

Closed Compact Report: Mozambique Compact

March 18, 2015



MILLENNIUM
CHALLENGE CORPORATION
UNITED STATES OF AMERICA

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Introduction

The Millennium Challenge Corporation (MCC) and the Government of Mozambique signed a five-year, \$506.9 million compact in July 2007, designed to increase the country's economic growth and reduce poverty by investing in four project areas: water and sanitation, roads, land tenure, and agriculture.

The government and MCC jointly identified and selected these project areas based on:

- Efforts to fund activities that would help attract private investment and increase economic growth to reduce poverty;
- Input from businesses and civil society; and
- Lessons from previous government development strategies.

The compact focused on Mozambique's northern provinces, home to half the country's population but where the economy has lagged compared to the southern provinces.

At the end of the compact in September 2013, the Government of Mozambique and MCC had spent 90 percent of the anticipated compact funds to:

- Help farmers improve coconut crop management and yields;
- Formalize land titles;
- Rehabilitate roads used for commercial traffic; and
- Help upgrade water and sanitation systems.

The Government of Mozambique and MCC expect more than two and a half million people to benefit from the investments. Further details of the compact's results and impacts can be found in its impact and performance evaluations.

Country Context

- Original Amount at Compact Signing:
\$506,924,053
- Amount spent:
\$447,904,512

- Signed:
July 13, 2007
- Entry Into Force:
September 22, 2008
- Closed:
September 22, 2013

Estimated benefits correspond to \$310.8 million of compact funds, where cost-benefit analysis was conducted.

- 2,684,796 Estimated beneficiaries over 20 years

Any household expected to receive an income gain from the MCC project, either through direct monetary increases, time savings, land value.

- \$120,970,000 Estimated net benefits over 20 years

Net Benefits are the compact benefits minus the costs for the project(s) over the 20 year compact life. This is calculated at a 10% discount rate.

Created with Highcharts 6.0.1
Monitoring & Evaluation
Program Administration
Farmer Income Support
Project
Land Tenure Services
Project
Rehabilitation/Construction of Roads
Project
Water and Sanitation
Project
Water and Sanitation
Project
Total disbursed: \$200 221 661

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 ['Rehabilitation/Construction of Roads Project', 136802300.61],

['Water and Sanitation Project', 200221661.34],

] } } }); });

- [Compact Agreement](#)
- [Constraints Analysis](#)
- [M&E Plan](#)
- [M&E Plan](#)

Farmer Income Support Project

- \$17,432,211 Original Compact Project Amount
- \$18,857,349 Total Disbursed

Estimated Benefits

Estimated Benefits for the Farmer Income Support Project

Time	Estimated Economic Rate of Return (ERR) over 20 years	Estimated beneficiaries over 20 years	Estimated net benefits over 20 years
At compact closure	36 percent	534,044	\$43,050,000

Estimated benefits corresponds to \$19.5 million of project funds, where cost-benefit analysis was conducted.

Project Description

Historically, Mozambique has been a significant exporter of coconuts and coconut products. However, outbreaks of coconut lethal yellowing disease (“CLYD”) had threatened the industry and the livelihoods of over 1.7 million people in Zambézia and Nampula Provinces. Affected trees stop producing fruit and must be removed and replaced.

The objective of the project was to improve productivity of coconut products and encourage diversification into other cash-crop production. The project aimed to eliminate biological and technical barriers hindering economic growth among farms and targeted enterprises, while supporting diversification into other cash crops and improved farming practices to assist smallholders and producers to recover lost income. In conjunction with tree removal and replacement, the project assisted farmers in adopting new cropping systems and developing alternative sources of cash income during the seven or more years required for the coconut trees to reach productive age. Meanwhile, the project provided technical support to introduce better practices aimed at increasing crop yields. At its conclusion, more than 8,000 hectares with diseased or dead palm trees were cleared in areas affected by the disease, more than 780,000 disease-resistant seedlings were planted and more than 15,000 farmers were trained in coconut pest and disease surveillance and control.

