustainability of water and sanitation services.

II. Trends in the first decade of the 21st century

The strategies and the scheme for implementation of water and sanitation services in the rural area have evolved well from the early approach of system construction (oriented to infrastructure, with the focus only on engineering) to a more comprehensive strategy with an ever-longer horizon. This vision demands institutions to back it up, financial policies that look beyond a single project, operating arrangements with trained local operators, and cooperation by the beneficiaries.

The Cusco+10 analysis concluded that progress in the first decade of the new century has included the following developments:

a) **The demand-based approach, with solutions adapted to the specific setting, has been validated.** There are no universally applicable solutions. The particulars of each case must be analyzed, taking into account experiences and lessons that can be applied for replication on a larger scale. Despite this progress, however, it is still necessary to convince financing sources of the need to allocate sufficient resources for the investment projects' social component.

b) **An outlook increasingly focused toward the long term.** The Cusco+10 analysis recognized that that there has been greater consideration of long-term sustainability, beyond just viability in terms of operation and maintenance. This long-term outlook is reflected in financial concerns related to the replacement and expansion of infrastructure, as well as sustainability of the environment and the water resource itself.

c) **Ratification of the concept of comprehensive water management.** Many communities and local governments manage water resources as if they were an infinite resource. Looking ahead, however, several projects consider the impact of climate change on these resources and on the provision of water and sanitation services. The rural area is more vulnerable to droughts and flooding, and conflicts over water rights. Furthermore, cultural patterns in certain regions involve specific practices that must be adequately assessed, and initiatives such as payment for environmental services have been proposed.

d) **Promotion of access to sanitation based on equity.** As with access to drinking water services, attention was called to the interest that has emerged in analyzing the implications of providing improved sanitation services or sanitary excreta disposal under projects that ensure sustainability and user satisfaction with the service.

III. Challenges for the next decade

For the next decade, five challenges have emerged that need to be taken into account for the sustainability of water supply and sanitation services in rural areas:

Challenge 1: Seeking the sustainability of basic rural sanitation

Challenge 2: The demand-based approach: thinking beyond the project cycle

Challenge 3: Decentralization in municipalities

Challenge 4: Sector policy and financial policy for rural water and sanitation: pending issues

Challenge 5: Long-term sustainability of the services and monitoring systems

Challenge 1: Seeking sustainability for basic rural sanitation

The first decade of the 21st century has seen greater emphasis on basic sanitation, which has been reflected most clearly in the designation of 2008 as the "International Year of Sanitation" by the United Nations. Efforts to increase emphasis on basic sanitation in Latin America have been reflected in the regional sanitation conferences: the First Latin American Conference on Sanitation (Latinosan) in Cali, Colombia (2008), and the second Latinosan in Foz de Iguaçu, Brazil (2010). Notwithstanding this greater effort at the global and regional levels to raise the profile of sanitation in government policies, the basic rural sanitation sub-sector continues to be one of the areas of greatest inequity in Latin America in terms of improved solutions. It is estimated that, as of 2010, less than 50 percent of the rural population in several countries had access to improved basic sanitation (Figure 2).

In implementing a rural sanitation project, it is important to be aware of what is available locally and to respect the cultural characteristics and world view in each rural area.

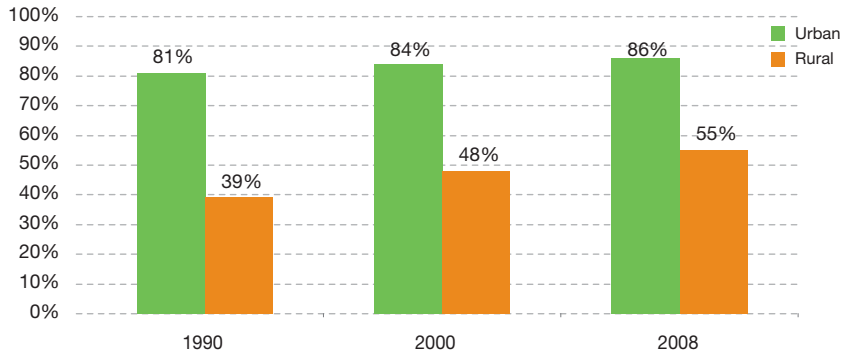
FIGURE 2: ACCESS TO IMPROVED SANITATION IN RURAL AREAS — LATIN AMERICA, 2008

EVOLUTION OF RURAL SANITATION IN LATIN AMERICA

Year	1990	2000	2008
Improved sanitation	39%	48%	55%

Source: JMP 2010.

FIGURE 3: ACCESS TO IMPROVED URBAN AND RURAL SANITATION LATIN AMERICA 1990, 2000 AND 2008



Source: JMP 2010.

To improve sanitation conditions in all of these processes, the key is ***inter-sector linkage*** between the ***education, health, and environment*** components. Attention to these topics makes it possible to take a more inclusive approach to rural sanitation, linking sanitation to best hygienic practices, increased self-esteem, and decent conditions. By their collective implementation, inter-sector initiatives encourage the community to work together to improve public health and change its environment.

For ***environmental*** issues in particular, proposed sanitary solutions must deal with the availability and limitations of water resources and with the adequate disposal of fecal mud and gray water.

The approach to basic sanitation has evolved from a perspective that gave priority to infrastructure solutions (basic latrines) to one that recognizes the importance of providing opportunities for generation of the demand for scaled-up sanitation. A key condition for the success of basic sanitation programs is the existence of ***an evident demand*** by potential beneficiary families that can be met by ***an effective response*** to this demand. To achieve the desired impact, the solutions offered must mesh appropriate technology with prevailing cultural practices, and this is especially important in rural areas in Latin America and the Caribbean. Lessons from the past teach that technology alone cannot solve sanitation problems, but must be accompanied by "software" to address needs for training and behavior adapted to the household level.

These processes of "software" and infrastructure, evident demand and effective response, can be facilitated by adopting flexible approaches that give ***families a chance to choose among different solutions***. Offering choices is part of the evident demand approach and increasingly distances the sector from policies involving the massive offer of free sanitary solutions. It also recognizes the reality of particular preferences in rural areas where a family may choose the option that suits it best, from basic latrines to complete bathrooms.

