Improving Urban Services in Nairobi

A recent OED impact evaluation* finds that free World Bank-supported urban services projects in Nairobi increased the supply of potable water and affordable housing to the poor, improved sanitation and environmental conditions in project sites, and increased access to social services.

The improved and expanded infrastructure brought critical water and sewerage services to rapidly growing business areas and poor neighborhoods in the eastern section of Nairobi, helping in the economic growth of the city. But the cost of water for the poor remained high because of the irregular pricing practices of kiosk operators. And homeownership among transient groups did not materialize as hoped, partly because the project had taken a top-down approach to project design, leading to an inaccurate assessment of the target groups’ housing need. Finally, loan recovery for the housing projects was poor, showing once again that public agencies are less adept at collecting loans than private mortgage companies or nongovernmental organizations.

Among the lessons, the OED evaluation points to the importance of interspersing technical assistance projects between investment interventions to ensure that project activities are continually improved based on experience. Proper sequencing proved one of the strengths of the water supply projects, and the lack of technical assistance in the less successful housing projects an important weakness of those operations.

Project goals

Water supply projects

Until the 1970s, Nairobi’s principal source of water supply was the Kabete Scheme, which for many years had managed to keep pace with demand. But the city’s rapidly growing population and high water losses severely strained the aging system’s capacity. Throughout the 1970s and early 1980s water shortages were common.

The First and Second Nairobi Water Supply projects (WS I and WS II), approved in 1970 and 1978 respectively, sought to expand the supply of water (by developing the new Chania Scheme), improve and expand the distribution of treated water, and improve the availability and affordability of water for the poor. An important consideration of WS II was cost recovery through setting progressive tariffs to ensure the financial viability of the Nairobi City Council’s Water and Sewerage Department (WSD).

The Nairobi Third Water Supply Engineering Project, approved in 1985, provided strong technical assistance and training, primarily to develop WSD’s capacity to prepare the third phase of the water supply investment project and to strengthen the department’s operational efficiency and financial management.

The sequencing of the three water operations proved highly beneficial. First, the two investment projects were planned far enough apart to allow the lessons of the first to influence the design of the successor projects. Second, the technical assistance project that followed the two investment operations helped WSD make critical operational improvements. Even more important, the project helped WSD overcome key constraints on its ability to plan and implement the follow-on project.

Urban development projects

The Urban I and II projects (approved in 1975 and 1978 respectively) took an integrated approach to improving living conditions in three eastern sites in Nairobi. The projects sought to increase the supply of affordable housing to the poor, expand the sewerage system to project sites, and improve social services. A major objective was the promotion of homeownership among transient groups to reduce the proliferation of informal settle-
ments, which the government con-
tinually destroyed.

The projects followed an in-
cremental self-help model to pro-
more homeownership. The projects
sought first to provide enough
services small lots to meet rapid
growth in demand, thus tempering
land-price increases. The projects
would then make loans available
for housing construction and reno-
vation. Finally, with beneficiaries
paying utility tariffs and municipal
fees and making loan repayments,
the city government would have
the funds needed to operate and
maintain infrastructure.

Urban I was to be the precursor
to other sites and services projects
in Kenya, serving as a model for
government programs to provide
urban shelter and infrastructure to
low-income groups. The projects
were complex, both in scope and
design, requiring the involvement
of different municipal departments
with strong management and
planning capacities. But unlike
the water operations, the urban
projects provided little if any tech-
nical assistance to strengthen the
relevant city departments, even
though the projects included tech-
nical assistance components. Insti-
tutional weakness thus continued,
adversely affecting the proper
implementation of project compo-
nents. Moreover, the two projects
closely overlapped, leaving little
time for implementation experi-
ence to pass from one to the other.

All five projects achieved their
physical objectives, albeit with
long delays. But only for the water
supply projects was outcome rated
satisfactory at completion.