Evaluation Findings

MCC commissioned an independent evaluation of the Farmer Income Support Project (FISP) using both impact and performance methodologies.

The FISP Final Evaluation Report was released on the MCC Evaluation Catalog, available at https://data.mcc.gov/evaluations/index.php/catalog/131/related_materials.

Key Findings include:

Disease and Pest Control

- In the endemic area, training on disease control resulted in project farmers being more likely to know cutting trees is a good way to mitigate disease, while training in the epidemic area did not impact farmers' knowledge of disease and pest control methods.
- In the epidemic area, the evaluation found trees were healthier and the disease spread rate was slower in treatment zones compared to the comparison area.

Replanting and Tree Survival

- In the endemic zone, project households planted over three times as many disease-resistant coconut seedlings as comparison (8.5 vs. 2.3), with a lower seedling survival rate in the treatment area compared to comparison (43 percent vs. 61 percent).
- In the epidemic area, project households planted over twice as many disease-resistant coconut seedlings as comparison (3.6 vs. 1.8), with no statistical difference in the seedling survival rate (60 percent).

Coconut Production and Crop Diversification

- In the endemic area, project farmers were 70 percent more likely to plant alternative crops than comparison.
- In the epidemic area, project farmers produced 90 kgs more coconuts than comparison, but did not catch up to previous years' production.

Farm, Non-Farm, and Household Incomes and Sustainability

- In the endemic area, there were small impacts on alternative crop value, but no significant impacts on farm income.
- In the epidemic area, there were no impacts on farm income, but project farmer annual household income increased 68 percent (\$92.54) through an increase in non-farm income (\$85.30).
- Sustainability of impacts were considered challenged by whether or not seedlings would prove disease resistant and whether or not cost-effective means for sustaining tree cutting could be identified.

Key performance indicators and outputs at compact end date

Key performance indicators and outputs at compact end date

Activity/Outcome	Key Performance Indicator	Baseline	End of Compact Target	Quarter 1 through Quarter 20 Actuals (as of Dec 2013)	Percent Compact Target Satisfied (as of Dec 2013)
Business Development Support	Businesses receiving BDF Grants	0	150	119	79%
Control of Endemic Disease	Farmers trained in planting and post planting management of coconuts <ul style="list-style-type: none"> • The three farmer training indicators cannot be aggregated as farmers may participate in multiple trainings. 		8,000	28,830	360%
	Farmers trained in surveillance and pest and disease control for coconuts <ul style="list-style-type: none"> • The three farmer training indicators cannot be aggregated as farmers may participate in multiple trainings. 	0	8,000	15,607	195%
Improvement of Productivity	Farmers trained in alternative crop production and productivity enhancing strategies	0	8,000	8,958	112%

Activity/Outcome	Key Performance Indicator	Baseline	End of Compact Target	Quarter 1 through Quarter 20 Actuals (as of Dec 2013)	Percent Compact Target Satisfied (as of Dec 2013)
	<ul style="list-style-type: none"> The three farmer training indicators cannot be aggregated as farmers may participate in multiple trainings. 				
	Farmers using alternative crop production and productivity enhancing strategies(%)	0	30	38	127%
	Hectares of alternative crops under production	0	8,000	7,686	96%
Rehabilitation of Endemic Areas	Coconut seedlings planted	0	650,000	782,609	120%
	Survival rate of coconut seedlings	0	80	76	95%

Land Tenure Services Project

- \$39,068,307 Original Compact Project Amount
- \$39,466,421 Total Disbursed

Estimated Benefits

Estimated Benefits for the Land Tenure Services Project

Time	Estimated Economic Rate of Return (ERR) over 20 years	Estimated beneficiaries over 20 years	Estimated net benefits over 20 years
At compact closure	24.5 percent	1,333,445	\$38,840,000

Estimated benefits corresponds to \$39.5 million of project funds, where cost-benefit analysis was conducted.

