

## Leveraging Private Sector Finance for Rural Piped Water Infrastructure in Kenya: The Use of Output-Based Aid

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**A**n innovative approach to rural infrastructure finance in Kenya is facilitating access to finance for community-based water providers by blending output-based subsidies and commercial finance. The project is being implemented by K-Rep Bank, a local commercial bank specialized in microfinance lending, with support from the Water and Sanitation Program, the Global Partnership on Output-Based Aid, and the European Union's Water Facility. The project, which began with 21 sub-projects, is in the process of expanding to a national scale and will target over 165,000 beneficiaries in 55 communities. The initial experience indicates that innovation in access to infrastructure finance is possible in Kenya's rural water sector and that, inter alia, output-based subsidies can be useful in addressing affordability constraints for community-based water providers.



Photo courtesy of the World Bank

Access to rural water supply remains low in Kenya. In particular, access to piped water has only increased from 9 to 10 percent of rural households over the past eight years. Historically, the rural water sector has lacked funding and the little funding that is available has tended to focus on point water sources for the poorest of the poor or the construction of new piped systems. Funds to improve existing systems have been largely absent.

The sector reforms in Kenya have created an environment that supports viable community-based water providers. The Water Services Regulatory Board (WASREB) supports cost-reflective tariffs, which allow for financially viable water providers even in rural areas.<sup>1</sup> The reforms also call for the use of Service Provision Agreements (SPAs) to determine service area boundaries and limit demand risk for water providers.<sup>2</sup> The financial sector, due to recent increases in liquidity, has sought to innovate in an increasingly competitive market.

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### Innovative micro-project finance model

In 2004, the Water and Sanitation Program (WSP) Africa began to work with a local commercial bank specialized in microfinance, K-Rep Bank, to explore structures under which a commercial financier would be interested in providing loan finance to small community-owned water providers.<sup>3</sup> A number of constraints were identified:

- Affordability of capital investment due to poverty and investment backlogs
- Limited collateral available due to immobility of assets
- Complex financing requirements if using project finance techniques
- Undefined and untested regulatory environment
- Capacity limitations in project development by communities

In 2006 the Global Partnership on Output-Based Aid (GPOBA) reviewed and approved a pilot project to be implemented by K-Rep Bank and supported by WSP that would facilitate access to finance for community-based water providers by blending output-based subsidies and commercial finance. The original pilot project targeted 21

subprojects, representing a total investment of about US\$2 million, in the five districts around Nairobi under the jurisdiction of the Athi Water Services Board. The project is expanding to a national scale and will target over 165,000 beneficiaries in 55 communities, using additional funds from the European Union's Water Facility.

## Implementation arrangements

Figure 1 shows the institutional arrangements used under the expanded pilot project<sup>4</sup> which involves the following partners:

- **K-Rep Bank:** K-Rep is the lead agency under the project and is responsible for approving loan applications, overseeing disbursements, and recovering the loans it provides to the communities.
- **Project Audit Consultant:** The PAC is responsible for output verification. Two measures are used—number of new connections and average monthly revenue—to capture the project's impact on both new and existing customers.
- **Water Services Trust Fund:** The WSTF manages a specialized funding window, the Project Development Facility (PDF)<sup>5</sup>, which offers grants to eligible communities to enable them to contract consultants.
- **Water Services Boards:** The WSBs (created under the 2002 Water Act) provide service provision agreements (SPAs) to communities. WASREB

licenses the WSBs' operations and is responsible for final regulatory approval of tariffs and service areas.

- **Small Piped Water Projects:** The community-owned small piped water projects are the water service providers in this project. They develop, own, and manage the water assets.

