

INTERNATIONAL DEVELOPMENT ASSOCIATION



# Sanitation and Water Supply

IMPROVING SERVICES FOR THE POOR

IDA at WORK



THE WORLD BANK



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# Sanitation and Water Supply

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IMPROVING SERVICES FOR THE POOR

Sanitation & hygiene are affordable, highly effective life savers. Reliable and safe water supply and sanitation services can contribute significantly to income generation, health, and education. Services provide dignity and reduce the environmental squalor that directly impacts people around the globe.

This booklet describes how the International Development Association (IDA), the concessional lending arm of the World Bank, supports the poorest countries to improve access to sanitation and water supply. It also shows several detailed examples of how countries have succeeded in rapidly increasing access to sanitation and water supply.

The international development community has recognized the importance of sanitation and water supply for poverty reduction. The main challenge is one of implementation at the local level.

We believe that increased donor support can assist many countries, especially in Africa, to meet the water supply MDG target and to put countries on track toward achieving the sanitation target.

The World Bank remains committed to supporting its partner countries in addressing the demands of the poor for better sanitation and water supply services. We are looking forward to working with other donor agencies and partners.



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## IDA at WORK

### Sanitation and Water Supply: Improving Services for the Poor

Target 10 under the Millennium Development Goals (MDGs) is to halve by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation. The International Development Association (IDA), the concessional lending arm of the World Bank, has been working to improve access to water and sanitation in the world's poorest countries and has seen real progress in the last 15 years. Overall, access to improved water sources in IDA countries rose from 65 percent in 1990 to 75 percent in 2004. Progress in sanitation, however, has been slower. Over the past five years, IDA has become the single largest source of financial assistance for improving water supply and sanitation in low-income countries. IDA concessional lending has supported policy reform and institutional develop-

ment of the water supply and sanitation sector (WSS), while directly providing at least 25 million people with access to improved water supply sources and/or sanitation between 2000 and 2006. These investments have proven to be both life-saving (in terms of improved hygiene and decreased incidence of disease) and very cost-effective.

IDA is increasing its investments in the sector during the period of IDA14 (Fiscal Years 2005–08). This stepped-up commitment is expected to provide access to an additional 36 million people by supporting infrastructure development, by laying the basis for the expansion of water and sanitation services through reform, by including water and sanitation in country development plans, and improving local institutional capacity to implement related programs.

#### At a glance

- Access to safe water in IDA countries improved from 65 percent in 1990 to 75 percent in 2004.
- IDA directly contributed to shrinking the water and sanitation access gap by at least 25 million people (22 million for water) in 2000–06.
- Since 1998, annual IDA lending to the WSS sector has averaged US\$478 million.
- Expanding water supply access costs on average US\$55 per capita.
- Worldwide in 2004, some 1.1 billion people still lacked access to a reliable source of water reasonably free of contamination and 2.7 billion people still required improved sanitation services.

## Sectoral Context

**Halving by 2015 the proportion of people without access to improved water and sanitation is a vast challenge.**

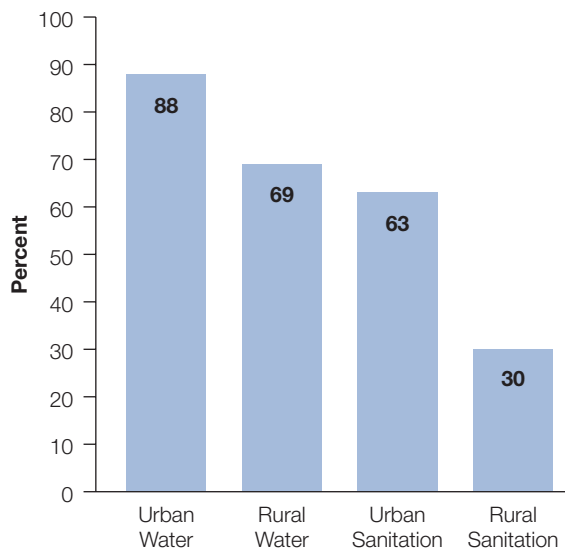
For IDA countries in Sub-Saharan Africa, the share of the population with access to improved water has increased from 45 percent in 1990 to 53 percent in 2004.

For all IDA countries, it has improved from 65 percent in 1990 to 75 percent in 2004. However access to sanitation still trails behind: access to improved sanitation rose from 25 percent to 41 percent in the same period.

Although some regions and countries fare better than others, IDA as a group is off-track in its quest to reach MDG target 10. In IDA borrowing countries, 660 million people remained without access to safe water in 2004 and 1.6 billion people were deprived of basic sanitation, with coverage in rural areas lagging seriously behind urban access.

### Urban and Rural Access in IDA Countries, 2005

(% of population with access to improved source and facilities)



Source: World Development Indicators.

### Measuring results in the absence of solid data.

IDA estimates it has helped close the access gap by a small fraction (3 percent), directly providing 22 million people with safe water. However, only half the projects in IDA's water and sanitation portfolio measured quantitative outcomes—its contribution to closing the access gap is certainly much higher.