Project Description

Land is an important asset for income generation and wealth creation. In Mozambique, land has been at the center of a long-standing debate about the different choices and visions for growth in rural and urban areas. The Land Tenure Services Project was designed to address the issue of land insecurity and access, by improving policies and regulations and by helping specific beneficiaries better understand how to register their land rights. The project comprised three mutually reinforcing activity areas:

- supporting an improved policy environment, including addressing implementation problems for the existing land law, and engaging in regulatory review to improve upon it;
- improving capacity of public land administration agencies responsible for implementing policies and providing quality public land-related services; and,
- facilitating access to land by helping people and business with:
 - clear information on land rights and access;
 - more predictable and speedy resolution of land and commercial disputes to create better conditions for investment and business development; and
 - registering individuals' and businesses' land rights in the form of land use certificates (DUATS) for long-term or 6 perpetual rights in land.

The project accomplished the following:

- nearly 10,000 rural DUATs were delivered, following the mapping of over 8 million rural hectares. The Government of Mozambique has committed to formalize 5 million household DUAT rights with the World Bank funding 2 million DUATs starting in 2020;
- nearly 150,000 urban DUATs were processed and distributed, including completion of a full cadaster in Monapo; and

- a national land information management system was established in four northern provinces and eight targeted municipalities which the Government, with support from the Netherlands, expanded to all provinces in Mozambique after the end of the compact.

Evaluation Findings

MCC commissioned impact evaluations of both the urban and rural components of the site-specific access to land activity, as well as an impact evaluation of the land administration capacity building activity. The impact evaluations will assess the effect of provision of a land use certificate (DUAT) on land tenure security, investments, land value and productivity. The evaluation of land administration strengthening will assess the effect of training of local land offices and incorporation of a land information management system on the time it takes to process a DUAT and the volume of DUATs. Data collected includes panel household surveys and land administrative data collection, as well as additional wives surveys, community leader surveys, key informant interviews, focus group discussions, and geospatial data analysis. End line data collection began in October 2019 and is expected to be completed in September 2020 with findings published in 2021. In addition, a performance evaluation was completed in coordination with DFID of the community access to land e-component of the site-specific access to land activity, which assessed the effect of provision of community DUATs via the Community Land Fund on allocation of resources, perceptions of tenure and commercial investments. The community evaluation is available [here](#).

Key performance indicators and outputs at compact end date

Key performance indicators and outputs at compact end date

Activity/Outcome	Key Performance Indicator	Baseline	End of Compact Target	Quarter 1 through Quarter 20 Actuals (as of Dec 2013)	Percent Compact Target Satisfied (as of Dec 2013)
Land Administration Capacity Building	Land administration offices established or upgraded	0	26	26	100%
	People trained (paralegal courses at CFJJ, general training at DNTF, etc.) <ul style="list-style-type: none"> • CFJJ: Legal and Judicial Training Center 	0	750	1,516	202%

Activity/Outcome	Key Performance Indicator	Baseline	End of Compact Target	Quarter 1 through Quarter 20 Actuals (as of Dec 2013)	Percent Compact Target Satisfied (as of Dec 2013)
	(Portuguese acronym); DNTF: National Department of Land and Forestry (Portuguese acronym).				
Site Specific Secure Land Access	ITC Communities land areas mapped	0	222	259	117%
	ITC Rural hectares formalized	0	3,030,000	2,258,867	75%
	LTR DUATs delivered to the rural beneficiaries	0	6,237	9,456	152%
	LTR DUATs delivered to the urban beneficiaries <ul style="list-style-type: none"> • DUAT: “legal recognition of right of access and use of land”; LTR Urban and LTR Rural DUATs only. Other forms of household legal recognition include “Comproativos” (LTR activities) and “Certidões” (ITC Activities). The end-of-compact 	0	140,000	144,522	103%