While individuals and families are encouraged to change their behavior and adopt best hygiene practices, there are also some behavioral changes that the institutions involved can make. One is the role played by ***the municipal government***, not only as financial counterpart, but also in the provision of technical assistance, including the promotion of hygiene and the monitoring of key indicators. The municipality plays a vital role in coordination of inter-sector efforts with community processes to synchronize efforts and ensure local synergies.

Recommendations to expand rural sanitation coverage. To confront the challenges to the promotion of and access to sustainable water and sanitation services in the decade ahead, Cusco+10 recommended some basic guidelines:

i) **Develop a regulatory framework with a comprehensive vision**. Establish a legal and regulatory framework that fosters a comprehensive vision of water, sanitation, and environmental protection, with an inter-sector approach, requiring or increasing the inclusion of sanitation in sector investments, with funds earmarked for the stimulation of community demand.

ii) **Prepare a menu of options.** Offer various technical options and levels of service for sanitation to meet the families' demands, avoiding single or standardized options in the larger investment projects, recognizing the need for response to an evident demand.

iii) **Promote the adoption of low water use sanitation technologies.** For example, propose a system of incentives to encourage people to save water, or avoid the use of pour-flush latrines when they require the use of water from scarce sources or drawn by pumping, which uses more energy and resources.

iv) **Promote supply and demand for sanitation services with private sector participation.** New approaches for marketing strategies to promote rural sanitation, such as Peru's experiences (bathrooms that drain on-site to percolation pits or septic tanks, or tanks that do not use water for ecological sanitation) and drainage into septic ditches in Paraguay and Bolivia, offer new opportunities to provide sustainable services.

v) **Include environmental protection topics.** Estimate the environmental cost in rural areas and enforce regulations that penalize poor practices, such as bad drains and discharges. Prevent contamination of the water table by improper use of latrines, taking into account the balance between surface and underground water.

vi) **Relate the investment in sanitation to the local economy.** Recognize sanitation infrastructure as increasing a home's value and the community's potential for productive activities, or for generating family income (as in the case of tourism, in some locations).

Challenge 2: the demand-based approach: thinking beyond the project cycle

A decade ago, we began to see the results of a demand-based approach, where priority was given to rural drinking water projects in communities willing to contribute to and take an active part in the implementation of a new project. This demand approach typically involved the participation of the beneficiary community in the system's planning, execution, and definitive operation, implying that the community participated in key project decisions regarding technology and management systems. This approach to the project cycle

It is important to have an information system for monitoring the coverage, continuity, quality, use, gender service, and assistance given in social and technical areas.

Basic sanitation units in Ecuador: a decisive step toward sustainability[6]

Ecuador's water and sanitation sector has extensive experience in using the demand-based approach. Project beneficiaries are responsible for the construction and operation of the services. With technical and social support, municipalities and communities make informed decisions about technical and financial options and levels of service. As a result, community has responded enthusiastically to the promotion of Basic Sanitation Units (UBSs).

Background. Drawing on prior experience, a new intervention strategy was designed to provide water and sanitation services in the rural area, where the government acts as a facilitator of processes and resources, creating an environment conducive to the participation of other stakeholders, and provides technical assistance and training to municipalities, communities, the private sector, and NGOs. The strategy includes decentralized execution, so that the municipalities and communities are executors and co-financers of the projects.

Implementation. Communities are involved in the planning, execution, and sustainability of the services. The comprehensive projects embrace engineering, social, managerial, and environmental aspects. The whole process encourages participation, effective use of the services, and recovery of costs through tariffs or user contributions, to ensure sustainability. Although all of Ecuador's programs are comprehensive, the financial policy for sanitation services developed based on prior experience is as follows:

Individual solutions (*)	MIDUVI/PRAGUAS and municipality	Community	Maximum amount
New	70% – US$315	30% in labor and local materials	US$450
Rehabilitated	70% – US$210	30% in labor and local materials	US$300

(*) The basic solution consists of a toilet and lavatory. VIP or dry hole latrines will only be financed in exceptional circumstances, and the maximum amount is US$190. There is no financing for rehabilitation of latrines.

In addition to individual solutions, the Ministry of Urban Development and Housing (MINDUVI) offers the option of simplified piped sewer lines at the rural level, including sanitary installations within the household and the collection network, up to US$450 per connection (US$150 for in-house installation and US$300 for the network), with a subsidy of up to 70 percent. If treatment is necessary, up to 70 percent of the investment will be financed with a maximum of US$250 per connection. In both cases, municipal and community contributions will cover the difference. There is no financing for rehabilitation or expansion of piped sewer systems.

helped the sector develop more appropriate and realistic solutions based on community needs and preferences, thus enhancing the likelihood of achieving sustainable results.

According to the Cusco+10 analysis, the demand-based approach has taken hold in most Latin American and Caribbean countries to facilitate access to sustainable water and sanitation services. However, valuable lessons learned from the demand-based approach point up both opportunities and barriers. For example, it is helpful to have mechanisms ***for identifying a genuine demand, as opposed to one that is misrepresented or conditioned***. Without a priori identification of the real demand, it is difficult to provide the necessary solutions with the desired sustainability. In this regard, it is essential to instill ***a payment culture*** before the intervention, which can be adjusted as specific payments during the project in order to tap into the real demand.

As well as identifying real demand, it is also necessary to ***know the existing local supply***. Unless there is a local private sector capable of providing services and building works, the response to the demand (and the expectations awakened by this approach) will be limited, causing possible additional delays. Furthermore, it is vital, and often very difficult, ***to synchronize the technical work and the social work*** during the execution phase of the project so that the works are sustainable. Follow-up of the community or water committee after execution should last at least six to eight months.

6 Based on the presentation at Cusco+10 by Jorge Noboa, representative of the Subsecretariat for Household Services, Drinking water, Sanitation, and Solid Waste. Ministry of Urban Development and Housing (MINDUVI), Ecuador.

While the demand-based approach continues to be valid and most Latin American countries are applying it, there is room for expanding the concept in the next decade to go beyond the project cycle.

The demand-based approach can evolve. It should be used not only for the project cycle but also for aspects related to long-term sustainability, offers of technical assistance, and strategic decisions in the wider rural area of the municipality. Government policies can therefore be a guide — but not a "straitjacket" — that allows for addressing different needs and situations. Refinement of the demand-based approach can be an effective tool for closing the sustainable rural water and sanitation gap and for reaching the proposed goals. The ongoing challenge is to adopt mechanisms that help the communities readily understand the regulations and promote their fullest involvement in the design and execution of the local investment plans that are aimed toward the sustainability of rural systems.