As a result of the increased focus on results measurement, 67 percent of approved sector projects now have baseline outcome indicators, compared to 32 percent in Fiscal Year 2005, despite the fact that constructing baselines in dysfunctional utilities or rural locations where data availability is scarce can be challenging.

IDA is also working on tools to help project teams to improve overall monitoring and evaluation in projects. Yet, improving results measurement at the local level remains a long term endeavor. Support from donors is often required as data collection and analysis are public goods which usually are not accorded high priority in the allocation of scarce public resources. In order to improve monitoring at the country level, IDA has started to assist its clients to build and strengthen statistical capacity in both sector and central agencies. One tool is the International Benchmarking Network (IBNET) utility performance indicators database (funded by the United Kingdom). It uses standardized definitions for the indicators being collected and currently includes 2,100 utilities in more than 80 countries.

### **Life-saving, cost-effective interventions.**

Initiatives focused on hygiene, sanitation and water supply have varying, but collectively important influences on the improvement of child health. Hand washing initiatives were reported by experts to reduce the probability of contracting diarrheal diseases—an important cause of child morbidity and mortality—by 44 percent; sanitation improvement resulted in a 32 percent decrease; while improved water supply resulted in a 25 percent reduction.

On average, water supply projects are inexpensive: expanding water supply access comes out to US\$55 per capita. Those costs vary of course by country and type of investment. The costs of inadequate water supply and sanitation are harder to measure but certainly very high: lack of water affects poverty, health, education, and the environment, and overwhelmingly weighs down on the poor.

Economic rates of return at the closing of IDA-funded WSS project are on average 19 percent (for those projects that provide such data), which is significantly higher than the Bank's requirement of 10–12 percent rate of return on its investments. It is also higher than a similar sample of projects that are funded through the Bank's other lending arm, the International Bank for Reconstruction and Development (IBRD), which generated an average rate of return of 14 percent.

### **IDA CONTRIBUTIONS**

#### **IDA has steadily increased its lending for water and sanitation since 2003.**

Since 1998, annual IDA lending to the WSS sector has averaged US\$478 million, increasing steadily to US\$585 million in 2006. IDA lending has been concentrated in Africa, which has received about half of the IDA commitments to the WSS sector since 1998. Most of the remaining IDA lending for WSS is focused on East Asia/ Pacific and South Asia, the two regions that have especially large gaps in achieving the MDG sanitation targets.

#### **Multi-sector projects.**

In the past decade, much of the assistance to WSS has been provided through projects that incorporate multiple sectors where water supply and sanitation represents one of these sectors. Since 1998, 46 percent of IDA lending has been provided directly through these multi-sector operations funded as part of urban and rural development and social protection projects. This tendency to incorporate WSS components into multi-sector projects is a positive development as it reflects the increased recognition of WSS in reducing poverty and promoting economic growth.

#### **Analysis and advice.**

The increase in lending has been accompanied by an increase in the number of analytical and advisory studies produced by IDA experts that include a focus on water and sanitation. This analytical work helps project teams set the right priorities and suggest adequate reforms in borrowing countries. These studies address increasingly cross-sectoral issues—such as community participation, local government reform, public sector reform, and capacity building—while also more effectively integrating WSS into country and regional studies.



### **Customized projects.**

IDA assistance in post-conflict countries such as Sierra Leone or Afghanistan is mainly focused on reconstruction and rehabilitation of critical infrastructure while supporting longer term efforts to strengthen institutional capacities.

In countries characterized by a more supportive environment, such as Ghana, Guyana, India or Vietnam, IDA assistance is focused on the delivery of sustainable WSS services.

### **Effective lending.**

The effectiveness of IDA lending in WSS has improved significantly. Ex-post evaluations show that 80 percent of the WSS projects completed between 2001 and 2006 had satisfactory outcomes, higher than the Bank average and a major improvement over prior years. Sustainability ratings have also gone up, as has the percentage of completed projects with satisfactory policy reforms.

### **Tangible results.**

Urban water projects in Senegal helped usher a reform of the water sector in 1996 which led to increased efficiency and expanded access, particularly for the poor, without increasing water tariffs beyond the rate of inflation. Following the engagement of a private operator in an innovative public-private partnership, water losses decreased from 32 percent to 20 percent between 1998 and 2003. Between 1996 and 2006, access to water supply services was extended to approximately 1.6 million people in Dakar and secondary cities. IDA helped finance 140,000 new household connections at subsidized rates for poor families and 400 public

standpipes. Sanitation improved in urban areas with 830,000 people gaining access to sewerage connections or on-site sanitation.

Two successive projects leveraged important funds from other donors and commercial banks and contributed to expanding global access to water to 98 percent of people in Senegal's cities in 2006, up from 74 percent 10 years earlier. The level of household connections in urban areas (76 percent) is now the highest in sub-Saharan Africa.

In Ghana, the Second Community Water and Sanitation Program adopted a community-driven approach to water supply, supporting Ghana's decentralization strategy through grants. More than 2,014 communities are now using and managing water and sanitation facilities that they planned and helped build. Overall nearly 800,000 people in four regions (6 percent of Ghana's total rural population) gained access to potable water. The project also provided training to 500 service providers.

