



MCA-Mozambique

Monitoring and Evaluation Plan

December 10, 2013
(Compact Closeout)

Original M&E Plan: 14 April 2009

First Amended M&E Plan: 24 August 2010

Second Amended (Compact Closeout) M&E Plan: 10 December 2013

Table of Contents

1.0	Preamble	iv
2.0	List of Acronyms	v
3.0	Compact and Objective Overview	1
3.1	Introduction	1
3.2	Program Logic	2
3.2.1	Water Supply and Sanitation Project Logic	2
3.2.2	Roads Project Logic	5
3.2.3	Land Tenure Services Project Logic	8
3.2.4	Farmer Income Support Project Logic	11
3.3	Projected Economic Benefits.....	14
3.3.1	Water Supply and Sanitation Project ERR.....	14
3.3.2	Roads Project ERR.....	15
3.3.3	Land Tenure Services Project ERR.....	16
3.3.4	Farmer Income Support Project ERR.....	18
3.3.5	ERR Summary	18
3.4	Program Beneficiaries	19
3.4.2	Roads Project Beneficiaries	19
3.4.3	Land Tenure Services Project Beneficiaries	20
3.4.4	Farmer Income Support Project Beneficiaries	20
3.4.5	Beneficiary Summary.....	21
4.0	Monitoring Component	22
4.1	Summary of Monitoring Strategy.....	22
4.2	Data Quality Reviews.....	23
4.3	Standard Reporting Requirements.....	24
5.0	Evaluation Component	25
5.1	Summary of Evaluation Strategy.....	25
5.2	Specific Evaluation Plans	26
5.2.1	Water Supply and Sanitation Project Evaluation	26
5.2.2	Roads Rehabilitation Project Evaluation.....	29
5.2.3	Land Tenure Services Project Evaluation	29
5.2.4	Farmer Income Support Project Evaluation	32
6.0	Implementation and Management of M&E.....	34
6.1	Responsibilities.....	34
6.2	MCA Management Information System for Monitoring and Evaluation.....	36
6.3	Review and Revision of the M&E Plan.....	37
7.0	M&E Budget	39
Annex I: Indicator Documentation Table		42
Annex II: Table of Indicator Baselines and Targets		73
Annex III: Modification Tables		92
Annex IV: Technical Documentation of Economic Analysis of Water Supply and Sanitation Project ...		185
Annex V Technical Documentation of Economic Analysis of Roads Rehabilitation Project		210
Annex VI: Technical Documentation of Economic Analysis of Land Tenure Services Project		211
Annex VII: Technical Documentation of Economic Analysis of Farmer Income Support Project.....		216

Table 1: Summary of Water Supply and Sanitation Project Interventions	4
Table 2: Compact ERR Summary.....	18
Table 3: Compact Beneficiary Summary	21
Table 4: MCA-Mozambique Program Budget Disaggregated by Project and Activity.....	39
Table 5: MCA-Mozambique M&E Budget with Actual Disbursements to date (Expressed in US Dollars)	41
Figure 1: Compact Funded Road Segments of N1 Roads Network.....	7
Figure 2: Schematic of Sample Frame	28

1.0 Preamble

The Millennium Challenge Corporation, on behalf of the United States Government, and the Ministry of Planning and Development, on behalf of the Government of the Republic of Mozambique (the Parties) signed a Compact Agreement ('Program') for a US \$506.9 million grant to be implemented over a 5 year period.

Both parties are committed to a) the shared goal of reducing poverty through economic growth in the four Northern Provinces of Mozambique (Niassa, Cabo Delgado, Nampula, and Zambézia) and b) compact assistance being provided in a manner that strengthens good governance, economic freedom, and investments in the people of Mozambique. The Compact was signed on July 13, 2007 and Entered into Force on September 22, 2008. The compact end date is September 21, 2013.

The objectives of the Program include: 1) Increase access to reliable sources of potable water supply and improved sanitation facilities (Water Supply and Sanitation Project), 2): Increase access to productive resources and markets while reducing transport costs (Roads Rehabilitation Project), 3) Establish efficient and secure land access for households, communities, and investors (Land Tenure Services Project), and 4) Protect and restore healthy coconut supply, and diversity farmers' income (Farmer Income Support Project).

2.0 List of Acronyms

AADT	Average Annual Daily Traffic	Média Anual de Tráfego Diário
AIAS	Water Supply & Sanitation Infrastructure Authority	Administração de Infra-estruturas de Água e Saneamento
ANE	National Roads Authority	Administração Nacional de Estradas
APR	Annual Performance Report	Relatório de Desempenho Anual
CACM	Center for Arbitrage, Reconciliation and Mediation	Centro de Arbitragem, Conciliação e Mediação
CENACARTA	National Centre for Cartography and Digitization.	Centro Nacional de Cartografia e Teledeteção
CEPAGRI	Agricultural Development Centre	Centro de Promoção de Agricultura
CFJJ	Legal and Judicial Training Centre	Centro de Formação Jurídica e Judiciária
CIF	Compact Implementation Fund	Fundo de Implementação do Compacto
CLF	Community Land Fund	Fundo Comunitário de Terras
CLYD	Coconut Lethal Yellowing Disease	Doença de Amarelecimento Letal do Coqueiro
CTA	Confederation of Trade Associations	Confederação das Associações Económicas
DAR	Rural Water Directorate	Departamento de Água Rural
DAU	Urban Water Directorate	Departamento de Água Urbana
DHS	Demographic Health Survey	Inquérito Demográfico e de Sade
DUAT	Land Use Property Rights Certificate	Direito de Uso e Aproveitamento de Terra
DNEAP	National Directorate for Studies and Policy Analysis	Direcção Nacional de Estudos e Análise de Políticas
DNTF	National Directorate for Land and Forestry	Direcção Nacional de Terras e Florestas
DQR	Data Quality Review	Revisão da Qualidade de Dados
EIA	Environmental Impact Assessment	Avaliação do Impacto Ambiental
ERR	Economic Rate of Return	Índice de Retorno Económico
FIPAG	Water Supply Investment Fund	Fundo de Investimento para o Património de Abastecimento de Água
FISP	Farmer Income Support Project	Projecto de Apoio ao Rendimento do Agricultor
GOH	Hydraulic Works Authority	Gabinete de Obras Hidráulicas
GoM	Government of Mozambique	Governo de Moçambique
IAE/ABS	Annual Business Survey	Inquérito Anual às Empresas
IEA	Implementing Entity Agreement	Acordo com Entidades de Implementação
IIAM	Agricultural Research Institute of Mozambique	Instituto de Investigação Agrária de Moçambique
INE	National Institute of Statistics	Instituto Nacional de Estatística
IOF	Household Income Survey	Inquérito ao Orçamento Familiar
INFATEC	National Institute for Land Administration and Cadastre Training	Instituto Nacional de Formação em Administração de Terras e Cadastro
IPCC	Institutions for Community Consultation and Participation	Instituições de Participação e Consulta Comunitária
IRI	International Roughness Index	Índice de Rugosidade das Estradas
ITC	Community Land Fund	Iniciativa de Terras Comunitárias
LPCF	Land Policy Consultative Forum	Fórum Consultivo sobre Políticas de Terras
M&E	Monitoring and Evaluation	Monitoria e Avaliação
MCA	Millennium Challenge Account	Conta dos Desafios do Milénio
MCC	Millennium Challenge Corporation	Millennium Challenge Corporation
MSU	Michigan State University	Michigan State University
MICS	Multiple Indicator Cluster Survey	Inquérito de Indicadores Múltiplos

MINAG/DE	Ministry of Agriculture/Dept of Economics	Ministério da Agricultura/Depto. de Economia
MIPAR	Rural Water Supply Implementation Manual	Manual de Implementação de Projectos de Água Rural
MIS	Management Information System	Sistema de Gestão de Informação
MTR	Mid-term Review	Revisão de Meio-termo do Programa
NLPAG	National Land Project Advisory Group	Grupo de Trabalho de Terras
PARPA I	Action Plan for the Reduction of Absolute Poverty; 2001-2005	Plano de Acção para a Redução da Pobreza Absoluta
PARPA II	Action Plan for the Reduction of Absolute Poverty; 2005-2009	Plano de Acção para a Redução da Pobreza Absoluta
PCR	Program Completion Report	Relatório Final do Programa
PDV	Present Discounted Value	Valor Actual Líquido
QPR	Quarterly Performance Report	Relatório Trimestral
RAP	Resettlement Action Plan	Plano de Acção do Reassentamento
SEN	National Statistical System	Sistema Estatístico Nacional
TA	Technical Assistance	Assistência Técnica
TIA	National Agricultural Survey	Trabalho de Inquérito Agrícola
VOC	Vehicle Operating Cost	Custo de operação de viatura
WSS	Water Supply & Sanitation Project	Projecto de Abastecimento de Água e Saneamento

3.0 Compact and Objective Overview

3.1 Introduction

Mozambique has a population of approximately 20 million people, of which, an estimated 70 percent are located in rural areas. Emerging from a devastating three-decade civil war in 1992, Mozambique has grown rapidly. Since 2000, its growth rate has stabilized between 7 and 8 percent. As the Country Partnership Strategy (2007) notes, Mozambique has achieved the highest average growth rate in the past 10 years among the non-oil producing countries in Africa. However, despite Mozambique's rapid growth, half of the Mozambican population still lives in poverty. Mozambique's next stage of economic recovery cannot succeed without well-functioning public services in its cities, given Mozambique's rapid urbanization.

The Government's Action Plan for the Reduction of Absolute Poverty 2001-2005 (PARPA I) and 2005-2009 (PARPA II) are based on the premise that broad-based economic growth is critical to poverty reduction. In PARPA I, lack of basic infrastructure services was identified as one of the major determinants of poverty in Mozambique, and it focused on infrastructure investments to meet the Government's ambitious growth objectives detailed in PARPA I. Building on the lessons learned from PARPA I, the Government outlines investment in human capital, including water and sanitation services, as one of the three pillars to meet its sustained growth agenda in PARPA II. As PARPA II notes, investing in water and sanitation services contributes to meeting not only the short-term objectives of the Millennium Development Goals, but also Mozambique's long-term growth and poverty reduction intentions.

The MCC Program addresses productive constraints in both rural and urban areas of the Northern Provinces of Mozambique. The Program involves crucially needed investments in water supply and sanitation, transport infrastructure, land tenure security, agricultural production capacity building and institutional strengthening.

The 2008-2013 Compact goal is to reduce poverty in Mozambique through economic growth, and increase economic opportunities for Mozambicans living in the northern region. The Program Objective is to increase the productive capacity of the population in selected provinces in northern Mozambique with the intended impact of reducing the poverty rate, increasing household income, and reducing chronic malnutrition in the targeted districts.

3.2 Program Logic

3.2.1 Water Supply and Sanitation Project Logic

Background

Lack of access to water and sanitation is a major barrier to growth and health, and this critical infrastructure is a major policy priority of the Government. Mozambique has one of the lowest levels of per-capita water consumption in the world. With an average of less than 10 liters per day, the country is far below global benchmarks. In addition, girls and women spend hours gathering water which leaves little time for child care, income-generating activities, or school attendance.

Meeting the Millennium Development Goals is a major challenge for Mozambique as coverage levels for water and sanitation services would have to almost double for all categories by 2015.

The Government estimates that it would need to at least double its sector investments in the next ten years in order to meet the Millennium Development Goals for water and sanitation. Cholera is endemic in major urban areas mainly due to inadequate sanitation and sewerage services, compounded by poor water supply services. This prevalence of cholera and other health impacts caused by poor sanitation also jeopardizes meeting the Millennium Development Goal of reducing infant and child mortality.

The Water Supply and Sanitation Project (WSS Project) interventions include urban and rural water supply, municipal drainage, rehabilitation of the Nacala dam and reservoir, and capacity building and institutional strengthening for water sector entities. The objective of the WSS Project is to increase the accessibility, reliability, and quality of water supply and storm water drainage services. WSS Project investments target provincial capitals, urban centers and small rural communities. The WSS Project will reduce the onerous costs associated with the provision of potable water; increase the reliability of water supply and municipal drainage services; and improve the health (reduce water-borne diseases; one of the causes of death in children under five years of age) and productivity of individuals, households, and firms.

Summary of Water Supply and Sanitation Project Activities

The original WSS Project encompassed a) water supply and sanitation services in three large cities and three mid-sized towns in the provinces of Zambézia, Nampula and Cabo Delgado and b) a water supply program in Nampula and Cabo Delgado provinces covering rural areas and small towns. The water supply interventions were divided into interventions in cities where water supply services are owned and managed by the Water Supply Investment Fund (FIPAG) and cities where they are managed by a new Ministry of Public Works and Housing agency; i.e., the Water Supply and Sanitation Infrastructure Authority (AIAS). AIAS manages the implementation of compact investments in municipal drainage systems.

Water supply interventions focus on the sustainable utilization of available water resources. In addition, storm drainage systems are being rehabilitated or added to improve drainage efficiency which protects urban land usage.

The rural water supply component was developed from the Government's policy of demand responsive planning, which is predicated on a) community articulation of demand and b) local responsibility for operations and maintenance. Taking into consideration the lack of local capacity and concerns over the availability of spare parts and specialized expertise to carry out complex repairs in rural areas, the implementation plan included procurements of well construction services in small lots in order to promote the development of local construction and repair businesses.

At the time of compact signing, Water Supply and Sanitation Project investments were to be implemented in three of the four Northern provinces including (a) water supply services in Quelimane city (provincial capital of Zambézia Province), Nampula city (provincial capital of Nampula Province) and Pemba city (provincial capital of Cabo Delgado Province) and five mid-sized towns (Montepuez, Nacala, Monapo, Gurúè and Mocuba); (b) sanitation and storm and waste-water drainage in three large cities (Quelimane, Nampula and Pemba) and three mid-sized towns (Nacala, Mocuba and Gurúè); (c) the rehabilitation and raising of the Nacala City dam and reservoir; and (d) the installation of 350 hand pumps in Nampula and the installation of 250 hand pumps in Cabo Delgado rural communities.

As a result of three successive re-scopings (December 21, 2010, April 29, 2011 and August 31, 2011), the Water Supply and Sanitation Project was reduced from sixteen activities to seven. The total number of city intervention sites had been reduced from eight to three. Apart from a reduction in the number of urban interventions, the scope of the works were significantly reduced including, for example, the elimination of the distribution of water to the resident population, the reduction in the extent of the works of urban drainage systems and the de-scoping of urban sanitation systems to low cost sanitation facilities. Notwithstanding, the compact has funded ground water investigations to determine alternative sources of water for the cities of Pemba, Monapo, Montepuez and Quelimane.

Re-scoped water supply and sanitation interventions are summarized in the table below.

Table 1: Summary of Water Supply and Sanitation Project Interventions

Activities/Sub-Activities	Compact Funded Interventions
Nacala Water Supply	Construction of new water treatment plant, transmission lines, and storage and distribution mains.
Nampula Water Supply	Rehabilitation of and upgrading of the intake, water treatment works (WTW) and pumping stations and new WTW, transmission line and storage reservoir.
Nampula Sanitation (Storm water drainage)	Construction/rehabilitation of storm water drainage. Public outreach and construction of public low-cost sanitation facilities.
Quelimane Sanitation (Storm water drainage)	Construction/rehabilitation of storm water drainage Public outreach and construction of public low cost sanitation facilities.
Rehabilitation of Nacala Dam	Repair and raise the Nacala Dam and reservoir; the main bulk water source for Nacala City.
Rural Water Points	Construction of 350 rural water supply points equipped with manual hand pumps in Nampula Province. Construction of 250 rural water supply points equipped with manual hand pumps in Cabo Delgado Province. Construction of 8 small scale solar systems in Cabo Delgado Province.

3.2.2 Roads Project Logic

Background

Two-thirds of Mozambique's population depends on agriculture for their livelihood; of these, about 90 percent on subsistence agriculture. The cash crop sector is in a reconstruction stage and is experiencing development problems, especially the cashew sector. Other planted cash crops are sugar cane, tea, tobacco, and coconut. The importance of roads in agriculture is highlighted in the World Bank's Mozambique Agriculture Strategy, (2006) which notes that "rebuilding roads and bridges is now a priority and a necessary condition for any growth in the agriculture sector."

Extraction of timber is limited because of lack of infrastructure including poor road conditions but has a high development potential due to the richness of high quality timber species. Fisheries, particularly shrimp and prawn, are of importance, with a high potential for production increases. Mozambique has considerable mineral resources, such as coal, tantalite, ilmenite, graphite, iron ore, bauxite, salt, and potentially important reserves of gold, petroleum, and gas. All of these sectors depend upon reliable transportation networks and roads in particular.

The *Administração Nacional de Estradas* (ANE) and the Fundo de Estradas (Road Fund), an independent agency that manages road maintenance funding, prepared a Road Sector Strategy (RSS) 2007–2011 Report. That strategy lays out the Government's plan to enhance, improve, and preserve the classified road network of the country.

The RSS provides the broad framework for the Government's road sector development for the entire country. The Government of Mozambique (GoM) and MCC worked together to identify appropriate investments in the provinces of the Roads Project based upon the strategic work of the GoM under an MCC grant and through other donors' efforts. Roads Project interventions include key segments of the "*Estrada Nacional*" / National Route 1 (N1) in the northern provinces of Zambézia, Nampula and Cabo Delgado.

Summary of Roads Project Activities

The objective of the Roads Project is to improve access to markets, resources, and services; reduce transport costs for the private sector to facilitate investment and commercial traffic; expand connectivity across the northern region and with the southern half of the country; and increase public transport access for individuals to take advantage of employment and other economic opportunities.

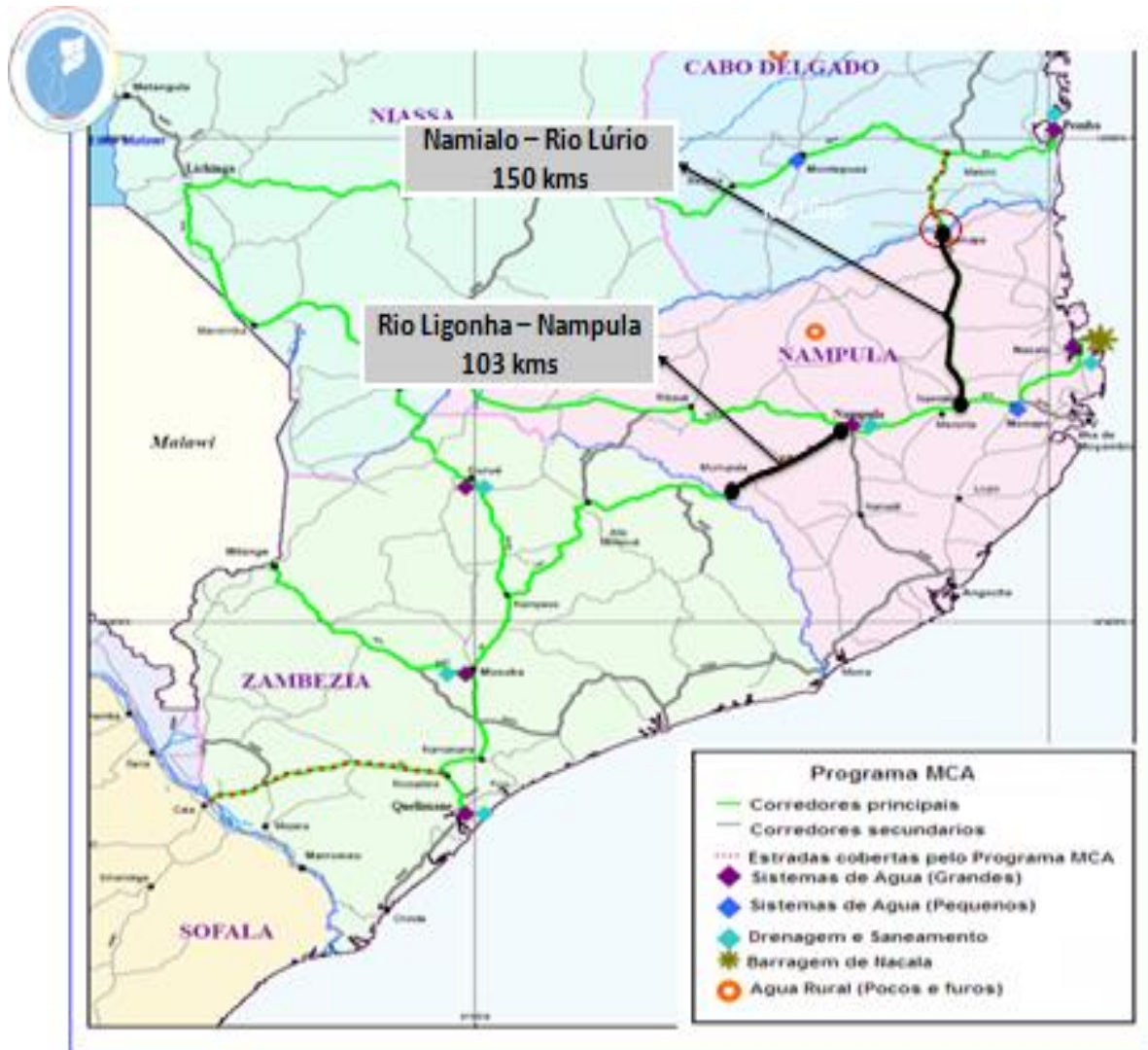
The original Roads Project planned to rehabilitate 491 kilometers of high-priority roads in three provinces. Road segments included: 1) Rio Lúrio – Metoro in Cabo Delgado (74 km), 2) Namialo–Rio Lúrio (149.7 km), 3) Nampula–Rio Ligonha in Nampula (103 km), and 4) Nicoadala–Chimuara in Zambézia (167 km).

Specific rehabilitation activities of the compact funded road segments include:

1. Design, environmental assessment, as needed (to include, if necessary, supplemental environmental impact assessments (EIAs), and construction activities for the improvement of the N1 road segments;
2. Implementation of environmental and social mitigation measures as identified in the EIA, or as otherwise may be appropriate, to include compensation for physical and economic displacement of individuals, residences and businesses affected by such rehabilitation and construction, consistent with the World Bank's Operational Policy on Involuntary Resettlement (OP 4.12), implementation of Resettlement Action Plans (RAP) and implementation of HIV/AIDS awareness plans;
3. Rehabilitation of lane configuration of the Namialo-Rio Lúrio (149.7 km) road segment and the Nampula-Rio Ligonha (103.0km) road segment consisting of a single carriageway with a 2 x 3.4 meter surfaced lanes, 2 x 1.5 meter surfaced shoulders and 2 x 0.5 meter unpaved verges/shoulders,
4. Design and construction of drainage structures including catchment basins, manholes, kerbing, channel collectors and sub-collectors, minor drainage structures include pipe culverts having diameters of less than or equal to 1.50 meters, major drainage structures include pipe culvert having diameters larger than 1.50 meters.
5. Design, construction and/or rehabilitation of all bridge structures, as may be required;
6. Installation of ancillary road works including marker and kilometer posts, signage posts and incorporation of safety improvements and
7. Project management, supervision, quality assurance of works and goods and auditing of such improvements and upgrades.

As a result of the January 2011 re-scoping, only the Namialo–Rio Lúrio (149.7 kilometers) and Nampula–Rio Ligonha (103.0 kilometers) road segments in Nampula Province were approved for rehabilitation; refer to the map inserted below:

Figure 1: Compact Funded Road Segments of N1 Roads Network



Notwithstanding the reduced scope of work, the compact funded environmental licenses, environmental impact assessments, feasibility studies and preliminary designs for the 197 kilometers of cancelled road segments.

Following the completion of road construction activities, the quality assurance engineer will conduct International Roughness Index (IRI) measurements of road segments in order to verify the post-construction roughness of the road surface and thereby, ensure that the quality of the roads works comply with contract specifications.

3.2.3 Land Tenure Services Project Logic

Background

Land is an important asset for income generation and the creation of wealth. Land has been at the center of a long-standing debate about different choices and visions for growth in rural areas, and is of increasing importance to urban development as well. In 1997 Mozambique adopted a new legal framework on land tenure aiming to address equitable access to land tenure security for private sector enterprises as well as local communities including recognition of customary rights.

This new legal setup has been recognized by a broad range of actors as a good policy and legal framework. However, implementation of this framework has been slow and requires that an efficient land administration system perform a central supporting role for increased land tenure security and improved access to land in support of economic growth.

On one hand, the lack of simple, fair and clear procedures for acquiring and transferring rights to land are constraining factors for private sector investment. On the other hand, there have been concerns about improving and securing local community and small farmer land-use rights. As Mozambique has moved on from post-war reconstruction toward a market-based economy, there is an increasing demand for land access and for issuance of registered titles to land rights. This is placing increased pressure on the land administration services, which are already limited in their ability to effectively implement existing legislation.

The Land Tenure Services Project (Land Project) worked on 1) improving policy, 2) upgrading the public land administration agencies (the title registry and cadaster), and 3) facilitating site-specific land access. These three main pillars aimed to address concerns widely shared across the private sector, the Government, and civil society with solutions that bring together their diverse perspectives.

Initiatives such as those by the Land Tenure Services Project that aim to strengthen the property rights system are generally designed to result in clearly defined rights that are enforceable, transferable, and of appropriate duration and scope. An improved land administration system is expected to lower land-transaction costs, lower the risk of expropriation or conflict, and increase tenure security. In the medium or longer term, the system should contribute to more efficient land uses due to improved productivity, increased investment, and the development of land markets. More productive land should result in higher asset/land values and higher incomes for property owners. Over time, as land and financial markets develop formal land rights can also be used as collateral for loans.

Summary of Land Tenures Services Activities

The Land Project was comprised of three mutually reinforcing activities: 1) support for an improved policy environment, including addressing implementation problems for the existing land law and engaging in regulatory review to improve upon it (Policy Activity), 2) building the institutional capacity to implement policies and provide quality public land-related services

(Capacity Building Activity) and 3) facilitating access to land use by helping people and business with a) clear information on land rights and access in eight (8) municipalities and twelve (12) districts in Northern Mozambique, b) resolution of conflict with more predictable and speedy resolution of land and commercial disputes creating, in turn, better conditions for investment and business development and c) registering their grants of land use; i.e., land titles to long-term or perpetual-use rights (Site Specific Activity).

Land Policy Monitoring (Policy Activity)

The Land Law adopted in Mozambique in 1997 made significant improvements to the legal, institutional and technical framework for providing more secure land use rights and access to land for all groups in society. However, land authorities are under increasing pressure to implement this framework while simultaneously introducing additional improvements. Mozambique stands to significantly benefit from the development of a new, coherent land formalization vision that links all levels of responsibility and capacity for the provision of land services and the pursuit of an agenda of regulatory and administrative change. In addition, it is believed that an aggressive approach to non-judicial dispute resolution (conciliation, mediation and arbitration) as well as legal professional training and public education about land administration and land rights are important to the transformational goals of the Land Project. Land tenure disputes are plentiful, yet, there are few sources of legal support for rural people. Even private enterprises find it difficult to access high quality legal services related to land issues. The Policy Activity aimed to address these issues.

Specifically, MCC funding planned to support the following five sub-activities¹ under the Policy Activity:

1. Based on a needs assessment, further development of a national land administration vision and a coherent implementation strategy that will examine regulations, administrative processes, information systems, institutional structure, and human resources;
2. Provision of technical and logistical support for a process to assess and monitor progress on land legislation, in coordination with the Land Policy Consultative Forum; created with support from the Land Project;
3. Development and implementation of a broad campaign of public education, outreach and awareness raising of non-judicial dispute resolution methods with partners, including but not limited to the Centro de Arbitragem, Conciliação e Mediação, as effective cost and time-saving mechanisms to resolve disputes;
4. Funding for expansion of an on-going program for a) legal and judicial training, b) training for mediators and arbitrators, c) studies and advocacy of the Legal and Judicial Training Center (CFJJ), as well as d) developing new curriculum on mediation and arbitration training for CFJJ's paralegal students working in the northern provinces on commercial and land issues; and

¹ Although the above policy sub-activities were planned, during Compact implementation the Project dedicated less efforts and funding on policy work and focused on the other two Land Project activities: capacity building and site-specific access.

5. Provision of advisory services, including international best-practice knowledge transfer, to the National Directorate of Lands and Forests.

Land Administration Capacity Building (Capacity Building Activity)

The institutional capacity to implement and enforce the present land law and its regulations and to provide high quality efficient services to clients is limited. Limitations include procedural complexity, insufficiently trained personnel and inadequate information, communications and lack of profession-specific technology available at the national, regional and local offices. The Capacity Building Activity supported investments to address these limitations affecting an effective land registry system. Strengthening of the public land administration services aims to a) yield more transparent, reliable and faster processes for maintaining land rights information to meet a growing demand for formal land rights registration, b) improve the investment climate while ensuring security of tenure for land-holding households and local communities and c) generate a revenue base to sustain higher quality services over time.

Specifically, compact funding supported the following interventions:

1. Implementation of a comprehensive approach to professional development and training (including, for example, local requirements and international best practices in cadastral and registration information systems, surveying and titling procedures, land law, etc.) at the national, provincial and local levels, thereby increasing knowledge and awareness of land tenure issues, land records management, surveying techniques, and providing a better understanding of development trends in land policy and services,
2. Further development of a National Land Information System (LIMS) strategic plan, initially funded by the Italian Government, final design and development and installation at multiple provincial offices,
3. Investment in and technical assistance for the upgrading of physical facilities for four provincial and select district land service offices, and
4. Investment in and technical assistance for cadastral development in select municipalities, including cadastral registration within each beneficiary municipality. Although originally planned to be a pilot effort in select municipal neighborhoods, following the needs assessment, the Project worked across municipalities.

Site Specific Facilitation of Land Access (Site Specific Activity)

In the PARPA, the Government committed to undertaking a mapping and inventory initiative to identify and record the actual legal and economic situation of land holdings including the type of land rights (by state authorization, good faith and community) and existing land uses.

Discussions with CTA and others suggested that some simple information and facilitation services would allow progress within the institutional and regulatory climate while the other Land Project activities worked to transform the land administration system.

In the selected, more economically dynamic areas, systematized land holding information is expected to lead to more effective planning and access management of natural resources (including land), reduce the risk of land disputes, and provide more timely and accurate access to land information in support of farm and non-farm investments and/or businesses agreements. At the same time, communities may increasingly seek to enhance the security of their tenure or to engage in business relations with investors through joint ventures or by leasing their lands as allowed for in the land law upon boundary delimitation and title issuance.

Specifically, compact funding supported:

1. Implementation of the mapping and inventory exercise and, as part of that process, the piloting of a sound approach to area-wide registration of land rights in selected hot spot areas characterized as more dynamic and/or conflictive. During implementation, the Project targeted 140,000 DUATs to be issued in selected municipalities and over 20,000 DUATs in selected rural districts.
2. Provision of additional funding to the existing program of support for the Community Land Initiative (ITC) to allow its operation in Zambézia, Nampula and Niassa Provinces (prior to compact signing, the land fund was already operating in Gaza, Manica and Cabo Delgado with support from a consortium of six international donors (G-6) including 1) UK Department for International Development (DFID), 2) Royal Netherlands Embassy in Mozambique (RNE), 3) Swiss Agency for Development and Cooperation (SDC), 4) Development Cooperation Ireland (DCI), 5) Swedish International Development Agency (SIDA) and 6) Danish International Development Agency (DANIDA). The ITC assisted communities and associations in delimiting and demarcating their boundaries in an effort to secure their land rights, ensure their access to natural resources and increase investment and links with financing opportunities.
3. Make available simple informational tools to streamline investor and farmer access to land in northern Mozambique, such as legal information, guidelines regarding the requirements for negotiating land access with local communities, printed site maps showing land use and existing titles, etc.

3.2.4 Farmer Income Support Project Logic

Background

Mozambique is an internationally significant exporter of coconuts and coconut products; grown in Zambézia and Nampula Provinces. Coconut is one of the few crops growing on the impoverished, sandy, and sometimes saline coastal soils of northern Mozambique. It has unique value as a low input, environmentally beneficial, year-round source of nutrition, income and shelter for coastal communities. In the late 1990s, outbreaks of Coconut Lethal Yellowing Disease (CLYD) were confirmed in areas of commercial smallholder plantings in coastal Zambézia. By 2003, about one percent of the total area was affected but with several new disease foci in both provinces. Disease-affected areas in Zambézia have expanded considerably since 2003, and new foci are present in Nampula as well. At the 2008 rate of spread, more than 50 percent of the coconut area is likely to

be lost by 2017. As the infection rate is considerably slower than that experienced in Florida and the Caribbean, the disease could be controlled by the same type of phytosanitary measures that were used in Ghana. In 2008, about five percent of the total coconut area of Zambézia was predicted to be affected, although in certain areas there was no remaining production. Trees that are no longer productive must be removed and replaced. Technical support is necessary to assist farm enterprises in recovering income that they formerly had from coconut trees. Unless sustained measures are taken over a large area, coconut cultivation will cease in large areas of central Mozambique, with the resulting loss of export earnings and rural livelihood for over 1.7 million people in coastal Zambézia and Nampula.

Summary of Farmer Income Support Project Activities

The objective of the Farmer Income Support Project is to improve productivity of coconut products and encourage diversification into other cash crop production. The Project seeks to eliminate biological and technical barriers hindering economic growth among farms and targeted enterprises located in this Compact area's eastern coastal belt of the Zambézia and Nampula provinces, as well as increase incomes lost to CLYD through crop diversification and improved farming practices. The Farmer Income Support Project includes five activities described below.

Rehabilitation of Endemic Areas Activity

CLYD control and mitigation strategies are tailored to different stages of the disease epidemic that are likely to be most effective at, or in advance of, the margins of active spread of disease. Infected trees are culled since they attract populations of rhinoceros beetle that breed in dead palm trunks and will likely kill or damage replacement palms. There is a need for collective and continuous action by all growers and over a sustained period to destroy dead palm trunks and prevent infection moving from diseased to healthy palms.

In the endemic zone, this Activity helps smallholders to a) clear their land of dead palms, b) replant with selected Mozambique Green Tall coconut palm seedlings more resistant to the CLYD disease and c) plant alternative short-term crops (chick peas, cowpeas, pigeon peas and/or sesame) to increase income during the 5 year (dwarf variety) to 7 year (tall variety) replacement palm re-growth period.