Recommendations for improving the demand-based approach. Many countries in the region have adopted the demand-based approach and it continues to be a valid approximation. However, according to the Cusco+10 discussions, the current model could be improved to meet the challenges of the next decade:

i) **Enhance participation during the project cycle**. It is necessary to include and/or strengthen the gender perspective, to ensure more representative decisions benefitting the least favored sectors. Information and communication mechanisms can be strengthened to facilitate participation and as permanent social control mechanisms.

ADVANTAGES AND LIMITATIONS AND/OR CHALLENGES OF THE DEMAND-BASED APPROACH

Advantages	Limitations and/or Challenges
• Facilitates citizen and social involvement. • Permits attention to the population's actual needs, generating rights and duties. • Involves the population in decisions and promotes citizenship by building awareness of and empowerment for basic services. • Increases the probability of sustainable works and optimized resource use.	• Requires training and education to develop adequate decision-making mechanisms. • Government and public policies are still not attuned to the communities' needs. • Political cycles, with turnovers in mayors, interrupt the required training and education processes, making them too slow to overcome the huge gap in coverage. • Co-financing by various disconnected stakeholders makes it hard to finalize the processes and execute the works. • Sustainability depends on local capacities and limitations. • Lack of access to an efficient communication mechanism can restrict participation by poor, at-risk populations.

ii) **Go beyond the project cycle**. Develop mechanisms that facilitate the demand-based approach in municipal strategies, including, for example, a global vision of the sustainability of water resources and risk-prevention topics. There could also be more training in financial management to facilitate repayments and expansion of coverage.

iii) **Promote local partnerships**. Promote local public-private social partnerships in the processes that seek to provide sustainable services, in which the local private sector contributes services at various levels as consultants, executors, facilitators, and materials. The search for local partners should not be exclusively between the public sector and the community. Community participation alone cannot achieve sustainable services; it must have the support of other organized forces at the local level.

iv) **Synchronize timeframes**. Strive for a balance between the time needed to build infrastructure and the time needed to create social conditions that can result in more sustainable services.

Challenge 3: Decentralization in the municipalities

The processes of decentralization and regionalization have continued in Latin America and have created new scenarios for the implementation of national programs, in which sub-national governments have increasingly greater responsibilities. The assignment and implementation of rural water and sanitation projects, often done by a central government agency, has focused in the past directly on the beneficiary communities. There has been great progress in community participation in the first decade of this century, because all projects recognize its importance and include it as a specific component, assigning the necessary funds, albeit to a varying extent. Often the communities have a voice in setting the budget, and are consulted on expenditures. It is

The demand-based approach in Peru[7]

The Peruvian Government's National Rural Sanitation Program (PRONASAR) incorporated the demand-based approach in its projects, supported primarily by the development of a sufficient information flow to facilitate decision making by the municipality and the community. The approach was incorporated in the various project cycle components (selection of the localities, hiring of the consultant firms, preinvestment studies of the projects, preparation of technical files, and execution of the interventions by the operators).

Adoption of the demand-based approach resulted in active participation by the communities in the design and intervention, acceptance and ownership of the project, and the signing of agreements between the municipality and the rural communities to seek greater sustainability of the services.

The advantages of adoption of the demand-based approach, from the PRONASAR's experience, are:

- The application of different technical and social strategies tailored to community conditions to improve service provision and sustainability.
- Participatory intervention, which involves the poor and extremely poor population in decision making on water and sanitation services to be implemented.
- Establishment of shared responsibility among the community, the local government, the national Government, and the private sector for the provision and management of the services.
- The development of local leadership, recognizing the variation in potential, needs, and interests of individuals depending on gender, age, and ethnic group.

The PRONASAR also identified some limitations of the approach, such as: i) lack of a policy of coordination among the national social programs in order to provide consistency and complementarity in their actions; ii) limited coordination among the community, the municipality, and other stakeholders prior to the intervention; iii) lack of inter-sector coordination involving the health, environment, and education sectors; and iv) in some cases, delay in reimbursement by the government for the execution of projects under its jurisdiction.

7 Based on the presentation at Cusco+10 by Vanessa Vereau, Head of the National Water and Rural Sanitation Program (PRONASAR), Ministry of Housing, Construction and Sanitation, Peru.

a given that the community must participate in the critical moments of the project and that this participation not be partial, since the final objective is sustainable services.

To foster an effort that will result in a sustainable operation and maintenance of the rural system, the sector initiatives are open to local processes. This requires attention by the municipal authority, and is reflected in three areas of intervention: promotion, technical assistance, and monitoring.

i) **Promotion**. Promotion is a permanent activity of local governments to stimulate demand and share the financing of the systems. The municipalities can supplement the central investment with municipal financial contributions and encourage contributions from the community or user.

ii) **Technical assistance.** Municipalities, working individually or together, can set up a municipal unit or office to provide technical assistance to the Water and Sanitation Service Boards (JASS) and specialized operators of local services: to do repair and maintenance jobs that are beyond the capacity of the water board; to train and strengthen autonomous management of the services and identify new sources of financing to expand sustainable coverage; and, in this context, to complement rural water and sanitation projects with other development processes (health, education, rural development) in coordination with the municipal government.

iii) **Follow-up and monitoring.** The municipalities can design local information systems, connected to the sub-national and national levels, to record and update data on local services and provide accurate and reliable information for programming investments.

It was noted that the municipal role has clear advantages and challenges:

Advantages. The municipalities have direct contact with the population and thoroughly understand its culture. Work with the municipalities favors effective administrative and budgetary decentralization. The municipalities have first-hand information on their area of influence, and know more about local needs and the state of services.

Challenges. The principal challenge is to maintain the commitment despite changes in mayors, government, and officials, keeping politics out of the processes of ranking needs and investments. Other important challenges are to have sufficient financial resources to carry through with local development plans after financial decentralization, to have sufficient local logistical capacity to respond to the challenges, and to be able to retain strong technical and administrative capacity. All of the above is based on information gathered at the local level.