The Small Towns Water and Sanitation Project in Uganda succeeded in improving water supply services for over 190,000 people in 11 towns and significantly reduced time spent on water collection.

The Yemen Social Fund for Development provided basic social and economic services to almost 10 million people, of which almost 2 million benefited from access to water supply services. A follow-up project provided more than 820,000 people with improved environmental sanitation.

In the Cambodia Urban Water Supply Project, water losses were reduced from 57 percent in 1998 to 18 percent in 2003, while adding almost 100,000 new connections to the piped network system and resulting in a 34 percent increase in access to

improved water sources in the country's urban areas between 1998 and 2004. The increased sales and lower cost of production had a positive impact on the financial performance of the utility.

In rural areas of Indonesia, 600,000 households and 3,000 schools have benefited from improved WSS services under the Second Water and Sanitation for Low Income Communities Project.

The on-going Second Community Water Supply and Sanitation Project in Sri Lanka has succeeded in providing safe access to water supply to 46,000 households so far and supported the construction of some 10,000 latrines.

### Several factors drive these positive results.

- A country-based approach ensures that IDA investments are tailored to the needs and capacities of specific countries. The Bank's capacity to work across sectors, interlink these different sectors, and link local (i.e., city or rural districts) with the country aspects of development helps to create an environment that facilitates efficient and sustainable water and sanitation investments.
- Global operational experience and research capacity. The increase in analytical work in the past five years has helped to improve WSS policy and institutional reform strategies that underpin the lending program, and has, as such, contributed to improved results in the lending portfolio.
- Budget support. Indirectly, the increased use of budget support instruments, such as the Poverty Reduction Strategies and the subsequent Poverty Reduction Strategy Credits (PRSCs), has enabled sector-wide reforms that have brought WSS programs funded by different donors under one umbrella. It has also helped to strengthen public management, improving the predictability of financial support to the sector.

In Benin, for instance, the PRSC approach has since 2001 resulted in a doubling of the population served with improved water supply and sanitation. In Uganda, general budget support has helped up budget allocations to water from 0.5 percent of public expenditure in 1997 to 2.8 percent in 2002. Uganda is on track to meet the development goal of supplying 65 percent of the population with safe water and 80 percent with sanitation by 2015.
- International cooperation. IDA actively contributes to the international dialogue on water and sanitation, whether as a participant of the UN task force on MDGs or as a speaker at various conferences. Special attention has been given to Africa through the African Ministerial Conference on Water, the New Partnership for Africa's Development and regional initiatives such as the Nile Basin Initiative. Efforts to ramp up financing for WSS will continue, mostly through the establishment of an Africa Infrastructure Consortium (agreed on at the 2005 G8 summit) which will focus on aid effectiveness.

- Drawing on available knowledge. IDA has also been able to draw on policy research funded by trust funds to improve its operational work. The Bank-Netherlands Water Partnership (established by the World Bank and the Netherlands in 2000) played a key role in getting sanitation and hygiene components into water projects in more than 18 IDA countries and shed light on innovative ways to improve service delivery to the poor. Other trust-funded programs, like the Public Private Infrastructure Advisory Facility (PPIAF) and the Global Program for Output Based Aid (GPOBA) have also contributed by disseminating knowledge and providing new financial instruments to increase access to WSS services.

## Partners in Action

The World Bank and the African Development Bank (AfDB) are committed to working together to support national programs for rural and urban WSS in order to minimize transaction costs and maximize the funds that governments and donors can contribute to the sector.

The Rural Water Supply and Sanitation Initiative (RWSSI) led by the AfDB is an important element of this strategy. The partnership with AfDB and other donors enables the Bank to leverage its IDA funds significantly, and to balance investments between rural, town and urban WSS.



### OUTLOOK

#### Learning from the past.

In the past two decades, it has become increasingly clear that sustainable infrastructure development is more likely to occur within an environment that fosters reform to improve the performance of service providers.

Engaging in policy dialogue and institutional strengthening at the country level has a positive impact on country ownership and can contribute to improved project performance.

The implementation of a revised business strategy in 2003 has resulted in assistance to WSS focused on those countries where the potential for impact is the highest, matching Bank support with country commitment to sound policies and institutions. The lending program increasingly has been combined with sector diagnostics to strengthen lending programs through, for instance, WSS MDG action plans (e.g., for India or Senegal) and regional infrastructure strategies. Nevertheless, the fact that sector reform tends to take place in spurts and bursts, depending on the political climate in client countries, means that progress often experiences ups and downs.

To ensure sustainable WSS service delivery, the following project design features have proven to be of major importance: the use of demand-responsive approaches in service provision; managing services at the lowest appropriate level; adherence to cost recovery policies where necessary in combination with transparent subsidies targeted to the poor; the use of appropriate technologies and standards to ensure cost effectiveness of investments; and a shift from sewerage to on-site sanitation and hygiene promotion programs.