Control of Epidemic Disease Activity

As noted in the Rehabilitation of Endemic Areas Activity, CLYD control and mitigation strategies are tailored to different stages of the disease epidemic. In the epidemic zone, infected trees are culled since they attract populations of rhinoceros beetle that breed in dead palm trunks and will likely kill or damage replacement palms. In the epidemic zone, control of the spread of disease is by prompt removal and destruction of infection sources and provision of new planting material using Mozambique Green Tall coconut palm seedlings more resistant to the CLYD disease. No alternative intercropping interventions (improved planting techniques training and distribution of

high-value crop improved seeds) activities are supported in the epidemic zone; refer to description of Improvement of Productivity Activity listed below.

Improvement of Productivity Activity

In conjunction with tree removal and replacement, the Project assists farmers in the CLYD endemic zone to adopt new cropping systems and develop alternative sources of cash income during the time the coconut trees reach productive age as of seven years. Chickpeas, pigeon peas, cowpeas and sesame have the potential to generate alternative income for these farm enterprises, compatible with rehabilitation of coconut and crop diversification to reduce risks and improve livelihood options. Like coconuts, they are suited to the sandy and loamy soils that are dominant in the coastal region. They are advantageous because they fix nitrogen in the soil. At the same time, crop yields in the region are extremely low due to poor practices including lack of crop rotation, poor seed selection, inadequate field preparation, untimely weeding, and other poor practices. It is hypothesized that technical support to introduce better practices will significantly increase yields and corresponding household income.

Emphasis is given to improving farming practices that will increase yields and link farmers to processors and other buyers in the supported value chains. They are provided options to diversify their production in response to proven market demand, which will lead to additional revenue streams. Dissemination of improved farming practices and market linkages is done by experienced field agents to: a) support demonstration trials, b) strengthen producer organizations' marketing capacities and c) provide extensive on-farm training in intercropping methods, integrated pest management practices, and CLYD surveillance capabilities.

Business Development Fund Activity

This Activity is intended to raise agricultural productivity through novel, innovative and profit-oriented approaches. The Business Development Fund (BDF) is a USD 1 million fund to support small grants to small and medium enterprises (SMEs) that contribute to the value-chains of the coconut industry and intercrop products, supported by market analysis, in the coconut belt of Northern Mozambique. BDF investments are targeted at strengthening weaknesses in the coconut and intercropping value chains and add value to the primary products targeted.

Research and Development Support Activity

The Mozambique Agrarian Research Institute (IIAM) will administer research and development that is directly related to the needs of the a) Control of Epidemic Disease Activity and b) the Rehabilitation of Endemic Areas Activity emphasizing germplasm resistance screening, epidemiological analysis, and early disease detection, and the precise requirements and priorities which are to be determined by IIAM. The Activity administers two different research funds: (1) the Research and Development Fund (RDF) that provides applied research services that address priority issues in support of aforementioned activities and (2) a Competitive Grants Fund that generates and funds research proposals.

Depending upon project demand, specific research initiatives to be funded include:

- a) Maintain and augment screening for resistance to CLYD
- b) Develop, test and utilize practical techniques for early detection and diagnosis and
- c) Epidemiological analyses of large-scale control operations

3.3 Projected Economic Benefits

Succinctly stated, the economic benefits for the Mozambique Program are based on the construction of 10 ERR models founded on the program logic and the identification of corresponding benefit streams of project interventions in select implementation sites across the four northern provinces.

The Water and Sanitation Project is based on six inter-related models that monetize benefits among a mix of civil works construction and/or rehabilitation activities; including 1) urban water supply works of Nampula city, 2) urban water supply works of Nacala city, 3) the Nacala dam, 4) the urban storm water drainage works of Nampula city, 5) the urban storm water drainage works of Quelimane city and 6) the combined economic benefits derived from the installation of hand pump and small scale solar system water points in 600 rural communities in the Cabo Delgado and Nampula provinces.

The Roads Rehabilitation Project is based on two inter-related models that monetize benefits of the civil works on the 1) Namialo–Rio Lúrio (149.7km) and 2) Nampula–Rio Ligonha in Nampula (103.0 km) road segments.

The Land Tenure Services Project is based on a consolidated model that combines economic benefits derived from the issuance of DUATs to urban and rural beneficiary households (increased land values) and business enterprises, community lands and producer associations (increased agricultural productivity and/or investments in farm equipment) in the Nampula and Zambézia provinces.

The Farmer Income Support Project is based on a consolidated model that combines economic benefits derived from the control of CLYD disease, coconut tree replanting and intercropping activities in the endemic and epidemic areas of the Nampula and Zambézia province.

Refer to the detailed project-specific economic and beneficiary analysis descriptions provided below.

3.3.1 Water Supply and Sanitation Project ERR

The Water Supply and Sanitation Project (WSS Project) interventions include urban and rural water supply, municipal drainage, rehabilitation of the Nacala dam and reservoir, and capacity building and institutional strengthening for water sector entities. The objective of the WSS Project is to increase the accessibility, reliability, and quality of water supply and storm water drainage services. WSS Project investments target provincial capitals, urban centers and small rural

communities. The WSS Project will reduce the onerous costs associated with the provision of potable water; increase the reliability of water supply and municipal drainage services; and improve the health (reduce water-borne diseases; one of the causes of death in children under five years of age) and productivity of individuals, households, and firms.

Refer to Annex IV (Technical Documentation of the Economic Analysis of the Water Supply and Sanitation Project) for a list of the assumptions regarding re-scoping of the a) urban water system, storm water drainage and low-cost social marketing/latrine models.

3.3.2 Roads Project ERR

The original economic analysis for the road project was based on the World Bank Road Economic Decision Model (RED). The model performs an economic evaluation of road investment options using the consumer surplus approach and is customized to the characteristics of low-volume roads (less than 500 AADT) such as a) the high uncertainty of the assessment of the model inputs, particularly the traffic and condition of unpaved roads, b) the importance of vehicle speeds for model validation, c) the need for a comprehensive analysis of generated and induced traffic, and d) the need to clearly define all accrued benefits.

RED computes benefits for normal, generated, induced, and diverted traffic, and takes into account changes in road length, condition during the dry and wet seasons, geometry, surface type, and accident rates. Users can add other benefits or costs to the economic analysis such as social benefits and environmental impacts.

Revised ERRs were calculated in 2012 using the Highway Development and Maintenance Model (HDM-4); a computer program for analyzing the total transport costs of alternative road improvement and maintenance strategies through a life-cycle economic evaluation. The program provides detailed modeling of pavement deterioration and maintenance effects and calculates the annual costs of road construction, maintenance, vehicle operation, and travel time needed to assess alternative improvement and/or maintenance strategies under consideration. It is internationally recognized as the recommended “best practice” software for evaluating highway investment options.

The change from the RED model to the HDM-4 model is particularly justified given that 1) the Namialo - Rio Lúrio and the Nampula – Rio Ligonha road segments are properly classified as highways as opposed to rural roads and, therefore, traffic volumes should be given appropriate weights in the analysis and 2) the analysts’ wished to evaluate the probability of deterioration of the roads according to alternative “with” and “without” high versus low maintenance cost scenarios.

A comparison of the economic rates of return (ERR) before and after re-scoping is noted in the table listed below.

Refer to Annex V (Technical Documentation of the Economic Analysis of the Roads Rehabilitation

Roads Rehabilitation Project			
Date	Context	Road Segments	ERR
2009	Original ERRs	Nampula - Rio Ligonha	7.1%
		Namialo – Rio Lúrio	6.7%
2012	Re-scoped project due to high investment rehabilitation construction costs per kilometer	Nampula - Rio Ligonha	0.65%
		Namialo – Rio Lúrio	-0.19%

Project) for a list of the assumptions used in the original RED and re-scoped HDM-4 models.

3.3.3 Land Tenure Services Project ERR

The Land Tenure Services Project is intended to reduce the inefficiency and risk associated with Mozambique’s land tenure system in order to support economic growth. It is expected to improve the implementation of the country’s land law and the transparency and operational efficiency of land registration procedures, thereby increasing the security and transferability of land rights. Greater security and transferability of land associated with the formalization of land use rights ought to promote more efficient land allocation and increased investment.

While the policy reform and capacity building components are also intended to improve the efficiency and transparency of land titling and land transfers nationwide, the ERR analysis only measures income gains for direct/targeted beneficiaries. To the extent that the policy reforms lead to the formalization of land tenure throughout the country, the ERR will be higher, however, it cannot be modeled a priori in view of the paucity of quantitative evidence for the estimation of direct benefits.

The economic analysis for the Land Tenure Services Project was substantially revised from the analysis developed during Due Diligence. The revised ERR analysis estimates benefits from two income streams: 1) implicit income gains to households receiving DUATs (for land in urban and rural hotspots) measured as increases in GDP, and 2) increased income from investments in agriculture lands for members of communities whose lands are delimited and from investments in production for producer associations whose land are demarcated. Benefits are included for communities and associations, as well as for urban and rural parcel-holders who are expected to receive a DUAT under the program.

The most comprehensive way to value the urban benefits of land “tenure” (including increased security of investments on the land) is to assume that they are capitalized into the market value for land-use rights when a DUAT is obtained. The benefits to urban land holders are based on an evaluation of parcel transfer prices “before the Project” compared to transfer prices “after the Project”, based on estimates of the impact of the DUAT on the land transfer prices in urban areas in Mozambique. Estimated prices for residential, agricultural and other types of property in the peri-urban areas to be provided DUATs under the project are translated into implicit rental benefit streams based on principals used in GDP accounting; i.e., according to the US Bureau of Economic Analysis, “Housing services are a component of personal consumption expenditures (PCE), and consequently part of GDP, in the national income and product accounts (NIPAs).

Benefits to Urban Households and Rural Smallholders

The contractor, providing technical assistance for the mapping and titling of land in urban and rural ‘hotspots’, has divided the land and properties subject to titling into several categories: a) domiciles, b) agriculture, and c) other types of property. Agricultural areas are found in both urban and rural hotspots. Parcel square meters vary by type, with residential properties smaller than agricultural parcels and properties of other types of usages. Both urban and rural areas are surveyed and titled, based on categorization used in Mozambique. The model uses the average parcel sizes reported by the contractor.

Using conservative assumptions, the value of property used for other functions (commercial, industrial, service sector, municipal, and other) was assumed to be the same as urban housing. Benefits accruing to residential property in rural ‘hotspots’ were calculated in the same way.

The benefits accruing to agriculture in rural property hotspots were calculated using assumptions about increased farm income for farm communities described below. Benefits accruing to agricultural land holdings in urban hotspots were computed similarly.

Property values per square meter for urban property was based on Michigan State University baseline survey reported average housing values based on respondents retrospective reporting of purchase prices from 2007-2011. The value of property used for other functions (commercial, industrial, service sector, municipal, and other) was assumed to be the same as urban housing. Benefits accruing to residential property in rural ‘hotspots’ were calculated in the same way.

Benefits to Rural Communities

Following a log-frame approach, the delimitation of rural communities should lead to increased agricultural investment (e.g., better use of fertilizers and investments in farm machinery) that would subsequently lead to higher farm income and economic growth. To model these effects, data on farm income was used to represent the base case based on information reported from the Mozambique 2008 agricultural survey (TIA) conducted by the Ministry of Agriculture in collaboration with Michigan State University.

The original economic analysis for this project had an ERR of 12.7% over the 20 year investment period. Based on 8,000 trials, using Monte Carlo simulations, the revised Land Tenure Services Project mean expected ERR lies within an interval of between 5.8 percent and 34.5 percent with 95 percent probability. Overall, the likelihood that the Land Tenure Services Project produces an ERR of less than 10 percent is about 9 percent. For the base run, the expected ERR is approximately 20.5 percent, with a standard deviation of 7.3 percent.

For a detailed discussion of findings, description of the ERR model and key assumptions underlying the sensitivity analyses used in the Monte Carlo simulations, refer to Annex VI: Technical Documentation of the Economic Analysis of the Land Tenure Services Project.

3.3.4 Farmer Income Support Project ERR

The total budget of FISP is US \$18.4 million. The original economic analysis had an overall ERR of 27.8% over the 20 year investment period. The model assumed multiple interventions regarding the felling and removing of infected trees, planting of disease resistant seedlings and by providing training and improved seeds for high value crops in support of income diversification. The analysis includes the following benefit streams a) income from coconuts from existing trees and new seedlings once matured, b) income from the four new crops introduced by the project (ground nuts, cow peas, pigeon peas and sesame), c) income from mats made from coconut tree leaves and d) income from the sale of copra.

The ERR model has been adjusted to reflect the current scope of project interventions. The current model captures two sets of activities, one set of activities implemented in the “endemic areas”, such as intercropping and improved seed planting, and the other implemented in the “epidemic areas”, where infected trees are felled and removed and disease resistant coconut seedlings planted.

The overall objectives of FISP, however, remain the same; i.e., to protect and restore the healthy coconut supply and diversify smallholder income through the provision of measures to control the spread of CLYD, planting of coconut seedlings on smallholder land, and the provision of technical assistance and targeted grants to diversify smallholder income in the eastern coastal belt of the Zambézia and Nampula provinces. Refer to Annex VII: Technical Documentation of the Economic Analysis of the Farmer Income Support Project.

3.3.5 ERR Summary

Table 2 presents original and current ERRs for the Mozambique Compact. As of the date of the Closeout M&E Plan; all ERRs remain above the MCC hurdle rate except for the Roads Rehabilitation Project.

Table 2: Compact ERR Summary

Project/Activity/Sub-Activity Name	Original ERR	Current ERR
Farmer Income Support Project	25.1	36.0
Land Tenure Services Project	13.0	24.8
Nacala Urban Water Supply	22.8	-2.8%
Nampula Urban Water Supply	35.7	11.1%
Mocuba Urban Water Supply	41.4	-2.5%
Nampula Storm Water Drainage	17.9	38.6%
Quelimane Storm Water Drainage	10.2	2.0%
Rural Water Points	19.3	10.6
Namialo-Rio Lúrio Road Rehabilitation	6.7	-0.2
Nampula – Rio Ligonha Road Rehabilitation	7.1	0.7

3.4 Program Beneficiaries

The Program is expected to benefit nearly 3.4 million persons, poor and non-poor, by 2028; equivalent to approximately one half of the 2028 projected population in the affected four provinces.

More than half of all the beneficiaries reside in Nampula Province. Activities specifically targeted to rural areas account for approximately one third of Program beneficiaries, while those focused specifically on urban areas account for another one third. The roads activities benefit both rural and urban dwellers and account for the remaining beneficiaries.

3.4.1 Water Supply and Sanitation Project Beneficiaries

It is anticipated that the Water Supply and Sanitation Project (WSS) will assist some 1.2 million beneficiaries by 2028 through access to improved water systems, storm water drainage and low cost sanitation facilities.

Access to improved water sources is provided to over 380,000 beneficiaries, through the installation of hand pump and small scale solar system water-points in rural communities in the Cabo Delgado and Nampula provinces. These improvements reduce the incidence of disabling diarrhea and save time for women that can be spent on more economically productive activities. Other benefits, not easily monetized, include improved school enrollments and/or attendance for girls and reductions in other water-borne diseases such as cholera. Approximately one third of all beneficiaries impacted by the Water Supply and Sanitation Project are poor.

Economic benefits accrue through improved water and sanitation services for a number of reasons. In particular, with easier more reliable access to improved water sources and improved sanitation facilities, all household members will benefit from improved health outcomes, particularly, children and the elderly who are more susceptible to morbidity and mortality from diarrhea and malaria. Adults will spend less of their time incapacitated or caring for sick family members. Women and girls, primary water gatherers, will have more time to spend in productive activities when sources of water are closer to home, either through house connections or neighborhood water points.

3.4.2 Roads Project Beneficiaries

By 2028, nearly 1.2 million beneficiaries in districts adjoining the roads will have improved transport access in Nampula province. Out of total beneficiaries of the Roads Rehabilitation Project, 368,477 beneficiaries are expected to benefit from the 149.7 kilometer Namialo –Rio Lúrio Road segment, and 869,257 beneficiaries are expected to benefit from the 103 kilometer Nampula –Rio Ligonha Road segment.

Benefits will accrue to vehicle users on the rehabilitated and resurfaced roads as vehicle operating costs go down, and time spent in travel is reduced with vehicles traveling safely at higher speeds. In addition, road improvements will induce additional growth in traffic as better roads make transportation more affordable for agriculture, industry and commerce. These benefits should result in reductions in the prices of goods and improvement in farm-gate prices if savings in fuel and other vehicle operating costs are passed on to producers and consumers. It is also expected that bus operations will become more efficient, improving access to public transportation. This should facilitate the population's easier access to health and educational services, and more efficient and cost effective access to previously less accessible employment opportunities. Over half of the population is of working age and will be able to take advantage of improved employment opportunities.

3.4.3 Land Tenure Services Project Beneficiaries

The Land Project supports the national policy monitoring and reform process by introducing improved approaches to land registration and records management. Broadly speaking, the Project assists anyone (local residential community and private sector businesses alike) who has or acquires land-use rights. According to economic projections, the Land Project is forecast to benefit 1.3 million people by 2028. As a result, the value of investment on land affected by the Project will likely increase and the number of calendar days to register a land use right will likely be reduced.

Urban households in select municipalities and rural smallholders in select districts selected for land service upgrading and surveying interventions will save time and expense when accessing and/or registering land rights. These beneficiaries include nearly 600,000 urban parcel holders and over 520,000 rural smallholders.

Local communities that solicit assistance from the Land Project's Community Land Initiative (ITC) Activity will benefit from registration of land rights through improved security for productive activities on their land and increased opportunity for arrangements with outside investors for business development. Approximately 222 communities are projected to have their lands delimited over four years under the Land Project, enabling an estimated average of 5,000 hectares per community to become available for commercial use.

Although difficult to quantify, additional value added can be expected from reduced conflict and increased job creation over time as a result of new commercial investments encouraged by a more efficient land use regime.

3.4.4 Farmer Income Support Project Beneficiaries

The Farmer Income Support Project (FISP) benefits an estimated 534,440 smallholders in the coconut belts of the Zambézia and Nampula provinces by 2028. Smallholders depend on coconut tree-products for cash and in-kind income. FISP provides targeted technical assistance to over 3,000 smallholders in order to mitigate significant income loss due to the disease and to assist them

in improving the productivity of other crops planted on their parcels. Including family members, it is estimated that 453,440 individuals benefit from interventions in the epidemic areas and 81,000 individuals benefit from interventions in the endemic areas.

3.4.5 Beneficiary Summary

Table 3: Compact Beneficiary Summary

Project/Activity/Sub-Activity Name	Estimated Number of Beneficiaries 2028	PDV Benefits 2009-2028 International \$ 2009 PPP	Estimated Increase in per Capita Beneficiary Income 2028
Farmer Income Support Project	534,440	\$114,002,670	\$213.31
Land Tenure Services Project	1,333,445	\$77,063,194.61	\$57.79
Nacala Urban Water Supply	123,390	\$67,113,852.11	\$543.92
Nampula Urban Water Supply	56, 595	\$87,564,271.31	\$1,547.20
Mocuba Urban Water Supply	53,831	\$5,911,950.06	\$109.82
Nampula Storm Water Drainage	353,202	\$85,385,965.18	\$241.75
Quelimane Storm Water Drainage (after 20 years)	161,323	\$23,379,978.26	\$144.93
Rural Water Points (after 20 years)	155,957	\$29,644,657	\$190.08
Namialo - Rio Lúrio Road Segmenta (2030)	368,477	\$24,040,031	\$65.24
Nampula - Ligonha Road Segment (2030)	869,257	\$16,066,984	\$18.48
TOTAL	2,684,796	\$453,110,359	\$168.77

Footnote: The Total has been adjusted downward to exclude Land Project beneficiaries in order to avoid double counting beneficiaries that may benefit from multiple interventions.

4.0 Monitoring Component

4.1 Summary of Monitoring Strategy

As per MCC's "Policy for Monitoring and Evaluation of Compacts and Threshold Programs", dated May 1, 2012, Final Version, "Monitoring is the continuous, systematic collection of data on specified indicators to provide indications of progress toward objectives and the achievement of intermediate results along the way."

The fundamental monitoring strategy for the Mozambique Program is to establish a network of self-reporting implementing entities, contractors and service providers in combination with MCC/MCA-M&E funded baseline and end line survey activities.

As noted below in Section 4.3 (Standard Reporting Requirements), the primary data source and frequency of reporting on performance indicators identified in Annexes I and II of the M&E Plan varies widely depending on the indicator level; i.e., goal, outcome, output or process milestone. Baselines are established for all indicators, regardless of "level", prior to intervention.

Goal level indicators provide a general contextual understanding of prevailing economic conditions in the host country; e.g. Poverty Rate in the Northern Provinces of Mozambique. They are generally reported by national authorities (e.g., National Statistical Institute, National Directorate for Studies and Policy Analysis, et. al.) and, as such, are regarded as official but secondary data for which few or no MCA resources are expended for data collection.

Other indicators, however, require significant MCA resources, active implementing entity engagement, data collection, and monitoring and survey activities. These indicators (outcome, output and process level indicators) represent the primary focus for measuring "progress" towards achieving intended results. They are the subject of routine data gathering, surveying and third party data quality review. For example, the MCA-M&E Unit relies on the percentage of disbursements of signed works contract values, as reported quarterly by the MCA-fiscal agent, for monitoring construction progress on urban and rural water supply, drainage and low cost sanitation systems and/or roads rehabilitation, Temporary employment data, disaggregated by gender, is provided by contractors. Training data, disaggregated by gender, is provided by service providers. Performance against end-of-compact targets for parcels surveyed and the issuance of DUATs to urban, rural and community beneficiary households is reported through a combination of service providers and municipal cadastral offices.

In addition, MCA-M&E funded surveys are used to establish baselines and/or end-of-compact result statements for those indicators that are not or cannot be monitored by way of systematic data collection activities. Such surveys include, for example: a) the "Demographic and Health Survey" conducted by the National Statistical Institute for establishing baseline values for goal level indicators such as the percent of stunted children (based on height/age z-score for children 0-59 months of age) in the Northern Provinces, b) the "Assessment of Outcomes Accruing from the Training of Paralegals by Legal and Judicial Training Centre (CFJJ)" on Land Tenure Project's Land Policy and Monitoring Activity to support Program close-out results statements and c) the "Impact of Coconut Lethal Yellowing Disease (CLYD) Infestation and Rhinoceros Beetle (Oryctes) Infestation on the Farming Systems and Household Economies in Coastal Zambézia and Southern Nampula" to assist MCC/MCA in gaining a deeper understanding of the extent of the

problem addressed by compact-funded interventions as well as to support the development of a national strategy for sustaining said efforts post compact.

4.2 Data Quality Reviews

MCA-Mozambique conducted a mid-term independent data quality review (DQR) in Quarter 10 of the compact implementation period. The terms of reference were openly competed and a contract was awarded to IDEA on May 12, 2011. The DQR addressed a) quality of data, b) data collection instruments, c) survey sampling methodology, d) data collection procedures, e) data entry, storage and retrieval processes, f) data manipulation and analyses and g) data dissemination. The methodology for the review included a mix of document reviews, dataset audits, site visits, key informant interviews, and focus group discussions.

The findings, conclusions and recommendations of the review are documented in a final report that describes any weaknesses found in the a) data collection instruments, b) data sampling and/or collection methods, c) handling and processing of data by responsible entities, d) reporting procedures and/or e) datasets. In the event of weaknesses, the report makes recommendations for remedying those weaknesses. Where a remedy is not technically possible or cost-effective, the report identifies replacement indicators or data sources that are more accurate and/or efficient.

The MCA-M&E Unit has requested that affected implementing entities provide a formal written response to the DQR final report; including which recommendations were implemented. Written responses from affected implementing entities are attached to the final DQR report and posted to the MCA-Cape Verde II Web site. All resulting MCC approved modifications to Annexes I and/or II are documented in Annex III (Modifications to the M&E Plan) of the M&E Plan. The MCA-Cape Verde II M&E Manager is responsible for ensuring that recommended actions are implemented.

It is also noted that the Mozambique National Statistical Institute has provided technical advisory services to the MCA and private sector firms awarded contracts in order to ensure that survey design, power calculations, sample frame selection, statistically representative sample sizes, random assignment, and other statistical considerations comply with the minimum standards of the statistical national authority and international best practice.

It is noted that the implementing entity agreement between MCA and the National Institute of Statistics (INE) was a useful platform by which to ensure that MCC and MCA contracted consultants for special studies and/or impact evaluations could harmonize their methodologies and design their sample frames with nationally approved statistical principles, thereby, assigning greater credibility to the final results.

4.3 Standard Reporting Requirements

The primary data source and frequency of reporting for performance indicators identified in Annexes I and II of the M&E Plan varies widely depending on the indicator level; i.e., goal, outcome, output or process milestone. Baselines are established for all indicators, regardless of “level”, prior to intervention. However, goal and objective level indicators (as identified in Compact Agreement Annex III) are “monitored”, as opposed to “targeted” so as to provide a general contextual understanding of prevailing economic conditions in the host country.

Goal level indicators for the Mozambique Program include, for example, Poverty Rate in the Northern Provinces. Performance on goal level indicators is captured by the MCA, as reported by national authorities and as such is regarded as official but secondary data for which no MCA resources are expended for data collection. Outcome, output and process level indicators, however, require MCA resources, active implementing entity engagement and data collection events associated with monitoring and evaluation survey activities. These indicators represent the primary focus for measuring progress towards achieving intended results. They are the subject of routine data gathering, surveying and third party data quality review.

Outcomes can be either targeted or for monitoring purposes only. Outcomes that are for monitoring purposes only are intended to demonstrate desired trends as a result of project interventions but for which the project only indirectly influences progress on said indicators; e.g., a) the “survival rate of coconut seedlings” for the Farmer Income Support project or b) the increase in “average land property values” for land parcels as a result of title issuance (DUAT) for the Land Tenure Services Project.

Targeted outcomes, outputs and process milestones, however, are actively monitored as of that point in time in the implementation period in which measurable change is anticipated as a direct result of project interventions.

The MCA reports to MCC on both a quarterly and ad hoc basis in compliance with MCC standard reporting requirements. Standard reporting includes M&E contributions to the Quarterly Disbursement Request Package, independently conducted data quality reviews, periodic updates by MCC-funded impact evaluation firms on project evaluation activities, Annual Performance Reviews and submission of MCA-funded survey datasets and supporting technical documentation to MCC-M&E in compliance with MCC guidelines for Data Documentation and Anonymization for Public Use.

M&E contributions to the Quarterly Disbursement Request Package will include performance tracking as reported in the Indicator Tracking Table, Narrative Report, Work Plan, Procurement Plan, Procurement Performance Report and Detailed Financial Plan. It is also noted that, due to the nature of outcome indicators, performance is reported in the latter quarters of the implementation period.

5.0 Evaluation Component

5.1 Summary of Evaluation Strategy

As per MCC’s “Policy for Monitoring and Evaluation of Compacts and Threshold Programs”, dated May 1, 2012, Final Version, “Evaluation is the objective, systematic assessment of a program’s design, implementation and results. MCC is committed to making its evaluations as rigorous as possible in order to understand the causal impacts of its projects on the expected outcomes and to assess the cost effectiveness of its interventions. While good program monitoring is necessary for program management, it is not sufficient for assessing ultimate results. MCC, therefore, advocates the use of different types of evaluations as a complementary tool to better understand the effectiveness of its programs, projects and activities.”

According to Section 4.6.3 (Final Independent Evaluations) of the aforementioned policy every Project in a Compact must undergo a comprehensive, independent evaluation after completion or termination in order to support two of MCC’s core principles: accountability and learning. “Accountability refers to MCC and MCA’s obligations to report on their activities and attributable outcomes, accept responsibility for them, and disclose these findings in a public and transparent manner. Learning refers to improving the understanding of the causal relationships between interventions and changes in poverty and incomes.”

The Mozambique Compact is composed of four projects consisting of a total of twelve activities. Three of the projects involve independent impact evaluations that seek to establish changes in income and/or other aspects of well-being directly attributable to activity interventions. Impact evaluations include 1) the Site Specific Facilitation of Land Access Activity of the Land Tenure Services Project, 2) the Construction of Wells and Boreholes Activity (also referred to as the Rural Water Supply Activity) of the Water Supply and Sanitation Project and 3) the Improvement of Productivity Activity of the Farmer Income Support Project. Refer to Annex VIII: MCC-Funded Baseline and Post Compact Evaluations Disaggregated by Project and Activity for an overview of the proposed evaluation methodology and status of evaluation activities as of September 17, 2013.

Consistent with MCC policy, the balance of Mozambique activities will involve independent performance evaluations. All independent evaluations, whether impact or performance, are financed by the MCC due diligence budget and are managed by the MCC Monitoring and Evaluation Division of the Department of Policy and Evaluation.

Regardless of the evaluation approach, all studies will answer the following core questions across project activities:

1. Determine if and analyze the reasons why the Compact Goal, objectives and outcomes were or were not achieved.
2. Was the MCC investment implemented according to plan?
3. What are the unintended (positive or negative) results of the project/activity?
4. What is the cost effectiveness or re-estimated project rate of return based on realized project/activity benefits and costs?
5. What is the likelihood that results will be sustained over time?

6. How do the project's benefits and/or costs accrue differently to a) poor and non-poor, b) urban, peri-urban and rural communities, c) men and women? What is the reason for these differences?
7. Other process-oriented questions include:
 - a) Did the MCC investment reach intended/unintended beneficiaries?
 - b) How was it perceived and valued?
 - c) What challenges were encountered? How were the challenges addressed?
 - d) What are the lessons learned from the design and implementation?
 - e) What variations in this activity might be worth considering in the future (that is, different balance of sub-activities, loan conditions, communication materials, etc.)?
 - f) And other questions that are pertinent to program design, management and operational decision making.

Given MCC's commitment to transparency, accountability and learning, independent evaluation reports will be reviewed, subject to revision and "cleared" in collaboration with relevant Mozambique Government entities prior to sharing publicly upon posting final reports to the MCC external website.

5.2 Specific Evaluation Plans

5.2.1 Water Supply and Sanitation Project Evaluation

5.2.1.1 Urban Water Supply and Municipal Drainage Systems Evaluation

All major contracts for water supply and sanitation works were completed by the compact end date with the exception of Nacala urban water supply and the associated 18km distribution pipeline connecting the Nacala Dam with the Nacala urban water works. Due to poor contractor performance, said contract was terminated prior to the compact end date and will be re-competed following the compact closeout period. The completion of the works will be financed by the government of Mozambique and will likely be completed 18-24 months post compact. The extent of completed and uncompleted urban water supply and municipal drainage system works are documented in an MCC-contracted independent engineers' final report.

Accordingly, Phase I performance evaluation activities will focus on a) Nampula urban water supply, b) Nacala Dam, c) Nampula and Quelimane storm water drainage systems, and d) low cost sanitation facilities in Quelimane and Pemba. Phase II evaluation activities will focus on the connection of the Nacala Dam to the completed Nacala urban water supply works and 26,000 World Bank funded household connections. Phase II evaluation activities will be initiated following the completion of the pending Nacala urban water supply works. The anticipated completion date of said works is the second or third quarter of 2016.

It is important to note that compact investments were focused on increasing water production as opposed to increasing the distribution thereby limiting evaluation opportunities.

5.2.1.2 Rural Water Points Evaluation

The Rural Water Supply Activity (RWSA) was created to install 600 improved water points in rural communities across the northern provinces of Nampula and Cabo Delgado; two of the country's poorest districts. The water points are managed by water committees at the community level, which are provided with technical training and hygiene and sanitation education known locally as PEC (Participação e Educação Comunitária). The technical training is targeted at improving the capacity of community water committees to manage the operation, maintenance and sustainability of the water point. The hygiene and sanitation trainings are based on a participatory World Health Organization curriculum called PHAST (Participatory Hygiene and Sanitation Transformation). In select circumstances, the project "animators" (Cowater International) also used a sanitation approach called CLTS (community led total sanitation) within communities that were perceived as needing greater encouragement to change their hygiene and sanitation behaviors.

Stanford University and Virginia Tech (VT) are collaborating with the MCC on an impact evaluation of the RWSA investments in the province of Nampula. The main in-country partner for the impact evaluation is WE Consult (Mozambique). The impact evaluation is testing the following hypotheses linked to the RWSA. The RWSA will increase beneficiary productivity and income by:

1. Reducing the time costs of water fetching. The time saved could be used for income generation, child care, leisure, or other activities with economic value to the household.
2. Reducing water-related illnesses such as diarrhea, dysentery, etc. Health improvements could increase beneficiary productivity and incomes by reducing work days lost to illness and for caring for ill family members, as well as reducing health care expenditures. The documentation of water- and sanitation-related health impacts is difficult without regular monitoring, which is not feasible within the impact evaluation. For this reason, the evaluation has included sampling of water sources as a way of providing health-related proxy information (water quality data) in addition to direct elicitation of information about illness and health care costs from households participating in the study.

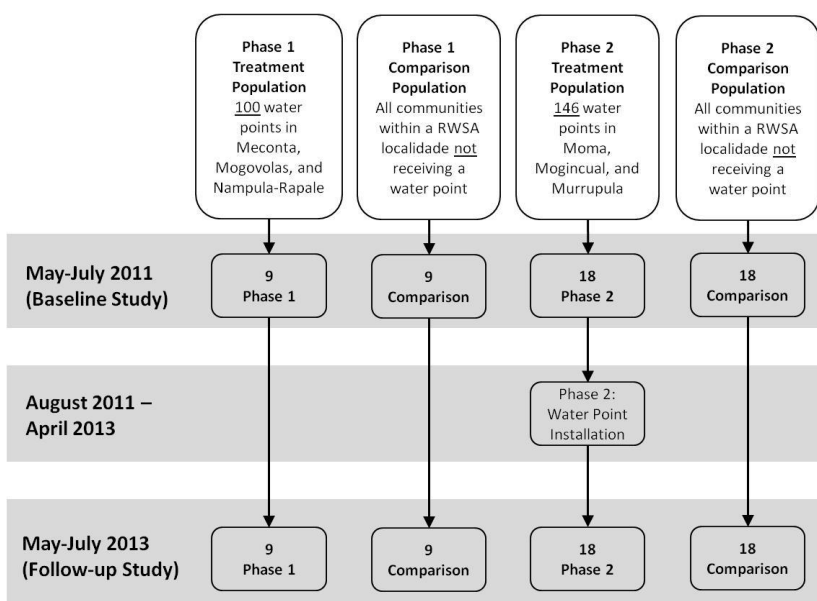
The impact evaluation indicators were based on the aforementioned hypotheses. Several indicators were developed to estimate the time costs of water supplies, as well as the potential health impacts of improved water supplies. Additional indicators were developed based on the experience of the Stanford-VT research team from similar research projects in developing countries worldwide. These additional indicators included: household water use (total and from an improved source); access to improved water supply (as per the Joint Monitoring Program definitions); school enrollment; and possible effects on household income and livelihoods. The survey instrument was designed such that values for each indicator were obtained for all households in the study.