The pace of consolidation differs from country to country, however, and in many cases sub-national and local governments need to improve their technical capacities and human resources. In some municipalities the rural area gets less attention than the needs of the urban core, so a municipal government with reasonable levels of management and execution will need to tilt its efforts toward the rural areas. In other cases, there may be a high percentage of rural population in a municipality where the municipal government has very limited management and execution capacity. National rural water and sanitation programs have an opportunity to address these limitations head on and include strengthening of the municipal level to provide sustainable services to the rural communities.

To improve coordination with the municipal government to promote sustainability of rural water and sanitation, it is necessary to strengthen connections between that government and the rural drinking water boards or committees. In some cases, such as in Paraguay and Honduras, the associations of boards assume an important leadership role that can lead to a larger contribution and municipal support.

Recommendations to improve the municipal government's contribution. Although there are legal frameworks with goals for greater decentralization, municipal governments vary in their capacity to assume their decentralized responsibilities fully. The municipal government is critically positioned to promote and expedite many processes and initiatives between the communities and external entities (national Government, regional/provincial government, international cooperation). The Cusco+10 analysis found that the following four strategies could improve municipal participation to face the challenges of the next decade:

i) **Budget for technical assistance.** The municipal governments can systematically set aside budgetary resources for technical assistance in management, planning, and major repairs to the rural water and sanitation systems, regardless of who provides the assistance (it could be a third party). In some cases — in Nicaragua for example — municipal sanitation units have been established just to strengthen the capacity of the rural boards from the municipal government.

ii) **Ensure monitoring and follow-up.** Especially in the case of new investments or projects, the municipal government, as the first-level government institution, can facilitate monitoring after the project's conclusion for a prudent time (from six to 12 months, as is the case in some projects, and up to two years, as suggested in Brazil's projects, with participation by the federal and state governments) after conclusion of the project. This will also make it possible to lay the basis for sustained community participation beyond the end of the project.

New municipal roles in Bolivia affecting rural water and sanitation[8]

Bolivia's new Constitution (2009) declares that access to basic services is a fundamental human right. The Government is therefore implementing a new sector policy and National Sanitation Plan (PNS) with challenges to meet the Millennium Development Goals.

The proposed strategy considers the public value generated by the operation of the Drinking Water and Sanitation Service Providers (EPSA), a title applied to all operators in the urban area and small cities. The provision of drinking water and sewer pipe services must be based on principles of efficiency and efficacy to ensure effectiveness. This, together with practices of social control and transparency, will result in solvent and sustainable services. The role of the community and municipal governments in the new sector strategy is shown in the following table:

Roles	Preinvestment	Investment	Post execution
Community	Participation in planning and validation of the project	Social control	Social empowerment
Municipal governments	Technical assistance in preinvestment (optional)	Co-financing	Regulatory administration of the services

In this framework, Bolivia's regulatory entity seeks alignment and harmonization of the communities with municipal governments for more effective action with impact. At the central level, the National Service for Sustainability of Basic Sanitation Services (SENASBA) has a mandate to introduce mechanisms to strengthen the capacity of service providers and is extending its reach to both concentrated and scattered rural communities.

8 Based on the presentation at Cusco+10 by Alejandro Araujo, representative of the Vice Ministry of Basic Services, MIMAYA, Bolivia.

iii) **Foster closer alignment between local and national stakeholders**. The municipal government can strengthen and complement the vision of national institutions and adopt mechanisms to align municipal strategies with the sub-national and national principles and sector policies, such as: funding mechanisms, counterparts, subsidies, tariff regimes, etc. For their part, national entities can promote mechanisms for consultation and participation in decision making from the sub-national levels.

iv) **Improve water resource management**. Municipal and sub-national governments also play an important role in addressing issues outside the community, such as the protection of natural springs and the uniting of efforts for water resource management. In Brazil, federal policies contribute directly to these objectives.

Rural drinking water projects that strengthen decentralization in Nicaragua[9]

The Social Investment Fund (FISE) traditionally applied a centralized project execution model in which the works were directly implemented in the communities without strengthening the municipal capacities; execution of the work was all done by consultants or the rural aqueduct directorates. Efforts to elicit social participation were not oriented toward sustainability, because there was no gender policy and no system for environmental management. Initially, priority was given to rapid execution of the work, without ensuring the installation of local capacity. As a result, in many cases the systems failed for lack of social or technical sustainability.

The new FISE, responsible for the rural sub-sector, is implementing a new model to provide rural water and sanitation. The new strategy's principles are strengthening of the sector approach of interventions and promotion of coordination with the other sectors, strengthening of local capacities and decentralization, social and technical sustainability of projects, and integration of the water, sanitation, and hygiene promotion components.

The new model also emphasizes the importance of community-driven projects. Nevertheless, experience shows that the mere participation of the community does not ensure sustainability, because that depends on the process used by the implementation model. We found that follow-up by the municipality for six months following the project's conclusion helps to ensure the sustainability of the works.

Working in rural sanitation, it is key to bear in mind the components of education, environment, and health.

9 Based on the presentation at Cusco+10 by Isabel Castillo, Head of the Water, Sanitation and Hygiene Unit. Nuevo FISE-Nicaragua.

Challenge 4: Sector policy and financial policy for rural water and sanitation: pending issues

Despite the various reforms and institutional development that occurred in many countries in the last decade, the policy commitment by the various governments in the region is still very uneven.

Generally speaking, sector policy for rural services continues to have a low profile in the priorities for government public policies. This is due in part to the tendency to lump rural issues in a single effort or policy for rural, agricultural, or natural resources development. Within the water and sanitation sector, the low profile is due to the tendency to address the complexities of urban systems. Nevertheless, the different context and service unit, the lack of economies of scale, and challenges for sustainability demand a specific sector policy for rural water and sanitation, separate and distinct from public policies that address issues of urban water and sanitation.

During the Cusco+10 analysis it was noted that there is still a need for institutional adjustments for coordination among government agencies that may be promoting conflicting incentives, and there are still weaknesses in the legal regulations. They recognized that approval and implementation of policies can have a high social and political costs by involving various institutions and interests, and that elaboration of a policy requires a great deal of coordination and agreement, on the one hand, and information along with adequate budgets, on the other. Analysis of the topic concluded with identification of some key elements to be weighed when designing a financial policy, summarized in the following table.