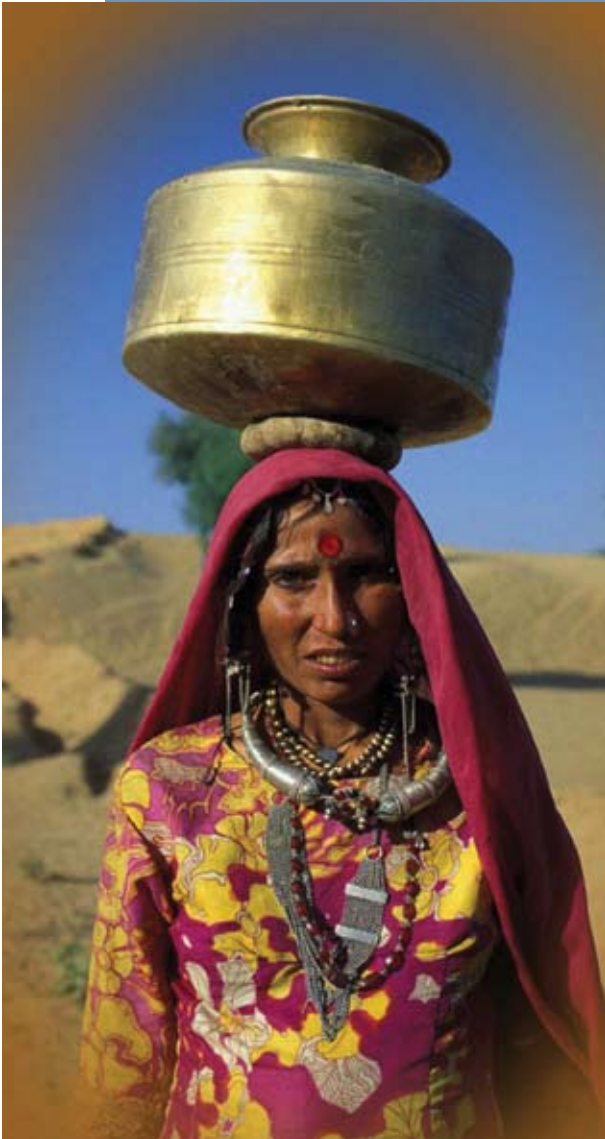
In addition, IDA engagement in the sector is becoming more nuanced by addressing the reality that different management models are appropriate for different country contexts. Increasingly diverse management models in the public and private sectors, and through public-private partnerships, are being utilized as a result. A last lesson is that regulation can not substitute for good governance.

#### Strategy going forward.

The major challenge facing the development community is scaling up investment and reform efforts.

IDA has been able to increase lending for WSS, thanks to the sector's prominence in poverty reduction and country assistance strategies: water and sanitation is currently represented in 75 percent of PRSPs Bank-wide.

IDA lending is expected to grow further over the coming years, although scaling up can be limited by country specific IDA investment ceilings. In the period covered by IDA15 (Fiscal Years 2008–11) IDA will mostly continue to focus on priorities set up during the previous cycle, with Africa remaining a major focus. The provision of urban water supply will remain important, fueled by the rapid urbanization taking place in many IDA countries. Sanitation and hygiene promotion components in the overall IDA portfolio are likely to increase as previous projects are starting to show results and create demand. However, there will also be an increased focus on improving governance so that WSS infrastructure investments can be operated and maintained in a long-term, sustainable fashion.



## More Reliable Water for Armenia's Capital and Municipalities

### Challenge

Prior to 1998, despite an abundance of water in the country, water provision was low, and maintenance and performance were very poor. For almost all Armenians, water was available for only a few hours a day, with poor pressure and quality and high leakage and waste. Two public enterprises were responsible for the provision of water in urban Armenia – one for Yerevan, the other for other municipalities.

### Approach

- Under a Municipal Development Project (1998-2006), IDA supported the introduction of a private international operator to manage Yerevan's water utility.
- Based on this positive experience, the Municipal Water and Wastewater Project (2004-2009) introduced a similar private operator for urban areas outside Yerevan, covering about 33 percent of the population.
- The Yerevan Water and Wastewater Project (2005-2011) builds upon earlier reforms and continues to strengthen Yerevan's water supply while reducing environmental pollution.

### Results

**The quality, reliability, and efficiency of water supply services improved dramatically for the Yerevan service area of around 1.3 million people. Water services have also begun to improve outside the capital.**

### Highlights:

- In Yerevan, water supply has increased from about 7 hours to about 18.5 hours a day. More than 70 percent of Yerevan now has 24-hour service.
- Outside Yerevan, 16.5 percent of the population in the service area of the second urban water utility now have access to 24-hour water.
- Payment collections have increased from 20 percent to 79 percent over the past 10 years.
- Water quality is better monitored, with modern chlorination equipment and improved security at all water sources.
- Energy consumption decreased by about 48 percent as a result of using gravity powered water sources, increased efficiency and reduction in the number of booster pumps for high rise apartments.
- A project component supported by Japan Social Development Fund (JSDF) renovated internal plumbing in 1,808 residences in Yerevan, resulting in a reduction in water losses of some 35 percent.
- Metering is now near universal in Yerevan, resulting in a significant reduction in water waste and savings on monthly bills for households.