The impact evaluation consists of a baseline survey in 2011 and a follow-up survey in 2013 (Figure 1). During the 2011 baseline survey, most of the water points had not yet been constructed, and thus the survey aimed to collect pre-intervention information. All water points were installed prior to the June-August 2013 follow-up survey. An MCC-funded post compact 2016 follow-up survey is planned in order to measure increased benefits over time particularly as they relate to improved health outcomes and longer term impacts on household income.

The difference-in-differences approach measures changes in outcomes for a sample of participants (i.e., communities receiving a water point – the “treatment” group) and non-participants (i.e., communities not receiving a water point – the “comparison” group). The key assumption underlying this methodology is that in the absence of the intervention, communities in the participant and non-participant groups would be changing at the same rate.

The Stanford-VT research team developed a sample frame that tried to minimize any confounding differences that may exist between the treatment and comparison groups. However, it should be recognized that the RWSA was designed around a demand responsive approach to the provision of water. Thus, communities receiving a water point had to self-organize and successfully navigate several programmatic demand filters (e.g., forming a committee, gathering approximately US\$90 in capital cost contributions from community members, etc.) in order to be eligible for a water point. Thus, these communities may have characteristics that differentiate them from the comparison communities that were not able to mobilize the resources to qualify for the RWSA.

Figure 2: Schematic of Sample Frame



An equal number of treatment and comparison communities were included in the sample. Comparison communities are communities that are not expected to receive an improved water point from the RWSA. However, it is possible that these communities may receive a water project from another organization during the timeframe of the impact evaluation. It was not feasible to limit potential external interventions in

these communities, although efforts have been made to monitor changes in water supply infrastructure resulting from other projects. Nine communities from Phase I of the RWSA were included in the sample to provide an indication of whether the installed water points are still functional beyond their one-year warranty.

Since 2011, there have been several changes to the sample frame resulting from negative boreholes (i.e., boreholes that did not reach a viable underground water source) and non-MCC interventions occurring in several treatment and comparison communities. It is noted that as of September 2012, 17 water points had been installed in the 27 treatment communities. In 9 of the remaining 10 communities, geophysical surveys revealed that it was not possible to install a water point in the community. Therefore, these communities will not receive a water point through the RWSA and might instead be considered as comparison communities in the impact evaluation analysis. Of the

27 comparison communities, 24 had not received a water-related intervention. Three of the 27 comparison communities were reported to have received a water point – two from Phase 2 of the RWSA and one from an external project. Thus, it is likely that several treatment communities will be reclassified as comparison communities and several comparison communities will be reclassified as treatment communities. However, it is important to note that the sample frame still allows for testing the hypotheses and drawing causal inference (with associated levels of confidence) about the difference between the treatment and comparison groups.

The interim impact evaluation final report is expected to be available in January 2014. The results of the post compact 2016 endline survey, intended to measure improved health outcomes and longer term impacts on household income, are expected to be available in March 2017.

5.2.2 Roads Rehabilitation Project Evaluation

An HDM-4 analysis of IRI measurements, traffic counts, and vehicle classifications by type for MCC-funded rehabilitated roads works is planned. Baseline information was made available from Feasibility and Detail Design Studies, and a Socio economic study was implemented exactly before the works started, which included an updated Traffic Count, and an Origin and Destination Survey. It is anticipated that traffic counts and vehicle classifications will be conducted in December 2014 by the Mozambique National Roads Administration. MCC-funded HDM-4 analyses will be contracted following receipt of traffic counts, IRI measurements and vehicle classifications.

5.2.3 Land Tenure Services Project Evaluation

The impact evaluation strategy for the Land Project is comprised of four components:

1. A quasi-experimental impact evaluation of site specific activities aimed at improving land tenure in urban hotspot areas through provision of 140,000 DUATs: targeted to selected municipalities representing urban areas (Nampula city and Monapo Vila);
2. A quasi-experimental impact evaluation of site specific activities aimed at improving land tenure in rural hotspot areas through provision of 23,000 DUATs: targeted to selected districts representing rural areas (Mecufi in Cabo Delgado and Malema in Nampala); and
3. A qualitative performance evaluation of the Iniciativa para Terras Comunitárias (ITC-Community Land Fund) in Zambezia under the Land Project's site specific activities
4. A mixed methods performance evaluation of the land administration capacity building activity based on a) analysis of municipal, district and provincial land data (change in time, number of land transactions and number of land conflicts) and b) analysis of INFATEC enrollment and graduation rates. This evaluation of institutional strengthening replaced an earlier difference-in-difference evaluation, which used provincially and nationally representative Trabalho de Inquerito Agrícola (TIA) survey data to compare outcome indicators in the four provinces with treatment to the rest of the country. This evaluation

methodology would not have been able to effectively capture project results, which are specific to the district and municipality level rather than the provincial level. The new methodology was established in 2013.

These evaluations aim to establish the nature and extent of causal relationships between project interventions and changes in key outcome indicators (behavioral and economic impacts). Michigan State University (MSU), through a contract with MCC, provided technical guidance during the Compact period, from the design of the evaluations and the sampling strategy to data analysis and writing reports based on the survey results. The Ministry of Agriculture, Directorate of Economics (MINAG-DE), through a contract with MCA-Mozambique, helped in implementing baseline surveys for the impact evaluations of the LTR project. An independent evaluator will conduct and analyze follow-up results during the post Compact period.

5.2.3.1 Evaluation of Site-Specific Land Activities

The evaluations in the rural and urban hotspot areas are based on a non-experimental comparison group difference-in-difference or double difference design approach. In the context of panel data (with a baseline survey and a follow up survey of the same households), difference-in-difference is a common and valid method to estimate the impact of an intervention if the assumption that unobserved heterogeneity is time invariant and uncorrelated with the treatment effect is satisfied.

Both the evaluation designs involve a control/comparison group of hotspots that will not receive the Pillar III intervention, and data collection at the household level from both the treatment and comparison areas. The comparison hotspots include areas very similar to the treatment hotspot area in important ways (demographics, poverty, land use, etc.) but which will not receive the intervention until after the follow-up survey planned for 2016.

The urban baseline survey was implemented from October to December 2010 in Nampula city and Monapo vila while the rural survey was implemented in September to October 2011 in Mecufi in Cabo Delgado province and April to May 2012 in Malema in Nampula province. The baseline data were collected by interviewing the head of the households. The questionnaire included more than 25 sections encompassing modules on: household demographics; household employment and income from different sources; parcel characteristics; investments on land; participation in markets, land conflicts and security, status of current DUAT possession and perceived impacts of DUAT, knowledge about the 1997 land law; non-land asset ownership and detailed consumption expenditures, etc. The sample size for the urban baseline survey is 1690 - 881 in Nampula city and 809 in Monapo vila. In the rural survey, a total of 1,417 households were interviewed: 706 in Micufi district and 711 in Malema district. In terms of number of parcels, 3,992 parcels and 4,224 parcels were in the sample households' possession in the urban and rural areas, respectively. It is noted that Monapo vila was lost as a control area due to the political determination of the mayor to treat all municipal areas prior to the end of the compact. MSU is reviewing alternative evaluation possibilities, for Monapo vila but it is likely that it will be dropped from the urban evaluation. For Nampula, land work in the treatment areas was delayed over a two year period between the baseline

and treatment. This causes potential issues for the evaluation and limits the ability to observe smaller project effects.

Key research questions guiding the design of the evaluations of the urban and rural hotspot activities are focused on evaluating the extent to which there is evidence of change in following indicators of outcomes and impacts that can be attributed to the Land Project:

1. Land tenure security
2. Number of registered property rights
3. Incidents of conflicts
4. Transactions reflecting active land market (i.e., purchase/sale, renting)
5. Value of land
6. Level of investments on land parcels
7. Access to formal credit (i.e., collateral effect)

Follow-up surveys are planned three years after the compact ends (2016) to allow sufficient time for these medium-term impacts of land activities to be realized.

5.2.3.2 Evaluation of the ITC

The UK Government's Department for International Development (DFID) commissioned a performance evaluation of the ITC in 2013. The evaluation focused on two G6 -funded provinces-Manica and Cabo Delgado and one MCA-funded province Zambezia. The evaluator reviewed ITC service provider reports and conducted key informant interviews and focus groups with households, associations, community leaders and service providers in ITC communities to understand outcomes, particularly changes in the behavior and relations of communities and their organizations. Specifically, the evaluation focused on:

1. Lessons learned regarding what worked and did not work well during the implementation of ITC, including a comparison between ITC/G6 and ITC/MCA approaches; and
2. ITC's influences on community-level and household investments in participating communities

5.2.3.3 Evaluation of land administration capacity building

The evaluation of the institutional strengthening and capacity building of land administration system activity focused on impacts from: (a) Institutional strengthening of land administration at the national level and outreach and strengthening of Civil Society on Land Issues; (b) Institutional Strengthening and Support to the Provincial Cadastral Offices in the Northern Provinces; and (c) Support to the Cadastral Development in the Municipalities of the Northern Provinces. The evaluation focuses on the activity's impact on the number of land conflicts, DUAT transaction time, and the number of land transactions. Specifically, the study evaluates:

1. The impact of the institutional strengthening of the district/municipal land administration system on the demand for DUATs and formal land transactions;
2. The impact of institutional strengthening of the district/municipal land administration system on the monetary cost and time taken to acquire a DUAT or to register a formal transaction;
3. The impact of the institutional strengthening of the district/municipal land administration system on land conflicts

The evaluation uses recorded data on DUAT issuance and market transaction from the district and municipal land administration offices. Each record includes information on cost and time taken from application to the completion of each transaction (either related to DUAT issuance or related to land market transfer through sale/rental/mortgage), as well as the basic parcel characteristics such as size, location, owner, etc. All the recorded transactions over 8-10 years are divided into two time periods - the before-intervention period (e.g., 2009) and the after – intervention period (post 2014). A difference-in-difference approach is used.

Twelve (12) districts and eight (8) municipalities where MCC had interventions are considered the treatment land administration units and are compared with 12 districts and 8 municipalities that share similar characteristics to those of the treatment (but were not targeted for institutional strengthening intervention). A number of district/municipality institutional land administration unit indicators including number of staff in cadastral service, size of the cadastral unit, average number of years of experience of cadastral staff; average number of previous trainings; quality of equipment in the cadastral office; number DUATs applications processed within 90 days per year or month; quality of facilities (access to electricity, number of survey equipment by type) will be used to select the comparison group.

Similarly, in order to analyze the impact of institutional impact on reducing land conflict, information on total number of conflicts was collected using the registry of conflicts at the municipalities assisted by the Land Project and compared to other municipalities within the same province not served by the Land Project before and after MCC's intervention.

5.2.4 Farmer Income Support Project Evaluation

An MCC-funded performance evaluation will be conducted on the Farmer Income Support Project. A single contract will be awarded to a firm or institution to evaluate all five activities including: 1) Rehabilitation of Endemic Areas Activity (US\$ 7.9 million), 2) Control of Endemic Disease Activity (US\$ 7.0 million), 3) Improvement of Productivity Activity (US\$ 2.5 million), 4) Business Development Support Activity (US\$ 1.0 million) and the 5) Research and Development Activity (US\$ 2.4 million). Refer to Section 3.2.4 for a discussion of the background and summary of the Farmer Income Support Project Activities.

The fundamental research question to be answered is: “What is the impact of the technical assistance provided by the project to protect and restore income from coconuts and their derivatives and expand farmers’ productive capacity through income diversification.”

The performance evaluation will likely involve a combination of evaluation techniques including a) the use of field validation of GIS maps and tables to demonstrate the change in incidence of CLYD infestation rates over the life of the project for the effective control and mitigation of the spread of CLYD disease in both the endemic and epidemic intervention areas, b) validation of reported 2010-2012 coconut seedling survival rates, c) forecast economic value of coconut production over the twenty year life of the investment given know average yields of dwarf and tall green coconut seedling varieties and trend in validated survival rates, d) focus group discussions and rapid field appraisals of Round 1 thru Round 3 households receiving intercropping technical assistance and improved high value crop seeds, e) the in-depth development of case studies of select small and medium sized enterprises funded by the Business Development Fund, e) a technical review of the research funded by the project for the selection and development of coconut seedlings more tolerant to CLYD, and f) the influence of overall project activities on the development of a national agricultural program for coconut production.

Analyses of coconuts will focus on a) restoration of coconut supply in endemic/epidemic zones based on projected yields, given survival rate of coconut seedlings planted disaggregated by zone, b) the compact closeout rate of CLYD incidence in the epidemic zone and c) green tolerant coconut seedling survival rates disaggregated by district, by epidemic and endemic zone including comparative analysis of the 2009-2012 implementation period.

Analyses of high value crops will focus on a) estimated area under cultivation disaggregated by crop varieties (sesame, ground nuts, pigeon peas and cow peas), average productivity of varieties planted, forecast income generated disaggregated by crop varieties and male/female head of household, and farmer adoption rates of improved techniques.

In addition, the evaluation firm will use the findings of the MCA-funded a) “Anthropological Study on the Causes and Effects of Lack of Ownership, by Smallholders, of the Farmer Income Support Project (FISP) in Coastal Zambézia and in Angoche and Moma Districts in Coastal Nampula, in Mozambique” (Bid Ref: QCBS-MCA-MOZ-01/M&E/12-223) and b) the “Impact of Coconut Lethal Yellowing Disease (CLYD) Infestation and Rhinoceros Beetle (*Oryctes*) Infestation on the Farming Systems and Household Economies in Coastal Zambézia and Southern Nampula” (QCBS-MCA-MOZ-03/M&E/11-181) to guide its analysis of the effectiveness MCA interventions and to develop recommendations, given lessons learned, for future development of agricultural projects.

Additional research question include:

1. What is the impact of the technical assistance provided by the project on coconut production?
2. What is the impact of the technical assistance provided by the project on income diversification due to introduction/adoption of high-value crops?
3. Given the declining rate of the incidence of CLYD, what is the impact of the project on the healthy coconut tree stock?

4. Given the declining rate of the incidence of CLYD and prevailing survival rate of disease resistant coconut seedlings, what is the potential increase in coconut supply in the Zambezi and Nampula provinces over a twenty year investment period?
5. What is the present rate of CLYD incidence on adult trees?
6. What are the present survival rates of adult trees disaggregated by endemic and epidemic area and age band?
7. What is the level of efficiency of cut & burn technique in reducing CLYD incidence and disease spread rate?
8. What is the impact of the project on the post planting care of the coconut seedlings and trees and how does it relate to the seedlings survival rate given the number of farmer households trained in coconut husbandry and number of farmer households using improved techniques?
9. What is the impact of the project on income of participating farmer households disaggregated by a) epidemic areas and endemic areas and b) male and female head of household?

6.0 Implementation and Management of M&E

6.1 Responsibilities

Monitoring and evaluation are integrated into the entire life cycle of a Compact from project inception through implementation and into a specified post compact period.

During Compact development, task force members identify the program logic, define project objectives and specify target-specific performance indicators in order to measure implementation progress over the five year life of the Compact. Economic Analyses are performed on each project proposal submitted to MCC by the compact eligible host country; analyses include assessing the economic growth rationale for the investment, calculating an economic rate of return (ERR), and conducting Beneficiary Analysis. Accordingly, the Economic and Beneficiary Analyses are key pillars of the Monitoring and Evaluation Plan (M&E Plan). Variables capturing the benefit streams in the ERR are included as key performance indicators and targets in the M&E Plan. Gaps in data availability and/or failures of data quality identified during Compact development also serve as a basis for planning complementary monitoring, evaluation and/or survey activities.

After a Compact is signed, the partner country's Accountable Entity (referred to as MCA; i.e., Millennium Challenge Account) and MCC finalize an M&E Plan that provides the framework for monitoring and evaluating Compact Activities. The monitoring component of the M&E Plan lays out the methodology and process for assessing progress towards the Compact Goal. It identifies indicators, establishes performance indicator baselines and targets and details the data collection and reporting plan to track progress against targets on a quarterly or annual basis. The evaluation component identifies and describes the evaluations that will be conducted, the key evaluation questions and methodologies, and the data collection strategies that will be employed.

As such, this M&E Plan is a tool to manage the process of monitoring, evaluating and reporting progress toward the MCA-Mozambique's Compact results. It is used in conjunction with other tools such as work plans, procurement plans, and financial plans.

The M&E Plan serves the following main functions:

- a) Explains how and what the MCC and MCA will a) monitor to determine whether the Projects are on track to achieving their intended results, and b) evaluate to assess implementation strategies, provide lessons learned, determine cost effectiveness and estimate the impact of Compact interventions;
- b) Includes the key indicators that must be reported to MCC on a regular basis;
- c) Includes a description of complementary data to be collected by MCA-Mozambique for evaluation of the Compact, but not reported to MCC on a regular basis, including special studies, survey results and other qualitative studies; and
- d) It serves as a communication tool to aid MCA-Mozambique's staff and other stakeholders to more clearly understand the interventions and associated targeted outputs and outcomes for which the MCA is responsible for achieving by the end of the compact.

Accordingly, MCA-Mozambique is staffed with a Monitoring and Evaluation Unit in order to develop and implement MCA-M&E-related monitoring and evaluation activities. In order to perform its various responsibilities, the MCA-Mozambique M&E Unit is staffed with 1) one Planning and Monitoring and Evaluation Manager, 2) one Monitoring and Evaluation Specialist, 3) one Economist, 4) one Management Information System Administrator and 5) one Administrator for the development and maintenance of an MCA-wide integrated work plan.

The Planning and Monitoring and Evaluation Manager assumes overall responsibility for a) the management of the M&E Unit b) development of the overall MCA-Mozambique monitoring and evaluation strategy, c) producing and disseminating timely reports on MCA-Mozambique implementation progress to program stakeholders. The Planning and Monitoring and Evaluation Manager reports directly to the Managing Director of MCA-Mozambique.

General responsibilities of the MCA-M&E Unit include:

- Elaborate and present the economic logic of the compact and related communications, including evaluating potential impact on growth and poverty reduction, gathering and assessing the validity of appropriate data and evidence that support the claimed impacts, rationale for public funding, "monitorability", and the economic rate of return of proposed projects.
- Assisting in the development of the Monitoring and Evaluation plan for the compact, including advising on the intermediate indicators to be used, baseline data collection and the methodology for performing impact evaluation.

- Participate on interdisciplinary teams to assess proposals and perform due diligence. Taking lead role in coordinating assessments of “evaluability” and statistical capacity.
- Guide the setup of the M&E system and strategy, including data-collection, data-analysis, data quality assurance and reporting systems, and oversee its effective implementation by implementing partners.
- Working with IT staff, Country Programs staff and implementing entity staff to develop the technical requirements for, and continual improvement of, a centralized management information system.
- Supervise data collection, including the design of surveys when needed, by implementing entities.
- Directly participate in the monitoring of each project through site visits, review of project reports and review of primary and secondary data.
- Regularly review M&E data with appropriate decision makers to ensure that projects are achieving their targets and, if changes are needed, that timely decisions on corrective actions are made and implemented.
- Prepare periodic reports regarding program monitoring and evaluation for review by the Managing Director and Project Managers that will be submitted to the Steering Committee, Stakeholders Group and MCC.
- Assist in the preparation of other periodic reports including, but not limited to, monitoring and evaluation reports, budgets, implementation reports from project managers and implementing entities, procurement reports, and others as defined in MCC implementation procedures.
- Ensure that the MCA-Mozambique Web page contains all up-to-date relevant reports for public access by the program stakeholders.
- Participate in the planning and execution of annual project reviews.
- Organize regular data quality reviews and oversee the process for selecting independent reviewers.
- Elaborate the plan for interim and final evaluations and oversee the evaluation process.
- Develop terms of reference for procurement of evaluations and other studies related to the M&E activities.
- Ensure that staff and implementing partners are receiving adequate support to be able to implement their M&E functions.
- Communicating MCC policy and guidance on M&E responsibilities to host country representatives.
- Making recommendations to the Government of Mozambique Steering Committee for modifications to approved M&E plans.
- Preparing background documents, analysis, recommendations and presentation materials for senior management use at meetings, external events, etc.
- Identifying and working, as needed, with local partners, consultants, trainers, auditors and MCC staff.

6.2 MCA Management Information System for Monitoring and Evaluation

Overview

In support of compact implementation, MCA-Mozambique has developed a Web-enable management information system (MIS). The objective of said system is to provide support to MCA-Mozambique staff and partner entities for the timely collection, storage, retrieval and standardized/ad hoc report generation of project-related performance, financial and procurement data for the on-going management of Compact operations. The web-enable MCA-MIS is composed of a) monitoring and evaluation, b) financial, c) procurement and d) integrated work plan applications. All applications contain a built-in online data entry screen for entering data online from a Web browser.

Structure

The MCA-Mozambique MIS consists of the six modules described below:

- a) **MY PORTFOLIO MODULE:** provides quick access to the tasks, procurements and M&E performance indicators tailored to the authorized users requirements and access rights.
- b) **DASHBOARD MODULE:** a reporting tool that provides a visual display of user defined information consolidated and arranged on a single screen, giving the possibility to view various types of reports such as lists, maps, and charts in a user-friendly environment.
- c) **LIST MODULE:** used to create and execute ad-hoc queries and acquire results in the form of lists.
- d) **CHART MODULE:** used to filter and display data in a chart form for professionally looking presentations and reports.
- e) **MAP MODULE:** used to query, aggregate, disaggregate, filter, edit and display data on a map at the provincial, district and city/village level.
- f) **REPORT MODULE:** generates complex reports over single or multiple selection criteria and presents the output in the printable and user-friendly format. Reports can be saved as well as exported into PDF, MS Word and MS Excel format files.

As part of the Compact Closure Plan, MCA-Mozambique has identified the Ministry of Planning and Development (MPD) as the most suitable of the government entities to utilize the MCA-MIS and capitalize on MCA software investments. In support of the MIS transfer initiative, MPD has established a technical team, consisting of key staff from the ministry's national directorates, to train in the existing system and identify modifications required to respond to the government entity's planning and reporting needs. Accordingly, a joint MCA/MPD work plan has been agreed between the parties including contracting the services of the software development consultant firm to conduct a detailed needs assessment, development of technical and financial proposals for the subsequent modification of the system tailored to suit MPD's data/system requirements. The costs for conducting the MPD needs assessment are to be financed by the MCA-M&E budget. The system is to be transferred to MPD prior to the compact end date.

Write a statement in this section mentioning that the MIS has been transferred

6.3 Review and Revision of the M&E Plan

As per MCC M&E Policy, M&E Plans are revised as needed during the life of the Compact to adjust to changes to the Program's design and to incorporate lessons learned for improved performance monitoring and measurement.

The original M&E Plan was approved by MCC-M&E on April 14, 2009. This version, MCA-Mozambique M&E Closure Plan, is the second amendment. MCC-M&E approved a prior amended version of the M&E Plan on August 24, 2010. The need for a second amended M&E Plan is the result of successive re-scopings that have materially affected preceding terms of reference, impacted the outputs and associated outcomes, and modified the implementation timelines of affected projects. The Closeout M&E Plan incorporates approved changes to the stated performance indicators and scopes of the project interventions and it serves as an effective guide for the monitoring and evaluation of the Mozambique close-out activities.

It is noted that M&E Plans may be modified or amended without amending the Compact. Amendments by MCA-Mozambique to the original M&E Plan have been approved in writing by MCC and are consistent with the requirements of the Compact and any relevant Supplemental Agreements. All modifications are tracked in Annex III of the M&E Plan.

Table 1 lists the MCC approved Program budget disaggregated by project and activity following the re-scoping of the Rehabilitation of Roads Project in January 2011 and successive re-scopings of the Water, Sanitation and Drainage Project in December 2010, April 2011 and August 2011.

Table 4: MCA-Mozambique Program Budget Disaggregated by Project and Activity

MCA-Mozambique Project/Activity	Original Total Budget (Expressed in Millions USD)	Revised Total Budget (Expressed in Millions USD)
1. Water Supply and Sanitation	203.5	207.4
A. Technical Assistance and Capacity Building	21.0	21.0
B. Rehabilitation and Expansion of Water supply systems in urban areas	91.1	91.1
C. Rehabilitation and expansion of six municipal sanitation and drainage systems	82.5	82.5
D. Construction/ Re-construction of wells and bore holes (rural water points)	8.9	12.8
2. Rehabilitation/ Construction of Roads	176.3407	176.3
A. Technical Assistance for Roads Project	3.0	3.0
B. Rehabilitation Costs	173.3	173.3
3. Land Tenure Services	759.6407.0	39.1
A. Support for the National Policy Monitoring Process	10.4	10.4
B. Land Administration Capacity Building	13.4	13.4
C. Site-specific secure land- access	15.2	15.2
4. Farmer Income Support Project	1558.2814	18.4
A. Rehabilitation of endemic areas	2.9	7.9
B. Control of epidemic disease	7.0	7.0
C. Research and Development Fund	2.4	2.4
D. Improvement in Productivity	3.7	0.0
E. Business Development Fund	1.5	1.0
5. Monitoring and Evaluation	8.2	8.2
Monitoring and Evaluation	8.2	8.2
6. Program Administration and Oversight	62.3	57.6
MCA- Mozambique	30.9	29.9
Fiscal and Procurement Agent	25.0	21.1
Bank Contract	0.03	0.0
Auditing	6.0	6.0
Environmental Management	0.4	0.5
Grand Total	506.9	506.9

7.0 M&E Budget

The total MCA-Mozambique M&E budget is equal to USD 8,205,000.00; equivalent to 1.6% of the total USD 506.9 million Program budget. Additional funds are budgeted from the MCC-M&E Due Diligence budget to support the impact evaluation activities of the Water and Sanitation, Land Tenure Services and Farmer Income Support Projects over the compact implementation period and in year three of the post compact period; i.e., 2016.

An estimated USD 86,500 of the MCA-Mozambique M&E budget will be allocated to hiring part-time support staff to supplement core MCA-M&E staff. Approximately USD 308,000 will be spent on statistical technical advisory services, software development services and data quality oversight. The balance of USD 995,500 is allocated to program-wide surveys, special studies and

M&E workshops. Refer to the table listed below for an annual distribution of disbursements and commitments over the life of the compact disaggregated by expense category. US dollar values for compact years 1-4 are actual expenditures whereas compact year 5 is a combination of disbursements to date and forecast commitments thru the compact end date; i.e., 21Sep13.

Table 5: MCA-Mozambique M&E Budget with Actual Disbursements to date (In US Dollars)

**MILLENNIUM CHALLENGE ACCOUNT - MOZAMBIQUE
Monitoring and Evaluation Project Budget & Disbursements**

M&E Activities	Commitment (Excl PTR)	DISBURSEMENTS - COMPACT YEAR (Excl PTR)						Balance to be paid during Close out Period
		FY 1	FY 2	FY 3	FY 4	FY 5	Grand Total	
Management information system development and support	\$319,388		\$59,915	\$201,012	\$58,462		\$319,388	\$0
GIS Database system and support	\$220,255				\$209,242	\$11,013	\$220,255	\$0
Data collection & reporting - Monitoring Data	\$35,163		\$1,944	\$8,720	\$11,584	\$12,914	\$35,163	\$0
Data collection & reporting - Social-Economic Studies on Road	\$3,568	\$3,568					\$3,568	\$0
Data collection & reporting - Integrated Surveys with INE and MINAG	\$843,106	\$98,617	\$63,289	\$404,336	\$174,451	\$102,414	\$843,106	
Data collection & reporting - IRR survey and Annual Traffic count	\$171,250						\$0	\$171,250
Participatory M&E Stakeholders and working group meetings	\$62,551		\$30,604	\$27,445	\$4,502		\$62,551	\$0
Staff Capacity Building and Training	\$103,665	\$7,352	\$16,978	\$40,382	\$2,264	\$36,688	\$103,665	\$0
Data quality review	\$267,636			\$267,636			\$267,636	\$0
Technical Assistance	\$308,573		\$31,264	\$100,300	\$93,846	\$60,373	\$285,782	\$22,791
Special Studies - CENACARTA DATUM STUDY	\$50,698				\$9,727	\$40,971	\$50,698	\$0
Special Studies - Socio Economic Study on Roads Project	\$329,579					\$247,184	\$247,184	\$82,395
Special Studies - Impact of CLYD on Households Incomes	\$307,982					\$307,982	\$307,982	\$0
Special Studies - Anthropological Study on Lack of Ownership of FISP	\$378,654					\$151,462	\$151,462	\$227,192
Advanced Result Based M&E Training for MCA MOZ	\$79,347					\$79,347	\$79,347	\$0
M&E Advisory Services (Knowledge Attitude Practice)	\$174,300					\$58,100	\$58,100	\$116,200
Performance Evaluation of HIV/AIDS prevention	\$166,133					\$49,840	\$49,840	\$116,293
MIS Transfer to MPD	\$176,365					\$29,738	\$29,738	\$146,628
Consultancy for Compact Completion Report	\$104,526					\$48,083	\$48,083	\$56,443
Performance Evaluation of Impact of RAP on the Affected Persons	\$88,250					\$30,888	\$30,888	\$57,363
Performance Evaluation of Gender integration	\$83,248					\$23,309	\$23,309	\$59,938
Grand Total	\$4,274,235	\$109,536	\$203,994	\$1,049,831	\$564,077	\$1,290,304	\$3,217,742	\$1,056,493

Projected Balance to be de-obligated

Description	Amount
Current Approved Multi-Year Financial Plan	\$8,205,000
Current Commitments	\$4,274,235
Projected Balance to be de-obligated	\$3,930,765

ANNEX I: Indicator Documentation Table

Country: Mozambique									
Annex I: Indicator Documentation Table									
Compact-Wide Goal Indicators									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
N	Goal	Poverty rate in Northern Mozambique	Percentage of the population in Northern Mozambique who lack the ability and opportunity to satisfy the necessary basic nutritional and non-nutritional requirements (2150 nutritional calories plus basic non food items).	Percentage	None	INE and MPD	INE (DCI + DEMOVIS), MPD (DNEAP)	Years 0 and 5	
N	Goal	Household Income (Northern Mozambique)	The total value of annual household food production for consumption, all crop and livestock sales, cash and in-kind pay received from off-the-farm activities and remittances, net cash and in-kind payments made to hire household members.	Dollars, 2004 values	None	INE and MPD	INE (DCI + DEMOVIS), MPD (DNEAP)	Years 0 and 5	
N	Goal	Percent of stunted children, 0-59 months (height/age z-score) in Northern Mozambique	Percentage of children under 5 years of age in Northern Mozambique who show chronic malnutrition as a result of cumulative inadequacies in nutrition status.	Percentage	None	MISAU/INE	MISAU/INE, MCC/MCA	Years 0 and 5	

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Water Supply and Sanitation Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
N	Outcome	Time to get to non-private water source (Rural)	The median time households spent walking to, waiting at, and walking back from their primary water source.	Minutes	None	MCC/MCA	MCC/MCA	Years 0 and 5	
(WS-14)	Outcome	Residential water consumption (rural)	The average water consumption in liters per person per day	Liters per capita per day	None	MCC/MCA	MCC/MCA	Years 0 and 5	
(WS-1)	Process	Value of signed water and sanitation feasibility and design contracts	The value of all signed feasibility, design, and environmental contracts, including resettlement action plans, for water and sanitation investments using 609(g) and compact funds.	US Dollars	None	Contractor and Engineer Reports & Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	
	Process	Value disbursed of water and sanitation feasibility and design contracts	Value disbursed of all signed feasibility, design, and environmental contracts, including resettlement action plans, for water and sanitation systems	US Dollars	None	Contractor Reports & Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	
(WS-2)	Process	Percent disbursed of water and sanitation feasibility and design contracts	The total amount of all signed feasibility, design, and environmental contracts, including resettlement action plans, for water and sanitation investments disbursed divided by the total value of all signed contracts.	Percent	None	Contractor and Engineer Reports & Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	
(WS-3)	Process	Value of signed water and sanitation construction contracts	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of water and sanitation works using compact funds.	US Dollars	None	Contractor and Engineer Reports & Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	
N	Process	Amount disbursed in water and sanitation construction	The amount disbursed in US\$ for construction contracts of water and sanitation systems	US Dollars	None	Contractor and Engineer Reports & Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	This indicator is not required, but it is important for the calculation of the common indicator below

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Water Supply and Sanitation Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
									"Percent disbursed of water and sanitation construction contracts"
(WS-4)	Process	Percent disbursed of water and sanitation construction contracts	The total amount of all signed construction contracts for construction, reconstruction, rehabilitation, or upgrading of water and sanitation works disbursed divided by the total value of all signed contracts.	Percent	None	Contractor and Engineer Reports & Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	
(WS-5)	Process	Temporary employment generated in water and sanitation construction	The number of people temporarily employed or contracted by MCA-contracted construction companies to work on construction of water or sanitation systems	Number	Gender	Contractor and Engineer Reports	MCA-Moz	Quarterly	
Activity 1: Technical Assistance & Capacity Building to Water Supply and Sanitation Project									
N	Process	IEA signed with AIAS	Signed agreement entered into effect.	Date	None	Project Report	DNA/DAU (AIAS)	One time	
Activity 2: Rehabilitation and Expansion of Water supply systems in urban areas									
	Output	Rated capacity to deliver potable water	The ability of facilities to process water to the specified standard; e.g. for water distribution or wastewater treatment. The flow through the plant is typically less than the rated capacity.	Cubic meters/ day	Cities & Sources	FIPAG; AIAS	MCA;FIPAG; AIAS; R. J Burnside and Associates (Independent Engineer)	Annual	
	Output	Increased safe/reliable yield	The maintainable yield of water from a surface or ground water source or sources which is available continuously during projected future conditions without creating undesirable effects.	Cubic meters/ day	Cities & Sources	FIPAG; AIAS	MCA;FIPAG; AIAS; R. J Burnside and Associates (Independent Engineer)	Annual	

