Mozambique - Urban Water

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Overview

Identification

COUNTRY
Mozambique

EVALUATION TITLE
Urban Water

EVALUATION TYPE
Independent Performance Evaluation

ID NUMBER
DDI-MCC-MOZ-URBANWATER-2019-v01

Version

VERSION DESCRIPTION
- v01: Edited, anonymous dataset for public distribution.

Overview

ABSTRACT
Overall Design: Mixed-Methods Performance Evaluation with three components:

(1) Ex-post performance evaluation

(2) Infrastructure Assessment

(3) Outcomes Analysis

Exposure to treatment:

Nampula city water supply system 69 months

Nampula city storm drains 67 months

EMUSANA 66 months

Nacala city water supply system 75 months

Nacala Dama 60 months

Mocuba water supply 69 months

Quelimane storm drains 67 months

Evaluation Questions:

(1) Was the program implemented according to approved plans and budget?

(2) As implemented, were the activities cost-effective?

(3) Are the infrastructure investments operational and being appropriately maintained?

(4)What were the effects of Urban Water Supply Activity on key outcomes (i.e., water supply, water supply reliability, water consumption and/or expenditure, malaria and diarrhea incidence)?

(5) What was the effect of Urban Drainage and Sanitation Activity on key outcomes (drainage capacity, flood incidence, flood severity, malaria incidence)?

(6) What was the effect of Capacity-Building Activity on sanitation service delivery?

(7)What lessons can MCC or the GoM apply in future programs to program design, implementation, and sustainment of results?

EVALUATION METHODOLOGY
Other (Performance Evaluation)

UNITS OF ANALYSIS
households

KIND OF DATA
Other

TOPICS

Topic	Vocabulary	URI
Water, Sanitation and Hygiene	MCC Sector	

KEYWORDS
Water, WASH, Urban, Mozambique

Coverage

GEOGRAPHIC COVERAGE
The geographic coverage of the program is Nampula, Nacala, Quelimane, and Mocuba. However, the evaluation will only collect data in Nampula and Quelimane.

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

Name	Affiliation
Mathematica Policy Research	

FUNDING

Name	Abbreviation	Role
Millennium Challenge Corporation	MCC	

Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
Millennium Challenge Corporation	MCC		Review of Metadata

DATE OF METADATA PRODUCTION
2019-03-20

DDI DOCUMENT VERSION
V1

DDI DOCUMENT ID
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MCC Compact and Program