### IDA Contribution

- Financed most of the three projects' total cost of US\$83.6 million (Counterpart contributions amounted to US\$10.5 million).
- Leveraged its extensive experience in water supply across countries and helped design an effective public-private partnership. Bank financial and advisory support helped attract private operators by reducing perceived investment risks.
- Used lessons from strengthening the Yerevan water service to replicate and scale up operations for a larger population outside of Yerevan.

- Attracted other donor interest in the water sector: KfW, the German development bank, is financing water supply investments in the municipal water utility in northern Armenia.
- Further support for smaller communities provided by the IDA-financed Social Investment Fund.
- Improved the regulation of water supply through its policy loans. Armenia's regulatory commission now covers both energy and water regulation.

### Next Steps

Armenia appears to be on target to achieve the MDGs of water and sanitation by 2015. However, significant investment is still needed to rehabilitate poor water and wastewater infrastructure, as well as to continue institutional and financial capacity building. There is also potential to expand central services outside the areas serviced by the two main operators.



The quality, reliability, and efficiency of water supply services improved dramatically for the Yerevan service area of around 1.3 million people.

## Community-driven Approach Improves Water Access in Rural Ghana

### Challenge

During the mid-1990s, it was estimated that of Ghana's population of 17.5 million, more than two-thirds lived in rural areas, and only 35 percent of them had access to quality water. Even fewer had access to proper sanitation facilities. Water related diseases such as malaria, diarrhea, skin diseases and intestinal worms constituted four of the country's top five reported illnesses.

### Approach

In response, the government launched a new national community water and sanitation program in 1994. A core part of the strategy involved moving the responsibility for water management to local communities.

- IDA first supported the country's program from 1994 to 2000 with a US\$25 million credit.
- In 1999, IDA financed the Second Community Water and Sanitation Project, with the objective of increasing access to improved community water supply and sanitation services in villages and small towns in four regions—Ashanti, Brong Ahafo, Upper East and Upper West Regions.
- The project used a large-scale decentralized model and provided grants to communities and schools through their District Assemblies to construct water supply and sanitation facilities.

### Results

**The project provided 795,000 people—6 percent of the total rural population in Ghana—access to safe water supply and sanitation services.**

### Highlights:

- 2,014 communities are now using and managing water and sanitation facilities that they planned and helped build.
- 3,000 water and sanitation committees and 41 water boards were formed and trained in various aspects of community management of water and sanitation facilities.
- Latrine artisans, area mechanics and pump caretakers were trained in construction and operation and maintenance of their water and sanitation facilities.
- 42 districts (of 138) are actively implementing water and sanitation programs.
- A Community Water and Sanitation Agency manages the program at the national level. It supports small and medium enterprises and undertakes hygiene promotion, joining for example the global community in "Hand Washing Initiative" in 2001.

### IDA Contribution

- US\$25 million, 1999 to 2004.
- Strong relationship with sector agencies at all levels during the past 10 years.
- Assisted the government in developing a long-term, district-based community water and sanitation program that could serve as a common framework for other donor-assisted interventions.
- The project is part of a larger portfolio of Bank interventions in rural areas in Ghana, including support for education, health, decentralization and agriculture.

## Next Steps

- The next phase of the project has been designed so that delivery of community point sources will be carried out under the IDA-financed multi-sectoral Community-Based Rural Development Project, while delivery of piped schemes in small towns will be maintained under the Small Towns Water Supply and Sanitation Project.
- Emphasis is needed on strengthening financial management systems and oversight mechanisms necessary to ensure quick turnaround of funds by the districts.
- Private sector capacity needs to be tailored to develop capacity of small and medium enterprises in the water sector to respond adequately to business opportunities emanating from local demand.
- For effective promotion of sanitation, the Bank has to aim at providing cheaper latrines (using for example local materials) and design sanitation interventions with an emphasis on sustained community-level marketing.



The project provided 795,000 people— 6 percent of the total rural population in Ghana— access to safe water supply and sanitation services.

## Rebuilding Mozambique's Urban Water Supply Infrastructure

### Challenge

Nearly 20 years of war (1974–94) left Mozambique's infrastructure either destroyed or neglected and the provision of services difficult—for example, only 30 percent of the population had access to safe water. The reforms of 1994 ushered in a new era with the introduction of private sector management, cost recovery tariffs and good regulation.

### Approach

IDA supported the government of Mozambique's own strategy which was based on a delegated management framework – a public-private partnership whereby assets are owned by the government and operations are managed by the private sector. A first project supported building capacity, rural water supply, water resources management, and the preparation of a new urban water supply strategy. This strategy, implemented during the second water project, supported large-scale civil works for urban water supply systems in five cities—Maputo (the capital), Beira, Quelimane, Nampula and Pemba.