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Water Supply and Sanitation Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
N	Process	Three Cities Water: Feasibility studies contract signed	Signed contract entered into effect.	Date	None	Project reports	Quarterly Progress Reports	One time	
N	Process	Three Cities Water: Final detailed design submitted	Submitted report approved.	Date	None	Quarterly Progress Reports	DNA/DAU (AIAS) FIPAG	Quarterly	
(WS-3)	Process	Value of original construction contracts signed for urban water supply systems	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of urban water supply systems works using compact funds.	US Dollars	None	Contract signed between MCA-Moz and Contractor	MCA-Moz	One time	
N	Process	Amount of original construction contracts disbursed for urban water supply systems	The amount disbursed in US\$ for original construction contracts of urban water supply systems.	US Dollars	None	Contractor and Engineer Reports & Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	
N	Process	Value of approved variation orders signed for urban water supply systems	The value in US\$ of approved variation orders of all works contracts for urban water supply systems	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	Quarterly	
N	Process	Amount of disbursements of approved variation orders for urban water supply systems	The amount disbursed in US\$ for approved variation orders of all works contracts for urban water supply systems	US Dollars		Contractor and Engineer Reports	MCA-Moz	Quarterly	
(WS-3)	Process	Nacala Water: Value of original construction contracts signed	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of Nacala Water works using compact funds.	US Dollars	Lots	Contractor and Engineer Reports & Fiscal Agent / MCA	MCA-Moz	One time	
N	Process	Nacala Water: Amount of original construction contracts disbursed	The amount disbursed in US\$ for Original Construction Contracts for Nacala Water	US Dollars	Lots	Contractor and Engineer Reports & Fiscal Agent / MCA	MCA-Moz	Quarterly	

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Water Supply and Sanitation Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
N	Process	Nacala Water: Value of approved variation orders signed for urban water supply systems	The value in US\$ of approved variation orders of all works contracts for Nacala Water	US Dollars	Lots	Contractor and Engineer Reports	MCA-Moz	Quarterly	
N	Process	Nacala water: Amount of disbursements of approved variation orders for urban water supply systems	The amount disbursed in US\$ for approved variation orders of all works contracts for Nacala Water	US Dollars	Lots	Contractor and Engineer Reports	MCA-Moz	Quarterly	
(WS-3)	Process	Nampula Water: Value of original construction contracts signed	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of Nampula Water works using compact funds.	US Dollars	Lots	Contractor and Engineer Reports & Fiscal Agent / MCA	MCA-Moz	One time	
N	Process	Nampula Water: Amount of original construction contracts disbursed	The amount disbursed in US\$ for original Construction Contracts for Nampula Water	US Dollars	Lots	Contractor and Engineer Reports & Fiscal Agent / MCA	MCA-Moz	Quarterly	
N	Process	Nampula Water: Value of approved variation orders signed for urban water supply systems	The value in US\$ of approved variation orders of all works contracts for urban water supply system of Nampula	US Dollars	Lots	Contractor and Engineer Reports	MCA-Moz	Quarterly	
N	Process	Nampula water: Amount of disbursements of approved variation orders for urban water supply systems	The amount disbursed in US\$ for approved variation orders of all works contracts for urban water supply system of Nampula	US Dollars	Lots	Contractor and Engineer Reports	MCA-Moz	Quarterly	
N	Process	Five Cities: Feasibility Study, Detailed Design and Supervision contract signed	Signed contract entered into effect.	Date	None	Quarterly Progress Reports	MCA-Moz	Quarterly	
N	Process	Five Cities: Final detailed design submitted	Submitted report approved.	Date	None	Contractor and Engineer Reports & Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Water Supply and Sanitation Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
(WS-1)	Process	Nacala Dam: Value of contract signed for Feasibility Study, Environmental & Social Impact Assessment, Design and Supervision	The value of all signed feasibility, design, and environmental contracts, including resettlement action plans, for the Nacala dam investment using 609(g) and compact funds.	US Dollars	None	Contract signed between MCA-Moz and Contractor	MCA-Moz	One time	
(WS-2)	Process	Nacala Dam: Amount Disbursed for Feasibility Study, Environmental & Social Impact Assessment, Design and Supervision	The total amount of all signed feasibility, design, and environmental contracts, including resettlement action plans, for Nacala Dam investments disbursed divided by the total value of all signed contracts.	US Dollars	None	Contractor and Engineer Reports & Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	
(WS-3)	Process	Nacala Dam: Value of original construction contracts signed	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of Nacala Dam works using compact funds.	US Dollars	None	Contract signed between MCA-Moz and Contractor	MCA-Moz	One time	
N	Process	Nacala Dam: Amount disbursed for original construction contracts signed	The amount disbursed in US\$ for original Construction Contracts for Nacala Dam	US Dollars	None	Contractor and Engineer Reports & Fiscal Agent / MCA	MCA-Moz	Quarterly	
N	Process	Value of approved variation orders signed for Nacala dam	The value in US\$ of approved variation orders of all works contracts for Nacala dam	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	Quarterly	
N	Process	Amount of disbursements of approved variation orders for Nacala dam	The amount disbursed in US\$ for approved variation orders of all works contracts for Nacala dam	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	Quarterly	
N	Process	Mocuba Water Supply and Treatment Works Emergency Upgrades: Value of original construction contracts signed	The value of all signed construction contracts for Mocuba emergency works using compact funds.	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	Quarterly	

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Water Supply and Sanitation Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
N	Process	Mocuba Water Supply and Treatment Works Emergency Upgrades: Amount disbursed for original construction contracts signed	The amount disbursed in US\$ for original Construction Contracts for Mocuba emergency works	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	Quarterly	
N	Process	Value of approved variation orders signed for Mocuba Water Supply and Treatment Works Emergency Upgrades	The value in US\$ of approved variation orders of all works contracts for for Mocuba emergency works.	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	Quarterly	
N	Process	Amount of disbursements of approved variation orders for Mocuba Water Supply and Treatment Works Emergency Upgrades	The amount disbursed in US\$ for approved variation orders of all works contracts for Mocuba emergency works.	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	Quarterly	
Activity 3: Rehabilitation and expansion of six municipal sanitation and drainage systems									
N	Process	Three Cities Sanitation: Feasibility Studies contract signed	Signed contract entered into effect.	Date	None	Quarterly Progress	DNA/DAU (AIAS)	One time	
N	Process	Three Cities Sanitation: Final detailed design submitted	Submitted report approved.	Date	None	Quarterly Progress	DNA/DAU(AIAS)	One time	
(WS-3)	Process	Value of original construction contracts signed for municipal sanitation and drainage systems	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of municipal sanitation and drainage systems using compact funds.	US Dollars	None	Contract signed between MCA-Moz and Contractors	MCA-Moz	One time	
N	Process	Amount of original construction contracts disbursed for municipal sanitation and drainage systems	The amount disbursed in US\$ for of the original contracts for construction of municipal sanitation and drainage systems.	US Dollars	None	Contractor and Engineer Reports & Fiscal Agent / MCA	MCA-Moz	Quarterly	
N	Process	Value of approved variation orders signed for municipal sanitation and drainage systems	The value in US\$ of approved variation orders of all works contracts for municipal sanitation and drainage systems	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	Quarterly	

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Water Supply and Sanitation Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
N	Process	Amount of disbursements of approved variation orders for municipal sanitation and drainage systems	The amount disbursed in US\$ for approved variation orders of all works contracts for municipal sanitation and drainage systems	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	Quarterly	
N	Process	Value of original construction contracts signed for Social Marketing – Low Cost Sanitation in Nampula & Quelimane	The value in US\$ of all works contracts that MCA has signed with contractors for Nampula Sanitation (Storm Water Drainage).	US Dollars	None	Contract signed between MCA-Moz and Contractors	MCA-Moz	One time	
N	Process	Amount of original construction contracts disbursed for Social Marketing – Low Cost Sanitation in Nampula & Quelimane	The amount disbursed in US\$ for Construction Contracts for Social Marketing – Low Cost Sanitation in Nampula & Quelimane	US Dollars	None	Contractor Reports & Fiscal Agent / MCA - Moz	MCA-Moz	Quarterly	
N	Process	Value of approved variation orders signed for Social Marketing – Low Cost Sanitation in Nampula & Quelimane	The value in US\$ of approved variation orders of all works contracts for Social Marketing – Low Cost Sanitation in Nampula & Quelimane	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	Quarterly	
N	Process	Amount of disbursements of approved variation orders for Social Marketing – Low Cost Sanitation in Nampula & Quelimane	The amount disbursed in US\$ for approved variation orders of all works contracts for Social Marketing – Low Cost Sanitation in Nampula & Quelimane	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	MCA-Moz	
N	Output	Nampula Sanitation (Social Marketing – Low Cost Sanitation): Public Infrastructures constructed in schools and markets	Public infrastructures on markets and schools constructed in Nampula.	Number	Market/School	Quarterly Progress Reports	Contractor & Supervision Reports	Quarterly	
N	Process	Quelimane Sanitation (Social Marketing – Low Cost Sanitation): Public Infrastructures constructed in schools and markets	Public infrastructures on markets and schools constructed in Quelimane	Number	Market/School	Quarterly Progress Reports	Contractor & Supervision Reports	Quarterly	

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Water Supply and Sanitation Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
(WS-3)	Process	Nampula Sanitation (Storm Water Drainage): Value of original construction contracts signed	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of Nampula Sanitation (Storm Water Drainage) system using compact funds.	US Dollars	None	Contract signed between MCA-Moz and Contractors	MCA-Moz	One time	
N	Process	Nampula Sanitation (Storm Water Drainage): Amount disbursed for original construction contracts	The amount disbursed in US\$ for Construction Contracts for Nampula Sanitation (Storm Water Drainage)	US Dollars	None	Contractor Reports & Fiscal Agent / MCA - Moz	MCA-Moz	Quarterly	
N	Process	Value of approved variation orders signed for Nampula Sanitation (Storm Water Drainage)	The value in US\$ of approved variation orders of all works contracts for Nampula Sanitation (Storm Water Drainage)	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	Quarterly	
N	Process	Amount of disbursements of approved variation orders for Nampula Sanitation (Storm Water Drainage)	The amount disbursed in US\$ for approved variation orders of all works contracts for Nampula Sanitation (Storm Water Drainage)	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	MCA-Moz	
(WS-3)	Process	Quelimane sanitation (storm water drainage): Value of original construction contracts signed	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of Quelimane Sanitation (Storm Water Drainage) system using compact funds.	US Dollars	None	Contract signed between MCA-Moz and Contractors	MCA-Moz	One time	
N	Process	Quelimane Sanitation (storm water drainage): Amount Disbursed for original Construction Contracts	The amount disbursed in US\$ for Construction Contracts for Quelimane Storm Water Drainage	US Dollars	None	Contractor Reports & Fiscal Agent / MCA - Moz	MCA-Moz	Quarterly	
N	Process	Value of approved variation orders signed for Quelimane sanitation (Storm Water Drainage)	The value in US\$ of approved variation orders of all works contracts for Quelimane sanitation (Storm Water Drainage)	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	Quarterly	
N	Process	Amount of disbursements of approved variation orders for Quelimane sanitation (Storm Water Drainage)	The amount disbursed in US\$ for approved variation orders of all works contracts for Quelimane sanitation (Storm Water Drainage)	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	MCA-Moz	

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Water Supply and Sanitation Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
Activity 4: Construction/ Re-construction of wells and bore holes (rural water points)									
N	Outcome	Percentage of rural population in intervention areas with access to improved water sources	The percentage of households in the MCC project area who get access to and use an improved water supply such as private piped connections (into dwelling or yard), public tap/standpipe or tanker trucks (tube well, protected dug well, protected spring or rainwater: not applicable)	Percent	None	MCC/MCA baseline & follow-up	MCC/MCA	Years 0 and 5	
(WS-7)	Output	Water points constructed	The number of non-networked, stand-alone water supply systems constructed, such as: protected dug wells, tube-wells / boreholes, protected natural springs and rainwater harvesting / catchment systems	Number		Quarterly Progress Report	MCA; DNA/DAR	Quarterly	
(WS-6)	Output	People trained in hygiene and sanitary best practices	The number of people who have completed training on hygiene and sanitary practices that block the fecal-oral transmission route	Number	Gender	Contractor Reports	MCA; DNA/DAR	Quarterly	
N	Process	Social Mobilization and Technical Assistance for Cabo Delgado and Nampula Rural Water Points Contract signed	Technical Assistance and Social Mobilization activities started.	Date	None	Project reports	DNA/DAR	One time	
N	Process	Final Design Report I (150 Water points) submitted	Submitted report undergoing approval process.	Date	None	Consultant Reports	DNA/DAR	One time	
N	Process	Final Design Report II (250 Water points) submitted	Submitted report undergoing approval process.	Date	None	Consultant Reports	DNA/DAR	One time	
N	Process	Final Design Report III (200 Water points) submitted	Submitted report undergoing approval process.	Date	None	Consultant Reports	DNA/DAR	One time	
N	Process	Rural Water: Value of contract signed (Social-Technical and Works Supervision)	Value of contract signed Social-Technical and Works Supervision in Rural Water	US Dollars	None	Contractor Reports & Fiscal Agent / MCA-Moz	MCA-Moz	One time	

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Water Supply and Sanitation Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
N	Process	Rural Water: Amount disbursed for social-technical and works supervision	The amount disbursed in US\$ for Social-Technical and Works Supervision for Rural Water	US Dollars	None	Contractor Reports & Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	
(WS-3)	Process	Rural Water: Value of original contract signed for construction of rural water points	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of rural water points using compact funds.	US Dollars	Per group of Water Points	Contractor Reports & Fiscal Agent / MCA-Moz	MCA-Moz	One time	
N	Process	Rural Water: Value of disbursements for the original contract signed for construction of water points	The amount disbursed in US\$ for original Construction Contracts for Rural Water	US Dollars	Per group of Water Points	Contractor Reports & Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	
(WS-3)	Process	Rural Water: Value of construction for 150 Water Points	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of 150 Water Points using compact funds.	US Dollars	Lots	Contractor Reports & Fiscal Agent / MCA-Moz	MCA-Moz	One time	
(WS-3)	Process	Rural Water: Value of construction of 160 Water Points	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of 160 Water Points using compact funds.	US Dollars	Lots	Contractor Reports & Fiscal Agent / MCA-Moz	MCA-Moz	One time	
(WS-3)	Process	Rural Water: Value of construction for 90 Water Points	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of 90 Water Points using compact funds.	US Dollars	Lots	Contractor Reports & Fiscal Agent / MCA-Moz	MCA-Moz	One time	
(WS-3)	Process	Rural Water: Value of construction for 200 Water Points	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of 200 Water Points using compact funds.	US Dollars	Lots	Contractor Reports & Fiscal Agent / MCA-Moz	MCA-Moz	One time	
N	Process	Rural Water: Amount Disbursed for Construction of 150 Water Points	The amount disbursed in US\$ for the construction of 150 Water Points	US Dollars	Lots	Contractor Reports & Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Water Supply and Sanitation Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
N	Process	Value of approved variation orders signed for Rural Water	The value in US\$ of approved variation orders of all works contracts for Rural Water	US Dollars	None	Engineer Reports	MCA-Moz	Quarterly	
N	Process	Amount of disbursements of approved variation orders for Rural Water	The amount disbursed in US\$ for approved variation orders of all works contracts for Rural Water	US Dollars	None	Engineer Reports	MCA-Moz	Quarterly	
N	Process	Rural Water: Amount Disbursed for Construction of 160 Water Points	The amount disbursed in US\$ for the construction of 160 Water Points	US Dollars	Lots	Contractor Reports & Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	
N	Process	Rural Water: Amount Disbursed for Construction of 90 Water Points	The amount disbursed in US\$ for the construction of 90 Water Points	US Dollars	Lots	Contractor Reports & Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	
N	Process	Rural Water: Amount Disbursed for Construction of 200 Water Points	The amount disbursed in US\$ for the construction of 200 Water Points	US Dollars	Lots	Contractor Reports & Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Roads Rehabilitation Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
(R-9)	Outcome	Roughness	The measure of the roughness of the road surface, in meters of height per kilometer of distance traveled	IRI units	Primary	Supervising Engineers/ Contractor / ANE	MCA-ANE contractor	Years 0 & 5	
N	Outcome	Total time savings (Millions of dollars)	Value of time saved due to shorter trip times and increased speed on upgraded roads	Millions of US Dollars, 2009 values	Target road segments	Supervising Engineers/ Contractor / ANE	MCA-ANE Contractor / ANE economic evaluation unit	Years 1 and 5	
(R-10)	Outcome	Average annual daily traffic	The average number and type of vehicles per day, averaged over different times (day and night) and over different seasons to arrive at an annualized daily average	Number of vehicles	Primary	Supervising Engineers/ ANE	MCA-ANE Contractor / ANE economic evaluation unit	Annually	
(R-8)	Output	Kilometers of roads completed	The length of roads in kilometers on which construction of new roads or reconstruction, rehabilitation, resurfacing or upgrading of existing roads is complete (certificates handed over and approved).	Km		FS/D/CS Engineers	MCA / ANE	One time	
(R-1)	Process	Value of signed road feasibility and design contracts	The value of all signed feasibility, design, and environmental contracts, including resettlement action plans, for road investments using 609(g) and compact funds.	US Dollars		Contract signed between MCA-Moz and Contractors	MCA-Moz	Quarterly	
	Process	Value disbursed of road feasibility and design contracts	The value in US\$ of all contracts that MCA has disbursed with contractors to develop feasibility and/or design studies for systems of roads	US Dollars	None	Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	
(R-2)	Process	Percent disbursed of road feasibility and design contracts	The total amount of all signed feasibility, design, and environmental contracts, including resettlement action plans, for road investments disbursed divided by the total value of all signed contracts.	Percentage		Contractors and Engineer Reports & Fiscal Agent / MCA	MCA-Moz	Quarterly	
(R-3)	Process	Kilometers of road under design	Kilometers of roads that have been fully designed	km	None	Construction engineers	MCA / ANE / Contractor	One time	

(R-6)	Process	Kilometers of roads under works contract	Kilometers of roads that have been officially contracted under a construction works contract.	km	None	Project Reports	MCA / ANE / Contractor	One time	
N	Process	Namialo-Rio Lúrio-Metoro Road: Feasibility/ESA Studies, Design, Supervision, & Construction Contract Signed	Signed Contract entered into effect	Contract	None	Project Reports	MCA-Moz	One time	
N	Process	Rio Ligonha-Nampula Road segment: Feasibility / ESA Studies, Design, Supervision, & Construction Contract Signed	Signed Contract entered into effect	Contract	None	Project Reports	MCA-Moz	One time	
(R-4)	Process	Value of signed road construction contracts	The value of all signed construction contracts for new roads or reconstruction, rehabilitation, resurfacing or upgrading of existing roads using compact funds	US Dollars	Primary	Contract signed between MCA-Moz and Contractors	MCA-Moz	One time	
N	Process	Amount of original construction contracts disbursed for 252.7km roads works (Total)	The amount disbursed in US\$ of f all contracts that MCA has signed with contractors for roads rehabilitation.	US Dollars	None	Contractors and Engineer Reports & Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	
(R-5)	Process	Percent disbursed of road construction contracts	The total amount of all signed construction contracts for new roads or reconstruction, rehabilitation, resurfacing or upgrading of existing roads disbursed divided by the total value of all signed contracts.	Percentage		Contractors and Engineer Reports & Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	
N	Process	Value of approved variation orders signed for 252.7km road works (Total)	The value in US\$ of approved variation orders of all road works contracts	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	Quarterly	
N	Process	Amount of approved variation orders disbursed for 252.7km road works (Total)	The amount disbursed in US\$ for approved variation orders of all road works contracts	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	Quarterly	
(R-4)	Process	Value of original construction	The value in US\$ of the contract that MCA has signed with contractors for	US Dollars	None	Contract signed between MCA-	MCA-Moz	One time	

		contracts signed for Namialo-Rio Lúrio Lot 1(Namialo-Ponte Rio Mecutuchi) road works	rehabilitation of Namialo-Rio Lúrio Lot 1 (Namialo-Ponte Rio Mecutuchi)			Moz and Contractor			
N	Process	Amount of original construction contracts disbursed for Namialo-Rio Lúrio Lot 1 (Namialo-Ponte Rio Mecutuchi) road works	The amount disbursed in US\$ for Construction Contracts for of Namialo-Rio Lúrio Lot 1 (Namialo-Ponte Rio Mecutuchi)	US Dollars	None	Contractor and Engineer Reports & Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	
N	Process	Value of approved variation orders signed for Namialo-Rio Lúrio Lot 1(Namialo-Ponte Rio Mecutuchi) road works	The value in US\$ of approved variation orders for Namialo-Rio Lúrio Lot 1 (Namialo-Ponte Rio Mecutuchi) road works	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	Quarterly	
N	Process	Amount of approved variation orders disbursed for Namialo-Rio Lúrio Lot 1(Namialo-Ponte Rio Mecutuchi) road works	The amount disbursed in US\$ for approved variation orders for Namialo-Rio Lúrio Lot 1 (Namialo-Ponte Rio Mecutuchi) road works	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	Quarterly	
(R-4)	Process	Value of original construction contracts signed for Namialo-Rio Lúrio Lot 2 (Ponte Rio Mecutuchi-Rio Lúrio) roads works	The original value in US\$ of all signed contracts for Namialo-Rio Lúrio Lot 2 (Ponte Rio Mecutuchi-Rio Lúrio) roads works.	US Dollars	None	Contract signed between MCA-Moz and Contractor	MCA-Moz	One time	
N	Process	Amount of original construction contracts disbursed for Namialo-Rio Lúrio Lot 2 (Ponte Rio Mecutuchi-Rio Lúrio) roads works	The original amount disbursed in US\$ of all contracts for Namialo-Rio Lúrio Lot 2 (Ponte Rio Mecutuchi-Rio Lúrio) roads works.	US Dollars	None	Contractor and Engineer Reports & Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	
N	Process	Value of approved variation orders signed for Namialo-	The value in US\$ of approved variation orders for Namialo-Rio Lúrio Lot 2	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	Quarterly	

		Rio Lúrio Lot 2 (Ponte Rio Mecutuchi-Rio Lúrio) roads works	(Ponte Rio Mecutuchi-Rio Lúrio) roads works.						
N	Process	Amount of approved variation orders disbursed for Namialo-Rio Lúrio Lot 2 (Ponte Rio Mecutuchi-Rio Lúrio) roads works	The amount disbursed in US\$ for approved variation orders for Namialo-Rio Lúrio Lot 2 (Ponte Rio Mecutuchi-Rio Lúrio) roads works	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	Quarterly	
(R-4)	Process	Value of original construction contracts signed for Rio Ligonha-Nampula road works	The original value in US\$ of all signed contracts for Rio Ligonha-Nampula roads works.	US Dollars	None	Contract signed between MCA-Moz and Contractor	MCA-Moz	One time	
N	Process	Amount of original construction contracts disbursed for Rio Ligonha-Nampula road works	The original amount disbursed in US\$ of all contracts for Rio Ligonha-Nampula roads works.	US Dollars	None	Contractor and Engineer Reports & Fiscal Agent / MCA-Moz	MCA-Moz	Quarterly	
N	Process	Value of approved variation orders signed for Rio Ligonha-Nampula road works	The value in US\$ of approved variation orders for Rio Ligonha-Nampula road works.	US Dollars	None	Contractor and Engineer Reports	MCA-Moz	Quarterly	
N	Process	Amount of approved variation orders disbursed for Rio Ligonha-Nampula road works	The amount disbursed in US\$ for approved variation orders for Rio Ligonha-Nampula road works	US Dollars	None	Contractor and Engineer Reports	MCA - Moz	Quarterly	
(R-7)	Process	Temporary employment generated in road construction	The number of people temporarily employed or contracted by MCA-contracted construction companies to work on construction of new roads or reconstruction, rehabilitation, resurfacing or upgrading of existing roads	Number	Gender	Contractor and Engineer Reports	MCA-Moz	Quarterly	

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Land Tenure Services Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
L-7	Outcome	Percentage change in time for property transactions	The average percentage change in number of days for an individual or company to conduct a property transaction within the formal system	Percentage	Rural districts and urban municipalities	DNTF/LIMS (SPGC/DISTRICT & MUNICIPALITY). Additional supporting data to be provided by MSU's evaluation for baseline.	MSU Baseline; Municipalities and SPGC/DNTF (LIMS) follow-up	2011 Baseline (collected in 2013); and Post Compact-annually 2014-2016	For Mozambique, this is the average percentage change in time for first time issuance of a DUAT from the time of application (“pedido”) to time of stamped approval. An average for the baseline will be calculated by MSU (based on field administrative data collection in 2013) from transactions conducted prior to LIMS installation and systematic regularization. No change is predicted prior to post compact 2014 as LIMS was installed at the end of 2013. Data was not reported in 2012 and 2013 as systematic registration was ongoing. For rural areas, LIMS is installed at the provincial level (SPGCs) It is expected that DNTF will provide annual data on municipal transactions; in the event of difficulties, the municipalities will report individually to MPD.
N	Outcome	Production value of rural agricultural land	Value of crop production (excluding tree crops) per square meter of rural agricultural parcels in intervention areas before and after receiving a DUAT.	US Dollars	None	Rural LTR Evaluation	MINAG/ MSU Baseline; and MCC-funded Independent Evaluation for Follow-up	2011-2012 baseline rural survey (reported in 2013). Follow-up rural survey planned for 2016.	Baseline represents per square meter production value of rural parcels before receiving DUATs. Follow up represents per square meter production value of those parcels after receiving DUATs.
N	Outcome	Value of urban land parcel holding	Value of urban land parcel holding as measured by rentals and sales before and after receiving a DUAT	US Dollars	None	Urban LTR evaluation	MINAG-DE/MSU Baseline; and MCC-funded Independent Evaluator for Follow-up	2012 baseline urban survey. Follow-up planned for 2016.	Indicator represents value of urban real estate ² in intervention areas before and after provided DUATS.
N	Outcome	Average household	Average value of investments in	US Dollars	Rural and Urban	Urban and Rural LTR Evaluations	MINAG-DE/MSU	2011-2012 baseline rural;	

² In Mozambique’s case, land itself cannot be bought and sold. Legally, only improvements to the land parcels are bought and sold.

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Land Tenure Services Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
		investment in property and land for households before and after receiving a DUAT	property and land for households before and after receiving a DUAT				Baseline; and MCC-funded Independent Evaluation for Follow-up	2012 baseline urban survey. Follow-up planned for 2016.	
N	Outcome	Percentage of HH that perceive future Land related conflicts in LTR intervention areas	Percentage of HH that perceive future land related conflicts in LTR intervention areas before and after receiving a DUAT	Percentage	Rural and Urban	Urban and Rural LTR Evaluations	MINAG-DE/MSU Baseline; and MCC-funded Independent Evaluation for Follow-up	2011-2012 baseline rural; 2012 baseline urban survey. Follow-up planned for 2016.	Baseline reports households without a DUAT; follow-up reports with the same households after receiving a DUAT.
N	Outcome	Number of partnerships between communities or associations and investors	Number of partnerships formed between communities or associations and investors through ITC efforts	Number	None	Community Land Fund Manager (KPMG) Reports for end of Compact	Community Land Fund Manager (KPMG)	Annual reporting from 2011-2013	
Activity 1: Support for Land Policy Monitoring									
(L-1)	Output	Legal and regulatory reforms adopted	The number of specific pieces of legislation or implementing regulations adopted by the compact country and attributable to compact support.	Number	None	MCA Quarterly Reporting	DNTF/MCA	Quarterly	
N	Process	Land Policy Consultative Forum	LPCF formally established by Decree	Date	None	Copy of Decree	DNTF/MCA	One Time	

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Land Tenure Services Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
		(LPCF) established							
N	Process	Land strategy approved	Final “National Land Administration Strategy” approved by National Land Project Advisory Group (NLPAG/CAPT) and MCA	Report	None	HTSPE Report	DNTF/ MINAG	One Time	HTSPE deliverable: Land Strategy was to be approved by MINAG and the Council of Ministers
N	Process	Proposals for improvement to land legislation submitted by the Land Policy Consultative Forum (LPCF)	Final list of recommendations submitted to relevant State institutions.	Report	None	HTSPE Report	DNTF/MCA	One Time	
Activity 2: Land Administration Capacity Building									
(L-2)	Output	Land administration offices established or upgraded	The number of land administration and service offices or other related facilities that the project physically establishes or upgrades.	Buildings	None	DNTF / INFATEC / CENACARTA	MCA	Quarterly	
N	Output	Total value of procured equipment and materials	Value of IT equipment (hardware and software, including LIMS), technical equipment for land offices (province, district, & municipal), INFATEC equipment and books, and	US Dollars	None	Procurement and Fiscal Agent	MCA	Quarterly	

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Land Tenure Services Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
			geodata for CENACARTA						
(L-3)	Output	Stakeholders trained	The number of public officials, traditional authorities, project beneficiaries and representatives of the private sector, receiving formal on-the-job land training or technical assistance regarding registration, surveying, conflict resolution, land allocation, land use planning, land legislation, land management or new technologies.	Number	A) Gender; and B) Service Providers (CFJJ and HTSPE)	CFJJ & HTSPE Reports	CFJJ & HTSPE	Quarterly	For Mozambique, this indicator captures the number of people trained in paralegal courses at CFJJ and the number of people trained by HTSPE in : 1) Land Tenure Regularization; 2) Communications (Public Outreach on Land Administration); 3) Land Survey, Land use mapping/inventory, GIS/LIMS (Land Information Management System)
(L-3)	Output	Number of stakeholders trained in paralegal topics (CFJJ)	Number of people trained in paralegal courses at CFJJ	Number	Gender	CFJJ reports	CFJJ	Quarterly	
(L-3)	Output	Number of stakeholders trained in other land administration topics	Number of people trained in: 1) Land Tenure Regularization; 2) Communications (Public Outreach on Land Administration); 3) Land Survey, Land use mapping/inventory, GIS/LIMS (Land Information Management System)	Number	Gender	HTSPE reports	HTSPE	Quarterly	

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Land Tenure Services Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
	Outcome	Number of new student enrollments in INFATEC	Number of new students enrolling in INFATEC each year.	Number	Gender	INFATEC	MSU baseline and INFATEC post compact	Annually 2009-2015	
	Outcome	Number of students graduating from INFATEC	Number of students each year graduating from INFATEC.	Number	Gender	INFATEC	MSU baseline and INFATEC post compact	Annually 2009-2015	
Activity 3: Site Specific Facilitation of Land Access									
(L-5)	Output	Parcels corrected or incorporated in land system	The number of parcels with relevant parcel information corrected or newly incorporated into an official land information system (whether a system for the property registry, cadaster or an integrated system).	Number of parcels	Urban/Rural	Quarterly reports by HTSPE, SPGC (for private surveyor data); and KPMG (ITC data)	HTSPE, EXI, KPMG and Private Surveyors	Quarterly	For Mozambique, this includes: HTSPE/DNTF (rural and urban DUATs), HTSPE/EXI transfer of SPGC rural parcel data into LIMS, ITC rural DUATs and “certidoes”, and private surveyor rural DUATs. Parcels are considered within the land system from the time the cadastral map is approved and the DUAT is printed.
(L-6)	Output	Land rights formalized	The number of households receiving formal recognition of ownership and/or use rights through certificates, titles, leases, or other recorded documentation by government institutions or traditional authorities at national or local levels.	Number of households	(A) Urban/Rural; (B) Community/ Male (only)/ (Note that the disaggregations in B should be mutually exclusive and not include multiple selections.) / Commercial and other Legal Entity	Quarterly reports by HTSPE; SPGC (for private surveyor data); and KPMG (ITC data)	HTSPE and KPMG	Quarterly during compact; Annually during Post Compact	In Mozambique, Urban Land Rights Formalized includes those who receive DUATs based on HTSPE mapping. Rural land rights formalized includes those from HTSPE, private surveyors and ITC work. Land rights are considered formalized in urban areas when the Municipality/Mayor approves the DUAT and in rural areas when SPGC approves the DUAT or “certidao”. Based on MSU/MinAG surveys, households are calculated from parcels formalized based on an average rural parcel to household ratio for those treated to be 2:1 and urban parcel to household ratio 1:1. For ITC parcels which receive a certidao, a community is assumed to have on average of 350 households. For producer associations which receive a DUAT households largely overlap with those who received a

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Land Tenure Services Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
									community certidao so they are not counted. Community producer association DUATs are classified under Commercial and Other legal entities.
N	Output	Rural hectares mapped in Land Inventory Mapping Component of Site Specific Activity	Rural hectares mapped in Site Specific Activity during land use inventory mapping and planning component by HTSPE.	Hectares	None	Quarterly reports	HTSPE	Quarterly	This does not include rural hectares mapped by private surveyors.
N	Output	LTR rural cadastral parcels created by HTSPE	Number of rural cadastral parcels created for consideration by appropriate authority as measured by number of maps created by HTSPE	Number of parcels	None	Quarterly reports	HTSPE	Quarterly	
N	Output	LTR HTSPE rural cadastral parcels approved for title issuance	Number of rural cadastral parcel approved for title issuance as measured by number of printed duats.	Number of parcels	None	Quarterly reports	HTSPE	Quarterly	This is part of Common Indicator L-5: Parcels corrected or incorporated in the Land System. This indicator is part of a sequence: map created, map approved, parcel formalized, DUAT delivered.
N	Output	LTR HTSPE DUATs delivered to the rural beneficiaries	Number of DUATs (titles) issued and delivered to the beneficiaries in rural areas	Number of DUATs	Gender & joint	Quarterly reports	HTSPE	Quarterly	This indicator is part of a sequence: map created, map approved, parcel formalized, DUAT delivered.

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Land Tenure Services Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
N	Output	ITC association parcels mapped with “ <i>processos</i> ” compiled	Number of associations with their parcels mapped and process completed for the issuance of “ <i>DUATs</i> ” as part of the Community Land Fund Initiative	Number of “ <i>processos</i> ”	None	KPMG Quarterly reports	KPMG	Quarterly	This is part of Common Indicator L-5: Parcels corrected or incorporated in the Land System.
N	Output	ITC association titles (<i>DUATs</i>) approved by appropriate authority	Number of official documents approved and submitted for issuance of the respective <i>DUATs</i> by the appropriate authority	Number of “ <i>processos</i> ”	None	Quarterly reports	SPGC	Quarterly	
N	Output	ITC titles (<i>DUATs</i>) delivered to associations	Number of titles (<i>DUATs</i>) issued by appropriate authority and delivered into the hands of beneficiaries	Number of titles	None	KPMG Quarterly reports	SPGC	Quarterly	This indicator is part of a sequence: map created, map approved, parcel formalized, <i>DUAT</i> delivered.
N	Output	ITC Communities mapped	Number of communities with their area mapped and process completed, ready for submission to the appropriate authority for verification as part of the Community Land Fund Initiative	Number of communities	None	KPMG Quarterly reports	KPMG	Quarterly	This is part of Common Indicator L-5: Parcels corrected or incorporated in the Land System.
N	Output	ITC “ <i>Certidões</i> ” approved by appropriate authority	Number of <i>certidões</i> approved by appropriate authorities based on submission of required document files (<i>processos</i>)	Number of <i>certidões</i>	None	KPMG Quarterly reports	SPGC	Quarterly	This indicator is part of Common Indicator L-6 Land rights formalized. This indicator is part of a sequence: map created, map approved, parcel formalized, <i>DUAT</i> delivered.