ELEMENTS FOR A FINANCIAL POLICY

	Elements for a financial policy
General principles	Consider the development of a specific financial policy for rural areas, taking water and sanitation into account separately, accompanied by mechanisms for ensuring transparency.
Financing	Take into account the co-financing of public investment funds and of those of the community; the latter must include self-help. The financing must be consistent with the size of the communities.
Prioritization	Clearly identify the priority items to be financed by the government, considering unit costs by level of service, community size and service levels.
Tariffs	Establish the tariff levels and structure, differentiated tariffs with long-term subsidies, specifying what is covered by these tariffs or fees in the operation and maintenance of the service.
Subsidies	Establish the criteria for allocating and promoting subsidies, considering the subsidizing of supply (investment) and of consumption, taking into account the possibility of community subsidies based on level of poverty. Also analyze the continuity and sustainability of the subsidy over the long term.
Incentives	Propose incentives tied to the investment with a view to ensuring efficient management, setting performance indicators for the operators and the use of micrometers. Establish community economic participation percentages in the preinvestment stage.
Institution building	Create local management capabilities, including training for formation of microenterprises (as revenue generators), and training for risk prevention.

Source: Cusco+10.

Incentives and challenges for appropriate and efficient investment

An important component in the development of sector and financial policies is the strategy for ***promoting incentives for improving the investments***, with a view to giving a special boost to projects in which the following can be directly identified:

- **New management models**. Establishment of a sustainable management model with participation of a population organized and motivated to operate and maintain the systems, and possessing the capability to act in emergency and risk-prevention situations.

- **Care of the environment**. Viewing the water and sanitation services as motors for development, and seeking synergies between water supply and other productive sectors. This presumes returning clean water to the environment, taking adaptation to climate change into account.

- **Coordination of water and sanitation programs and projects** at the national, regional, local and community levels. The financial incentives tied to the accomplishment of water supply and sanitation goals must be clear and direct for local governments, bearing in mind that a sound initial investment produces future savings when rehabilitation works are not needed.

- **Adoption of a scale of tax incentives** aligned with the business-type and social responsibility involved, together with identification and assessment of the positive value of water supply and sanitation in the economy.

On the other hand, ***a set of challenges*** can also be identified that will have to be tackled if the object is to provide sustainable services to rural communities and households; these challenges include:

- **Investments.** The need to improve the management and administration of investments. Application of transparent investment mechanisms. Improvement of financial management to make it more efficient (doing more with the same amount of money). Strategic planning of the preinvestment and actual investment activities. Coordination of the investments of different organs of the government. Inclusion in the investment of the costs of social programs, training in administration, operation, and maintenance (A+O+M) and in risk prevention, technical assistance, human resources and community development works.

- **Sector policies.** Establishment of a clear institutional framework for the sector and a policy-setting and regulatory system that facilitates timely and efficient investment through the formulation of a specific strategy for the rural water supply sub-sector. At the same time, recognition of the importance of applying this policy consistently and ensuring that the financial policy of coparticipation is not undermined. To reinforce consistency and introduce any needed adjustments, development of information systems and mechanisms that will ensure the reliability of the information sources and baseline data used.

- **Transformation of resources into services.** This presumes working on the bottlenecks in the way of conversion of resources into services, and thereby fostering greater visibility of the need for drinking water for rural areas. The implementation of quick-impact projects, plus replication of models that already work, not necessarily with small pilot projects but going for replication on a broader scale. Promotion of water systems that offer optimum quality, quantity and continuity for the population. Intensification of quality control in all levels and components (for example, infrastructure, the social dimension and subsequent administration of the services).

Recommendations for promoting the adoption of national sector policies

During the next decade, i.e. over two electoral cycles in the majority of the countries, it was suggested to pursue the coordination effort at three levels:

i) **Promoting dialogue and generating a national debate** on rural sector policy that includes all the organizations and players of the sector. Recognizing that rural areas must be treated in a specific manner, involving an integrated approach with housing and local development policies and favoring policies designed to stimulate rural development. In this connection, it is important to respect the intercultural nature and world view of the rural areas.

ii) **Formulating proposals for specific policies** with clear roles, indicating the sources of financing and the corresponding legal authority, accompanied by an information system that demonstrates that policies are a priority in the country or area. In the same way, there must be support for ensuring that the sector policy includes the risk-prevention component, designed not only to protect water sources but also to undergird the sustainability of the infrastructure.

iii) **Seeking the support of technical and financial assistance organizations** that promote the adoption (and not the omission) of sector policies by the governments, prior to the signature of agreements.

Sector policies for rural water supply and sanitation in Colombia[10]

Since 1998 the Ministry of Environment, Housing and Land Development (MAVDT) has been developing the Business Modernization Program (PME) and the assistance program for small municipalities, rural zones and specific urban areas. The PME seeks to implement private sector participation in the preparation and strengthening of regional schemes for the provision of public water supply and sewerage services, while for small municipalities and rural zones it works to ensure efficient management systems for providers of drinking water, basic sanitation and environmental services. To date, 56 municipalities and 450 providers of services to small municipalities, rural zones and specific urban areas have been brought into the PME system, making a total of 1,121 municipalities served.

In light of the PME's success, a national policy has been adopted and the policy to govern the Departmental Drinking water and Basic Sanitation Plans (PDA) has been formulated in order to facilitate expansion of coverage, profit from economies of scale and ensure less scattering of the funds invested. The cross subsidy is granted by the municipalities that maintain budgetary autonomy. The contributions paid by the wealthier users are transferred to the nearest communities within the same jurisdiction.

The provision of the services in systems with fewer than 2,500 subscribers, small municipalities, rural zones and specific urban areas is performed by small providers acting under various private models (community action boards, associations, corporations, foundations and cooperatives) or public models (public administration, cooperative). Specifically, the sector policy for rural zones promotes mixed public-private management, supporting organizations with business-type structures, allocating funds for infrastructure, promoting sustainable technologies, service for indigenous communities and institution building, including fostering of a water culture.

Challenge 5: Long-term sustainability of the services and the importance of monitoring systems

Sustainability of the services in rural areas is a multidimensional issue that involves the quality of the natural resource, the quality of the service delivered, and the financial models that ensure operation, maintenance, and replacement of the systems over the long term.