In 1994, OED evaluated the me-
dium and long-term impacts of
the projects. The five projects were
evaluated together because they all
focused on improving urban ser-
VICES to the poor, provided tech-
nical assistance to weak municipal
departments, and were intercon-
nected: water services were essen-
tial to the development of the hous-
ing schemes. The evaluation drew
on a field survey of households, on-
site observations of infrastructure
facilities, key informant interviews,
and a review of relevant documents
and records to assess the impacts
of the projects at the household,
neighborhood, and city levels.

Impact

Water supply and sanitation

Water supply improved, as did the
efficiency of the water supply system.
The water supply projects have
markedly improved the availability
of water over the last 10-15 years,
ensuring supply to keep pace with
population growth. From 1976-95,
Nairobi’s population increased
almost threefold. During the same
period, gross water availability in-
creased from 165 liters per capita
(lpc), to more than 200 lpc, and is
expected to hover around 200 lpc
to the year 2005 after which another
expansion phase will be needed (see figure).

As the availability of water im-
proved, the projects were able to
expand the reticulation system into
previously unserved and poorly
served areas. Extensions under the
two projects, including the con-
struction of critical new mains,
improved water service to the city
center and for the first time ex-
panded the water supply network
into the eastern section of the city.

With assistance from the Engi-
neering Project, WSD greatly
improved the operation and main-
tenance of the water supply facili-
ties of Nairobi. The project helped
WSD install a metered zoning sys-
tem to monitor water supply and
pressure at delivery points. The
system enabled WSD to control
leaks and significantly reduce wa-
ter losses, helping the department
to avert critical water shortages
during the late 1980s to mid-1990s.
WSD also implemented a sound
program for increasing metered
house connections. Over the
15-year period, the customer-to-
connection ratio has improved, in-
dicating that supply expansion has
more than kept pace with popula-
tion growth.

The poor’s access to treated water
improved, but irregular practices kept
costs high. To make water more ac-
cessible and affordable to the poor,
WSD increased the number of wa-
ter kiosks in low-income areas
from about 150 in 1978 to nearly
1,500 in 1994 and maintained a
low tariff for kiosk operators. The
increase in the number of kiosks
reduced the distance to water
sources, thus the time spent on
obtaining water. Women in par-
icular benefited from closer ac-
cess, since they were the ones
largely responsible for fetching
water. The beneficiary survey re-
vealed a high level of confidence
in the quality of water, and most
respondents indicated sufficient
supply for basic hygiene, such
as cleaning and bathing. But the
number of households sharing the
services of a single kiosk was still
high. A single kiosk sometimes
served as many as 50 households.

WSD sought to keep kiosk rates
low by providing kiosk operators
with water well below cost. And it
introduced licensing to regulate
operator practices. But licensing
proved ineffective as a regulating
mechanism; kiosk operators still
charged up to six times the lowest
rate for house connections. Conse-
quently, WSD has turned to new
approaches to lower water prices
for the poor. In some neighbor-
hoods residents have formed
committees to manage their own
kiosks; in others NGOs are becom-
ing involved. WSD is encouraging
both trends and is pursuing the
possibility of installing house
connections for the poor by estab-
lishing a funding mechanism
for recovering the cost of the
connections.

Projects improved sanitation and
the environment, but poor mainte-
nance and inadequate garbage collec-
tion threaten sustainability of benefits. Urban I completed a major expansion of Nairobi’s sewerage system, including expanding coverage into project sites. With the new infrastructure the dumping of liquid waste in open drains has declined considerably, improving both health and environmental conditions in project sites. The water quality of the Nairobi River has also improved since 1987.

The vast majority of survey respondents now use water-borne toilets, a significant improvement in their standard of living from ten years ago when one-third used pit latrines. But access to private toilets has declined, increasing the number of households that must share toilet facilities. Moreover, the dumping of liquid waste in nonproject areas continues, posing serious health hazards that can ripple into the newly improved project areas. Poor maintenance of the sewer system and sanitation facilities poses another serious problem, which, along with woefully inadequate garbage collection, threatens the sustainability of the projects’ benefits. The Department of Public Health can only collect about 20 percent of the estimated total amount of waste generated in Nairobi.