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Land Tenure Services Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
N	Output	ITC “Certidões” delivered to the community	Number of <i>certidões</i> issued by appropriate authority and delivered into the hands of beneficiaries	Number of <i>certidões</i>	None	KPMG Quarterly reports	KPMG	Quarterly	
N	Output	LTR HTSPE urban cadastral parcel created	Number of urban cadastral parcels created for consideration by appropriate authority; i.e., before <i>edital</i>	Number of parcels	None	Quarterly reports	HTSPE	Quarterly	This indicator is part of a sequence: map created, map approved, parcel formalized, DUAT delivered.
N	Output	LTR HTSPE urban cadastral parcels approved	Number of urban cadastral parcels approved as measured by DUATs printed	Number of parcels	None	Quarterly reports	HTSPE	Quarterly	This is part of Common Indicator L-5: Parcels corrected or incorporated in the Land System. This indicator is part of a sequence: map created, map approved, parcel formalized, DUAT delivered.
N		LTR HTSPE urban cadastral parcel rights formalized	Number of urban cadastral parcel approved for DUAT issuance by Mayor	Number of parcels	None	Quarterly reports	HTSPE	Quarterly	This indicator feeds into common indicator L-6: Land rights formalized. This indicator is part of a sequence: map created, map approved, parcel formalized, DUAT delivered. An urban parcel is considered formalized when the Municipality/Mayor approves the DUAT.
N	Output	LTR HTSPE urban titles (DUATs) delivered to beneficiaries	Number of titles (DUATs) issued and delivered into the hands of urban beneficiaries	Number of titles	Gender, Joint and others (e.g. institutions, businesses, etc.)	Quarterly reports	HTSPE	Quarterly	
N	Output	Number of rural parcel formalized	Number of parcels formalized through the provision of DUATs by SPGCs based on mapping by private	Number of parcels	Private Surveyors, HTSPE, ITC	Quarterly reports Private Surveyors, HTSPE and ITC	Private Surveyors, HTSPE, ITC	Quarterly	This indicator feeds into common indicator L-6: Land rights formalized. This indicator is part of a sequence: map created, map approved, parcel formalized, DUAT delivered.

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Land Tenure Services Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
			surveyors, HTSPE and ITC						Rural parcels rights formalized includes those from HTSPE, private surveyors and ITC work. Parcel rights are considered formalized in rural areas when SPGC approves the DUAT or certidao.
N	Output	Total rural hectares formalized	Number of rural hectares formalized by SPGC as a result of mapping by three service providers: HTSPE, Private Surveyors and KPMG/ITC	Hectares	None	Quarterly reports	MCA	Quarterly	
N	Output	Rural hectares formalized by SPGC based on mapping by private surveyors	Hectares of rural land with rights formalized through the provision of DUATs by SPGCs based on mapping by private surveyors in Niassa and Zambezia	Hectares	None	Quarterly reports	Private Surveyors	Quarterly	
N	Output	Rural hectares formalized by SPGCs based on mapping by HTSPE.	Hectares of rural land with rights formalized through the provision of DUATs by SPGCs based on mapping by HTSPE	Hectares	None	Quarterly reports	HTSPE	Quarterly	
N	Output	ITC Rural hectares formalized by SPGC	Hectares of rural land with rights formalized through the provision of DUATs or certificates of delimitation or zones allocated for development	Hectares	None	Quarterly reports	KPMG	Quarterly	
N	Output	Number of preparator	Number of finished preparatory studies	Number	None	Quarterly reports	HTSPE/KPMG	Quarterly	

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Land Tenure Services Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
		y studies completed	(included studies listed in footnote 2)3						
N	Process	Project and priority areas selected	NLPAG and MCA approve areas.	Date	None	MCA Management Report	DNTF/MCA	One Time	
N	Process	Fund manager procured	Fund Manager contract signed	Contract	None	MCA Management Report	DNTF/MCA	One Time	
N	Process	General service provider mobilized	General Service Provider in Mozambique	Contract	None	MCA Management Report	DNTF/MCA	One Time	

³ Year 1 Issues Paper

Year 2 KPMG Inception Report; Strategy Assessments; ITC Gender; HTSPE Inception Report; Legal and Policy Review; Legal Assessment; Design and Work Plan (Provincial, Districts and Municipalities; Needs Assessment; LIMS; Public Outreach; Land Use Mapping Methodology

Year 3 Capacity Building; LAS (Land Administration Strategy)

Year 4 ITC Exit Strategy; ITC Lessons Learned; Policy Briefs (2)

Year 5 Policy Briefs (2)

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Farmer Income Support Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
N	Outcome	Income from coconuts and coconut products (households)	Average household income from coconuts and coconut products calculated as the Value of retained crops (coconut and coconut products) + Sales of coconut and coconut products	Meticais, 2009 values	None	MINAG/DE, MCA	MINAG/DE / MSU /	Years 1 and 5	
N	Process	Contract for FISP implementation signed	Contracted consultant ready to begin activities	Date	None	MCA Management Reports	MCA-Moz	One time	
(AI-11)	Outcome	Farmers who have applied improved practices as a result of training	The number of primary sector producers (farmers, ranchers, fishermen, and other primary sector producers) that are applying new production or managerial techniques introduced or supported by MCC training or technical assistance, such as input use, production techniques, irrigation practices, post-harvest treatment, farm management techniques, or marketing strategies	Number		Annual Reports	FISP Service Provider	Annually	
(AI-12)	Outcome	Hectares under improved practices as a result of training	The number of hectares on which farmers are applying new production or managerial techniques introduced or supported by MCC, such as input use, production techniques, irrigation practices, post-harvest treatment, farm management techniques, or marketing strategies.	Hectares	None	Annual Reports	FISP Service Provider	Annually	
(AI-13)	Outcome	Enterprises that have applied improved techniques	The number of rural enterprises; producer, processing, and marketing organizations; water users associations; trade and business associations; and community-based organizations that are applying managerial or processing techniques introduced or supported by MCC.	Number		Annual Reports	FISP Service Provider	Annually	

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Farmer Income Support Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
Activity 1: Rehabilitation of Endemic Areas									
N	Outcome	Income from intercropping	Average household income from intercropping	Meticais / hectare, 2009 values	None	MINAG/DE, MCA	MINAG/DE / MSU /	Years 1 and 5	
N	Outcome	Survival rate of Coconut seedlings	Percentage of planted coconut seedlings in acceptable condition and surviving 1 year after planting ⁴	Percentage	None	Annual Reports	FISP Service Provider	Years 3,4 & 5	
N	Output	Number of hectares with dead trees cleared	Total area of dead and CLYD infected coconut trees cleared in endemic areas	Hectares	None	Quarterly Reports	FISP Service Provider	Quarterly	
Activity 2: Control of Epidemic Disease									
N	Outcome	Proportion of farmers adopting improved techniques in surveillance and pest and disease control for coconuts	Percentage of farmers adopting improved techniques in surveillance and pest and disease control for coconuts ⁵	Percentage	None	Annual Reports	FISP Service Provider	Annually	
N	Output	Number of diseased or dead palm trees cleared	Number of dead and CLYD infected coconut trees cut and burned on small-holder land	Number	None	Quarterly Reports	FISP Service Provider	Quarterly	
Y	Output	Number of farmers trained in surveillance and pest and disease control for coconuts	Number of farmers receiving training and technical assistance in surveillance and pest and disease control for coconuts ⁶	Number	Gender	Quarterly Reports	FISP Service Provider	Quarterly	
N	Process	Community information, participation and	Established surveillance and monitoring systems operational	Date	None	MCA Management Reports	MCA - Moz	One time	

⁴ For year 5 the survival rate will be estimated 3 months after planting

⁵ Farmers adopting improved techniques in surveillance and pest and disease control are considered those that can: 1) identify CLYD at its early stages 2) know the importance of controlling the disease (trees identified with CLYD must be cut) 3) knows to identify the symptoms of a tree damaged by Oryctes (difference from a tree with CLYD) 4) understands how to control multiplication of Oryctes by cutting and burning dead coconut trees. 5) Understands to control multiplication of oryctes by burning or quickly utilizing felled coconut trees

⁶ The training covers how to identify the various stages of CLYD. The importance and understanding that quick removal of CLYD affected trees will reduce the risk for infecting other trees. The training also covers how to identify the damage to coconut trees from Oryctes (how it differs from CLYD) and the need to burn or use wood immediately to prevent multiplication of Oryctes. Understands that Oryctes multiplies in dead coconut trees so it is important to remove them to prevent further damage from adult oryctes (mechanical removal of Oryctes training in young coconuts is covered in post planting)

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Farmer Income Support Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
		disease surveillance plans in place within main coconut growing areas of Zambézia and Nampula by the end of 6 months after contract signing							
Activity 1 & 2: Rehabilitation of Endemic Areas/Control of Epidemic Diseases									
N	Outcome	Proportion of farmers adopting planting and post planting management techniques of coconuts	Percentage of farmers adopting planting and post planting management techniques ⁷	Percentage	None	Annual Reports	FISP Service Provider	Annually	
N	Output	Number of coconut seedlings planted	Number of coconut seedlings planted in endemic and epidemic zones	Number	Endemic & epidemic	Quarterly Reports	FISP Service Provider	Quarterly	
Y	Output	Number of farmers trained in planting and post planting management of coconuts	Number of farmers who receive training in the management of planting and post planting of coconut seedlings ⁸	Number	Gender	Quarterly Reports	FISP Service Provider	Quarterly	
N	Process	Environmental permit issued by MICOA.	Permit received and FISP Contractor procurement proceeds.	Date	By province (Nampula & Zambézia)	MICOA/MCA	MICOA/MCA	One time	
Activity 3: Improvement of Productivity									
N	Outcome	Proportion of farmers adopting alternative crops techniques	Percentage of farmers adopting alternative crops and productivity enhancing strategies ⁹	Percentage	None	Annual Reports	FISP Service Provider	Annually	

⁷ Farmers adopting Planting and Post-Planting Management are considered those that throughout the Compact: (1) Planted new coconuts correctly (in line, vertical, with proper spacing (more than 7meters apart) , (2) Maintain new plantation free of weeds (cleaned at least twice per year) and (3) Are doing at least one of following: (a) Mulching, (b) Manuring, (c) Irrigation

⁸ Training Covers: 1) How to plant new coconuts correctly (correct spacing - at least 7 meters), correct size of a hole (depth and width), plant correctly (fixed underground in a vertical position); 2) How to maintain coconut seedlings free of weeds (removing grass and weed with 1.5 M radius around tree at least 2x per year); 3). How to mulch, irrigate, use organic manure, and remove oryctes beetles (coconut seedlings).

⁹ Farmers adopting promoted Alternative Crops and improved production techniques are considered those that throughout the Compact: (1) follow technical recommendations of production of selected alternative crops (groundnut, sesame, cow pea, pigeon pea): Plant in lines, plant in the correct time period to maximize production, space appropriately per

Country: Mozambique									
Annex I: Indicator Documentation Table									
PROJECT: Farmer Income Support Project									
Common Indicator	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
N	Output	Hectares of alternative crops under production	Total area of alternative crops under production in project areas	Hectares	None	Annual Reports	FISP Service Provider	Annually	
(AI-6)	Output	Farmers trained	The number of primary sector producers (farmers, ranchers, fishermen, and other primary sector producers) receiving technical assistance or participating in a training session (on improved production techniques and technologies, including post-harvest interventions, developing business, financial, or marketing planning, accessing credit or finance, or accessing input and output markets).	Number	Male/Female	Quarterly Reports	FISP Service Provider	Quarterly	
Y	Output	Number of farmers trained in alternative crops production	Number of farmers trained in alternative crops and productivity enhancing strategies ¹⁰	Number	Gender	Quarterly Reports	FISP Service Provider	Quarterly	
Activity 4: Business Development Support									
N	Output	Number of businesses benefiting from BDF activities	Number of formal and informal businesses benefiting from BDF activities. ¹¹	Number	None	Quarterly Reports	FISP Service Provider	Quarterly	
	Output	Enterprises assisted	The number of enterprises; producer, processing, and marketing organizations; water users associations; trade and business associations; and community-based organizations receiving assistance.	Number	Gender	Quarterly Reports	FISP Service Provider	Quarterly	

the variety, and keep the fields free of weeds, intercropping with other crops (or coconut) (2) are doing at least one of following: (a) use seed of recommended/improved varieties with increased demand on market, and (b) commercialize alternative crops of good quality (good selection and storage)

¹⁰ For the four alternative crop varieties (groundnut, sesame, pigeon pea, cow pea) farmers know how to plant in lines, plant in the correct time period to maximize production, space appropriately per the variety, and keep the fields free of weeds, intercropping with other crops (or coconut), increase productivity through effective integrated nutrient management (INM) and integrated pest management (IPM). In order for a person to receive credit for training on alternative crops, they must receive training on at least of the four alternative crop varieties (Groundnut, Cow Pea, Sesame, Pigeon Pea) and must receive both IPM and INM training. IPM is the combination of different methods of control, including techniques and methods including improved agricultural techniques like crop rotation and planting grass barriers between crops, techniques

¹¹ Businesses include legally registered individuals, private sector as well as associations

ANNEX II: Table of Indicator Baselines and Targets

Country: Mozambique										
Annex II: Table of Indicator Baselines and Targets										
Compact-Wide Goal Indicators										
Indicator Level	Indicator Name	Unit of Measure	Indicator Classification	Baseline (year)	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
					Target	Target	Target	Target	Target	
Goal	Poverty rate in Northern Mozambique	Percentage	Level	45.8 ¹²					36.64	36.64
Goal	Household Income (Northern Mozambique)	Dollars, 2004 values	Level	202.3					264.12	264.12
Goal	Percent of stunted children, 0-59 months (height/age z-score) in Northern Mozambique ¹³	Percentage	Level	41					28	28

¹² The 45.8 poverty rate is from the Sep.08 *Incidência de Pobreza* 2002-03 survey, based on IAF. For the 2008-09 *Incidência de Pobreza based on IOF*, the rate is 46.5 both from INE. IAF – *Inquérito aos Agregados Familiares*. IOF – *Inquérito ao Orçamento Familiar*.

¹³ Source: 2011 IDS Report; Page 156, issued by INE. The 38.9 figure is an average of the malnutrition rates for the four Northern provinces. This was calculated by MCA. However, the weighted average for the four provinces is 49.7%.

Country: Mozambique										
Annex II: Table of Indicator Baselines and Targets										
PROJECT: Water Supply and Sanitation Project										
Indicator Level	Indicator Name	Unit of Measure	Indicator Classification	Baseline (year)	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
					Target	Target	Target	Target	Target	
Outcome	Time to get to non-private water source (Rural)	Minutes	Level	161					112.6	112.6
Outcome	Residential water consumption (rural)	Liters per capita per day	Level	17.2					21.5	21.5
Process	Value of signed water and sanitation feasibility and design contracts	US Dollars	Cumulative	0				21,399,496	21,399,496	21,399,496
Process	Value disbursed of water and sanitation feasibility and design contracts ¹⁴	US Dollars	Cumulative	0						
	Percent disbursed of water and sanitation feasibility and design contracts	Percentage	Cumulative	0					100%	100%
Process	Value of signed water and sanitation construction contracts	US Dollars	Cumulative	0					140,130,856	140,130,856
Process	Amount disbursed in water and sanitation construction	US Dollars	Cumulative	0						
Process	Percent disbursed of water and sanitation construction contracts	Percent	Level	0			4%	66%	71%	100%
Process	Temporary employment generated in water and sanitation construction	Number	Cumulative	0						
Process	Temporary employment generated for MALE	Number	Cumulative	0						
Process	Temporary employment generated for FEMALE	Number	Cumulative	0						
Activity 1: Technical Assistance & Capacity Building to Water Supply and Sanitation Project										
Process	IEA signed with AIAS	Date	Date	N/A		01-Apr-10				01-Apr-10
Activity 2: Rehabilitation and Expansion of Water supply systems in urban areas										
Output	Rated capacity to deliver potable water	Cubic meters/ day	Level	55,036						
Output	Nampula urban water works	Cubic meters/ day	Level	16,000						
Output	Nacala urban water works	Cubic meters/ day	Level	11,400						
Output	Nacala well fields (M'paco and Mutuzi)	Cubic meters/ day	Level	3,850						

¹⁴ For monitoring purposes the targets for contracts disbursed indicators in the ITT are set equal to the original contract value + all approved variation orders. These targets will be not reflected in Annex II.

Output	Pemba Metuge well field	Cubic meters/ day	Level	12,192						
Output	Quelimane well fields (Licuari, Nicoadala, and Inahne)	Cubic meters/ day	Level	10,416						
Output	Montepuez well fields (Nihuhula and Mecuhia)	Cubic meters/ day	Level	1,178						
Output	Increased safe/reliable yield	Cubic meters/ day	Level	7,200						
Output	Nacala Dam	Cubic meters/ day	Level	7,200						
Process	Three Cities Water: Feasibility Studies contract signed	Date	Date		30-Jul-09					30-Jul-09
Process	Three Cities Water: Final detailed design submitted	Date	Date				17-Nov-10			17-Nov-10
Process	Value of original construction contracts signed for urban water supply systems	US Dollars	Level	0					91,518,535	91,518,535
Process	Amount of original construction contracts disbursed for urban water supply systems	US Dollars	Cumulative	0						
Process	Value of approved variation orders signed for urban water supply systems	US Dollars	Level	0						
Process	Amount of disbursements of approved variation orders for urban water supply systems	US Dollars	Level	0						
Process	Nacala Water: Value of original construction contracts signed	US Dollars	Level	0					28,049,091	28,049,091
Process	Lot 1	US Dollars	Level	0					18,164,794	18,164,794
Process	Lot 2	US Dollars	Level	0					9,884,297	9,884,297
Process	Nacala Water: Amount of original construction contracts disbursed	US Dollars	Cumulative	0						
Process	Lot 1	US Dollars	Cumulative	0						
Process	Lot 2	US Dollars	Cumulative	0						
Process	Nacala Water: Value of approved variation orders signed for urban water supply systems	US Dollars	Level	0						
Process	Lot 1	US Dollars	Level	0						
Process	Lot 2	US Dollars	Level	0						
Process	Nacala water: Amount of disbursements of approved variation orders for urban water supply systems	US Dollars	Level	0						
Process	Lot 1	US Dollars	Level	0						
Process	Lot 2	US Dollars	Level	0						
Process	Nampula Water: Value of original construction contracts signed	US Dollars	Level	0					34,823,267	34,823,267

Process	Lot 1	US Dollars	Level	0					22,409,720	22,409,720
Process	Lot 2	US Dollars	Level	0					12,413,548	12,413,548
Process	Nampula Water: Amount of original construction contracts disbursed	US Dollars	Cumulative	0						
Process	Lot 1	US Dollars	Cumulative	0						
Process	Lot 2	US Dollars	Cumulative	0						
Process	Nampula Water: Value of approved variation orders signed for urban water supply systems	US Dollars	Level	0						
Process	Lot 1	US Dollars	Level	0						
Process	Lot 2	US Dollars	Level	0						
Process	Nampula water: Amount of disbursements of approved variation orders for urban water supply systems	US Dollars	Level	0						
Process	Lot 1	US Dollars	Level	0						
Process	Lot 2	US Dollars	Level	0						
Process	Five Cities: Feasibility Study, Detailed Design and Supervision contract signed	Date	Date			14-Aug-09				14-Aug-09
Process	Five Cities: Final detailed design submitted	Date	Date					8-Dec-10		8-Dec-10
Process	Nacala Dam: Value of contract signed for Feasibility Study, Environmental & Social Impact Assessment, Design and Supervision	US Dollars	Level	0	3,023,350				3,023,350	3,023,350
Process	Nacala Dam: Amount Disbursed for Feasibility Study, Environmental & Social Impact Assessment, Design and Supervision	US Dollars	Cumulative	0						
Process	Nacala Dam: Value of original construction contracts signed	US Dollars	Level	0					26,212,133	26,212,133
Process	Nacala Dam: Amount disbursed for original construction contracts signed	US Dollars	Cumulative	0						
Process	Value of approved variation orders signed for Nacala dam	US Dollars	Level	0						
Process	Amount of disbursements of approved variation orders for Nacala dam	US Dollars	Level	0						
Process	Mocuba Water Supply and Treatment Works Emergency Upgrades: Value of original construction contracts signed	US Dollars	Level						2,434,044	2,434,044
Process	Mocuba Water Supply and Treatment Works Emergency Upgrades:	US Dollars	Cumulative							

	Amount disbursed for original construction contracts signed									
Process	Value of approved variation orders signed for Mocuba Water Supply and Treatment Works Emergency Upgrades	US Dollars	Level							
Process	Amount of disbursements of approved variation orders for Mocuba Water Supply and Treatment Works Emergency Upgrades	US Dollars	Level							
Activity 3: Rehabilitation and expansion of six municipal sanitation and drainage systems										
Process	Three Cities Sanitation: Feasibility Studies contract signed	Date	Date		30-Jul-09					30-Jul-09
Process	Three Cities Sanitation: Final detailed design submitted	Date	Date				19-Nov-10			19-Nov-10
Process	Value of original construction contracts signed for municipal sanitation and drainage systems	US Dollars	Cumulative	0					40,437,763	40,437,763
Process	Amount of original construction contracts disbursed for municipal sanitation and drainage systems	US Dollars	Cumulative	0						
Process	Value of approved variation orders signed for municipal sanitation and drainage systems	US Dollars	Level	0						
Process	Amount of disbursements of approved variation orders for municipal sanitation and drainage systems	US Dollars	Level	0						
Process	Value of original construction contracts signed for Social Marketing – Low Cost Sanitation in Nampula & Quelimane	US Dollars	Cumulative	0					1,133,720	1,133,720
Process	Amount of original construction contracts disbursed for Social Marketing – Low Cost Sanitation in Nampula & Quelimane	US Dollars	Cumulative	0						
Process	Value of approved variation orders signed for Social Marketing – Low Cost Sanitation in Nampula & Quelimane	US Dollars	Cumulative	0						
Process	Amount of disbursements of approved variation orders for Social Marketing – Low Cost Sanitation in Nampula & Quelimane	US Dollars	Cumulative	0						

Output	Nampula Sanitation (Social Marketing – Low Cost Sanitation): Public Infrastructures constructed in schools and markets	Number	Cumulative	0					10	10
Output	Schools	Number	Cumulative	0					0	0
Output	Markets	Number	Cumulative	0					10	10
Output	Quelimane Sanitation (Social Marketing – Low Cost Sanitation): Public Infrastructures constructed in schools and markets	Number	Cumulative	0					10	10
Output	Schools	Number	Cumulative	0					0	0
Output	Markets	Number	Cumulative	0					10	10
Process	Nampula Sanitation (Storm Water Drainage): Value of original construction contracts signed	US Dollars	Level	0					12,560,519	12,560,519
Process	Nampula Sanitation (Storm Water Drainage): Amount disbursed for original construction contracts	US Dollars	Cumulative	0						
Process	Value of approved variation orders signed for Nampula Sanitation (Storm Water Drainage)	US Dollars	Level	0						
Process	Amount of disbursements of approved variation orders for Nampula Sanitation (Storm Water Drainage)	US Dollars	Level	0						
Process	Quelimane sanitation (storm water drainage): Value of original construction contracts signed	US Dollars	Level	0					26,743,524	26,743,524
Process	Quelimane Sanitation (storm water drainage): Amount Disbursed for original Construction Contracts	US Dollars	Cumulative	0						
Process	Value of approved variation orders signed for Quelimane sanitation (Storm Water Drainage)	US Dollars	Level	0						
Process	Amount of disbursements of approved variation orders for Quelimane sanitation (Storm Water Drainage)	US Dollars	Level	0						
Activity 4: Construction/ Re-construction of wells and bore holes (rural water points)										
Outcome	Percentage of rural population in intervention areas with access to improved water sources	Percentage	Level	0					22.1	22.1
Output	Water points constructed	Number	Cumulative	0			150	400	600	600

Output	People trained in hygiene and sanitary best practices	Number	Cumulative	0		1,800	4,800	7,200	7,200	7,200
Output	MALE trained in hygiene and sanitary best practices	Number	Cumulative	0		900	2,400	3,600	3,600	3,600
Output	FEMALE trained in hygiene and sanitary best practices	Number	Cumulative	0		900	2,400	3,600	3,600	3,600
Process	Social Mobilization and Technical Assistance for Cabo Delgado and Nampula Rural Water Points Contract signed	Date	Date		2-Jun-09					2-Jun-09
Process	Final Design Report I (150 Water points) submitted	Date	Date			19-Mar-10				19-Mar-10
Process	Final Design Report II (250 Water points) submitted	Date	Date					6-Mar-12		6-Mar-12
Process	Final Design Report III (200 Water points) submitted	Date	Date					6-Mar-12		6-Mar-12
Process	Rural Water: Value of contract signed (Social-Technical and Works Supervision)	US Dollars	Level	0	3,111,228				4,321,271	4,321,271
Process	Rural Water: Amount disbursed for social-technical and works supervision	US Dollars	Cumulative	0						
Process	Rural Water: Value of original contract signed for construction of rural water points	US Dollars	Cumulative	0					8,174,558	8,174,558
Process	Rural Water: Value of disbursements for the original contract signed for construction of water points	US Dollars	Cumulative	0						
Process	Rural Water: Value of construction for 150 Water Points	US Dollars	Cumulative	0					2,496,337	2,496,337
Process	LOT 1 (50 WP) - GM TODD - C. Delgado	US Dollars	Cumulative	0			389,000		1,181,068	1,181,068
Process	LOT 2 (60 WP) - JIANG SU - Nampula	US Dollars	Cumulative	0			466,800		771,882	771,882
Process	LOT 3 (40 WP) - MOZAGUA - Nampula	US Dollars	Cumulative	0			311,200		543,387	543,387
Process	Rural Water: Value of construction of 160 Water Points	US Dollars	Cumulative	0					2,209,796	2,209,796
Process	LOT 1 (50 WP) - Construção J.J.R. & Filhos SA - C. Delgado	US Dollars	Cumulative	0					753,719	753,719
Process	LOT 2 (50 WP) - H.A. Water Drilling Lda - C. Delgado	US Dollars	Cumulative	0					610,135	610,135
Process	LOT 3 (60 WP) - MOZAGUA - Nampula	US Dollars	Cumulative	0					845,941	845,941

Process	Rural Water: Value of construction for 90 Water Points	US Dollars	Cumulative	0					1,006,746	1,006,746
Process	LOT 1 (50 WP) - Murrupula - ROCK	US Dollars	Cumulative	0					487,200	487,200
Process	LOT 2 (40 WP) - Mongicual - NASSER	US Dollars	Cumulative	0					519,546	519,546
Process	Rural Water: Value of construction for 200 Water Points	US Dollars	Cumulative	0					2,461,680	2,461,680
Process	Lot 1 (60 WP) for Metuge & Mecufi in Cabo Delgado - NASSER	US Dollars	Cumulative	0					704,576	704,576
Process	LOT 2 (40 WP) for Monapo in Nampula	US Dollars	Cumulative	0					505,153	505,153
Process	LOT 3 (60 WP) for Mogovolvas & Mongicual in Nampula	US Dollars	Cumulative	0					828,571	828,571
Process	LOT 4 (40 WP) for Chiúre in Cabo Delgado	US Dollars	Cumulative	0					423,380	423,380
Process	Rural Water: Amount Disbursed for Construction of 150 Water Points	US Dollars	Cumulative	0						
Process	LOT 1 (50 WP) - GM TODD - C. Delgado	US Dollars	Cumulative	0						
Process	LOT 2 (60 WP) - JIANG SU - Nampula	US Dollars	Cumulative	0						
Process	LOT 3 (40 WP) - MOZAGUA - Nampula	US Dollars	Cumulative	0						
Process	Value of approved variation orders signed for Rural Water	US Dollars	Level	0						
Process	Amount of disbursements of approved variation orders for Rural Water	US Dollars	Level	0						
Process	Rural Water: Amount Disbursed for Construction of 160 Water Points	US Dollars	Cumulative	0						
Process	LOT 1 (50 WP) - Construção J.J.R. & Filhos SA - C. Delgado	US Dollars	Cumulative	0						
Process	LOT 2 (50 WP) - H.A. Water Drilling Lda - C. Delgado	US Dollars	Cumulative	0						
Process	LOT 3 (60 WP) - MOZAGUA - Nampula	US Dollars	Cumulative	0						
Process	Rural Water: Amount Disbursed for Construction of 90 Water Points	US Dollars	Cumulative	0						
Process	LOT 1 (50 WP) - Murrupula - ROCK	US Dollars	Cumulative	0						
Process	LOT 2 (40 WP) - Mongicual - NASSER	US Dollars	Cumulative	0						

Process	Rural Water: Amount Disbursed for Construction of 200 Water Points	US Dollars	Cumulative	0						
Process	Lot 1 (60 WP) for Metuge & Mecufi in Cabo Delgado	US Dollars	Cumulative	0						
Process	LOT 2 (40 WP) for Monapo in Nampula	US Dollars	Cumulative	0						
Process	LOT 3 (60 WP) for Mogovolas & Mongicual in Nampula	US Dollars	Cumulative	0						
Process	LOT 4 (40 WP) for Chiúre in Cabo Delgado	US Dollars	Cumulative	0						

PROJECT: Roads Rehabilitation Project										
Indicator Level	Indicator Name	Unit of Measure	Indicator Classification	Baseline (year)	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
					Target	Target	Target	Target	Target	
Outcome	Namialo-Rio Lúrio Road: Roughness	IRI units	Level	8.0					3.5	3.5
Outcome	Rio-Ligonha-Nampula Road: Roughness	IRI units	Level	8.0					3.5	3.5
Outcome	Namialo-Rio Lúrio Road: Total time savings (Millions of dollars)	Millions of US Dollars, 2009 values	Level	0					277,935.2	277,935.2
Outcome	Rio-Ligonha-Nampula Road: Total time savings (Millions of dollars)	Millions of US Dollars, 2009 values	Level	0					426,333.6	426,333.6
Outcome	Namialo-Rio Lúrio Road: Average annual daily traffic	Number of vehicles	Level	622					720	720
Outcome	Rio-Ligonha-Nampula Road: Average annual daily traffic	Number of vehicles	Level	4,598					5,477	5,477
Output	Kilometers of roads completed	Km	Cumulative	0					253	253
Process	Value of signed road feasibility and design contracts	US Dollars	Cumulative	0					13,358,739	13,358,739
Process	Value disbursed of road feasibility and design contracts.	US Dollars	Cumulative	0						
Process	Percent disbursed of road feasibility and design contracts	Percentage	Cumulative	0					100	100
Process	Kilometers of road under design	Km	Level	0			253		253	253
Process	Kilometers of roads under works contract	Km	Level	0			253		253	253
Process	Namialo-Rio Lúrio-Metoro Road: Feasibility/ESA Studies, Design, Supervision, & Construction Contract Signed	Contract	Date		9-Jul-2009					9-Jul-2009
Process	Rio Ligonha-Nampula Road segment: Feasibility / ESA Studies, Design, Supervision, & Construction Contract Signed	Contract	Date		28-Aug-2009					28-Aug-2009
Process	Value of signed road construction contracts	US Dollars	Level	0					130,574,678	130,574,678

Process	Amount of original construction contracts disbursed for 252.7km roads works (Total)	US Dollars	Cumulative	0						
Process	Percent disbursed of road construction contracts	Percentage	Cumulative	0			15		100	100
Process	Value of approved variation orders signed for 252.7km road works (Total)	US Dollars	Level	0				0		
Process	Amount of approved variation orders disbursed for 252.7km road works (Total)	US Dollars	Level	0				0		
Process	Value of original construction contracts signed for Namialo-Rio Lúrio Lot 1(Namialo-Ponte Rio Mecutuchi) road works	US Dollars	Level	0					44,152,300	44,152,300
Process	Amount of original construction contracts disbursed for Namialo-Rio Lúrio Lot 1(Namialo-Ponte Rio Mecutuchi) road works	US Dollars	Cumulative	0						
Process	Value of approved variation orders signed for Namialo-Rio Lúrio Lot 1(Namialo-Ponte Rio Mecutuchi) road works	US Dollars	Level	0						
Process	Amount of approved variation orders disbursed for Namialo-Rio Lúrio Lot 1(Namialo-Ponte Rio Mecutuchi) road works	US Dollars	Level	0						
Process	Value of original construction contracts signed for Namialo-Rio Lúrio Lot 2 (Ponte Rio Mecutuchi-Rio Lúrio) roads works	US Dollars	Level	0					46,286,933	46,286,933
Process	Amount of original construction contracts disbursed for Namialo-Rio Lúrio Lot 2 (Ponte Rio Mecutuchi-Rio Lúrio) road works	US Dollars	Cumulative	0						
Process	Value of approved variation orders signed for Namialo-Rio Lúrio Lot 2 (Ponte Rio Mecutuchi-Rio Lúrio) roads works	US Dollars	Level	0						
Process	Amount of approved variation orders disbursed for Namialo-Rio Lúrio Lot 2 (Ponte Rio Mecutuchi-Rio Lúrio) roads works	US Dollars	Level	0						

Process	Value of original construction contracts signed for Rio Ligonha-Nampula road works	US Dollars	Level	0					40,135,445	40,135,445
Process	Amount of original construction contracts disbursed for Rio Ligonha-Nampula road works	US Dollars	Cumulative	0						
Process	Value of approved variation orders signed for Rio Ligonha-Nampula road works	US Dollars	Level	0						
Process	Amount of approved variation orders disbursed for Rio Ligonha-Nampula road works	US Dollars	Level	0						
Process	Temporary employment generated in road construction	Number	Cumulative	0						
Process	Temporary employment generated for MALE	Number	Cumulative	0						
Process	Temporary employment generated for FEMALE	Number	Cumulative	0						