In recent years, some partial studies and evaluations have been conducted on the sustainability of rural services, one example being that by Bakalian and Wakeman (2009),[12] who made a study in Peru, Bolivia and Ghana, from which they concluded that the demand-based model was working since, in the medium term, all the homes studied were obtaining water from the systems and the majority of the Water

10 Based on the presentation at Cusco+10 by Edgardo Burgos, Directorate of Business Management, Vice Ministry of Water and Basic Sanitation, Colombia.

A hanging void in Chile[11]

Chile still has an institutional void in its approach to rural drinking water supply: current legislation does not have specific provisions for the scattered or semiconcentrated rural populations, which are addressed in the same way as the concentrated rural population.

Up to now, investment in rural drinking water systems has been made through projects and programs managed by the Directorate of Hydraulic Engineering Works. The community does not participate in determining the type of service sought, nor does it make any financial contribution to the project; the Directorate of Hydraulic Engineering Works is responsible for setting the characteristics of the project that will ultimately be implemented, with funding from the Ministry of Planning (MIDEPLAN). What is offered to the community is a level of service that ensures, with a fixed minimum pressure in an 8 meter water column, a supply of good-quality drinking water at a rate of at least 80 liters per inhabitant per day on a round-the-clock basis. In calculating the tariff to be charged, all costs inherent in the administration, operation, maintenance and equipment replacement for rural drinking water systems are taken into account. The average monthly fixed charge payable by a rural drinking water user is US$3.50 for an average monthly consumption of 10 m^3. For the poorest households, the State pays a 50 percent subsidy up to 15 m^3, while for households declared to be in extreme poverty (Chile Solidario Program) the subsidy is 100 percent, up to a consumption of 15 m^3.

The Directorate of Hydraulic Engineering Works does not have a financial policy on covering rural system operating costs. The beneficiary community, through the respective community organization, is responsible for administering, operating and maintaining the systems and for replacing equipment and also, when possible, for performing small-scale rehabilitation work. All of these costs form part of the tariff to be charged by each rural drinking water cooperative or committee, in accordance with the tariff calculated and suggested by the Technical Unit responsible for advisory services and assistance to said organizations under the agreement entered into with the Directorate of Hydraulic Engineering Works.

As of 2010, the Rural Drinking water Program has been incorporated in a Management Improvement Program inserted into the Ministry of Public Works' Modernization Program, which will oblige the Directorate of Hydraulic Engineering Works to perform a study to determine the service standards applicable for Rural Drinking water Program works. To this end, it is presently working on defining the components and types of indicators for evaluating the quality of the services provided to users. The definition of standards and service levels by type of structure or facility makes it possible to incorporate the quality-of-service approach in the design, construction, operation and evaluation of public infrastructure. There are different definitions of quality of service that have to be analyzed and integrated into the approach adopted, namely that of the citizenry (communities, users); that of the principal (Ministry of Public Works [MOP], other public institutions); and that of the service provider (sanitation enterprises, MOP, others). The approach is angled toward continuous improvement by incorporating the lessons learned from managing the infrastructure.

At the moment, there is a draft law that provides for covering not only operating costs but also long-term capital costs through a regulated rate. The concern that the services would not be sustainable because the poor are not able to pay the cost was resolved by applying micrometering in conjunction with a direct subsidy to the poorest households.

Boards were functioning as planned. They were able to affirm the benefits gained from community participation in the planning and preconstruction phase and also in the contribution toward the capital costs. During the post-construction phase, the communities took care of the post-project support on their own initiative.

However, some constraints have also been noted that pose challenges for environmental and financial sustainability, for example: i) households have continued to use unprotected water sources; and ii) many community water committees are low on funds. Achieving long-term financial sustainability will require a different policy model that will enable the communities to handle the rehabilitation and expansion of their systems. When seeking to identify these and other constraints, it is recognized that there is a significant void in the sector when it comes to systematic monitoring of the services, which would make it possible to target efforts more effectively in the interest of achieving long-term sustainability.

11 Based on the presentation at Cusco+10 by Miguel Pantoja, Ministry of Public Works, Chile.

12 A. Bakalian and Wendy Wakeman. 2009. "Post-Construction Support and Sustainability in Community-Managed Rural Water Supply." *Case Studies in Peru, Bolivia, and Ghana*. The World Bank.

Availability of validated information for decision making remains a key missing piece (if it exists at all, it is only very partial in terms of coverage and often out of date). In many cases, rural water supply and sanitation services are not being efficiently monitored, largely because of institutional weaknesses and the cost of information management. The need to generate reliable and systematically organized information must be worked on as part of sector policy.

An information system to facilitate monitoring. According to the Cusco+10 analysis, the information system on rural drinking water must be linked in two directions: first, to the national statistics system, for processing and disseminating the information, and second, to the municipalities, including the rural drinking water boards and committees, so that the system can be fed up-to-date local information.

To have a sustainable system, the necessary incentives must be in place to ensure that the gathering of information is both continuous and efficient. The information system must have a structure and content that are as simple as possible without losing information or the required degree of rigor. It will have to be administered by an institution of the sector as an institutionalized instrument, based on certain fundamental principles that allow its continuous strengthening: moving forward from little to more, not slipping back in areas where progress has been made, and gathering the basic information that will be useful for both the local government and its governing authority. At the local government level, the information and existing data collection methods should be useful for reducing costs, and hence for decision making.

Content of a monitoring-oriented information system. An efficient information system must have a mechanism that enables sequential gathering and validation of the information on the basis of indicators that make it easy for the municipal technical units and the water committees to ascertain the status of their coverages at the municipal and community levels. The system will need to contain basic information such as coverage, continuity, quality, use, type, and assistance in technical and social topics, taking as reference the standard indicators agreed on with

The importance of institutional sustainability at the state and community levels for the water supply and sanitation services in Paraguay[13]

In Paraguay, there are approximately 2,400 Sanitation Boards that serve 2.13 million persons (out of a total rural population of 3.2 million inhabitants). The National Environmental Sanitation Service (SENASA), the steering body for the sector, considers that the key factors for full sustainability of rural services include empowerment of the Sanitation Boards (JASs) and the community, coupled with transparent management. For this purpose, it promotes continuous training of users and compliance with JAS by-laws, which will also help to build civic awareness with responsibility and equity.