### Results

**About 70 percent of the urban population of Mozambique have benefited from improved production and a more reliable supply.**

### Highlights:

- The central ministry—the National Directorate of Water—was reformed, trained, and equipped to manage greater and more efficient delivery of water.
- A Water Supply Investment and Asset Fund known as FIPAG was set up as the asset holding company in the urban water sector through which the operation of water services was delegated to private lessees. A regulatory body was created.
- Mozambique's delegated private sector management approach has attracted about US\$ 350 million to urban water over the last six years.
- Large rehabilitation works were undertaken in the cities. Pemba, Quelimane, Nampula can claim 24/7 water supply.
- A key to the success has been the strong economic regulation of the sector—balancing consumer and commercial interests. FIPAG is achieving full cost recovery and can graduate from government subsidies.
- Given large production and efficiency gains, a potential 2.4 million more people may be connected to clean water in the five cities over the next five years.

### IDA Contribution

- US\$126 million (including US\$15 million supplementary) in financing from 1998 to 2007 for urban and rural water production and capacity building.
- Support for the implementation of an innovative private-public partnership for adequate and efficient urban supply, including the establishment of asset-holding and regulatory bodies.

- Implementation of a pilot, demand-led, rural water and sanitation project which resulted in the construction of 130 water source points serving 62,000 people and catalyzed other donor programs. The Canadian International Development Agency and the African Development Bank are scaling up the model in their own rural water supply and sanitation projects.

### Partners

The African Development Bank, Canada, the Netherlands, the Nordic Development Fund, Sweden and Switzerland.

### Next Steps

- The projects initially supported the formulation of an urban water strategy covering five cities. An additional four towns were added in 2004 under a new private operator; and another four towns are to be added in 2007.
- As the urban water supply graduates from concessional financing and is able to access a wider range of funds, including loans on commercial terms, more funding will become available for smaller towns and rural areas where the financing gap is still critical or in areas where government subsidies are required.
- The Bank is now preparing a follow-on project that will include funding from IDA and from the Africa Catalytic Growth Fund to extend the network for the four cities as well as expand the possibility of the delegated management framework to smaller cities and towns. This is expected to leverage a large amount of new resources from partner donors.



About 70 percent of the urban population of Mozambique have benefited from improved production and a more reliable supply.

## Meeting Basic Water Needs in Rwanda's Rural Communities

### Challenge

Prior to the project, an estimated 72 percent of the rural population had access to a water point serving less than 200 users—but actual access was in fact much lower because of the poor condition of facilities. Only 20 percent of rural schools and health centers had access to adequate sanitation facilities. Rwanda's rural water supply has traditionally faced such issues as top-down programming of investments, poor cost recovery, limited private sector participation and high per-capita investment costs for system construction. Early attempts by the World Bank to introduce community participation and ownership of facilities failed in the absence of strong government commitment to decentralization.

### Approach

IDA's Rural Water Supply and Sanitation Project is working to provide basic drinking water facilities to about 370,000 people in rural areas and to promote better household sanitation and hygiene. It is promoting simple water supply and sanitation systems that are planned, operated and maintained by water users' associations (WUAs) with private sector support in those communes that need improved services the most. Grants—along with technical assistance—go directly to communities for constructing water and sanitation facilities.

### Results

**352,000 people now have access to improved water services. That number is expected to reach 472,000 by end-2007.**

### Highlights:

- As of December 2006, more than 12 percent of the 830 water-piped systems existing in the country were privately managed.
- Rwanda's government has significantly increased direct financing from the national budget for district water supply projects—US\$2 million in 2006 and US\$7 million in 2007.
- 70,000 students benefited from improved school hygiene thanks to adequate sanitation facilities and water tanks.
- So far, nine community development committees are able to program and execute water supply and sanitation investments and four partner organizations assist these communities.
- A number of capital works on the water supply system have been completed or are underway.

### IDA Contribution

- US\$20 million.
- Along with other donor partners, IDA helped the government lay the groundwork for a unified implementation framework which provided the basis for harmonized donor support in the water sector. The framework is based on the government's national strategy and program and medium-term expenditure framework.
- IDA promoted community participation in investment and maintenance decisions, and private sector participation in the provision of water supply and sanitation services.
- The project has introduced a key reform for the management of water supply systems through the development of public/private partnership between the districts and local private operators.

### Next Steps

IDA continues to provide policy advice and financing through budget support. District water supply projects and sanitation services will subsequently be financed from the national budget and implemented using national capacity and procedures. All water supply systems will be managed by local private operators under the control of district authorities. Under these circumstances, Rwanda is expected to reach the Millennium Development Goal target of providing 85 percent of the population with potable water by 2015.



352,000 people now have access to improved water services. That number is expected to reach 472,000 by end-2007.

## 98 Percent of the Population Has Access to Safe Water in Urban Senegal

### Challenge

In 1995, more than half of Senegal's population lived in urban areas, primarily in the capital, Dakar. In Dakar, water shortages were chronic, leaks persistent, sanitation barely existed in poor peripheral neighborhoods, and only 58 percent of the population had access through household connections to safe, piped water. In urban areas overall, that figure was 40 percent.