Country: Mozambique										
Annex II: Table of Indicator Baselines and Targets										
PROJECT: Land Tenure Services Project										
Indicator Level	Indicator Name	Unit of Measure	Indicator Classification	Baseline (year)	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
					Target	Target	Target	Target	Target	
Outcome	Percentage change in time for property transactions	Percentage	Level	0						
Outcome	Percentage change in time for property transactions in rural districts	Percentage	Level	0						
Outcome	Percentage change in time for property transactions in urban municipalities	Percentage	Level	0						
Outcome	Production value of rural agricultural land	US Dollars	Level	1.1209 meticals per sq meter						
Outcome	Value of urban land parcel holding	US Dollars	Level	MSU will provide						
Outcome	Average household investment in property and land for households before and after receiving a DUAT	US Dollars	Level	MSU will provide						
Outcome	Average household investment in property and land for households before and after receiving a DUAT (urban)	US Dollars	Level	MSU will provide						
Outcome	Average household investment in property and land for households before and after receiving a DUAT (Rural)	US Dollars	Level	406 meticals-need to switch to US\$						
Outcome	Percentage of HH that perceive future Land related conflicts in LTR intervention areas	Percentage	Level	MSU will provide						
Outcome	Percentage of HH that perceive future Land related conflicts in rural LTR intervention areas	Percentage	Level	12.2						
Outcome	Percentage of HH that perceive future Land related conflicts in urban LTR intervention areas	Percentage	Level	MSU will provide						
Outcome	Number of partnerships between communities or associations and investors	Number	Cumulative	0			6	12	18	18
Activity 1: Support for Land Policy Monitoring										
Output	Legal and regulatory reforms adopted	Number	Cumulative	0					1	1

Process	Land Policy Consultative Forum (LPCF) established	Date	Date		31-Jul-09					31-Jul-09
Process	Land strategy approved	Date	Date			31-Oct-09				31-Oct-09
Process	Proposals for improvement to land legislation submitted (Land Policy Reform)	Date	Date				31-Oct-10			31-Oct-10
Activity 2: Land Administration Capacity Building										
Output	Land administration offices established or upgraded	Number	Cumulative	0		2	14	26	26	26
Output	Total value of procured equipment and materials	US Dollars	Cumulative	0	336,100	1,916,000	2,642,000	2,642,000	2,642,000	2,642,000
Output	Stakeholders trained	Number	Cumulative	0	100	200	385	570	750	750
Output	Number of MALE trained Stakeholders	Number	Cumulative	0						
Output	Number of FEMALE trained Stakeholders	Number	Cumulative	0						
Output	Number of stakeholders trained in paralegal topics (CFJJ)	Number	Cumulative	0	100	200	300	400	500	500
Output	Number of MALE trained in paralegal topics (CFJJ)	Number	Cumulative	0						
Output	Number of FEMALE trained in paralegal topics (CFJJ)	Number	Cumulative	0						
Output	Number of stakeholders trained in other land administration topics	Number	Cumulative	0			85	170	250	250
Output	Number of MALE trained in other land administration topics	Number	Cumulative	0						
Output	Number of FEMALE trained in other land administration topics	Number	Cumulative	0						
Output	Number of new students enrollment in INFATEC	Number	Level	438						
Output	Number of new students enrollment in INFATEC (FEMALE)	Number	Level	276						
Output	Number of new student enrollment in INFATEC (MALE)	Number	Level	162						
Output	Number of students graduating from INFATEC	Number	Level	64						
Output	Number of students graduating from INFATEC (FEMALE)	Number	Level	32						
Output	Number of students graduating from INFATEC (MALE)	Number	Level	32						
Activity 1 & 2: Support for Land Policy Monitoring / Land Administration Capacity Building										
Activity 3: Site Specific Facilitation of Land Access										
Output	Parcels corrected or incorporated in land system	Number of parcels	Cumulative	0					163,382	163,382

Output	Urban parcels corrected or incorporated in land system	Number of parcels	Cumulative	0			30,000	95,000	140,000	140,000
Output	Rural parcels corrected or incorporated in land system	Number of parcels	Cumulative	0					23,382	23,382
Output	Land rights formalized	Number of households	Cumulative	0						
Output	Urban land rights formalized	Number of households	Cumulative	0						
Output	Rural land rights formalized	Number of households	Cumulative	0						
Output	Community land rights formalized	Number of households	Cumulative	0						
Output	Rural hectares mapped in Land Inventory Mapping Component of Site Specific Activity	Hectares	Cumulative	0			1,000,000	3,000,000	5,000,000	5,000,000
Output	LTR rural cadastral parcel created by HTSPE	Hectares	Cumulative	0			1,500	3,500	6,237	6,237
Output	LTR HTSPE rural cadastral parcel approved for title issuance	Hectares	Cumulative	0			1,500	3,500	6,237	6,237
Output	LTR HTSPE DUATs delivered to the rural beneficiaries	Number	Cumulative	0			1,500	3,500	6,237	6,237
Output	LTR DUATs delivered to the rural beneficiaries (MALE)	Number	Cumulative	0						
Output	LTR DUATs delivered to the rural beneficiaries (FEMALE)	Number	Cumulative	0						
Output	LTR DUATs delivered to rural beneficiaries (JOINT)	Number	Cumulative	0						
Output	LTR DUATs delivered to rural beneficiaries (OTHER)	Number	Cumulative	0						
Output	ITC association parcels mapped with “ <i>processos</i> ” compiled	Number of “ <i>processos</i> ”	Cumulative	0				110	145	145
Output	ITC association titles (DUATs) approved by appropriate authority	Number of “ <i>processos</i> ”	Cumulative	0				110	145	145
Output	ITC titles (DUATs) delivered to associations	Number of titles	Cumulative	0				110	145	145
Output	ITC Communities Mapped	Number	Cumulative	0			60	120	222	222
Output	ITC “ <i>Certidões</i> ” approved by appropriate authority	Number	Cumulative	0			60	120	222	222
Output	ITC “ <i>Certidões</i> ” delivered to the community	Number of parcels	Cumulative	0			60	120	222	222
Output	LTR HTSPE urban cadastral parcel created	Number of parcels	Cumulative	0			30,000	95,000	140,000	140,000
Output	LTR HTSPE urban cadastral parcels approved	Number of parcels	Cumulative	0			30,000	70,000	140,000	140,000

Output	LTR HTSPE urban cadastral parcel rights formalized	Number of parcels	Cumulative				30,000	70,000	140,000	140,000
Output	LTR HTSPE urban titles (DUATs) delivered to beneficiaries	Number of titles	Cumulative	0			30,000	70,000	140,000	140,000
Output	LTR urban titles (DUATs) delivered to MALE beneficiaries	Number of titles	Cumulative	0						
Output	LTR urban titles (DUATs) delivered to FEMALE beneficiaries	Number of titles	Cumulative	0						
Output	LTR urban titles (DUATs) delivered to JOINT beneficiaries	Number of titles	Cumulative	0						
Output	LTR urban titles (DUATs) delivered to OTHER beneficiaries	Number of titles	Cumulative	0						
Output	Number of rural parcels formalized	Number of Parcels	Cumulative	0					23,382	23,382
Output	Number of rural parcels formalized (result of HTSPE work)	Number of Parcels	Cumulative	0			1,500	3,500	6,237	6,237
Output	Number of rural parcels formalized (result of Private Surveyor work)	Number of Parcels	Cumulative	0						17,000
Output	Number of rural parcels formalized (result of KPMG work)	Number of Parcels	Cumulative	0				110	145	145
Output	Total rural hectares formalized	Hectares	Cumulative	0						
Output	Rural hectares formalized by SPGC based on mapping by private surveyors	Hectares	Cumulative	0						
Output	Rural hectares formalized by SPGCs based on mapping by HTSPE.	Hectares	Cumulative	0						
Output	ITC Rural hectares formalized by SPGC	Hectares	Cumulative	0			1,000,000	2,000,000	3,030,000	3,030,000
Output	Number of preparatory studies completed	Number	Cumulative	0	1	13	17	21	23	23
Process	Project and priority areas selected	Date	Date		28-Jan-09					28-Jan-09
Process	Fund manager procured	Date	Date		30-Mar-09					30-Mar-09
Process	General service provider mobilized	Date	Date		31-Mar-09					31-Mar-09

Country: Mozambique										
Annex II: Table of Indicator Baselines and Targets										
PROJECT: FISP										
Indicator Level	Indicator Name	Unit of Measure	Indicator Classification	Baseline (year)	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target
					Target	Target	Target	Target	Target	
Outcome	Income from coconuts and coconut products (households)	Meticais, 2009 values	Level	1,738					3,550	3,550
Process	Contract for FISP implementation signed	Date	Date		26-Feb-09					26-Feb-09
Outcome	Farmers who have applied improved practices as a result of training	Number	Cumulative							
Outcome	Hectares under improved practices as a result of training	Hectares	Cumulative							
Outcome	Enterprises that have applied improved techniques	Number	Cumulative							
Activity 1: Rehabilitation of Endemic Areas										
Outcome	Income from intercropping	Meticais / hectare, 2009 values	Level	3,467					10,245	10,245
Outcome	Survival rate of Coconut seedlings	Percentage	Level	0		80%	80%	80%	80%	80%
Output	Number of hectares with dead trees cleared	Hectares	Cumulative	0	300	2,000	4,500	7,500	8,000	8,000
Activity 2: Control of Epidemic Disease										
Outcome	Proportion of farmers adopting improved techniques in surveillance and pest and disease control for coconuts	Percentage	Level	0			30%	30%	30%	30%
Output	Number of diseased or dead palm trees cleared	Number	Cumulative	0		150,000	400,000	550,000	600,000	600,000
Output	Number of farmers trained in surveillance and pest and disease control for coconuts	Number	Cumulative	0		1,500	4,500	7,500	8,000	8,000
Output	Number of MALE famers trained in surveillance and pest and disease control for coconuts	Number	Cumulative	0						
Output	Number of FEMALE farmers trained in surveillance and pest and disease control for coconuts	Number	Cumulative	0						
Process	Community information, participation and disease surveillance plans in place within main coconut growing areas of Zambézia and Nampula by the end of 6 months after contract signing	Date	Date			30-Mar-10				30-Mar-10

Activity 1 & 2: Rehabilitation of Endemic Areas/Control of Epidemic Diseases										
Outcome	Proportion of farmers adopting planting and post planting management techniques of coconuts	Percentage	Level	0			60%	60%	60%	60
Output	Number of coconut seedlings planted	Number	Cumulative	0	50,000	150,000	300,000	500,000	650,000	650,000
Output	Number of coconut seedlings planted in endemic zones	Number	Cumulative	0				450,000	500,000	500,000
Output	Number of coconut seedlings planted in epidemic zones	Number	Cumulative	0				50,000	150,000	150,000
Output	Number of farmers trained in planting and post planting management of coconuts	Farmers	Cumulative	0		1,500	4,500	7,500	8,000	8,000
Output	Number of MALE farmers trained in planting and post planting management of coconuts	Farmers	Cumulative	0						
Output	Number of FEMALE farmers trained in planting and post planting management of coconuts	Farmers	Cumulative	0						
Process	Environmental permit issued by MICOA in Zambézia	Date	Date			17-Jun-09				17-Jun-09
Process	Environmental permit issued by MICOA in Nampula	Date	Date			17-Jun-09				17-Jun-09
Activity 3: Improvement of Productivity										
Outcome	Proportion of farmers adopting alternative crops techniques	Percentage	Level	0			30%	30%	30%	30%
Output	Hectares of alternative crops under production	Hectares	Cumulative	0			2,500	5,500	8,000	8,000
Output	Farmers trained	Number	Cumulative							
Output	Farmers trained (Male)	Number	Cumulative							
Output	Farmers trained (Female)	Number	Cumulative							
Output	Number of farmers trained in alternative crops production	Number	Cumulative	0	1,500		4,500	7,500	8,000	8,000
Output	Number of MALE farmers trained in alternative crops production	Number	Cumulative	0						
Output	Number of FEMALE farmers trained in alternative crops production	Number	Cumulative	0						
Activity 4: Business Development Support										

Output	Number of businesses benefiting from BDF activities	Number	Cumulative	0			112	150	150	150
Output	Enterprises assisted	Number	Cumulative							
Output	Male	Number	Cumulative							
Output	Female	Number	Cumulative							

ANNEX III: Modification Tables

Modification Table: From 14 Apr09 to August10 M&E Plan

Nr	Indicator level	Original indicator	Modification type	Definition	Reason/Justification for change	New indicator	Current definition	Original target	Current target	Original baseline	Current baseline	Date submitted to MCC	Additional information
PROJECT: Water Supply and Sanitation													
1	Outcome	Number of Households with access to Improved Water Supply	New indicator	Number of households whose main source of drinking water is a private piped connection (into dwelling or yard), public tap/standpipe, tube-well / borehole, protected dug well, protected spring, or rainwater as a result of MCC investment(s).	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A					August 2010	
2	Outcome	Number of households with access to Improved Sanitation.	New indicator	Number of households who get access to and use an improved sanitation facility such as flush toilet to a piped sewer system, flush toilet to a septic tank, flush or pour flush toilet to a pit, composting toilet, ventilated improved pit latrine, or pit latrine with slab and cover as a result of MCC investment(s).	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A					August 2010	
3	Output	Persons Trained in Hygiene and Sanitary Best Practices	New indicator	Number of persons who have completed training and have an understanding of hygiene and sanitary practices that block the fecal-oral transmission route	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A						August 2010	

Nr	Indicator level	Original indicator	Modification type	Definition	Reason/Justification for change	New indicator	Current definition	Original target	Current target	Original baseline	Current baseline	Date submitted to MCC	Additional information
4	Output	Volume of Water Produced	New indicator	Total volume of water produced in MCA cities for the service area measured in cubic meters per month, i.e. leaving treatment works operated by the Utility and purchased treated water, if any	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A					August 2010	
5	Output	Commercial Water Consumption (MCA cities)	New indicator	Water consumed at the business unit (ICI) in MCA cities measured in cubic meters per month	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A					August 2010	
6	Process	Feasibility Studies 3 cities contract signed	Split of indicator into two		New project milestone to track progress on 3 cities sanitation activity. The previous indicator "Feasibility Studies 3 cities contract signed" was too general and included both water and sanitation in one. Water and Sanitation are two different contract, and therefore they have different dates for their signature.	Three Cities Sanitation : Feasibility Studies contract signed						August 2010	
7	Process	Final Detailed Design for 3 cities submitted	Split of indicator into two	Submitted report approved.	New project milestone to track progress on 3 cities sanitation activity. The previous indicator "Final Detailed Design for 3 cities submitted" was too general and included both water and sanitation in one. Water and the Sanitation are two different contract, and therefore they	Three Cities Sanitation : Final Detailed Design submitted						August 2010	

Nr	Indicator level	Original indicator	Modification type	Definition	Reason/Justification for change	New indicator	Current definition	Original target	Current target	Original baseline	Current baseline	Date submitted to MCC	Additional information
					have different dates for their signature.								
8	Process	Feasibility Studies 3 cities contract signed	Indicator revised	Signed contract entered into effect.	New project milestone to track progress on 3 cities sanitation activity. The previous indicator "Feasibility Studies 3 cities contract signed" was too general and included both water and sanitation in one. Water and the Sanitation are two different contract, and therefore they have different dates for their signature.	Three Cities Water Feasibility Studies contract signed					30-Jul-09	August 2010	
9	Process	Final Detailed Design for 3 cities submitted	Indicator revised	Submitted report approved.	New project milestone to track progress on 3 cities sanitation activity. The previous indicator "Final Detailed Design for 3 cities submitted" was too general and included both water and sanitation in one. Water and the Sanitation are two different contract, and therefore they have different dates for their signature.	Three Cities Water: Final Detailed Design submitted					17-Nov-10	August 2010	

Nr	Indicator level	Original indicator	Modification type	Definition	Reason/Justification for change	New indicator	Current definition	Original target	Current target	Original baseline	Current baseline	Date submitted to MCC	Additional information
10	Process	Value of Feasibility and/or Detailed Design Contracts Signed for Water and Sanitation Systems	New indicator	Value of all signed feasibility, design, and environmental contracts, including resettlement action plans, for water and sanitation investments.	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
11	Process	Amount of Feasibility and/or Detailed Design Contracts Disbursed for Water and Sanitation Systems	New indicator	Amount disbursed of all signed feasibility, design, and environmental contracts, including resettlement action plans, for water and sanitation systems.	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
12	Process	Percent of Feasibility Studies contract disbursed for Water and Sanitation Systems	New indicator	The aggregate amount disbursed divided by all signed contracts for water and sanitation works Water and Sanitation Systems	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
13	Process	Value of contract signed for construction of Water and Sanitation Systems	New indicator	Value of all signed contracts for construction of water and sanitation investments.	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
14	Process	Amount of Construction Contracts Disbursed for Water and Sanitation Systems	New indicator	The amount disbursed in US\$ of all contracts for construction of MCA water and sanitation investments	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	

Nr	Indicator level	Original indicator	Modification type	Definition	Reason/Justification for change	New indicator	Current definition	Original target	Current target	Original baseline	Current baseline	Date submitted to MCC	Additional information
15	Process	Percent of Construction Contract disbursed for Water and Sanitation Systems	New indicator	The aggregate amount disbursed divided by the value of signed contracts for construction of water and sanitation investments	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
16	Process	Five Cities: Value of contract signed for Feasibility Study, Detailed Design and Supervision	New indicator	Value of signed feasibility, design, and environmental contracts, including resettlement action plans for Five Cities	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
17	Process	Five Cities: Amount Disbursed for Feasibility Study, Detailed Design and Supervision	New indicator	The amount disbursed in US\$ of contracts for Feasibility Study, Detailed Design and Supervision for Five Cities	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
18	Process	Five Cities: Percent of Feasibility Study, Detailed Design and Supervision contract disbursed	New indicator	The aggregate amount disbursed divided by the value of signed contracts to develop feasibility study, detailed design and supervision for five Cities	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
19	Process	Five Cities: Value of Construction Contracts Signed	New indicator	The value in US\$ of all works contracts that MCA has signed with contractors for Five Cities	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
20	Process	Five Cities: Amount Disbursed for Construction Contracts	New indicator	The amount disbursed in US\$ for Construction Contracts for Five Cities	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	

Nr	Indicator level	Original indicator	Modification type	Definition	Reason/Justification for change	New indicator	Current definition	Original target	Current target	Original baseline	Current baseline	Date submitted to MCC	Additional information
21	Process	Five Cities: Percent of Construction Contract disbursed	New indicator	The aggregate amount disbursed divided by all signed contracts for water and sanitation works for Five Cities.	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
22	Process	Three Cities Sanitation: Value of contract signed for Feasibility Studies	New indicator	Value of signed feasibility, design, and environmental contracts, including resettlement action plans for Three Cities sanitation	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
23	Process	Three Cities Sanitation: Amount Disbursed for Feasibility Studies	New indicator	The amount disbursed in US\$ for Feasibility Studies for Three Cities Sanitation	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
24	Process	Three Cities Sanitation: Percent of Feasibility Studies contract disbursed	New indicator	The aggregate amount disbursed divided by the value of signed contract to develop feasibility study for three cities sanitation.	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
25	Process	Three Cities Sanitation: Value of Construction Contracts Signed	New indicator	The value in US\$ of all works contracts that MCA has signed with contractors for Three Cities Sanitation.	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
26	Process	Three Cities Sanitation: Amount Disbursed for Construction Contracts	New indicator	The amount disbursed in US\$ for Construction Contracts for Three Cities Sanitation	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
27	Process	Three Cities Sanitation: Percent of Construction Contracts disbursed	New indicator	The aggregate amount disbursed divided by all signed contracts for Three Cities sanitation works.	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	

Nr	Indicator level	Original indicator	Modification type	Definition	Reason/Justification for change	New indicator	Current definition	Original target	Current target	Original baseline	Current baseline	Date submitted to MCC	Additional information
28	Process	Three Cities Water: Value of contract signed for Feasibility Studies	New indicator	Value of signed feasibility, design, and environmental contracts, including resettlement action plans for Three cities Water	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
29	Process	Three Cities Water Amount Disbursed for Feasibility Studies	New indicator	The amount disbursed in US\$ for Feasibility Studies for Three Cities Water	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
30	Process	Three Cities Water: Percent disbursed of Feasibility Studies contracts signed	New indicator	The aggregate amount disbursed divided by the value of signed contracts to develop feasibility study for three cities water.	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
31	Process	Three Cities Water: Value of Construction Contracts Signed	New indicator	The value in US\$ of all works contracts that MCA has signed with contractors for Three Cities Water	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
32	Process	Three Cities Water: Amount Disbursed for Construction Contracts	New indicator	The amount disbursed in US\$ for Construction Contracts for Three Cities Water	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
33	Process	Three Cities Water: Percent of Construction Contracts disbursed	New indicator	The aggregate amount disbursed divided by all signed contracts for Three Cities water works.	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
34	Process	Nacala Dam: Value of contract signed for Feasibility Study, Environmental & Social	New indicator	Value of signed feasibility, design, and environmental contracts, including resettlement action plans for the Nacala dam	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A			3,023,350	August 2010	

Nr	Indicator level	Original indicator	Modification type	Definition	Reason/Justification for change	New indicator	Current definition	Original target	Current target	Original baseline	Current baseline	Date submitted to MCC	Additional information
		Impact Assessment, Design and Supervision											
35	Process	Nacala Dam: Amount Disbursed for Feasibility Study, Environmental & Social Impact Assessment, Design and Supervision	New indicator	The amount disbursed in US\$ of contracts for Feasibility Study, Environmental & Social Impact Assessment, Design and Supervision for Nacala Dam	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A			2,695,367	August 2010	
36	Process	Nacala Dam: Percent disbursed for Feasibility Study, Environmental & Social Impact Assessment, Design and Supervision	New indicator	The aggregate amount disbursed divided by the value of signed contracts to develop Feasibility Study, Environmental & Social Impact Assessment, Design and Supervision for Nacala Dam	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A			100	August 2010	
37	Process	Nacala Dam: Value of Construction Contracts Signed	New indicator	The value in US\$ of all works contracts that MCA has signed with contractors for Nacala Dam	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A			26,212,133	August 2010	
38	Process	Nacala Dam: Amount Disbursed for Construction Contracts	New indicator	The amount disbursed in US\$ for Construction Contracts for Nacala Dam	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A			35,147,511	August 2010	
39	Process	Nacala Dam: Percent of Construction Contract disbursed	New indicator	The aggregate amount disbursed divided by all signed works contracts for Nacala Dam works.	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A			100	August 2010	

Nr	Indicator level	Original indicator	Modification type	Definition	Reason/Justification for change	New indicator	Current definition	Original target	Current target	Original baseline	Current baseline	Date submitted to MCC	Additional information
40	Process	Rural Water: Value of contract signed (Social-Technical and Works Supervision)	New indicator	Value of contract signed Social-Technical and Works Supervision in Rural Water	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A			4,321,271	August 2010	
41	Process	Rural Water: Amount Disbursed for Social-Technical and Works Supervision	New indicator	The amount disbursed in US\$ for Social-Technical and Works Supervision for Rural Water	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A			4,321,271	August 2010	
42	Process	Rural Water: Percent disbursed (Social-Technical and Works Supervision)	New indicator	The aggregate amount disbursed divided by the value of signed contract to develop Social-Technical and Works Supervision for Rural Water	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A			100	August 2010	
43	Process	Rural Water: Value of Construction Contracts Signed	New indicator	The value in US\$ of all works contracts that MCA has signed with contractors for Rural Water	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A			8,174,558	August 2010	
44	Process	Rural Water: Amount Disbursed for Construction Contracts	New indicator	The amount disbursed in US\$ for Construction Contracts for Rural Water	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A			8,597,705	August 2010	
45	Process	Rural Water: Percent of Construction Contract disbursed	New indicator	The aggregate amount disbursed divided by all signed works contracts for Rural Water.	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A			100	August 2010	
46	Process	Feasibility and ESA Studies Contract signed for Rural Water	Removal of Indicator	Signed contract entered into effect	There is no single ESA study or contract for the entire activity but rather many smaller borehole siting assessments, too	N/A	N/A	N/A				August 2010	

Nr	Indicator level	Original indicator	Modification type	Definition	Reason/Justification for change	New indicator	Current definition	Original target	Current target	Original baseline	Current baseline	Date submitted to MCC	Additional information
					many to track here, conducted by the contractor.								
PROJECT: Roads Rehabilitation Project													
1	Process	Value of signed contracts for feasibility, design, supervision and program management contracts	New indicator	The value of all contracts that MCA has signed with contractors to develop feasibility and/or design studies for systems of roads.	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
2	Process	Amount of Roads Feasibility, Design, Supervision and Program Management Contracts Disbursed	New indicator	The amount in US\$ of all contracts that MCA has disbursed with contractors for Road Rehabilitation	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
3	Process	Percent of Feasibility, Design, Supervision and Program Management Studies disbursed for Roads contracts	New indicator	The aggregate amount disbursed divided by all signed contracts for roads	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
4	Process	Namialo-Rio Lúrio-Metoro Road: Value of feasibility/ESA Studies, Design, Supervision, & Construction Contract Signed	New indicator	The value of all contract that MCA has signed with contractors to develop feasibility and/or design studies Namialo-Rio Lúrio-Metoro Road.	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	

Nr	Indicator level	Original indicator	Modification type	Definition	Reason/Justification for change	New indicator	Current definition	Original target	Current target	Original baseline	Current baseline	Date submitted to MCC	Additional information
5	Process	Namialo-Rio Lúrio-Metoro Road: Amount of feasibility/ESA Studies, Design, Supervision, & Construction Contract	New indicator	The amount disbursed in US\$ for Feasibility Studies for Namialo-Rio Lúrio-Metoro Road	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
6	Process	Rio Ligonha-Nampula Road: Value of feasibility / ESA Studies, Design, Supervision, & Construction Contract Signed	New indicator	The value of all contract that MCA has signed with contractors to develop feasibility and/or design studies Rio Ligonha-Nampula Road.	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
7	Process	Rio Ligonha-Nampula Road: Amount of feasibility/ESA Studies, Design, Supervision, & Construction Contract disbursed	New indicator	The amount disbursed in US\$ for Feasibility Studies for Rio Ligonha-Nampula Road	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
8	Process	Chimuara - Nicoadala Road: Value of feasibility/ESA Studies, Design, Supervision, & Construction Contract Signed	New indicator	The value of all contract that MCA has signed with contractors to develop feasibility and/or design studies Chimuara - Nicoadala Road.	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	

Nr	Indicator level	Original indicator	Modification type	Definition	Reason/Justification for change	New indicator	Current definition	Original target	Current target	Original baseline	Current baseline	Date submitted to MCC	Additional information
9	Process	Chimuara - Nicoadala Road: Amount of feasibility/ ESA Studies, Design, Supervision, & Construction Contract Signed	New indicator	The amount disbursed in US\$ for Feasibility Studies for Chimuara - Nicoadala Road	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
10	Process	Value of signed contracts for road works	New indicator	The value in US\$ of all contracts that MCA has signed with contractors for construction of new or rehabilitated roads.	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A			130,574,678	August 2010	
11	Process	Amount of Roads Works Contracts Disbursed	New indicator	The amount in US\$ of all contracts that MCA has disbursed with contractors for Road Rehabilitation	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A			132,240,557	August 2010	
12	Process	Percent of Roads Works Contracts disbursed	New indicator	The aggregate amount disbursed divided by all signed contracts of Roads Works	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A			100	August 2010	
13	Process	Namialo - Rio Lúrio Road: Value of signed contract for road works	New indicator	The value in US\$ of all contracts that MCA has signed with contractors for rehabilitation of Namialo - Rio Lúrio Road	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
14	Process	Namialo - Rio Lúrio Road: Amount Disbursed for Construction Contracts	New indicator	The amount disbursed in US\$ for Construction Contracts for Namialo - Rio Lúrio Road	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	

Nr	Indicator level	Original indicator	Modification type	Definition	Reason/Justification for change	New indicator	Current definition	Original target	Current target	Original baseline	Current baseline	Date submitted to MCC	Additional information
15	Process	Rio Lúrio - Metoro Road: Value of signed contract for road works	New indicator	The value in US\$ of all contracts that MCA has signed with contractors for rehabilitation of Rio Lúrio - Metoro Road	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
16	Process	Rio Lúrio - Metoro Road: Amount Disbursed for Construction Contracts	New indicator	The amount disbursed in US\$ for Construction Contracts for Rio Lúrio - Metoro Road	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
17	Process	Rio Ligonha - Nampula Road: Value of signed contract for road works	New indicator	The value in US\$ of all contracts that MCA has signed with contractors for rehabilitation of Rio Ligonha - Nampula Road	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
18	Process	Rio Ligonha - Nampula Road: Amount Disbursed for Construction Contracts	New indicator	The amount disbursed in US\$ for Construction Contracts for Rio Ligonha - Nampula Road	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
19	Process	Chimuara-Nicoadala Road: Value of signed contract for works	New indicator	The value in US\$ of all contracts that MCA has signed with contractors for rehabilitation of Chimuara-Nicoadala Road	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
20	Process	Chimuara-Nicoadala Road: Amount Disbursed for Construction Contracts	New indicator	The amount disbursed in US\$ for Construction Contracts for Chimuara-Nicoadala Road	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
PROJECT: Land Tenure Services													
1	Objective	Rural land-holder value	Change in name of indicator	Value of investments in irrigation and infrastructure on typical rural plot in past two years	This indicator was modified to match with the activities and the expected results.	Value of rural land parcel holding	Incremental value of land as a result of land use right (DUAT)		From 266 USD (baseline) to 319.2 USD			August 2010	

Nr	Indicator level	Original indicator	Modification type	Definition	Reason/Justification for change	New indicator	Current definition	Original target	Current target	Original baseline	Current baseline	Date submitted to MCC	Additional information
2	Objective	Urban parcelholder land value	Change in name of indicator and End of Compact target	Average parcel value defined as monthly rent paid on a 500m2 plot of urban/peri-urban land	This indicator was modified to match with the activities and the expected results.	Value of urban parcel holding value	Incremental value of land as a result of land use right (DUAT)		From 334.1 USD (baseline) to 434.3 USD			August 2010	
3	Outcome	Time to get land usage rights (DUAT)	Change in name of indicator and definition	Average number of administrative days required to obtain land usage rights (DUAT) certificate from day of filing to award of certificate	The indicator was modified to reflect one of the objectives of the Project	Time savings to get land use rights (DUAT) in rural areas	Average number of administrative days saved by rural land-holders to obtain land use rights (DUAT) certificate from day of filing to award of certificate					August 2010	
4	Outcome	Cost to get land usage rights (DUAT)	Change in name of indicator and definition	Amount of money required to obtain land usage rights (DUAT) certificate	The indicator was modified to reflect one of the objectives of the Project	Cost savings to get land usage rights (DUAT)	Amount of money saved by a typical land holder to obtain land usage rights (DUAT) certificate					August 2010	
5	Outcome	Efficient, free and secure land transfers	Removal of Indicator	Land transfers formally tracked and registered	The indicator was removed because was not relevant to the Project (Neither the authorities nor the land project will have control over the DUAT transfers between private holders in a free and efficient manner)	N/A	N/A	N/A				August 2010	

Nr	Indicator level	Original indicator	Modification type	Definition	Reason/Justification for change	New indicator	Current definition	Original target	Current target	Original baseline	Current baseline	Date submitted to MCC	Additional information
6	Output	Total value of procured equipment and materials	New indicator	Value of IT equipment (hardware and software, including LIMS), technical equipment for land offices (province, district, & municipal), INFATEC equipment and books, and geodata for CENACARTA	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	
PROJECT: Farmer Income Support Project													
1	Outcome	Proportion of farmers adopting improved techniques in surveillance and pest and disease control for coconuts	New indicator	Percentage of farmers adopting improved techniques in surveillance and pest and disease control for coconuts	To assess the level of adoption by farmers, in line with training they receive under this subject	N/A	N/A	N/A				August 2010	
2	Outcome	Proportion of farmers adopting planting and post planting management techniques of coconuts	New indicator	Percentage of farmers adopting planting and post planting management techniques	To assess the level of adoption by farmers, in line with training they receive under this subject	N/A	N/A	N/A				August 2010	
3	Outcome	Proportion of farmers adopting alternative crops techniques	New indicator	Percentage of farmers adopting alternative crops and productivity enhancing strategies	To assess the level of adoption by farmers, in line with training they receive under this subject	N/A	N/A	N/A				August 2010	
4	Process	Environmental permit issued by MICOA in Nampula.	New indicator	Permit received and FISP Contractor procurement proceeds	New indicator (taken from the MCC common indicator list). This indicator was found as relevant to MCA	N/A	N/A	N/A				August 2010	

Modification Table: From August 2010 to January 2014 M&E Plan

Water Supply and Sanitation Project

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Time to get non-private water source (Rural)
Indicator Definition	Average number of minutes for a round trip to public borehole in rural areas
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in definition • Change in disaggregation • Change in baseline • Change in year 5 target • Change in end of compact target
Details and Justification	<p>Addition of (Rural) in the name. The urban indicator is no longer valid, due to the revision of project activities, which resulted in the reduction of the extent of the works of urban water systems. The indicator is only valid for the Rural Water activities. The original baseline for “Time to get to non-private water source (Rural)” has been revised to reflect the Stanford/VA Tech 2011 Baseline survey results in the intervention districts for “Median (one way) Walk Times to Non-Private Water Sources”. Given the change in the baseline, the original end of compact target has been revised applying the same target setting criteria as that for establishing the original end of compact target; i.e., a 30% reduction in water gathering time. Target changed from 29.8 to 112.6 (using the prior methodology of a 30% decrease of the baseline time)</p>

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Residential water consumption (rural)
Indicator Definition	The average water consumption in liters per person per day
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in definition • Change in baseline target • Change in year 5 target • Change in end of compact target
Details and Justification	<p>Name changed from “Water Consumption”. The urban water consumption part of the indicator is no longer valid, due to the revision of project activities resulting from multiple project re-scopings. The project is not covering the distribution of water to the residential population in urban areas. But it will remain for the rural areas.</p>

	Original baseline derived from statistical analysis of July 31, 2008 Chemonics/Austral Cowi dataset from "Baseline Survey of Households in Northern Mozambique ". Original baseline updated according to 2011 results provided by RWSA Impact Evaluation by Stanford/VA Tech.
--	--

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Percentage of rural population in intervention areas with access to improved water sources
Indicator Definition	The percentage of households in the MCC project area who get access to and use an improved water supply such as private piped connections (into dwelling or yard), public tap/standpipe or tanker trucks (tube well, protected dug well, protected spring or rainwater: not applicable)
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in definition • Change in baseline target • Change in year 5 target • Change in end of compact target
Details and Justification	Added "...in intervention areas..."to indicator name. Definition made more specific. The original baseline and target were based on total rural population of all four northern provinces. Revised baseline and target are based on total rural population of eight intervention districts

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Water points constructed
Indicator Definition	The number of non-networked, stand-alone water supply systems constructed, such as: protected dug wells, tube-wells / boreholes, protected natural springs and rainwater harvesting / catchment systems
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in definition • Change in unit of measure • Change in disaggregation • Year 2 target removed • Change in year 4 target • Change in year 5 target

Details and Justification	Name changed from “number of rural water points constructed”. Definition now more detailed. Units now number rather than water points. Disaggregation now rural rather than none.
---------------------------	---

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	People trained in hygiene and sanitary best practices
Indicator Definition	The number of people who have completed training on hygiene and sanitary practices that block the fecal-oral transmission route
Modification Type	<ul style="list-style-type: none"> • Change in definition • Change in unit of measure • Change in disaggregation
Details and Justification	Removed “... and have an understanding of...” from definition. Unit changed from persons to number. Disaggregation changed from none to gender.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Rated capacity to deliver potable water
Indicator Definition	The ability of facilities to process water to the specified standard; e.g. for water distribution or wastewater treatment. The flow through the plant is typically less than the rated capacity.
Modification Type	<ul style="list-style-type: none"> • Change in name • Change in definition • Unit of measure • Change in disaggregation
Details and Justification	All details changed due to actual project implementation and data reported from Burnside. Name changed from “Volume of water produced” (which split into 2 indicators). Removal of “...in MCA cities...” from definition and addition of cubic meters “per day.” Units changed from cubic meters per month to cubic meters per day. Disaggregation changed from none to cities and sources.