Activity/Outcome	Key Performance Indicator	Baseline	End of Compact Target	Quarter 1 through Quarter 20 Actuals (as of Dec 2013)	Percent Compact Target Satisfied (as of Dec 2013)
	target is equal to the number of DUATs issued into the hands of urban and rural beneficiaries, including producer associations.				
	LTR Rural hectares mapped	0	5,000,000	8,762,020	175%
	LTR Urban parcels mapped	0	140,000	188,423	135%

Rehabilitation/Construction of Roads Project

- \$176,307,480 Original Compact Project Amount
- \$136,802,301 Total Disbursed

Estimated Benefits

Estimated Benefits for the Rehabilitation/Construction of Roads Project

Time	Estimated Economic Rate of Return (ERR) over 20 years	Estimated beneficiaries over 20 years	Estimated net benefits over 20 years
Not specified	7.3 percent	1,237,734	\$-13,280,000

Estimated benefits corresponds to \$127.7 million of project funds, where cost-benefit analysis was conducted.

Project Description

The objectives of the Roads Project were to:

- improve access to markets, resources, and services;
- reduce transport costs for the private sector to facilitate investment and commercial traffic;
- expand connectivity across Mozambique's northern region and towards the southern half of the country; and,
- increase public transport access for individuals to take advantage of job and other economic opportunities.

In its design, the project was to rehabilitate 491 kilometers of high-priority interventions on key segments of National Route 1, which form the backbone of the country's transportation network. Due to higher than expected costs identified during the preparation of full feasibility studies and detailed engineering designs, MCC and the Government of Mozambique agreed to re-scope the activity to two segments totaling 253 kilometers of improved road. At the conclusion of the compact, approximately 90 percent of the 150 kilometer road segment and 70 percent of the 103 kilometer segment had been completed. As a result, the Government of Mozambique committed a total of \$30 million (an initial tranche of \$10 million and a subsequent tranche of \$20 million) to finish the works and cover the associated project management costs. These works were completed in December 2014.

Evaluation Findings

MCC commissioned a performance evaluation of the Roads Project that will measure road roughness, road maintenance, annual traffic, and vehicle operating costs. The final report is expected in 2021.

Key performance indicators and outputs at compact end date

Key performance indicators and outputs at compact end date

Activity/Outcome	Key Performance Indicator	Baseline	End of Compact Target	Quarter 1 through Quarter 20 Actuals (as of Dec 2013)	Percent Compact Target Satisfied (as of Dec 2013)
Road Rehabilitation	Kilometers of roads issued "Take-over Certificates"	0	253	253	100%
	Percent of roads works contracts disbursed	0	100	88	88%

Water Supply and Sanitation Project

- \$203,585,393 Original Compact Project Amount
- \$200,221,661 Total Disbursed

Estimated Benefits

Estimated Benefits for the Water and Sanitation Project

Time	Estimated Economic Rate of Return (ERR) over 20 years	Estimated beneficiaries over 20 years	Estimated net benefits over 20 years
At compact closure	19.2 percent	780,908	\$52,360,000

Estimated benefits corresponds to \$123.5 million of project funds, where cost-benefit analysis was conducted.

Project Description

The Water Supply and Sanitation Project was designed to improve access to safe, reliable water supplies and sanitation services, recognizing that lack of access to these resources are a barrier to growth and health. This project aimed to increase productivity and reduce waterborne diseases—one of the leading causes of death in children under five. The project was also designed to address issues of inadequate access and unreliable service delivery in small- to mid-sized towns. Project teams constructed more than 614 rural water points (boreholes with hand pumps), upgraded and expanded two municipal drainage systems, and upgraded and expanded two urban water supply systems. Additionally, MCC, the Government of Mozambique and other sector stakeholders worked to develop and apply new policies to promote sustainable management of Mozambique’s water resources infrastructure. This included the creation of a new, semi-autonomous government entity (AIAS) responsible for the management of water supply and sanitation assets in 134 of Mozambique’s medium-sized cities and towns.

