



Innovation in Water and Sanitation – Provision of water services to vulnerable communities through efficient Multipoint Water Systems managed by private businesses

September, 2015

Background: The USAID funded *Strengthening Communities through Integrated Programming* (SCIP) project aimed at improving the quality of life of project participants through health; water, hygiene, and sanitation; and youth-development services. The project was implemented in Mozambique’s Nampula province by local government and a Pathfinder-led consortium including CARE. As part of the project, CARE has used a participatory methodology of engaging communities through local WASH committees that are connected to Local Development Committees. District artisan groups engaged in the project maintain and repair village water pumps and district based shops that sell spare parts needed for village pump maintenance and repair, ensuring the long term sustainability of the water points.

Innovation: *As part of the project, CARE pioneered innovative technological solutions that provide and maintain water services to communities more efficiently through Multipoint Water Systems managed by private businesses under the oversight of the national, provincial and district government.*

Multipoint Water Systems - Nacala Porto

Partnership with local government and use of local labor and artisans.

Submersible pump with 16,000l/hr pumping and proximate storage capacity of 30,000l.

Gravity fed storage capacity able to supply 30,000l/hr from elevated reservoirs 7km away

3 villages supplied with 8km reticulation network benefiting 8,500 people

Management contract with businessman, employing 21 people

Approximate cost 100,000 USD

Technical Description of the installation of the Multipoint Water Systems in Nacala Porto:



At the site an artesian well taps into an aquifer. The site has a capacity of 30,000litres/hour.



A booster pump transports water from the base station to the nearby storage tanks, which are connected to overhead tanks on a hill 7km away. The four on-site storage tanks have a capacity of 7,500litres each.



7km of piping was laid from the storage tanks to the overhead tanks. The trench was dug by an excavator from the District Infrastructure Department.



The elevation allows water to be fed by gravity to 3 villages (Chalaua, Lili and Mahele) located in the coastal plain with an additional 8km of piping.

The length of tubing means that air pressure escape valves have to be installed at specific points to relieve pressure and prevent “water hammer”. The trenches were dug by hand, by labor from the villages that benefited from the water supply borehole.

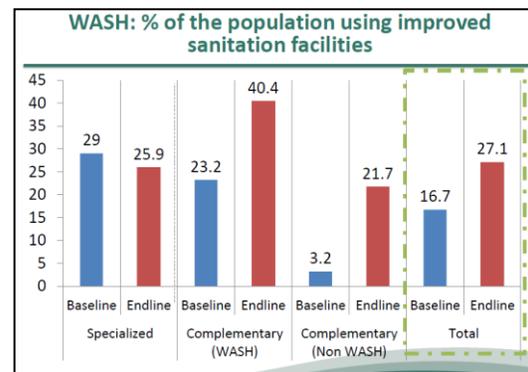


The District Infrastructure Department identified a manager, who will be responsible for running and maintaining the System, including collection of fees. The system has 21 employees (guards, collection personnel)



Each village has two taps on each fountain. Each fountain has the capacity to supply 2,400litres per hour.

Project Related Water, Sanitation and Hygiene Results: At the end of the project, 128 water points, including 3 multipoint water systems were constructed or rehabilitated and are now benefiting 105,000 people. The project end-line survey results indicate that SCIP's key interventions in water, sanitation and hygiene (WASH) contributed to "improving specific outcomes among the target population. The percent of households with access to an improved drinking water supply increased significantly from 32.7% at baseline to 61.4% at endline, with especially notable increases in the complementary area (particularly the areas receiving WASH interventions). The proportion of households using improved sanitation facilities also increased significantly from 16.7% at baseline to 27.1% at endline, primarily driven by increases in the program areas targeted by WASH activities".¹



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In summary, SCIP's key interventions in WASH, which were implemented by CARE, contributed to significantly improving various outcomes among the target population such as improved access to potable water, using improved sanitation facilities, hand washing and safe disposal of children's faeces. The SCIP program highlights the importance of a combined program approach, which includes various program components, including WASH as the SCIP target districts have observed significant reductions in childhood malnutrition cases of at least 30 percent.² Children's hospital admissions due to life-threatening diarrhea and malnutrition cases have also declined up to 64 percent across the five districts in which SCIP provided the full package of services.³

¹ Source: SCIP Nampula. Endline Survey Report July 2015

² Source: <https://www.usaid.gov/news-information/frontlines/child-survival-ethiopia-edition/mozambique-strength-community-care> (Accessed on September 12th, 2015)

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