Land and housing markets

The urban projects had some of the demonstration effects sought by their designers. The increased supply of serviced small plots helped temper land-price increases in the project areas, helping to provide greater supply of affordable housing for low-income groups. Although prices initially escalated because of the improved infrastructure, increased supply kept the rate of price changes lower than elsewhere in Nairobi.

Although not their intended goals, the projects also significantly increased the supply of rental units and improved the efficiency of the rental market. Average rent has declined over the last ten years in Nairobi. But the percentage of owner-occupiers has also declined, contrary to the projects’ expectations. Over the last ten years, almost the entire demand for housing has been satisfied through rentals, a trend the projects were unable to reverse for two reasons. First, the municipal department was unable to manage the allotment of property and housing appropriately, leading to unauthorized sales and land speculation, as well as homeownership dominated by absentee landlords instead of owner-occupiers. Second, the projects had incorrectly assumed that the majority of transient groups preferred to own their homes, while in reality most wanted to rent, intending to keep their rural residence as their permanent home.

Half of the original allottees were women, who benefited from the first phase of the program. However, selection criteria and the self-help model did not favor poor women, who had neither the required substantial down payment nor the skills to build on their property. As a result, women who were able to keep their plots tended to belong to higher income groups.

Institutional development

Capacity building. All five projects had technical assistance components to strengthen the capacity of the relevant municipal departments to plan, implement, and manage new investment projects. But only the Engineering Project provided a sufficiently strong technical assistance and training program to turn WSD

Social services

Access to social services improved, but efforts at employment generation failed. The urban projects increased beneficiaries’ access to primary schools and health centers, although the impact was not uniform across project areas. All the schools promoted primary education for girls. Moreover, survey respondents indicated a trickle down effect in access to education, with children in nonplanned sites attending schools in a neighboring project site. But the projects’ attempts at constructing market stalls to generate employment failed. Project designers had envisaged the construction of the stalls, but not the vendors’ need for credit and business counseling.

[Graph: Trends in the availability of water in Nairobi, 1975-2005]

Note: After 1995, data are estimates.

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Community participation in a small-scale project

In Nairobi, the Undugu Society (an NGO) helped implement an urban shelter and services project comparable to Urban I and Urban II. In 1982, Undugu provided building-material loans of KSh 5,000 per unit and technical assistance to the urban poor for the self-help construction of 500 dwellings in Kitui Village. The remarkable performance of this project—cost recovery exceeded the amounts due—was attributed to the community's involvement and "ownership." The adoption of a business approach to shelter (sub-letting was a means for generating income), and the provision of technical and financial assistance. The conditions for sustainability were realized: a high level of community commitment and involvement and effective cost recovery.

Lessons and recommendations

- Municipal services projects in weak institutional environments need strong and well-targeted technical assistance. Ensuring the sustainability of results requires interspersing technical assistance support with investment operations, as was done in the case of the water supply projects and was missing from the housing projects.

- Investment projects need to integrate various service provisions so that the benefits of an improved service (such as drainage) are not negated by the absence of improvements in another service (waste collection). Such coordinated interventions will reinforce the outcome of investments and the sustainability of benefits.

- Housing programs should include market analysis, which in Kenya would have enabled project designers to better balance the demand for owner-occupied and rental housing. Programs should consider modifying the policy framework and regulations for housing development. And, they should promote cooperation with local NGOs and private mortgage companies experienced in housing the poor to help in loan recovery, enabling the program to maintain benefits and expand services.

- Beneficiary participation should be central to shelter projects. Participation requires fostering community cohesion, strengthening the community's capacity to focus on neighborhood management, and promoting employment generation.