Evaluation Findings

MCC commissioned a performance evaluation of the Urban Water Supply and Drainage and Sanitation Activities. The evaluation assessed the reliability of water supply, efficacy of the drainage systems, number of beneficiaries, maintenance practices, sustainability, and intended health outcomes. The evaluation was completed in December 2019.

Key Findings from the Urban Water Supply and Drainage and Sanitation Activities Final Evaluation Report include:

Capacity, Maintenance, and Sustainability

- Overall, the Nampula and Nacala city water supply infrastructure are well-maintained and their sustainability is linked to the capacity of the water operator.
- Maintenance of drainage has been a challenge, as sanitation companies were not ready for autonomous management.

Water Supply

- Nampula city water supply investments contributed to increased water volume and service hours. However, full intended benefits are limited by the water volume available from the dam itself.
- The Nacala Dam investment increased the system's potential capacity, but water supply to customers continues to be constrained by the incomplete treatment and distribution works.

Drainage

- Residents credit perceived flood reduction to the drainage systems and noted that drains help water flow off the streets.
- Even so, this investment does not seem to have affected the incidence of malaria in Nampula and Quelimane. Households and health workers report malaria continues to afflict families living nearby.

Cost-effectiveness and Lessons

- Overall, it is doubtful that these investments were cost-effective, as key outcomes were non-existent or marginal.
- To realize benefits from improved piped water systems, the supply, treatment, and distribution need to be in place.
- Infrastructure needed to be paired with sufficient capacity building to ensure sustainability.

MCC commissioned an impact evaluation of the Rural Water Supply Activity. [The Final Evaluation Report](#) was published in August 2014.

Key Findings include:

Safer Water Access and Use

- Households in project communities switched from majority unsafe water sources – 85.4 percent unprotected wells – to majority safe – 77.6 percent – as a result of the installed hand pumps.
- Water quality testing showed higher quality water at the hand pumps.
- Median household water consumption from safer sources in project communities increased 16.7 liters per capita per day compared to households in communities that did not receive the intervention.
- The probability of households using the hand pumps decreased when farther than 1.2 km from hand pumps.

Time Savings and Productivity

- Water collectors (mostly women and youth) reported time savings of 55 minutes per each 20 liters of water collected.
- Time savings was used for domestic chores, rest, spending time with family, and working in the field.

Hygiene and Sanitation Behaviors and Health Outcomes

- Community-based training failed to impact sanitation and handwashing behavior.
- The Rural Water Supply Activity, in combination with the other project interventions, failed to reduce the percentage of reported waterborne illness in children under 5.
- Continued use of unsafe water sources, household water storage methods, and inadequate hygiene and water management practices prevented predicted health improvements.

Household Incomes and Sustainability

- The project had no impact on median household income in project communities.
- While water committees were still functioning at a high level, they raised sustainability concerns, including lack of sufficient revenues, access to parts, and technical capacity for repairs.

Key performance indicators and outputs at compact end date

Key performance indicators and outputs at compact end date

Activity/Outcome	Key Performance Indicator	Baseline	End of Compact Target	Quarter 1 through Quarter 20 Actuals (as of Dec 2013)	Percent Compact Target Satisfied (as of Dec 2013)
Construction of Rural Water Points	Amount disbursed for rural water points construction contracts	0	8,597,705	8,223,869	96%
	Percent of rural population of the six intervention districts with access to improved water sources	0	22.1	23.4	106%
	Persons trained in hygiene and sanitary	0	7,200	8,400	117%

Activity/Outcome	Key Performance Indicator	Baseline	End of Compact Target	Quarter 1 through Quarter 20 Actuals (as of Dec 2013)	Percent Compact Target Satisfied (as of Dec 2013)
	best practices				
	Rural water points constructed <ul style="list-style-type: none"> Rural water points constructed refer to communal hand pumps in Nampula Province and communal small scale solar systems in Cabo Delgado Province. 	0	600	614	102%
Municipal Sanitation and Drainage Systems	Amount disbursed for municipal sanitation and drainage construction contracts	0	51,354,969	51,222,254	100%
	Value of Municipal Sanitation and Drainage Systems construction contracts signed	0	40,437,763	51,354,969	127%
Urban Water Supply Systems	Percent of revised construction contract disbursed for water systems	0	100	81	81%
	Value of contracts signed for construction of Water Systems	0	91,518,535	109,547,822	120%