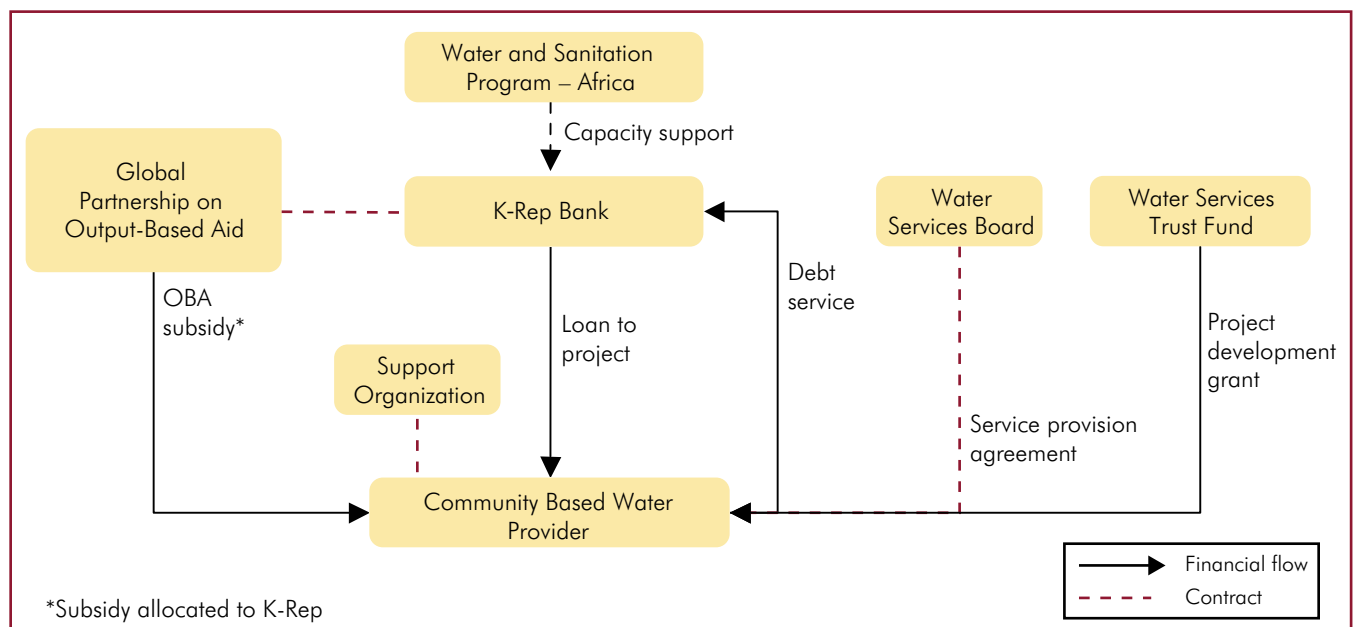
The project also provides subsidy funds (from GPOBA) to ensure quality during the sub-project cycle and help create a local private sector market for business development services<sup>6</sup>, including project development and implementation support.

The project targets poor rural areas of Kenya. Projects seeking to rehabilitate or expand systems and to develop entirely new systems are eligible for financing.

## Financial structure

The infrastructure finance is provided on a project finance basis. The community provides equity (20 percent of project cost); at least half must be in cash. K-Rep finances the remainder of the project cost, through a loan using its own resources. Loans are priced based on K-Rep's internal risk assessment; pricing is in line with other loan products they offer. The maximum loan tenor is five years. Once the project achieves the stated outputs and the subsidy is released to the community, it is immediately swept into the loan account to offset part of the cost of the loan. The maximum subsidy is 40 percent of project cost. Thus

Figure 1. Institutional arrangements



### Box 1. A successful community water project: The Karaweti Water Project

The Karaweti Water Trust sought to increase membership and revenue collection by providing more reliable water service. The Trust developed a project that installed a new borehole to supplement its existing supplies and customer-level meters, as it initially offered unmetered water on a flat-rate basis. The project increased the number of connections by 10 percent, to 715, and boosted total average monthly revenue by 73 percent, to US\$5,000. A survey conducted after implementation verified that the use of supplementary unsafe water sources had ceased because the project was able to provide adequate water services. Reliability of water service increased tremendously, with 87 percent of customers receiving water 7 days a week, up from 8 percent before the investment. Poor households in the community have access to a more reliable supply of water to their own households or through water kiosks.

in most cases the term loan serviced by the water project will amount to 40 percent of the total project cost.

Debentures on cash flow and liens on movable assets, land, and buildings that are available form the project collateral. Where the project is a new installation and very little collateral is available, some cash collateral may be required. In all cases, the project must deposit an additional 15 percent of debt service payment in the form of contractual savings. This aspect of the financial structure serves as partial collateral and helps the project build a maintenance fund, which can be used for major repairs or as equity to support further borrowing once the loan is repaid. K-Rep also has step-in rights to operate the project, granted by the SPA, where the loan is in default. Finally, K-Rep has purchased a partial credit guarantee from USAID's Development Credit Authority for 50 percent of the loan principal.