Within this framework, SENASA has seen to it that the Sanitation Boards have developed leadership, management, administrative and accounting capabilities, thus ensuring the ongoing operation of rural systems, and, in the case of major technical problems, that they receive tecnical assistance from SENASA, or occcasionally contract a third party. As for lessons learned, this strategy has shown SENASA that *training should be ongoing*, and when it reaches a large enough number of workers it becomes a key factor in the maintenance and sustainability of the systems. It has also learned that *the intervention strategy should be participatory*. Furthermore, when the roles of local stakeholders are clear and communities are included from the start of the project, better results are obtained in empowering both the boards and the community.

Finally, SENASA has identified the following challenges: promoting articulation of its work with other public institutions to strengthen the Boards' sustainability; *promoting protection of the environment; improving the sanitation service*, especially through research on technology adapted to the needs and conditions of users; and mobilizing greater investment in rural sanitation, all of which are essential to preventing contamination of the supply and improving services to the community. In the future, SENASA will place greater emphasis on the concept of *citizens linked to access to basic services* as a means of building awareness among local stakeholders of their rights and duties. It will also review the legal framework for facilitating the formation of Board Associations so that the management of the services provided by the JAS will be enhanced by incorporating gender and youth as key areas of action.

13 Based on the presentation by Beatriz Ilse Peralta, Director of Social Affairs and Community Organization of SENASA, Paraguay.

the National Statistics Institute and the sector institutions. The information will be updated and real to serve as support for sector decision making and investments. It will also include aspects not related to infrastructure, such as management, quality of service, protection of sources, and quality of runoff.

Recommendations for promoting long-term sustainability. Taking these additional dimensions into account, the attendees at Cusco+10 indicated that it can be affirmed that the sustainability of the services during the next decade will have to be based on three mutually complementary components:

i) **Financial management for replacements and expansions.** The communities' commitment to cover operating and maintenance costs, by means of tariffs or other contributions, will continue to be necessary. In addition, however, there is the need to generate capacity to manage the rural system's future investments. The water boards' management capacity will have to adopt a horizon extending beyond the present operating and maintenance costs.

ii) **Environment sustainability.** Systematic mechanisms will have to be introduced for monitoring the quality of water resources and protecting them. A joint effort will be required involving the water boards, the communities and the respective municipal governments, in order to maintain the quantity and quality of the water obtainable from springs, to conserve and improve the microwatersheds, and to ensure that the sanitation systems do not affect the environment and vice versa.

iii) **Monitoring systems.** There is the need to set up monitoring systems that are appropriate for the boards, the municipalities and the governing bodies. There are various examples of monitoring systems designed for individual projects, but what is needed is a more complete system for monitoring and strengthening the sustainability of rural services over the long term.

Ingredients for sustainability in a federative system (Guanajuato, Mexico)[14]

The experience of the Guanajuato State Water Commission (CEAG) indicates that the sustainability of rural water supply and sanitation services is based on interinstitutional coordination of the federal, state and municipal levels of government, especially to ensure the availability of investment funds and at the same time guarantee sufficient information for beneficiaries. In this process, community participation is key during the subsequent phase for administration and operation of the systems, as is commitment on the part of local authorities to follow-up and monitoring, and to the development of beneficiary feedback (Social Comptroller) mechanisms. Also essential is the work with municipal governments, with the advisory assistance of CEAG, bearing in mind that these entities are responsible for proposing solutions to the drinking water, drainage, and basic sanitation services.

As part of social care for rural communities in Guanajuato, processes and tools have been adopted to improve local capacity through the joint development and applciation of rules for the calculation of water tariffs, training in administrative and operating duties, preparation of operating and maintenance manuals, promotion of the water culture, and organizing of sanitation seminars, among other initiatives.

At the same time, a significant remaining challenge that has been identified is seeking mechanisms to continue guaranteeing community responsibility once the works have been installed. Since the program administered by CEAG contributes up to 50 percent of the investment funds and the rest of the funds are provided by the municipal or federal government, and there is no obligation for the community to contribute any form of funding, it is necessary to emphasize its responsibility in the subsequent phase and improve the economic contribution and commitment of households to the system's operation and maintenance, bearing in mind that the legal owner of the built infrastructure is the municipal government and that the system has been turned over to the communities for operation and maintenance. Another key factor in the implementation strategy is securing greater commitment from municipal authorities to ensure follow-up and monitoring at the community level by the agencies that operate the service, with a view to controlling the cost of managing the systems, their useful life, and their efficiency.

14 Based on the presentation by Angélica Casillas, Executive Secretary of the Guanajuato State Water Commission, Mexico.

Conclusions

At the beginning of the 21st century, one of the key approaches to securing sustainable water and rural sanitation services was to promote demand-based service delivery in the framework of a participative process. The first workshop in 1999, ***Improvement of the Sustainability of Water and Sanitation Projects in Rural Areas***, was also focused on seeking to draw lessons from projects planned and implemented.

A decade later, at the Cusco+10 Seminar, considerable progress was observed in the effectiveness of rural drinking water projects, and also in the favorable impacts of the demand-based approach. The figures regarding access to drinking water in rural areas have risen (although much still remains to be learned about the population) and there is now greater acceptance of the need to involve the municipal and community institutions.

During the past decade, new topics and opportunities have also been introduced, together with the recognition of what still remains to be done to consolidate a rural water supply and sanitation sector that could systematically improve the sustainability of rural basic services. The in-depth collective consideration that took place at the seminar on ***The Challenges of Rural Water Supply and Sanitation a Decade Later (Cusco+10)*** was aimed at identifying the new trends that will mark the sector in the future: i) achieving sustainability of rural basic sanitation; ii) implementing the demand-based approach beyond the project cycle; iii) continuing to support municipal decentralization; iv) supporting the sector policy and financial policy for resolving the outstanding issues in water supply and sanitation; and finally; v) tying the long-term sustainability of the services to local monitoring systems that facilitate timely, secure and transparent information for decision making.

Linking social intervention strategies to infrastructure works is important in rural water and sanitation projects.