Compact Changes

The MCC-Mozambique compact included large scale capital investments in infrastructure and major service delivery systems, like those that manage water and sanitation. MCC compacts are a fixed amount implemented over five years, and partner governments must focus on compact results while balancing changes in costs and implementation schedules.

As MCC and the Government of Mozambique encountered higher-than-anticipated construction costs—based on additional technical and regulatory information about the design of compact investments—they agreed to make three compact changes:

- Reducing the compact’s infrastructure projects from four road segments totaling 491 kilometers to two segments totaling 253 kilometers.
- Restructuring the Water Supply and Sanitation Project and the municipal drainage activities from six in each area to two.
- MCC and MCA-Mozambique terminated a Water Supply activity (Nacala), due to an underperforming contactor. The government began working with the World Bank in 2013 to complete this water supply activity.

The Government of Mozambique committed an additional \$30 million in 2012 to help complete compact components that faced procurement and civil contractor staffing delays. This enabled them to complete all road works by January 2014.

Coordination and Partnerships

With a recognition that construction on the 253 kilometers of road would not be completed by the September 2013 compact end, the Government of Mozambique provided additional funding of \$10 million in July 2013 to cover expected post-compact construction and project management costs. Following the compact's closure, the Government of Mozambique allocated another \$20 million, for a total government contribution of \$30 million. These additional funds were provided to cover expected final costs associated with the Road Project, which included outstanding construction and project management costs, as well as funding to cover construction-related claims. Following the compact's closure, the Government worked with the World Bank to identify financing and construction opportunities for the Nacala Water Supply activity, which was terminated as a result of a poorly performing contractor.

Conditions Precedent

To encourage desired investment outcomes under the compact, MCC and the Government of Mozambique agreed that the following conditions precedent (CP) would be met before disbursing project funds.

Key Conditions Precedent

Key Compact Component(s)	Major Condition Precedent or Policy Reform Required	Rating
Water and Sanitation Project	<p>Increased Authority of Central Regulatory Agency</p> <p>To better ensure sustainability and consistency within the WSS sector, the regulatory agency will have broader oversight to include smaller cities and towns. As a CP, the Minister of Public Works and Housing signed a letter of sector policy which officially expanded the mandate of the regulatory agency.</p>	Met on Time
Land Tenure Services Project	<p>Land Use Legislation</p> <p>Land use rights are currently not easily transferrable, hindering considerable small and medium-scale development, business creation, etc. The Government will adopt revised legislation and administrative procedures that allow land use rights to be transferred without undue delay or risk.</p>	Not Met
Water and Sanitation Project	<p>Legal establishment of Provincial Water Boards for AIAS</p> <p>Administração de Infraestruturas de Água e Saneamento (AIAS), a new institution established to manage water supply and sanitation assets in Mozambican cities with populations between 50,000 and 150,000.</p>	Met on Time
Rehabilitation/Construction of Roads Project	Road Maintenance	Met on Time

Key Compact Component(s)	Major Condition Precedent or Policy Reform Required	Rating
	<p>The Government of Mozambique has prepared a paved road maintenance program that includes a periodic maintenance for the entire paved roads network. The program includes but is not limited to the following items: a rolling planning period of eight years; provisions for annual updating of the program based upon additions to the paved road network; a detailed listing of all paved roads subject to periodic maintenance by year; a funding plan that includes 100% of routine and periodic maintenance works such that those works will be funded in increasing amounts to 100% by user fees as of ten years after the initial paved roads maintenance program.</p>	

Reducing Poverty Through Growth