### Approach

- The project approached long-term development of the sector: increasing the water supply and supporting the emergence of an economically viable water company capable of recovering costs, collecting tariffs, and providing affordable water and sanitation services to the population—without depending on government subsidies. The project also aimed to provide affordable services to economically marginalized communities.
- Central to the transformation strategy was a new role for the private sector, managing urban water supply operations on behalf of the state and meeting certain performance requirements.

### Results

**About 1.6 million people living in cities gained access to safe water. Senegal's level of connection to urban water services is now the highest in sub-Saharan Africa.**

### Highlights:

- 140,000 new connections at subsidized rates for poor families, plus 400 public standpipes. These alone translate into safe water supply for about 1.6 million people who were previously without reliable access. Household connections reached 76 percent in 2006, the highest rate in sub-Saharan Africa, thanks to the establishment of a subsidized social connections program for poor neighborhoods in Dakar and secondary urban centers, a government program supported by IDA.
- Global access to water services (including access at public fountains) rose from about 74–81 percent in 1996 to about 98 percent of people living in cities in 2006.
- Water losses, mostly from leakages, dropped to less than 20 percent in 2006, from 32 percent in 1996. The decline translates to a savings equal to the water needs of 930,000 people.
- Sanitation improved in urban areas, with an additional 830,000 people gaining access to sewerage connections or on-site sanitation.
- Tariff collection reached a rate of 98 percent, up from less than 80 percent before the project. As a result, tariff increases for consumers were kept to an annual average of 3 percent, the same as the rate of inflation.
- Through improved water management and sanitation, it is estimated that malaria in these areas will fall by 20 percent.

### IDA Contribution

- Total project cost for Senegal Water Project (including sanitation) was US\$290 million for which IDA provided US\$100 million. Successful implementation helped to attract substantial additional funds from donors and commercial banks. IDA provided another US\$125 million equivalent under the follow-up Long Term Water Sector Project.
- IDA played a convening role and served as a catalyst for the adoption of innovative practices and policies. Technical assistance made it possible to shift to a public-private partnership, with a state holding company running the water and sanitation service, while contracting out operational responsibility to a private firm in which government held a stake.

### Partners

Both projects attracted substantial co-financing from international donors including the African Development Bank, European Investment Bank, France, Germany, the Nordic Development Fund, the West African Development Bank (BOAD) and commercial banks in Senegal.

### Next Steps

In addition to sustaining the achievements in urban areas, access to water needs to be expanded in rural areas. While close to 100 percent of Senegal's urban population now have access to safe water, only 62 percent of those living in rural areas do, and only 17 percent of the rural population have access to improved sanitation. To achieve the Millennium Development Goals in Senegal, more than 3 million rural people would need to gain access to safe water and sanitation.



About 1.6 million people living in cities gained access to safe water. Senegal's level of connection to urban water services is now the highest in sub-Saharan Africa.

## Quality Water Supply for Uganda's Small Towns

### Challenge

Two decades of political and economic turmoil severely eroded the living standards that Ugandans had enjoyed in the initial years after 1962 independence. By 1986, government expenditure on health was one-tenth the 1970s level, on infrastructure one-quarter. Lack of essential services brought increases in waterborne diseases. Nine towns, including the largest urban areas of Kampala and Jinja, were covered by the relatively well-managed National Water and Sewerage Corporation which provided 50 percent of the people with access to piped water. However coverage of remaining urban areas was about 15 percent and just 20 percent of rural areas had adequate water supply.

### Approach

IDA financed a Small Towns Water project to improve water and sanitation infrastructure in 11 towns outside the Corporation's reach. The project used a demand-driven approach whereby communities participate in the financing, planning, implementation and management of water and sanitation systems.

### Results

**New water supply service extended to about 161,000 people and improved service for another 30,000.**

### Highlights:

- About 70 percent of households (vs. 5 percent in 1994) depend on piped water as their primary source in project areas. (The remaining 30 percent uses improved point sources).
- Service was contracted to local private operators (today, there are six local operators managing 34 towns).
- Reviews during and after project closure showed that most of the towns were breaking even in their operation and maintenance costs, thus demonstrating sustainability of the systems which was expected to be further enhanced by progressive expansion in the customer base.
- Less time is spent collecting and transporting water: 70 percent of the households spend about 15 minutes fetching water and are within 50 meters of a safe water source compared to only 13 percent at the start of the project. Women and children benefited most from the reduction in the burden associated with collecting water.
- There is increased awareness of good hygiene: most households surveyed by an independent study reported cleaning their latrines daily due to availability of water and could name a waterborne disease associated with dirty hands.