In addition, discussions during Cusco+10 brought to light new cross-cutting trends that will affect the way in which the sector approaches the five challenges over the next decade. These new trends provide the sector with valuable guideposts and new knowledge frontiers to explore, providing feedback for the strategies to be implemented in an effort to achieve better drinking water and basic sanitation services in rural areas:

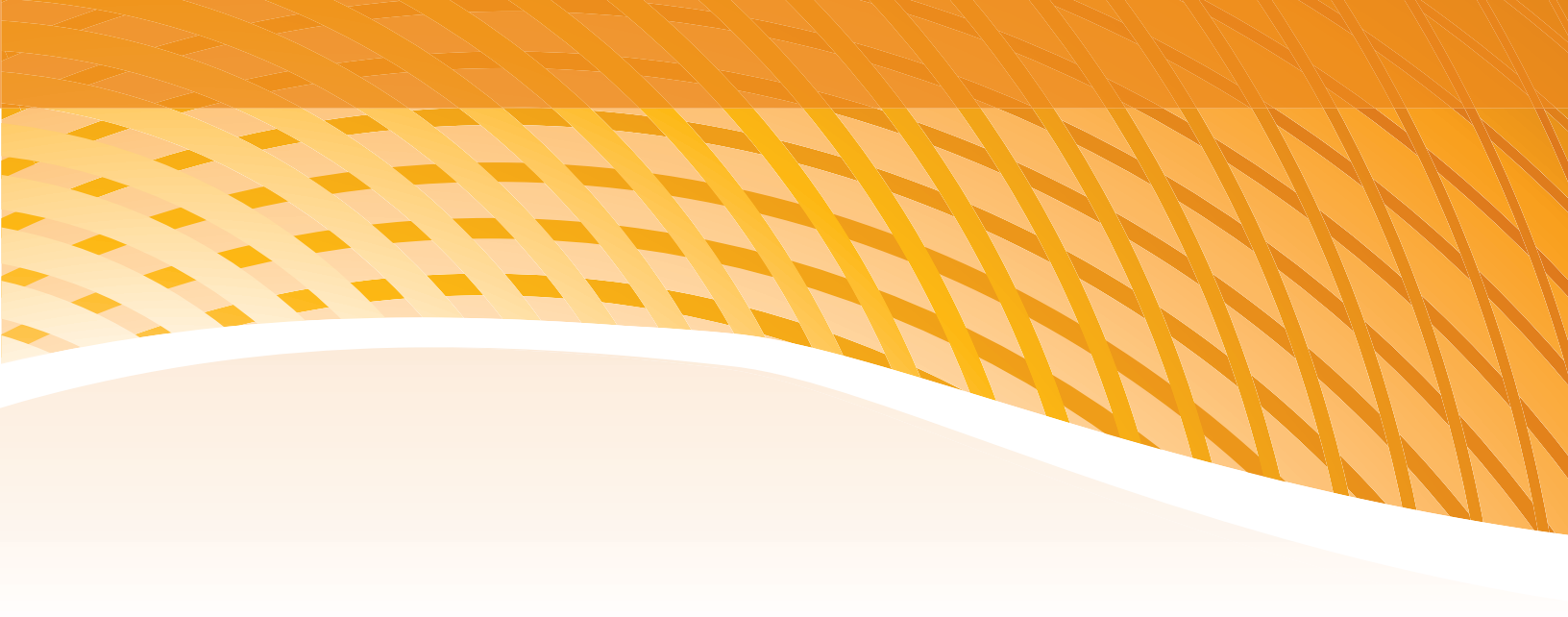
- ***The diversified demand and the need to propose options.*** The introduction of the demand-based approach represented an important step forward in acknowledging the importance of designing projects according to the needs and preferences of each community. This differentiation of the demand also applies for the rural beneficiary households, and is seen most clearly in the options available in terms of sanitation solutions. This recognition on the part of the sector can catalyze a paradigm change where the solutions offered in the way of services are increasingly aligned on the preferences expressed by the future beneficiaries. ***In the decade ahead***, mechanisms will be needed to facilitate greater flexibility in responding to user preferences with appropriately tailored projects and programs for basic services.

- ***Management of water resources.*** There is mounting concern regarding the care of these resources, their management and their importance for sustainable rural drinking water supply. There is greater sensitivity about this need and recognition that water resources require integral management, something that can be done through greater coordination with other users of the sources and with other community institutions (irrigators) and municipal authorities (municipal governments and other water boards). Although the contexts and conditions vary in the region, care of water resources is now acknowledged to be an intrinsic element in the management of rural systems and in the debate on sector policies.

- ***Inter-sector coordination contributes to sustainability.*** The opportunities and contributions that can be generated by the players and mechanisms of other sectors (education, health, environment) are demonstrated by an improvement in the sustainability of the services. From the creation of a new water culture to behavior changes resulting in better hygiene practices, examples in the region can be cited where inter-sector coordination has produced an impact. The promotion of broader inter-sector initiatives ***during the coming decade*** will depend on the capacities for coordination among the community, municipal and sector institutions and on their ability to look clearly ahead without losing sight of present-day realities.

- ***Financial management of the services over the medium and long term.*** Financial management of the rural drinking water supply boards or committees already forms a component of the efforts being made in the countries to generate capacities and sustainability. The fact is, though, that financial management is often limited to operation and maintenance, or to a short-term view of the system. However, financial management based on a medium- or long-term horizon, in which replacement or expansion requirements must also be taken into account, is something that is yet to be undertaken in the national or subnational context. It is not known, for example, how to anticipate these needs and how to finance them (with own funds, counterpart funds, or a combination of the two). Greater attention to this question will help the sector to anticipate future needs likely to arise ***beyond the next decade***.

- ***Public-private-social partnerships as a tool for improving synergies.*** Participation by the private sector (in the broadest sense of the term, which includes both private entities run for profit and non-profits) continues to take place in various aspects of the sector. Not only does this present opportunities for participation during the same period as is covered by the contract for construction and technical advisory services for the systems, but it also opens possibilities for provision of innovative basic sanitation solutions, which can be negotiated and agreed upon with the community and the users. In order to channel a larger contribution by the private sector ***during the next decade***, it will be necessary to set up coordination mechanisms at the municipal level that will identify opportunities for added value, while maintaining alignment with the strategic objectives of expanding the coverage of sustainable services, with special emphasis on the poorest and least privileged households.



wsp
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