## Progress

Thus far K-Rep Bank has approved 12 subprojects for financing. Subproject size varies from US\$60,000 to US\$200,000. Connection targets also vary, from 50 new connections where the system is well established and the focus is on rehabilitation and improving service quality, to almost 600 connections for new systems. Financial structuring at the subproject level also varies depending on the local context. In one proj-

ect, a tea factory acts as an anchor customer, having contributed a significant portion of the project equity; community equity contributions were raised through direct deductions from tea receipts. For new projects, equity raising efforts have focused on mobilizing an upfront deposit fee from those who wish to connect. In existing systems, retained earnings from the community-based service provider have been used to raise the required equity.

## Emerging lessons

The early experience in these 12 subprojects has yielded a number of lessons:

*Capacity of the financier:* The lender in these projects needs to blend the capacity to work with groups and communities and traditional skills in microfinance with the sophisticated credit analysis skills of a larger financial institution. Creating capacity in financiers is a precondition for such projects to occur, given the limited sector-specific skills that are often the norm.

*Financial structuring and incentives:* Output-based subsidies transfer performance risk to the project sponsor or equity investor (the community water provider). In this case, the risk is also borne by the lender, making them a pseudo-investor. Thus both project sponsor and lender must understand this risk and take an interest in it, as a precondition for investing. Accordingly, the return on the investment must justify the risk being taken. In the case of K-Rep, motivating factors include i) the return on the loan capital and ii) the potential for increasing customer outreach and related business. K-Rep plans to market financial products to the users of the water systems that it finances, such as a specialized cow leasing product for customers involved in dairy farming.

*Project packaging:* For a sustainable loan portfolio to evolve, many high-quality loan applications are needed for the pipeline. This requires early engagement by the potential lender to ensure that proposed projects meet creditworthiness standards. This involvement will lessen over time as the market begins to understand requirements, reducing the cost of finance. It is thus critical that standardized project packaging approaches be developed, to assist both project packagers and credit appraisers. Incentive structures are needed to ensure that the project development consultant takes ownership of what is traditionally a supply-side consulting activity.

*Regulatory clarity:* Often the greatest risk a lender faces in a project finance environment is tariff risk. For small providers there is a further risk that their service mandate could be removed or transferred to a larger provider, so time-bound service contracts clearly delineating service areas, tariff levels, asset ownership, and performance standards are required.

*Capacity of the water service provider:* Small providers often provide service to households that have no alternative and are at a coping or substandard level of service. To continue their operations, these providers must provide efficient and competitive services and meet regulatory standards. Engaging specialized private sector outsourcing or business development services agents can help them deliver more efficient services to their customers.

## Conclusion

This initial experience in developing loan products for small, community-based, rural water service providers indicates that innovation in access to infrastructure finance is possible and can help expand rural water services. Early indications further suggest that ownership, accountability, and governance are reinforced through the introduction of commercial finance in the subsector. The use of output-based subsidies addresses affordability constraints arising from costly short-tenor commercial finance. By engaging an additional risk-taking party (the financier), the approach improves implementation quality and increases the likelihood of sustainability. The miniaturization of the project finance techniques requires that factors which are normally designed on a project-specific basis be made generic and robust systems be developed. Commitment from a variety of actors is

therefore a critical component in transitioning toward a framework where innovative rural infrastructure finance can become sustainable.

## References

- Mehta, M., and K. Virjee, 2007. "Microfinance for Rural Piped Water Services in Kenya." Policy Note 1. World Bank, Water and Sanitation Program Africa, Washington, DC.
- Mehta, M., K. Virjee, B. Evans, and K. Wathobio. 2006. "Business Development Services for Community-managed Small Water Enterprises: Evolving a New Paradigm to Enhance Sustainability." Working Paper. World Bank, Water and Sanitation Program Africa, Washington, DC.

- <sup>1</sup> WASREB was created by the 2002 Water Act. The sector policy (1999) pointed toward the need for tariffs that cover costs as a basis for sustainability.
- <sup>2</sup> Demand risk is the risk that the demand for services from the system causes variation in revenues and thus affects capacity to cover operating or other costs. Demand risk can arise from the presence of competing water providers in one specific service area. Such competition is normally considered inefficient due to the natural monopoly nature of water supply systems.
- <sup>3</sup> Community water projects in Kenya are rural water utilities owned by a group of voluntary members. Registration has historically been through a pseudo-legal "self-help group" format and their service areas tend to be defined by their member base.
- <sup>4</sup> For an overview of the unmodified pilot, see Mehta and Virjee (2007).
- <sup>5</sup> The Project Development Facility has been financed by a grant from the World Bank's Public-Private Infrastructure Advisory Facility (PPIAF).
- <sup>6</sup> For an overview of business development services relevant to the water sector, see Mehta and others (2006).

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