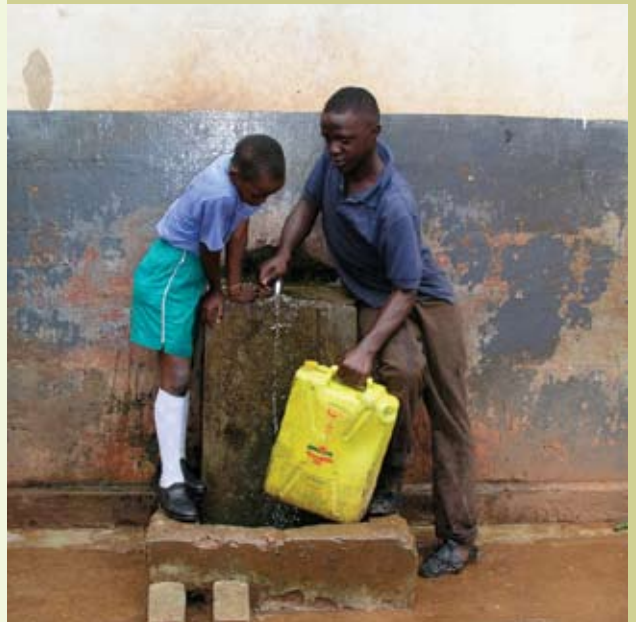
### IDA Contribution

- US\$40.8 million in actual cost financing from 1994 to 2003.
- This project was the first in the country and the region using a demand-driven model based on international best practice. Services to the poor are ensured by providing varying levels of service, subsidizing connection cost and providing poor people with a voice as stakeholders and customers. The lessons and knowledge generated by the project have been replicated country-wide in over 45 towns and in other countries in the region.

- IDA supported the government of Uganda in key urban water supply and sanitation reforms in the management of small towns by separating asset ownership and oversight from professional management of operations by the private operators.

### Next Steps

The project has been mainstreamed: financing is now provided by IDA through budget support. Meanwhile, the success enabled IDA to leverage other funds. Today, a global donor program administered by IDA is helping towns to expand their customer base and connections and deepen the participation of the local private operators possibly through longer term contracts. The program is also strengthening the Water Authorities Unit's capacity to effectively support towns and private operators.



New water supply service extended to about 161,000 people and improved service for another 30,000.

## Reaching Out to Yemen's Poorest, Most Remote Communities

### Challenge

Yemen's human development indicators are among the lowest across the Middle East and North Africa region, in terms of high child mortality, child malnutrition, illiteracy and low school enrollment rates—especially among girls and in rural areas. Yemen's mountainous layout is a challenge to delivering services to scattered communities, without road access to major cities and urban centers.

### Approach

- The Yemen Social Fund for Development (SFD), established in 1998, financed sub-projects designed to extend basic education, health and environment services to Yemen's most vulnerable population; to provide temporary employment; and to lay down the basis for improved social and economic development.
- Branch offices were established to reach out to remote communities, provide technical assistance and receive project requests.
- Recognized as a successful tool for poverty reduction and capacity building, the SFD was expanded first in 2000 and funded again on a massive scale in 2005.

### Results

**Since 1998, the Fund has helped remote communities improve basic social and economic services, directly benefiting about 10 million people.**

### Highlights:

- SFD designed a special program for water harvesting systems in order to increase water supply during the dry season. Water quality was improved through fencing of cisterns and the introduction of sand filters and hand pumps.
- Up to the end of 2005, SFD water supply sub-projects benefited around 1.9 million people. Sixty-five large environmental sanitation subprojects provided services to a further 821,000 individuals.
- Construction of 6,534 new classrooms, and rehabilitation/expansion of 1,439 existing classrooms in 2001–04 (during the Fund's second phase) contributed to an overall increase in enrollment rates in basic education from 62.9 percent to 67.6 percent—for girls, enrollment grew from 45.9 percent to 52.7 percent in the same period.
- Other subprojects supported the training of health care workers, the creation and maintenance of improved rural roads, and the strengthening of institutions and associations working with marginalized and disabled groups.
- The SFD supported decentralization, helping to establish the roles of the governorate and district councils.
- In addition to community projects, the SFD has improved education and infrastructure programs implemented by line ministries through technical assistance. For example, technical support from the SFD helped the Ministry of Education establish Parent Teacher Associations (PTAs) allowing parents to become involved for the first time in the management and maintenance of rural schools. The SFD drafted the first manual for rural roads in Yemen—now the Ministry of Civil Works' main reference.

### IDA Contribution

- Provided US\$165 million for the project's three phases.
- Shared global expertise in the establishment and operation of social funds. Helped draft the law establishing the Social Fund, develop SFD's operational manual, design mechanisms that target the poor, and evaluate impact.
- Mobilized resources from other donor agencies.

### Partners

The international community co-financed the first two phases. The third Social Fund for Development project is supported by 15 donor agencies who contribute a total of US\$300 million (In addition, IDA provides US\$60 million; borrower contributes US\$40 million).

### Next Steps

Channeling of resources to the poor is a complex process that has been supported to a large extent by the establishment of the Social Fund for Development and its growing capacity at the central and local levels. However, to ensure the sustainability of the process, the institutional capacity of other line ministries needs to be addressed. In addition, adequate resources are needed to support the linkages with partner organizations and structures that have been set up at the community level in order not to lose the momentum IDA has triggered. As the Yemeni population continues to grow, the risk to sustainability of infrastructure and poverty reduction efforts also increases.



Since 1998, the Fund has helped remote communities improve basic social and economic services, directly benefiting about 10 million people.







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