COMPACT OR THRESHOLD
Mozambique Compact

PROGRAM
The compact entered into force in September 2008. The WSS Project was originally intended to improve piped water systems and storm water drainage for approximately 1.6 million urban beneficiaries in three Northern provinces (Cabo Delgado, Nampula, and Zambezia). The original compact included activities in three large cities (Nampula, Pemba, and Quelimane), and five medium sized cities (Montepuez, Nacala, Monapo, Gurúè and Mocuba). Effective storm-water drainage improvements were expected to benefit nearly the entire population of each city by reducing standing water from rain and flooding that leads to water related illnesses such as cholera and malaria, thus contributing to increases in productivity. The improvements in storm drains and water systems were also expected to encourage new business investment, leading to economic growth. The improved access to water, drainage, and sanitation systems was expected to benefit the elderly by reducing water related diseases that compromise their immune systems. MCC further expected that better access to and quality of water would improve child growth rates and reduce mortality among the elderly and children under age 5 (Cronin et al. 2006). In addition, because women and girls are usually responsible for gathering water, providing water sources in closer proximity to women's homes was expected to enable them to engage in productive activities (Millennium Challenge Compact 2007). WSS project interventions took place between September 2011 and September 2013 after a series of feasibility studies showed that activities had to be reduced due to time and resource constraints. The rescoping reduced the locations (that is, the number of cities) where the interventions would be implemented from eight to four and the number of activities from 16 to 8 due to the cost and feasibility of completing the works before the end of the compact. The final urban water supply activity included four sub-activities in the cities of Nampula, Nacala, and Mocuba. Each sub-activity is described in detail below. Rehabilitation and expansion of the Nampula city water supply system ($18.3 million). This sub-activity included the rehabilitation and expansion of an existing extraction and pumping station (EB0); rehabilitation and expansion of pumping station ETA1 to restore its nominal capacity; construction of ETA2, including pumping stations and sludge lagoons; and construction of a new clear water reservoir, new transmission main, and new EB5 distribution center consisting of a reservoir to supply zones that had insufficient pressure. Rehabilitation and expansion of the Nacala city water supply system ($44.2 million). The goal of this sub-activity was to rehabilitate and expand the Nacala water supply system. However, the contract was terminated due to poor contractor performance and the work has yet to be completed. Rehabilitation of the Nacala Dam ($40.0 million). This sub-activity aimed to rehabilitate the Nacala dam, which had been functioning with deficiencies since the 1980s. The works increased the carrying capacity of the reservoir and rerouted the road to ensure that traffic did not weaken or damage the dam. However, the intended beneficiaries were not reached because the distribution pipeline (part of the water supply system sub-activity) was not completed. Emergency works for Mocuba city water supply system ($4.8 million). This sub-activity provided critical upgrades to an existing low-lift pumping station and an existing water treatment plant. The sub-activity also funded the construction of a new stone maintenance platform in the Lugela River and added two low-lift pumps and two treated water transfer pumps at the main pumping station. These new systems temporarily doubled the volume of water pumped from the river to the city of Mocuba. However, in 2015, flooding significantly damaged the pumping station and adjacent water treatment plant. The low-lift pumps were replaced using funding from the World Bank, but the flood modified the path of the Lugela River, leading to a significant reduction in the amount of water the pumping station can access to service the city. Currently, the pumping station functions at about a quarter of its capacity during the dry season and at half capacity during the rainy season. In addition, as part of this activity, limited water source investigations were funded for Pemba, Quelimane, Nacala, and Montepuez, but the studies had not been completed at the time of the completion report. We will attempt to locate these reports and review the final versions as part of the evaluation. Urban drainage and sanitation activity. MCA-M invested $61.2 million in the rehabilitation and expansion of storm-water drainage systems in the northern cities of Quelimane ($36.6 million) and Nampula ($24.6 million). Both sub-activities intended to reduce flooding and stagnant water and contribute to a reduction in water related diseases, including malaria and cholera. The projects targeted four neighborhoods in Quelimane (with more than 200,000 inhabitants) and six administrative neighborhoods in Nampula (with nearly 470,000 inhabitants). As part of this sub-activity, feasibility studies were completed for the expansion of wastewater treatment, improvements to the piped sewage network, and increasing the usage of septic systems in urban centers and latrines in peri-urban areas. To our knowledge, none of these studies led to actual projects. However, the feasibility studies played a critical role in prioritizing activities both during and after the compact. The GoM and other donors continue to use the studies (which focused on both water supply and sanitation) to guide decisions about investments in the WASH sector. As a result, Mathematica considers these a positive outcome of the program and includes the studies as part of the document review of the evaluation. The entire urban population of Nampula and Quelimane, as well as a proportion of the peri-urban population whose drainage canals link into the constructed or rehabilitated storm drainage systems, were expected to benefit from the interventions. MCC estimated that approximately 60 percent and 70 percent of the Quelimane and Nampula populations, respectively, would benefit from the sanitation investments. Capacity-building activity ($9.6 million disbursed out of $21 million budgeted). This sub-activity provided training and capacity building to the municipalities of Nampula and Quelimane and also to FIPAG, DNA-DAU, DNA-DAR, DNA-GOH to increase the accessibility, reliability, and quality of sanitation and hygiene services in the peri-urban areas. The sub-activity assisted the municipality of Nampula in the establishment of EMUSANA (an

autonomous municipal sanitation company) and provided support to both EMUSANA and EMUSA (the existing company in Quelimane) to carry out their function as water and sanitation managers. Project implementers conducted public outreach to improve hygiene practices and constructed low-cost sanitation facilities in markets and supported activities such as drafting legal legislation, developing advocacy and M&E plans, and human resource development plans. One of the key pieces of legislation created the EMUSANA in Nampula to manage sanitation and storm water drainage and formerly recognized EMUSA in Quelimane. Capacity-building activities were delivered primarily in the form of a training workshop and on-the-job training provided by MCA-M technical staff. While the Mozambique compact was signed in 2007 and entered into force in 2008, the feasibility studies took more time than expected to complete. These studies provided a wealth of important design information, but delayed project activities until 2011. As the figure below shows, implementers only had two years to complete activities. The timeline below highlights the major activities along with the start and end dates for the WSS project.

MCC SECTOR

Water, Sanitation and Hygiene (WASH)

Sampling

No content available

Questionnaires

Overview

(1) AIAS Key Informant Interview (KII)
(2) ARA KII
(3) Business Using Boreholes KII
(4) Collins KII
(5) EMUSA(NA) KII
(6) FIPAG KII
(7) HH Focus Group Discussion (FGD) along drains
(8) HH FGD EB5 service area
(9) HH FGD non-EB5 service area
(10) International Donor KII
(11) MCC/MCA KII
(12) Piped Water Business KII

Data Collection

Data Collection Dates

Start	End	Cycle
2019-03-25	2019-04-04	N/A

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Data Processing

No content available

Data Appraisal

No content available