Indicator Modification Form	
Date	January 2014

Project/ Activity	Water Supply and Sanitation Project
Indicator	Increased safe/reliable yield
Indicator Definition	The maintainable yield of water from a surface or ground water source or sources which is available continuously during projected future conditions without creating undesirable effects.
Modification Type	<ul style="list-style-type: none"> • Change in name • Change in definition • Unit of measure • Change in disaggregation
Details and Justification	All details changed due to actual project implementation and data reported from Burnside. Name changed from "Volume of water produced" (which split into two categories. Removal of "...in MCA cities..." from definition and addition of cubic meters "per day." Units changed from cubic meters per month to cubic meters per day. Disaggregation changed from none to cities and sources.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Value of signed water and sanitation feasibility and design contracts
Indicator Definition	The value of all signed feasibility, design, and environmental contracts, including resettlement action plans, for water and sanitation investments using 609(g) and compact funds
Modification Type	<ul style="list-style-type: none"> • Change in definition • Change in end of compact target
Details and Justification	Addition of "...using 609(g) and compact funds" to definition.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Value disbursed of water and sanitation feasibility and design contracts
Indicator Definition	Value disbursed of all signed feasibility, design, and environmental contracts, including resettlement action plans, for water and sanitation systems
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • End of compact target removed

Details and Justification	Named changed from amount disbursed to value disbursed. Targets for disbursement indicators no longer tracked in M&E Plan
---------------------------	---

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Percent disbursed of water and sanitation feasibility and design contracts
Indicator Definition	The total amount of all signed feasibility, design, and environmental contracts, including resettlement action plans, for water and sanitation investments disbursed divided by the total value of all signed contracts
Modification Type	<ul style="list-style-type: none"> • Change in definition • Year 2 target removed • Year 3 target removed • Year 4 target removed • Year 5 target removed • End of compact target removed
Details and Justification	Definition made more specific. Targets for disbursement indicators no longer tracked in M&E Plan

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Value of signed water and sanitation construction contracts
Indicator Definition	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of water and sanitation works using compact funds
Modification Type	<ul style="list-style-type: none"> • Change in definition • End of compact target changed
Details and Justification	Addition of what the construction contracts are for (reconstruction, etc) in definition.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Percent disbursed of water and sanitation construction contracts

Indicator Definition	The total amount of all signed construction contracts for construction, reconstruction, rehabilitation, or upgrading of water and sanitation works disbursed divided by the total value of all signed contracts
Modification Type	<ul style="list-style-type: none"> • Change in definition • Year 2 target removed • Change in year 3 target • Change in year 4 target • Change in year 5 target
Details and Justification	Definition made more specific.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Amount disbursed in water and sanitation construction
Indicator Definition	The amount disbursed in US\$ for construction contracts of water and sanitation systems
Modification Type	<ul style="list-style-type: none"> • Change in year 3 target • Change in year 4 target • End of compact target removed
Details and Justification	Targets for disbursement indicators no longer tracked in M&E Plan

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Nacala Dam: Value of contract signed for Feasibility Study, Environmental & Social Impact Assessment, Design and Supervision
Indicator Definition	The value of all signed feasibility, design, and environmental contracts, including resettlement action plans, for the Nacala dam investment using 609(g) and compact funds
Modification Type	<ul style="list-style-type: none"> • Change in definition • Change in frequency
Details and Justification	Addition of "...using 609(g) and compact funds" to definition. Frequency changed from quarterly to one time

Indicator Modification Form	
-----------------------------	--

Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Nacala Dam: Value of contract signed for Feasibility Study, Environmental & Social Impact Assessment, Design and Supervision
Indicator Definition	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of Nacala Dam works using compact funds
Modification Type	<ul style="list-style-type: none"> • Change in definition • Change in frequency
Details and Justification	Definition made more specific. Frequency changed from quarterly to one time.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Nacala Dam: Amount disbursed for original construction contracts signed
Indicator Definition	The amount disbursed in US\$ for original Construction Contracts for Nacala Dam
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in definition • Year 3 target removed • Year 4 target removed • End of compact target removed
Details and Justification	Addition of "original" to indicator name. There was a need to include the word ORIGINAL, for the indicator to reflect the content of the definition. Targets for disbursement indicators no longer tracked in M&E Plan.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Nacala Dam: Amount disbursed for Feasibility Study, Environmental & Social Impact Assessment, Design and Supervision
Indicator Definition	The total amount of all signed feasibility, design, and environmental contracts, including resettlement action plans, for Nacala Dam investments disbursed
Modification Type	<ul style="list-style-type: none"> • Year 1 target removed • Year 2 target removed • Year 3 target removed • Year 4 target removed • End of compact target removed

Details and Justification	Targets for disbursement indicators no longer tracked in M&E Plan
---------------------------	---

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Rural Water: Value of contract signed (Social-Technical and Works Supervision)
Indicator Definition	Value of contract signed Social-Technical and Works Supervision in Rural Water
Modification Type	<ul style="list-style-type: none"> • Change in frequency • Change in end of compact target
Details and Justification	Changed frequency from quarterly to one time

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Rural Water: Value of original contract signed for construction of rural water points
Indicator Definition	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of rural water points using compact funds
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in definition • Change in disaggregation • Change in frequency
Details and Justification	Addition of "original" to indicator name. There was a need to include the word ORIGINAL, for the indicator to reflect the content of the definition. Definition made more specific. Disaggregation changed from none to per group of water points. Frequency changed from quarterly to one time.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Rural Water: Value of disbursements for the original contract signed for construction of water points
Indicator Definition	The amount disbursed in US\$ for original Construction Contracts for Rural Water
Modification Type	<ul style="list-style-type: none"> • Change in indicator name

	<ul style="list-style-type: none"> • Change in definition • Change in disaggregation
Details and Justification	Addition of "...original contract signed" in indicator name. There was a need to include the word ORIGINAL, for the indicator to reflect the content of the definition. Definition made more specific. Disaggregation changed from none to per group of water points.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Three Cities Water: Feasibility studies contract signed
Indicator Definition	Signed contract entered into effect
Modification Type	Change in unit of measure
Details and Justification	Changed unit from signed contract to date.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Three Cities Water: Final detailed design submitted
Indicator Definition	Submitted report approved
Modification Type	Change in unit of measure
Details and Justification	Changed unit from deliverable submitted to date.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Five Cities: Feasibility Study, Detailed Design and Supervision contract signed
Indicator Definition	Signed contract entered into effect
Modification Type	Change in unit of measure
Details and Justification	Changed unit from signed contract to date.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Three Cities Sanitation: Feasibility Studies contract signed
Indicator Definition	Signed contract entered into effect
Modification Type	Change in unit of measure
Details and Justification	Changed unit from signed contract to date.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Three Cities Sanitation: Final detailed design submitted
Indicator Definition	Submitted report approved
Modification Type	Change in unit of measure
Details and Justification	Changed unit from deliverable submitted to date

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Social Mobilization and technical Assistance for Cabo Delgado and Nampula Rural Water Points Contract signed
Indicator Definition	Technical Assistance and Social Mobilization activities started
Modification Type	Change in unit of measure
Details and Justification	Changed unit from deliverables submitted to date

Indicator Modification Form	
Date	January 2014

Project/ Activity	Water Supply and Sanitation Project
Indicator	Final Design Report I (150 Water Points) submitted
Indicator Definition	Submitted report undergoing approval process
Modification Type	Change in unit of measure
Details and Justification	Changed unit from Final Design I Report to date

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Final Design Report II (250 Water Points) submitted
Indicator Definition	Submitted report undergoing approval process
Modification Type	Change in unit of measure
Details and Justification	Changed unit from Final Design II Report to date

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Final Design Report III (200 Water Points) submitted
Indicator Definition	Submitted report undergoing approval process
Modification Type	Change in unit of measure
Details and Justification	Changed unit from Final Design III Report to date

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	IEA signed with AIAS
Indicator Definition	Signed agreement entered into effect

Modification Type	Change in unit of measure
Details and Justification	Changed unit from signed agreement to date

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Temporary employment generated in water and sanitation construction
Indicator Definition	The number of people temporarily employed or contracted by MCA-contracted construction companies to work on construction of water or sanitation systems
Modification Type	Addition of new indicator
Details and Justification	Temporary employment indicators have recently been added in many sectors.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Value of original construction contracts signed for urban water supply systems
Indicator Definition	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of urban water supply
Modification Type	Addition of new indicator
Details and Justification	There was a need to create this indicator due to the revision of project activities resulting from multiple project re-scopings. The water activities are reported on city by city basis and separated from the sanitation activities. This an aggregation of all urban water activities.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Amount of original construction contracts disbursed for urban water supply systems
Indicator Definition	The amount disbursed in US\$ for original construction contracts of urban water supply systems.

Modification Type	<ul style="list-style-type: none"> • Addition of new indicator • Year 3 target removed • Year 4 target removed • Year 5 target removed • End of compact target removed
Details and Justification	There was a need to create this indicator due to the revision of project activities resulting from multiple project re-scopings. The water activities are reported on city by city basis and separated from the sanitation activities. This an aggregation of all urban water activities. Targets for disbursement indicators no longer tracked in M&E Plan.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Value of approved variation orders signed for urban water supply systems
Indicator Definition	The value in US\$ of approved variation orders of all works contracts for urban water supply systems
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original contract of all urban water supply systems.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Amount of disbursements of approved variation orders for urban water supply systems
Indicator Definition	The amount disbursed in US\$ for approved variation orders of all works contracts for urban water supply systems
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original contract of all urban water supply systems.

Indicator Modification Form	
Date	January 2014

Project/ Activity	Water Supply and Sanitation Project
Indicator	Nacala Water: Value of original construction contracts signed
Indicator Definition	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of Nacala Water works using compact funds.
Modification Type	Addition of new indicator
Details and Justification	There was a need to create this indicator due to the revision of project activities resulting from multiple project re-scopings. The water activities are reported on city by city basis and separated from the sanitation activities.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Nacala Water: Amount of original construction contracts disbursed
Indicator Definition	The amount disbursed in US\$ for Original Construction Contracts for Nacala Water
Modification Type	Addition of new indicator
Details and Justification	There was a need to create this indicator due to the revision of project activities resulting from multiple project re-scopings. The water activities are reported on city by city basis and separated from the sanitation activities.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Nacala Water: Value of approved variation orders signed for urban water supply systems
Indicator Definition	The value in US\$ of approved variation orders of all works contracts for Nacala Water
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original contract of Nacala Water.

Indicator Modification Form	
Date	January 2014

Project/ Activity	Water Supply and Sanitation Project
Indicator	Nacala water: Amount of disbursements of approved variation orders for urban water supply systems
Indicator Definition	The amount disbursed in US\$ for approved variation orders of all works contracts for Nacala Water
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original contract of Nacala Water.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Nampula Water: Value of original construction contracts signed
Indicator Definition	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of Nampula Water works using compact funds.
Modification Type	Addition of new indicator
Details and Justification	There was a need to create this indicator due to the revision of project activities resulting from multiple project re-scopings. The water activities are reported on city by city basis and separated from the sanitation activities.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Nampula Water: Amount of original construction contracts disbursed
Indicator Definition	The amount disbursed in US\$ for original Construction Contracts for Nampula Water
Modification Type	Addition of new indicator
Details and Justification	There was a need to create this indicator due to the revision of project activities resulting from multiple project re-scopings. The water activities are reported on city by city basis and separated from the sanitation activities.

Indicator Modification Form	
-----------------------------	--

Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Nampula Water: Value of approved variation orders signed for urban water supply systems
Indicator Definition	The value in US\$ of approved variation orders of all works contracts for urban water supply system of Nampula
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original contract of urban water supply system of Nampula.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Nampula water: Amount of disbursements of approved variation orders for urban water supply systems
Indicator Definition	The amount disbursed in US\$ for approved variation orders of all works contracts for urban water supply system of Nampula
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original contract of urban water supply system of Nampula.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Value of approved variation orders signed for Nacala dam
Indicator Definition	The value in US\$ of approved variation orders of all works contracts for Nacala dam
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original contract for Nacala Dam.

Indicator Modification Form	
-----------------------------	--

Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Amount of disbursements of approved variation orders for Nacala dam
Indicator Definition	The amount disbursed in US\$ for approved variation orders of all works contracts for Nacala dam
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original contract for Nacala Dam.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Mocuba Water Supply and Treatment Works Emergency Upgrades: Value of original construction contracts signed
Indicator Definition	The value of all signed construction contracts for Mocuba emergency works using compact funds.
Modification Type	Addition of new indicator
Details and Justification	There was a need to create this indicator due to the revision of project activities resulting from multiple project re-scopings.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Mocuba Water Supply and Treatment Works Emergency Upgrades: Amount disbursed for original construction contracts signed
Indicator Definition	The amount disbursed in US\$ for original Construction Contracts for Mocuba emergency works
Modification Type	Addition of new indicator
Details and Justification	There was a need to create this indicator due to the revision of project activities resulting from multiple project re-scopings.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Value of approved variation orders signed for Mocuba Water Supply and Treatment Works Emergency Upgrades
Indicator Definition	The value in US\$ of approved variation orders of all works contracts for Mocuba emergency works.
Modification Type	Addition of new indicator
Details and Justification	There was a need to create this indicator due to the revision of project activities resulting from multiple project re-scopings.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Amount of disbursements of approved variation orders for Mocuba Water Supply and Treatment Works Emergency Upgrades
Indicator Definition	The amount disbursed in US\$ for approved variation orders of all works contracts for Mocuba emergency works.
Modification Type	Addition of new indicator
Details and Justification	There was a need to create this indicator due to the revision of project activities resulting from multiple project re-scopings.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Value of original construction contracts signed for municipal sanitation and drainage systems
Indicator Definition	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of municipal sanitation and drainage systems using compact funds.
Modification Type	Addition of new indicator
Details and Justification	There was a need to create this indicator, due to the revision of project activities resulting from multiple project re-scopings. The sanitation and drainage activities are

	reported on city by city basis and separated from the water activities. This an aggregation of all sanitation and drainage activities.
--	--

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Amount of original construction contracts disbursed for municipal sanitation and drainage systems
Indicator Definition	The amount disbursed in US\$ for of the original contracts for construction of municipal sanitation and drainage systems.
Modification Type	Addition of new indicator
Details and Justification	There was a need to create this indicator due to the revision of project activities resulting from multiple project re-scopings. The sanitation and drainage activities are reported on city by city basis and separated from the water activities. This an aggregation of all sanitation and drainage activities.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Value of approved variation orders signed for municipal sanitation and drainage systems
Indicator Definition	The value in US\$ of approved variation orders of all works contracts for municipal sanitation and drainage systems
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original contract of all municipal sanitation and drainage systems

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Amount of disbursements of approved variation orders for municipal sanitation and drainage systems

Indicator Definition	The amount disbursed in US\$ for approved variation orders of all works contracts for municipal sanitation and drainage systems
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original contract of all municipal sanitation and drainage systems

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Value of original construction contracts signed for Social Marketing – Low Cost Sanitation in Nampula & Quelimane
Indicator Definition	The value in US\$ of all works contracts that MCA has signed with contractors for Nampula Sanitation (Storm Water Drainage).
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the value of contracts in Nampula & Quelimane

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Amount of original construction contracts disbursed for Social Marketing – Low Cost Sanitation in Nampula & Quelimane
Indicator Definition	The amount disbursed in US\$ for Construction Contracts for Social Marketing – Low Cost Sanitation in Nampula & Quelimane
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the value of contracts disbursed in Nampula & Quelimane

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project

Indicator	Value of approved variation orders signed for Social Marketing – Low Cost Sanitation in Nampula & Quelimane
Indicator Definition	The value in US\$ of approved variation orders of all works contracts for Social Marketing – Low Cost Sanitation in Nampula & Quelimane
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from original contract values in Nampula & Quelimane

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Amount of disbursements of approved variation orders for Social Marketing – Low Cost Sanitation in Nampula & Quelimane
Indicator Definition	The amount disbursed in US\$ for approved variation orders of all works contracts for Social Marketing – Low Cost Sanitation in Nampula & Quelimane
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the value of variation order contracts disbursed in Nampula & Quelimane

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Nampula Sanitation (Social Marketing – Low Cost Sanitation): Public Infrastructures constructed in schools and markets
Indicator Definition	Public infrastructures on markets and schools constructed in Nampula.
Modification Type	Addition of new indicator
Details and Justification	The indicator "Number of private household sanitation connections in urban areas" is no longer valid, due to the revision of project activities resulting in the de-scoping of urban sanitation systems to low cost sanitation facilities

Indicator Modification Form	
Date	January 2014

Project/ Activity	Water Supply and Sanitation Project
Indicator	Quelimane Sanitation (Social Marketing – Low Cost Sanitation): Public Infrastructures constructed in schools and markets
Indicator Definition	Public infrastructures on markets and schools constructed in Quelimane
Modification Type	Addition of new indicator
Details and Justification	The indicator "Number of private household sanitation connections in urban areas" is no longer valid, due to the revision of project activities resulting in the de-scoping of urban sanitation systems to low cost sanitation facilities

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Nampula Sanitation (Storm Water Drainage): Value of original construction contracts signed
Indicator Definition	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of Nampula Sanitation (Storm Water Drainage) system using compact funds.
Modification Type	Addition of new indicator
Details and Justification	This indicator is a result of the reduction in the extent of the works of urban drainage systems and the de-scoping of urban sanitation systems

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Nampula Sanitation (Storm Water Drainage): Amount disbursed for original construction contracts
Indicator Definition	The amount disbursed in US\$ for Construction Contracts for Nampula Sanitation (Storm Water Drainage)
Modification Type	Addition of new indicator
Details and Justification	This indicator is a result of the reduction in the extent of the works of urban drainage systems and the de-scoping of urban sanitation systems.

Indicator Modification Form	
-----------------------------	--

Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Value of approved variation orders signed for Nampula Sanitation (Storm Water Drainage)
Indicator Definition	The value in US\$ of approved variation orders of all works contracts for Nampula Sanitation (Storm Water Drainage)
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original contract for Nampula Sanitation (Storm Water Drainage)

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Amount of disbursements of approved variation orders for Nampula Sanitation (Storm Water Drainage)
Indicator Definition	The amount disbursed in US\$ for approved variation orders of all works contracts for Nampula Sanitation (Storm Water Drainage)
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original contract for Nampula Sanitation (Storm Water Drainage)

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Quelimane sanitation (storm water drainage): Value of original construction contracts signed
Indicator Definition	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of Quelimane Sanitation (Storm Water Drainage) system using compact funds.
Modification Type	Addition of new indicator
Details and Justification	This indicator is a result of the reduction in the extent of the works of urban drainage systems and the de-scoping of urban sanitation systems

Indicator Modification Form	
-----------------------------	--

Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Quelimane Sanitation (storm water drainage): Amount Disbursed for original Construction Contracts
Indicator Definition	The amount disbursed in US\$ for Construction Contracts for Quelimane Storm Water Drainage
Modification Type	Addition of new indicator
Details and Justification	This indicator is a result of the reduction in the extent of the works of urban drainage systems and the de-scoping of urban sanitation systems.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Value of approved variation orders signed for Quelimane sanitation (Storm Water Drainage)
Indicator Definition	The value in US\$ of approved variation orders of all works contracts for Quelimane sanitation (Storm Water Drainage)
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original contract for Quelimane Sanitation (Storm Water Drainage)

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Amount of disbursements of approved variation orders for Quelimane sanitation (Storm Water Drainage)
Indicator Definition	The amount disbursed in US\$ for approved variation orders of all works contracts for Quelimane sanitation (Storm Water Drainage)
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original contract for Quelimane Sanitation (Storm Water Drainage)

Indicator Modification Form	
-----------------------------	--

Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Rural Water: Value of construction for 150 Water Points
Indicator Definition	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of 150 Water Points using compact funds.
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the value of contracts for the 150 Water Points

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Rural Water: Value of construction of 160 Water Points
Indicator Definition	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of 160 Water Points using compact funds.
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the value of contracts for the 160 Water Points

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Rural Water: Value of construction for 90 Water Points
Indicator Definition	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of 90 Water Points using compact funds.
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the value of contracts for the 90 Water Points

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project

Indicator	Rural Water: Value of construction for 200 Water Points
Indicator Definition	The value of all signed construction contracts for reconstruction, rehabilitation, or upgrading of 200 Water Points using compact funds.
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the value of contracts for the 200 Water Points

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Rural Water: Amount Disbursed for Construction of 150 Water Points
Indicator Definition	The amount disbursed in US\$ for the construction of 150 Water Points
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the value of contracts disbursed for the 150 Water Points

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Value of approved variation orders signed for Rural Water
Indicator Definition	The value in US\$ of approved variation orders of all works contracts for Rural Water
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original contract for all Rural Water works

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Amount of disbursements of approved variation orders for Rural Water
Indicator Definition	The amount disbursed in US\$ for approved variation orders of all works contracts for Rural Water

Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original contract for all Rural Water works

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Rural Water: Amount Disbursed for Construction of 160 Water Points
Indicator Definition	The amount disbursed in US\$ for the construction of 160 Water Points
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows value of disbursed contracts for the 160 Water Points

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Rural Water: Amount Disbursed for Construction of 90 Water Points
Indicator Definition	The amount disbursed in US\$ for the construction of 90 Water Points
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows value of disbursed contracts for the 90 Water Points

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Rural Water: Amount Disbursed for Construction of 200 Water Points
Indicator Definition	The amount disbursed in US\$ for the construction of 200 Water Points
Modification Type	Addition of new indicator

Details and Justification	There was a need to have an indicator that shows value of disbursed contracts for the 200 Water Points
---------------------------	--

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	<ul style="list-style-type: none"> Number of productive days lost due to diarrhea illness (and other water-borne diseases)
Indicator Definition	<ul style="list-style-type: none"> Productive days of work or school lost by a household member per incident, on average, in target areas because of water-borne diseases or having to attend to other household members with water-borne diseases (e.g. diarrhea)
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer valid, due to the revision of project activities, which resulted in the reduction of the extent of the works of urban drainage systems, and hence with limited influence in the reduction of the illness

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Number of productive days lost due to malaria
Indicator Definition	Productive days of work or school lost by an urban household member per month, on average, in MCA cities because of malaria or having to attend to household members with malaria.
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer valid, due to the revision of project activities, which resulted in the reduction of the extent of the works of urban drainage systems, and hence with limited influence in the reduction of the illness

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Child mortality rate (Northern Mozambique)
Indicator Definition	Probability of child dying before its 5th birthday, defined as number of deaths among 1000 live births, in the past ten years
Modification Type	Retirement of indicator

Details and Justification	The indicator is no longer valid, due to the revision of project activities. There is a recognition that limited site-specific program interventions are not sufficient to broadly reduce Child mortality in the “Northern Provinces” of Mozambique
---------------------------	---

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Percent of urban population with improved water sources
Indicator Definition	Percent of the urban population in the MCA cities with access to improved water sources, defined as access to private connections, standpipes, or boreholes
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer valid, due to the revision of project activities resulting from multiple project re-scopings. The project is not covering the distribution of water to the residential population in urban areas.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Percent of urban population with improved sanitation facilities
Indicator Definition	Percent of urban population in MCA cities with access to improved sanitation facilities, defined as access to networked sanitation, septic tanks, or an improved latrine
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer valid, due to the revision of project activities. There was a reduction in the extent of the works of urban drainage systems and the de-scoping of urban sanitation systems to low cost sanitation facilities.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Number of Households with access to Improved Water Supply
Indicator Definition	Number of households whose main source of drinking water is a private piped connection (into dwelling or yard), public tap/standpipe, tube-well / borehole, protected dug well, protected spring, or rainwater as a result of MCC investment(s)

Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer valid, due to the revision of project activities resulting from multiple project re-scopings. The project is not covering the distribution of water to the residential population in urban areas. But it will remain for the rural areas

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Number of households with access to Improved Sanitation.
Indicator Definition	Number of households who get access to and use an improved sanitation facility such as flush toilet to a piped sewer system, flush toilet to a septic tank, flush or pour flush toilet to a pit, composting toilet, ventilated improved pit latrine, or pit latrine with slab and cover as a result of MCC investment(s)
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer valid, due to the revision of project activities. There was a reduction in the extent of the works of urban drainage systems and the de-scoping of urban sanitation systems to low cost sanitation facilities.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Number of private household water connections in urban areas
Indicator Definition	Number of households in MCA cities with access to a private water connection (household or yard tap)
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer valid, due to the revision of project activities resulting from multiple project re-scopings. The project is not covering the distribution of water to the residential population and/or other entities in urban areas.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Number of standpipes in urban areas

Indicator Definition	Number of functioning standpipes in MCA cities
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer valid, due to the revision of project activities resulting from multiple project re-scopings. The project is not covering the distribution of water to the residential population and/or other entities in urban areas

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Number of private household sanitation connections in urban areas
Indicator Definition	Number of households in 6 MCA cities with access to a private sanitation connection, septic tank, or improved latrine.
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer valid, due to the revision of project activities resulting from multiple project re-scopings

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Commercial Water Consumption
Indicator Definition	Commercial water consumed at the business unit in MCA cities measured in cubic meters per month
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer valid, due to the revision of project activities resulting from multiple project re-scopings. The project is not covering the distribution of water to both residential and commercial areas

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Five Cities: Value of contract signed for Feasibility Study, Detailed Design and Supervision
Indicator Definition	Value of signed feasibility, design, and environmental contracts, including resettlement action plans for Five Cities

Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings. It was also concluded that water activities should be reported separately from the sanitation activities.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Five Cities: Amount Disbursed for Feasibility Study, Detailed Design and Supervision
Indicator Definition	The amount disbursed in US\$ of contracts for Feasibility Study, Detailed Design and Supervision for Five Cities
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings. It was also concluded that water activities should be reported separately from the sanitation activities.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Five Cities: Percent of Feasibility Study, Detailed Design and Supervision contract disbursed
Indicator Definition	The aggregate amount disbursed divided by the value of signed contracts to develop feasibility study, detailed design and supervision for five Cities
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings. It was also concluded that water activities should be reported separately from the sanitation activities. Furthermore, percentage estimates are calculated automatically in the ITT.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Five Cities: Value of Construction Contracts Signed
Indicator Definition	The value in US\$ of all works contracts that MCA has signed with contractors for Five Cities

Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings. It was also concluded that water activities should be reported separately from the sanitation activities.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Five Cities: Amount Disbursed for Construction Contracts
Indicator Definition	The amount disbursed in US\$ for Construction Contracts for Five Cities
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings. It was also concluded that water activities should be reported separately from the sanitation activities.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Five Cities: Percent of Construction Contract disbursed
Indicator Definition	The aggregate amount disbursed divided by all signed contracts for water and sanitation works for Five Cities.
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings. It was also concluded that water activities should be reported separately from the sanitation activities. Furthermore, percentage estimates are calculated automatically in the ITT.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Three Cities Sanitation: Value of contract signed for Feasibility Studies
Indicator Definition	Value of signed feasibility, design, and environmental contracts, including resettlement

Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Three Cities Sanitation: Amount Disbursed for Feasibility Studies
Indicator Definition	The amount disbursed in US\$ for Feasibility Studies for Three Cities Sanitation
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Three Cities Sanitation: Percent of Feasibility Studies contract disbursed
Indicator Definition	The aggregate amount disbursed divided by the value of signed contract to develop feasibility study for three cities sanitation.
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings. Additionally, percentage estimates are calculated automatically in the ITT.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Three Cities Sanitation: Value of Construction Contracts Signed
Indicator Definition	The value in US\$ of all works contracts that MCA has signed with contractors for Three Cities Sanitation.
Modification Type	Retirement of indicator

Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings.
---------------------------	---

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Three Cities Sanitation: Amount Disbursed for Construction Contracts
Indicator Definition	The amount disbursed in US\$ for Construction Contracts for Three Cities Sanitation
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Three Cities Sanitation: Percent of Construction Contracts disbursed
Indicator Definition	The aggregate amount disbursed divided by all signed contracts for Three Cities sanitation works
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings. Additionally, percentage estimates are calculated automatically in the ITT.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Three Cities Water: Value of contract signed for Feasibility Studies
Indicator Definition	Value of signed feasibility, design, and environmental contracts, including resettlement action plans for Three cities Water
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Three Cities Water: Amount Disbursed for Feasibility Studies
Indicator Definition	The amount disbursed in US\$ for Feasibility Studies for Three Cities Water
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Three Cities Water: Percent disbursed of Feasibility Studies contracts signed
Indicator Definition	The aggregate amount disbursed divided by the value of signed contracts to develop feasibility study for three cities water.
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings. Additionally, percentage estimates are calculated automatically in the ITT.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Three Cities Water: Value of Construction Contracts Signed
Indicator Definition	The value in US\$ of all works contracts that MCA has signed with contractors for Three Cities Water
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Three Cities Water: Amount Disbursed for Construction Contracts
Indicator Definition	The amount disbursed in US\$ for Construction Contracts for Three Cities Water
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Three Cities Water: Percent of Construction Contracts disbursed
Indicator Definition	The aggregate amount disbursed divided by all signed contracts for "Three Cities" water works.
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings. Additionally, percentage estimates are calculated automatically in the ITT.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Nacala Dam: Percent disbursed for Feasibility Study, Environmental & Social Impact Assessment, Design and Supervision
Indicator Definition	The aggregate amount disbursed divided by the value of signed contracts to develop Feasibility Study, Environmental & Social Impact Assessment, Design and Supervision for Nacala Dam
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the fact that percentage estimates are calculated automatically in the ITT.

Indicator Modification Form	
-----------------------------	--

Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Nacala Dam: Percent of Construction Contracts disbursed
Indicator Definition	The aggregate amount disbursed divided by all signed works contracts for Nacala Dam works.
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the fact that percentage estimates are calculated automatically in the ITT.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Rural Water: Percent disbursed (Social-Technical and Works Supervision)
Indicator Definition	The aggregate amount disbursed divided by the value of signed contract to develop Social-Technical and Works Supervision for Rural Water
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the fact that percentage estimates are calculated automatically in the ITT.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Rural Water: Amount disbursed for social-technical and works supervision
Indicator Definition	The amount disbursed in US\$ for Social-Technical and Works Supervision for Rural Water
Modification Type	Removal of all targets
Details and Justification	Targets for disbursement indicators no longer tracked in M&E Plan

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project

Indicator	Rural Water: Percent of Construction Contract disbursed
Indicator Definition	The aggregate amount disbursed divided by all signed works contracts for Rural Water.
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the fact that percentage estimates are calculated automatically in the ITT.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Water Supply and Sanitation Project
Indicator	Number of businesses connected to an improved water source
Indicator Definition	Number of formal businesses in MCA cities with water connection (piped system)
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer valid, due to the revision of project activities resulting from multiple project re-scopings. The project is not covering the distribution of water to the residential population and/or other entities

Roads

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Roughness
Indicator Definition	The measure of the roughness of the road surface, in meters of height per kilometer of distance traveled
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in definition • Change in disaggregation
Details and Justification	Indicator name changed from “change in international roughness index (IRI)”. Definition made more specific. Disaggregation changed from “targeted road segments” to “primary”

Indicator Modification Form	
Date	January 2014

Project/ Activity	Roads Rehabilitation Project
Indicator	Total time savings (Millions of dollars)
Indicator Definition	Value of time saved due to shorter trip times and increased speed on upgraded roads
Modification Type	Change in disaggregation
Details and Justification	Changed disaggregation from none to “targeted road segments”

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Average Annual daily traffic
Indicator Definition	The average number and type of vehicles per day, averaged over different times (day and night) and over different seasons to arrive at an annualized daily average
Modification Type	<ul style="list-style-type: none"> • Change in definition • Change in disaggregation
Details and Justification	Made definition more specific. Changed disaggregation from “target road segments / vehicle type” to primary

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Namialo-Rio Lúrio Road: Average Annual daily traffic
Indicator Definition	The average number and type of vehicles per day, averaged over different times (day and night) and over different seasons to arrive at an annualized daily average
Modification Type	Removal of years 3 and 4 targets
Details and Justification	Data not to be collected until later in the compact.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Rio-Ligonha-Nampula: Average Annual daily traffic

Indicator Definition	The average number and type of vehicles per day, averaged over different times (day and night) and over different seasons to arrive at an annualized daily average
Modification Type	Removal of years 3 and 4 targets
Details and Justification	Data not to be collected until later in the compact.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Kilometers of roads completed
Indicator Definition	The length of roads in kilometers on which construction of new roads or reconstruction, rehabilitation, resurfacing or upgrading of existing roads is complete (certificates handed over and approved)
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in definition • Change in year 5 and end of compact target
Details and Justification	Indicator name changed from “rehabilitated” to “completed”. Definition made more specific. End of compact target changed given re-scoping from 491 to 253.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Kilometers of road under design
Indicator Definition	Kilometers of roads that have been fully designed
Modification Type	<ul style="list-style-type: none"> • Change in frequency • Removal of year 2 target • Addition of year 3 target • Change in year 5 and end of compact target
Details and Justification	Frequency of data changed quarterly to one time. End of compact target changed from 491 to 253.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project

Indicator	Kilometers of roads under works contract
Indicator Definition	Kilometers of roads that have been officially contracted under a construction works contract
Modification Type	<ul style="list-style-type: none"> • Change in frequency • Removal of year 4 target • Change in years 3, 5, and end of compact targets
Details and Justification	Frequency changed from quarterly to one time. Re-scoping changed the end of compact target from 491 to 253.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Value of signed road feasibility and design contracts
Indicator Definition	The value of all signed feasibility, design, and environmental contracts, including resettlement action plans, for road investments using 609(g) and compact funds
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in definition • Removal of year 1 target • Addition of year 5 target • Change in end of compact target
Details and Justification	Removal of "...supervision and program management contracts" from indicator name. Definition made more specific. Re-scoping changed targets.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Value disbursed of road feasibility and design contracts
Indicator Definition	The value in US\$ of all contracts that MCA has disbursed with contractors to develop feasibility and/or design studies for systems of roads
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in definition • Removal of all targets
Details and Justification	Indicator name changed from amount disbursed to value disbursed and removal of "supervision and program management contracts". Definition changed from "The amount of US\$ of all contracts that MCA has disbursed with contractors for Road Rehabilitation". Targets for disbursement indicators no longer tracked in M&E Plan

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Percent disbursed of road feasibility and design contracts
Indicator Definition	The total amount of all signed feasibility, design, and environmental contracts, including resettlement action plans, for road investments disbursed divided by the total value of all signed contracts
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in definition • Removal of years 1, 2, 3, and 4 targets
Details and Justification	Removal of "supervision and program management contracts" from indicator name. Definition made more specific. Targets for disbursement indicators no longer tracked in M&E Plan.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Value of signed road construction contracts
Indicator Definition	The total value of all signed construction contracts for new roads or reconstruction, rehabilitation, resurfacing or upgrading of existing roads using compact funds
Modification Type	<ul style="list-style-type: none"> • Change in definition • Change in disaggregation • Change in frequency • Removal of year 3 target • Addition of year 5 target • Change in end of compact target
Details and Justification	Definition made more specific. Disaggregation changed from none to primary. Frequency changed from quarterly to one time. Delayed project pushed target back.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Amount of original construction contracts disbursed for 252.7km roads works (total)
Indicator Definition	The amount disbursed in US\$ of all contracts that MCA has signed with contractors for roads rehabilitation

Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Removal of years 3, 4, 5, and end of compact targets
Details and Justification	Addition of "...for 252.7km roads works." There was a need for the indicator to reflect the total length of the roads after re-scoping.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Percent disbursed of road construction contracts
Indicator Definition	The total amount of all signed construction contracts for new roads or reconstruction, rehabilitation, resurfacing or upgrading of existing roads disbursed divided by the total value of all signed contracts
Modification Type	<ul style="list-style-type: none"> • Change in definition • Change in year 3 target • Removal of year 4 target
Details and Justification	Definition made more specific.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Chimuara - Nicoadala Road: Feasibility/ ESA Studies, Design, Supervision, & Construction Contract Signed
Indicator Definition	Signed Contract entered into effect
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings, and discontinuity of this road segment.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Namialo-Rio Lúrio-Metoro Road: Value of feasibility/ESA Studies, Design, Supervision, & Construction Contract Signed
Indicator Definition	The value of all contract that MCA has signed with contractors to develop feasibility and/or design studies Namialo-Rio Lúrio-Metoro Road.

Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings. The length of the road has been reduced, and the remaining segment was divided into 2 lots

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Namialo-Rio Lúrio-Metoro Road: Amount of feasibility/ESA Studies, Design, Supervision, & Construction Contract disbursed
Indicator Definition	The amount disbursed in US\$ for Feasibility Studies for Namialo-Rio Lúrio-Metoro Road
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings. The length of the road has been reduced, and the remaining segment was divided into 2 lots

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Namialo - Rio Lúrio - Metoro Road: Percent of feasibility, design, & supervision contract disbursed
Indicator Definition	Cumulative amount of contracted Namialo-Rio Lúrio-Metoro road's feasibility, design, & supervision (FDS) works paid to implementer divided by total value of Namialo-Rio Lúrio-Metoro road's FDS contract signed.
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings. The length of the road has been reduced, and the remaining segment was divided into 2 lots. Furthermore, percentage estimates would have to be calculated automatically in the ITT.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Rio Ligonha-Nampula Road: Value of feasibility / ESA Studies, Design, Supervision, & Construction Contract Signed

Indicator Definition	The value of all contract that MCA has signed with contractors to develop feasibility and/or design studies Rio Ligonha-Nampula Road.
Modification Type	Retirement of indicator
Details and Justification	The indicator has been removed to follow the same path as the other indicators above. However, it will continue to be tracked in the Financial Department

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Rio Ligonha-Nampula Road: Amount of feasibility/ESA Studies, Design, Supervision, & Construction Contract disbursed
Indicator Definition	The amount disbursed in US\$ for Feasibility Studies for Rio Ligonha-Nampula Road
Modification Type	Retirement of indicator
Details and Justification	The indicator has been removed to follow the same path as the other indicators above. However, it will continue to be tracked in the Financial Department

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Rio Ligonha-Nampula Road: Percent of feasibility, design, & supervision contract disbursed
Indicator Definition	Cumulative amount of contracted Rio Ligonha-Nampula road's feasibility, design, and supervision (FDS) works paid to implementer divided by total value of Rio Ligonha-Nampula road's FDS contract signed.
Modification Type	Retirement of indicator
Details and Justification	The indicator has been removed to follow the same path as the other indicators above. However, it will continue to be tracked in the Financial Department

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Chimuara - Nicoadala Road: Value of feasibility/ ESA Studies, Design, Supervision, & Construction Contract Signed
Indicator Definition	The value of all contract that MCA has signed with contractors to develop feasibility and/or design studies Chimuara - Nicoadala Road.

Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings, and discontinuity of this road segment.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Chimuara - Nicoadala Road: Amount of feasibility/ESA Studies, Design, Supervision, & Construction Contract disbursed
Indicator Definition	The amount disbursed in US\$ for Feasibility Studies for Chimuara - Nicoadala Road
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings, and discontinuity of this road segment.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Chimuara-Nicoadala Road: Percent of feasibility, design, & supervision contract disbursed
Indicator Definition	Cumulative amount of contracted Chimuara-Nicoadala road's feasibility, design, & supervision (FDS) works paid to implementer divided by total value of Chimuara-Nicoadala road's FDS contract signed.
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings, and discontinuity of this road segment.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Namialo - Rio Lúrio Road: Value of signed contract for road works
Indicator Definition	The value in US\$ of all contracts that MCA has signed with contractors for rehabilitation of Namialo - Rio Lurio Road
Modification Type	Retirement of indicator

Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings. This road segment has been divided into two lots.
---------------------------	---

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Namialo - Rio Lúrio Road: Amount Disbursed for Construction Contracts
Indicator Definition	The amount disbursed in US\$ for Construction Contracts for Namialo - Rio Lúrio Road
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings. This road segment has been divided into two lots.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Namialo - Rio Lúrio Road: Percent of construction contract disbursed
Indicator Definition	Cumulative amount of contracted Namialo-Rio Lúrio road's construction works paid to implementer divided by total value of Namialo-Rio Lúrio road's construction contract signed.
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings. This road segment has been divided into two lots.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Rio Lúrio - Metro Road: Value of signed contract for road works
Indicator Definition	The value in US\$ of all contracts that MCA has signed with contractors for rehabilitation of Rio Lúrio - Metro Road
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings, and discontinuity of this road segment.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Rio Lúrio - Metoro Road: Amount Disbursed for Construction Contracts
Indicator Definition	The amount disbursed in US\$ for Construction Contracts for Rio Lúrio - Metoro Road
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings, and discontinuity of this road segment.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Rio Lúrio - Metoro Road: Percent of construction contract disbursed
Indicator Definition	Cumulative amount of contracted Rio Lúrio-Metoro road's construction works paid to implementer divided by total value of Rio Lúrio-Metoro road's construction contract signed.
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings, and discontinuity of this road segment.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Value of original construction contracts signed for Rio Ligonha-Nampula road works
Indicator Definition	The original value in US\$ of all signed contracts for Rio Ligonha-Nampula road works
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in indicator definition
Details and Justification	There was a need to disaggregate this indicator to reflect the contract signed after the re-scoping, and include the word ORIGINAL, for the indicator to reflect the content of the definition.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Amount of original construction contracts disbursed for Rio Ligonha-Nampula road works
Indicator Definition	The original amount disbursed in US\$ of all contracts for for Rio Ligonha-Nampula roads works
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in indicator definition
Details and Justification	There was a need to disaggregate this indicator to reflect the contract signed after the re-scoping, and include the word ORIGINAL, for the indicator to reflect the content of the definition.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Rio Ligonha - Nampula Road: Percent of construction contract disbursed
Indicator Definition	Cumulative amount of contracted Rio Ligonha-Nampula road's construction works paid to implementer divided by total value of Rio Ligonha-Nampula road's construction contract signed.
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the fact that percentage estimates are calculated automatically in the ITT.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Chimuara-Nicoadala Road: Value of signed contract for works
Indicator Definition	The value in US\$ of all contracts that MCA has signed with contractors for rehabilitation of Chimuara-Nicoadala Road
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings, and discontinuity of this road segment.

Indicator Modification Form	
-----------------------------	--

Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Chimuara-Nicoadala Road: Amount Disbursed for Construction Contracts
Indicator Definition	The amount disbursed in US\$ for Construction Contracts for Chimuara-Nicoadala Road
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings, and discontinuity of this road segment.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Chimuara-Nicoadala Road: Percent of construction contract disbursed
Indicator Definition	Cumulative amount of contracted Chimuara-Nicoadala road's construction works paid to implementer divided by total value of Chimuara-Nicoadala road's construction contract signed.
Modification Type	Retirement of indicator
Details and Justification	The indicator is no longer relevant, due to the revision of project activities resulting from multiple project re-scopings, and discontinuity of this road segment.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Value of approved variation orders signed for 252.7km road works (Total)
Indicator Definition	The value in US\$ of approved variation orders of all road works contracts
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original in the contract for road rehabilitation works.

Indicator Modification Form	
Date	January 2014

Project/ Activity	Roads Rehabilitation Project
Indicator	Amount of approved variation orders disbursed for 252.7km road works (Total)
Indicator Definition	The amount disbursed in US\$ for approved variation orders of all road works contracts
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original in the contract for road rehabilitation works.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Value of original construction contracts signed for Namialo-Rio Lúrio Lot 1(Namialo-Ponte Rio Mecutuchi) road works
Indicator Definition	The value in US\$ of the contract that MCA has signed with contractors for rehabilitation of Namialo-Rio Lúrio Lot 1 (Namialo-Ponte Rio Mecutuchi)
Modification Type	Addition of new indicator
Details and Justification	There was a need to disaggregate this indicator to reflect the contract signed after the re-scoping.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Amount of original construction contracts disbursed for Namialo-Rio Lúrio Lot 1 (Namialo-Ponte Rio Mecutuchi) road works
Indicator Definition	The amount disbursed in US\$ for Construction Contracts for of Namialo-Rio Lúrio Lot 1 (Namialo-Ponte Rio Mecutuchi)
Modification Type	Addition of new indicator
Details and Justification	There was a need to disaggregate this indicator to reflect the contract signed after the re-scoping.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Value of approved variation orders signed for Namialo-Rio Lúrio Lot 1(Namialo-Ponte Rio Mecutuchi) road works

Indicator Definition	The value in US\$ of approved variation orders for Namialo-Rio Lúrio Lot 1 (Namialo-Ponte Rio Mecutuchi) road works
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original contract for the rehabilitation of the Namialo-Rio Lúrio Lot 1 (Namialo-Ponte Rio Mecutuchi) road.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Amount of approved variation orders disbursed for Namialo-Rio Lúrio Lot 1 (Namialo-Ponte Rio Mecutuchi) road works
Indicator Definition	The amount disbursed in US\$ for approved variation orders for Namialo-Rio Lúrio Lot 1 (Namialo-Ponte Rio Mecutuchi) road works
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original contract for the rehabilitation of the Namialo-Rio Lúrio Lot 1 (Namialo-Ponte Rio Mecutuchi) road.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Value of original construction contracts signed for Namialo-Rio Lúrio Lot 2 (Ponte Rio Mecutuchi-Rio Lúrio) roads works
Indicator Definition	The original value in US\$ of all signed contracts for Namialo-Rio Lúrio Lot 2 (Ponte Rio Mecutuchi-Rio Lúrio) roads works.
Modification Type	Addition of new indicator
Details and Justification	There was a need to disaggregate this indicator to reflect the contract signed after the re-scoping, and include the word ORIGINAL, for the indicator to reflect the content of the definition.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Amount of original construction contracts disbursed for Namialo-Rio Lúrio Lot 2 (Ponte Rio Mecutuchi-Rio Lúrio) roads works

Indicator Definition	The original amount disbursed in US\$ of all contracts for Namialo-Rio Lúrio Lot 2 (Ponte Rio Mecutuchi-Rio Lúrio) roads works.
Modification Type	Addition of new indicator
Details and Justification	There was a need to disaggregate this indicator to reflect the contract signed after the re-scoping, and include the word ORIGINAL, for the indicator to reflect the content of the definition.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Value of approved variation orders signed for Namialo-Rio Lúrio Lot 2 (Ponte Rio Mecutuchi-Rio Lúrio) roads works
Indicator Definition	The value in US\$ of approved variation orders for Namialo-Rio Lúrio Lot 2 (Ponte Rio Mecutuchi-Rio Lúrio) roads works.
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original in the contract for road rehabilitation works.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Amount of approved variation orders disbursed for Namialo-Rio Lúrio Lot 2 (Ponte Rio Mecutuchi-Rio Lúrio) roads works
Indicator Definition	The amount disbursed in US\$ for approved variation orders for Namialo-Rio Lúrio Lot 2 (Ponte Rio Mecutuchi-Rio Lúrio) roads works
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original in the contract for road rehabilitation works.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Value of approved variation orders signed for Rio Ligonha-Nampula road works
Indicator Definition	The value in US\$ of approved variation orders for Rio Ligonha-Nampula road works.

Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original contract for the rehabilitation of the Rio Ligonha-Nampula road.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Amount of approved variation orders disbursed for Rio Ligonha-Nampula road works
Indicator Definition	The amount disbursed in US\$ for approved variation orders for Rio Ligonha-Nampula road works
Modification Type	Addition of new indicator
Details and Justification	There was a need to have an indicator that shows the deviation from the original contract for the rehabilitation of the Rio Ligonha-Nampula road.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Roads Rehabilitation Project
Indicator	Temporary employment generated in road construction
Indicator Definition	The number of people temporarily employed or contracted by MCA-contracted construction companies to work on construction of new roads or reconstruction, rehabilitation, resurfacing or upgrading of existing roads
Modification Type	Addition of new indicator
Details and Justification	Temporary employment indicators have recently been added in many sectors.

Land Tenure Services Project

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Percentage change in time for property transactions
Indicator Definition	The average percentage change in number of days for an individual or company to conduct a property transaction within the formal system
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in definition

	<ul style="list-style-type: none"> • Change in unit of measure • Change in responsible party • Change in frequency
Details and Justification	Indicator name changed from “time to get land usage rights (DUAT)” to incorporate common indicator name, definition and unit of measurement. Frequency updated to reflect evaluation timing.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Production value of rural agricultural land
Indicator Definition	Value of crop production (excluding tree crops) per square meter of rural agricultural parcels in intervention areas before and after receiving a DUAT
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in definition • Change in unit of measure • Change in primary data source • Change in frequency
Details and Justification	Indicator name changed from “rural land-holder value”. Definition made more specific. Units changed from Meticaís, 2009 values to US Dollars. Primary data source clarified from evaluator name (MINAG-DE/MSU) to name of evaluation (Rural LTR Evaluation). Reporting frequency changed from end of compact to post-compact to account for time required for land value/productivity increases and follow-up survey date of 2016.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Value of urban land parcel holding
Indicator Definition	Value of urban land parcel holding as measured by rentals and sales before and after receiving a DUAT
Modification Type	<ul style="list-style-type: none"> • Change in name • Change in definition • Change in unit of measure • Clarification of primary data source (same source just renamed) • Change in frequency of reporting • Change in baseline • Change in end of compact target
Details and Justification	Name changed from “Value of urban land parcel holding value”. Definition made more specific. Units changed from Meticaís, 2009 value to US Dollars. Primary data

	<p>source name changed from MINAG-DE/MSU (the evaluator) to the name of the evaluation (Urban LTR Evaluation).</p> <p>Reporting frequency changed from end of compact to post-compact to account for time required for land value increases and follow-up survey date of 2016.</p>
--	--

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Average household investment in property and land for households before and after receiving a DUAT
Indicator Definition	Average value of investments in property and land for households before and after receiving a DUAT
Modification Type	Addition of new indicator
Details and Justification	Added indicator to reflect expected beneficiary stream of increased household investment from provision of a DUAT

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Percentage of HH that perceive future Land related conflicts in-LTR intervention areas
Indicator Definition	Percentage of HH that perceive future land related conflicts in LTR intervention areas before and after receiving a DUAT
Modification Type	Addition of new indicator
Details and Justification	Added indicator to reflect expected beneficiary stream of increased tenure security from provision of a DUAT

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Number of partnerships between communities or associations and investors
Indicator Definition	Number of partnerships formed between communities or associations and investors through ITC efforts
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in definition • Change in unit of measure

	<ul style="list-style-type: none"> • Change in frequency of reporting • Change in year 4 target
Details and Justification	Addition of "...or associations..." to indicator name and definition to account for ITC separately counting investments by associations within communities from entire community investments. Unit changed from community partnerships to number. Frequency of reporting changed from annual to annual from 2011-2013 as ITC did not start work until 2011. Year 4 target changed from 6 to 12.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Legal and regulatory reforms adopted
Indicator Definition	The number of specific pieces of legislation or implementing regulations adopted by the compact country and attributable to compact support.
Modification Type	Addition of new indicator
Details and Justification	Added common indicator as prior MCA was only measuring the individual passing of each legislation and not calculating a total number per common indicator guidance.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Land Policy Consultative Forum (LPCF) established
Indicator Definition	LPCF formally established by Decree
Modification Type	<ul style="list-style-type: none"> • Change in unit of measure • Change in primary data source
Details and Justification	Unit changed to date. Primary data source changed from MCA management report to copy of decree.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Land strategy approved
Indicator Definition	Final "National Land Administration Strategy" approved by National Land Project Advisory Group (NLPAG/CAPT) and MCA

Modification Type	Change in primary data source
Details and Justification	Primary data source changed from MCA management report to HTSPE report

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Proposals for improvement to land legislation submitted by the Land Policy Consultative Forum (LPCF)
Indicator Definition	Final list of recommendations submitted to relevant State institutions.
Modification Type	Change in primary data source
Details and Justification	Primary data source changed from MCA management report to HTSPE report

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Land administration offices established or upgraded
Indicator Definition	The number of land administration and service offices or other related facilities that the project physically establishes or upgrades
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in definition • Change in responsible party
Details and Justification	Name changed from “number of buildings rehabilitated or built” to common indicator along with common indicator definition. Responsible party changed from DNTF/INFATEC/CENACARTA to MCA.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Total value of procured equipment and materials
Indicator Definition	Value of IT equipment (hardware and software, including LIMS), technical equipment for land offices (province, district, & municipal), INFATEC equipment and books, and geodata for CENACARTA
Modification Type	Removed disaggregations
Details and Justification	We removed all the disaggregations as MCA didn't collect disaggregated data and it was not important to track at disaggregated level.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Stakeholders trained
Indicator Definition	The number of public officials, traditional authorities, project beneficiaries and representatives of the private sector, receiving formal on-the-job land training or technical assistance regarding registration, surveying, conflict resolution, land allocation, land use planning, land legislation, land management or new technologies.
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in definition • Change in unit of measure • Change in disaggregation • Change in all targets
Details and Justification	Indicator name changed from people trained to stakeholders trained to reflect common indicator, as well as common indicator definition and unit of measurement incorporated. Disaggregation changed from none to include gender and type of service providers/trainings. Year 1 target changed from 110 to 100, year 2 from 210 to 200, year 3 from 318 to 385, year 4 from 418 to 570, and end of compact target from 518 to 750

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Number of stakeholders trained in paralegal topics (CFJJ)
Indicator Definition	Number of people trained in paralegal courses at CFJJ
Modification Type	Addition of new indicator
Details and Justification	This is a “disaggregation” of total stakeholders trained—one group trained by CFJJ (paralegal work) and other stakeholders in various land topics.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Number of stakeholders trained in other land administration topics

Indicator Definition	Number of people trained in: 1) Land Tenure Regularization; 2) Communications (Public Outreach on Land Administration); 3) Land Survey, Land use mapping/inventory, GIS/LIMS (Land Information Management System)
Modification Type	Addition of new indicator
Details and Justification	This is a “disaggregation” of total stakeholders trained—one group trained by CFJJ (paralegal work) and other stakeholders in various land topics.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Number of new student enrollments in INFATEC
Indicator Definition	Number of new students enrolling in INFATEC each year.
Modification Type	Addition of new indicator
Details and Justification	Indicator added to incorporate outputs from INFATEC activity, which wasn’t captured in previous M&E Plan.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Number of students graduating from INFATEC
Indicator Definition	Number of students each year graduating from INFATEC
Modification Type	Addition of new indicator
Details and Justification	Indicator added to incorporate outputs from INFATEC activity, which wasn’t captured in previous M&E Plan.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Parcels corrected or incorporated in land system
Indicator Definition	The number of parcels with relevant parcel information corrected or newly incorporated into an official land information system (whether a system for the property registry, cadaster or an integrated system).

Modification Type	Addition of new indicator
Details and Justification	Incorporated common indicator

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Land rights formalized
Indicator Definition	The number of households receiving formal recognition of ownership and/or use rights through certificates, titles, leases, or other recorded documentation by government institutions or traditional authorities at national or local levels
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in definition • Change in disaggregation • Change in primary data source • Change in responsible party • Change in frequency of reporting
Details and Justification	Indicator name changed from “number of households having land formalized” to common indicator and related definition and disaggregation required by common indicator. Primary data source and responsible party changed from DNTF / CLF to include all land formalization contractors and entities: HTSPE, KPMG, and SPGC, and from DNTF / CLF Manager to HTSPE and KPMG, respectively. Frequency modified to include “annually during post-compact”.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Rural hectares mapped in Land Inventory Mapping Component of Site Specific Activity
Indicator Definition	Rural hectares mapped in Site Specific Activity during land use inventory mapping and planning component by HTSPE
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in definition • Change in primary data source • Change in responsible party • Change in year 2, 3, 4, 5, and end of compact targets
Details and Justification	Indicator name and definition made more specific (changed from rural hectares mapped by site specific activity). Data source and responsible party changed from DNTF to quarterly reports and from DNTF to HTSPE, respectively. Year 2 target changed from 1,275,000 to 0, year 3 from 2,550,000 to 1,000,000, year 4 from 3,825,000 to 3,000,000, and end of compact target from 5,100,000 to 5,000,000.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	LTR rural cadastral parcel created by HTSPE
Indicator Definition	Number of rural cadastral parcels created for consideration by appropriate authority as measured by number of maps created by HTSPE
Modification Type	New indicator
Details and Justification	New indicator to track number of parcels as well as number of hectares.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	LTR HTSPE rural cadastral parcels approved for title issuance
Indicator Definition	Number of rural cadastral parcel approved for title issuance as measured by number of printed "duats".
Modification Type	Addition of new indicator
Details and Justification	Addition of new indicator to track the approval of parcels, which also feeds into the common indicator of land rights formalized.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	LTR HTSPE DUATs delivered to the rural beneficiaries
Indicator Definition	Number of DUATs (titles) issued and delivered to the beneficiaries in rural areas
Modification Type	Addition of new indicator
Details and Justification	Addition of new indicator to track the delivery of titles. New format tracks the entire process of formalization: parcels mapped, created, approved and delivered.

Indicator Modification Form	
Date	January 2014

Project/ Activity	Land Tenure Services Project
Indicator	ITC association parcels mapped with “processos” compiled
Indicator Definition	Number of associations with their parcels mapped and process completed for the issuance of “DUATs” as part of the Community Land Fund Initiative
Modification Type	Addition of new indicator
Details and Justification	This is considered one of the significant reporting stages in the issuance process.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	ITC association titles (DUATs) approved by appropriate authority
Indicator Definition	Number of official documents approved and submitted for issuance of the respective DUATs by the appropriate authority
Modification Type	Addition of new indicator
Details and Justification	This is considered one of the significant reporting stages in the issuance process.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	ITC titles (DUATs) delivered to associations
Indicator Definition	Number of titles (DUATs) issued by appropriate authority and delivered into the hands of beneficiaries
Modification Type	Addition of new indicator
Details and Justification	This is considered one of the significant reporting stages in the issuance process.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	ITC Communities Mapped
Indicator Definition	Number of communities with their area mapped and process completed, ready for submission to the appropriate authority for verification as part of the Community Land Fund Initiative

Modification Type	<ul style="list-style-type: none"> • Name Change • Definition Change
Details and Justification	Name changed from “Number of communities delimited”. Definition changed from “Number of communities delimited as part of the Community Land Fund Initiative”

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	ITC “ <i>Certidões</i> ” approved by appropriate authority
Indicator Definition	Number of certidoes approved by appropriate authorities based on submission of required document files (processos)
Modification Type	Addition of new indicator
Details and Justification	This is considered one of the significant reporting stages in the issuance process.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	ITC “ <i>Certidões</i> ” delivered to the community
Indicator Definition	Number of <i>certidões</i> issued by appropriate authority and delivered into the hands of beneficiaries
Modification Type	Addition of new indicator
Details and Justification	This is considered one of the significant reporting stages in the issuance process.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	LTR HTSPE urban cadastral parcel created
Indicator Definition	Number of urban cadastral parcels created for consideration by appropriate authority; i.e., before <i>edital</i>
Modification Type	<ul style="list-style-type: none"> • Indicator name change • Target change

Details and Justification	Name changed from “Urban parcels mapped “. Definition changed from “Number of urban priority area parcels ('hotspots') delimited as part of the Site Specific Activity.” Target changed from 172,000 to 140,000.
---------------------------	--

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	LTR HTSPE urban cadastral parcels approved
Indicator Definition	Number of urban cadastral parcels approved as measured by DUATs printed
Modification Type	Addition of new indicator
Details and Justification	This is considered one of the significant reporting stages in the issuance process: mapped, created, approved and delivered.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	LTR HTSPE urban cadastral parcel rights formalized
Indicator Definition	Number of urban cadastral parcel approved for DUAT issuance by Mayor
Modification Type	<ul style="list-style-type: none"> • Name Change • Definition Change • Target change
Details and Justification	Name changed from “Urban parcels formalized” Definition changed from “Number of urban parcels formalized through the provision of DUATs.” Target changed from 34,400 to 140,000.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	LTR HTSPE urban titles (DUATs) delivered to beneficiaries
Indicator Definition	Number of titles (DUATs) issued and delivered into the hands of urban beneficiaries
Modification Type	Addition of new indicator

Details and Justification	This is considered one of the significant reporting stages in the issuance process: mapped, created, approved and delivered.
---------------------------	--

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Number of rural parcel formalized
Indicator Definition	Number of parcels formalized through the provision of DUATs by SPGCs based on mapping by private surveyors, HTSPE and ITC
Modification Type	Addition of new indicator
Details and Justification	This is considered one of the significant reporting stages in the issuance process: parcels mapped, created, approved and delivered.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Total rural hectares formalized
Indicator Definition	Number of rural hectares formalized by SPGC as a result of mapping by three service providers: HTSPE, Private Surveyors and KPMG/ITC
Modification Type	Addition of new indicator
Details and Justification	New Indicator to incorporate total hectares formalized

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Rural hectares formalized by SPGC based on mapping by private surveyors
Indicator Definition	Hectares of rural land with rights formalized through the provision of DUATs by SPGCs based on mapping by private surveyors in Niassa and Zambezia
Modification Type	Addition of new indicator
Details and Justification	New Indicator to incorporate total hectares formalized based on mapping of private surveyors—disaggregation of total hectares formalized.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Rural hectares formalized by SPGCs based on mapping by HTSPE
Indicator Definition	Hectares of rural land with rights formalized through the provision of DUATs by SPGCs based on mapping by HTSPE
Modification Type	Addition of new indicator
Details and Justification	New Indicator to incorporate total hectares formalized based on mapping by HTSPE—disaggregation of total hectares formalized.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	ITC Rural hectares formalized by SPGC
Indicator Definition	Hectares of rural land with rights formalized through the provision of DUATs or certificates of delimitation or zones allocated for development
Modification Type	<ul style="list-style-type: none"> • Name Change • Definition Change
Details and Justification	Name changed from “Rural hectares formalized through Community Land Fund Initiative”. Definition changed from “Community hectares formalized through the Community Land Fund initiative”

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Number of preparatory studies completed
Indicator Definition	Number of finished preparatory studies
Modification Type	<ul style="list-style-type: none"> • Change in unit of measure • Change in all targets
Details and Justification	Units changed from report to number. Year 1 target changed from N/A to 1, year 2 from 2 to 13, year 3 from 3 to 17, year 4 from 6 to 21, and end of compact target from 9 to 23.

Indicator Modification Form	
-----------------------------	--

Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Project and priority areas selected
Indicator Definition	NLPAG and MCA approve areas
Modification Type	Change in unit of measure
Details and Justification	Unit changed from report to date to reflect time of completion.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Cost to commercial firms to access land
Indicator Definition	Monetary cost of formally registered commercial firms accessing land in major urban areas
Modification Type	Retirement of indicator
Details and Justification	Due to unreliable data source and subsequent removal from ERR model benefit streams.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Cost to get land usage rights (DUAT)
Indicator Definition	Amount of money required to obtain land usage rights (DUAT) certificate
Modification Type	Retirement of indicator
Details and Justification	There was not predicted to be a change in cost to obtain a DUAT. As it was not an expected benefit stream, the indicator was removed.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project

Indicator	Efficient, free and secure land transfers
Indicator Definition	Land transfers formally tracked and registered.
Modification Type	Retirement of indicator
Details and Justification	The team did not expect transfers to increase until post compact so moved to a post compact indicator.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Total number of officials and residents reached with land strategy and policy awareness and outreach messages
Indicator Definition	Number of people that subscribe to the DNTF newsletter and attend seminars/workshops on land tenure policy and activities
Modification Type	Retirement of indicator
Details and Justification	There was no utility of this indicator and it was poorly tracked. Stakeholders trained was used instead.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Land Tenure Services Project
Indicator	Rural hectares mapped in Community Land Fund Initiative
Indicator Definition	Hectares of Community land holdings delimited or demarcated as part of the Community Land Fund initiative.
Modification Type	Retirement of indicator
Details and Justification	Indicator replaced by ITC (community land fund) hectares formalized rather than just mapped.

Farmer Income Support Project

Indicator Modification Form	
Date	January 2014
Project/ Activity	Farmer Income Support Project

Indicator	Income from coconuts and coconut products (households)
Indicator Definition	Average household income from coconuts and coconut products calculated as the Value of retained crops (coconut and coconut products) + Sales of coconut and coconut products.
Modification Type	<ul style="list-style-type: none"> • Change in definition • Change in disaggregation • Change in primary data source • Change in responsible party • Change in baseline
Details and Justification	Method of calculation added to definition. Disaggregation changed from households and estates to none. Removal of CEPAGRI from primary data source and responsible party. Baseline changed from 1,594 to 1,738.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Farmer Income Support Project
Indicator	Survival rate of coconut seedlings
Indicator Definition	Percentage of planted coconut seedlings in acceptable condition and surviving 1 year after planting.
Modification Type	<ul style="list-style-type: none"> • Change in definition • Change in unit of measure • Change in data source • Change in responsible party
Details and Justification	Definition made more specific. Units changed from seedlings to percentage. Data source removed and responsible party added MSU.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Farmer Income Support Project
Indicator	Number of diseased or dead palm trees cleared
Indicator Definition	Number of dead and CLYD infected coconut trees cut and burned on small-holder land.
Modification Type	<ul style="list-style-type: none"> • Change in unit of measure • Change in disaggregation • Change in frequency • Change in year 3 target

	<ul style="list-style-type: none"> • Change in year 4 target • Change in year 5 target
Details and Justification	Unit changed from trees to number. Disaggregation changed from household to none. Frequency changed from annual to quarterly. Year 3 target changed from 250,000 to 400,000, year 4 target changed from 150,000 to 550,000 and the year 5 target changed from 50,000 to 600,000.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Farmer Income Support Project
Indicator	Number of hectares with dead trees cleared
Indicator Definition	Total area of dead and CLYD infected coconut trees cleared in endemic areas.
Modification Type	<ul style="list-style-type: none"> • Change in definition • Change in frequency • Change in year 2 target • Change in year 3 target • Change in year 4 target • Change in year 5 target
Details and Justification	Definition changed by adding “of in endemic areas”. Frequency changed from annual to quarterly. Year 2 target changed from 1,700 to 2,000, year 3 target changed from 2,500 to 4,500, year 4 target changed from 3,000 to 7,500 and the year 5 target changed from 500 to 8,000.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Farmer Income Support Project
Indicator	Number of coconut seedlings planted
Indicator Definition	Number of coconut seedlings planted in endemic and epidemic zones.
Modification Type	<ul style="list-style-type: none"> • Change in definition • Change in disaggregation • Change in frequency • Change in year 2 target • Change in year 3 target • Change in year 4 target • Change in year 5 target
Details and Justification	“Post-endemic” was removed from the definition. The indicator is now gender disaggregated as the seedlings are planted in both epidemic and endemic zones. Frequency changed from annual to quarterly. The year 2 target changed from 100,000

	to 150,000, year 3 target changed from 150,000 to 300,000, year 4 target changed from 200,000 to 500,000 and the year 5 target from 150,000 to 650,000.
--	---

Indicator Modification Form	
Date	January 2014
Project/ Activity	Farmer Income Support Project
Indicator	Hectares of alternative crops under production
Indicator Definition	Total area of alternative crops under production in project areas.
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in definition • Change in year 4 target • Change in year 5 target
Details and Justification	Indicator name changed from "hectares under production". Definition changed from "number of hectares under production with MCA funds as a result of training and additional assistance". The year 4 target changed from 3,000 to 5,500 and the year 5 target changed from 2,500 to 8,000.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Farmer Income Support Project
Indicator	Number of farmers trained in pest and disease control
Indicator Definition	Number of farmers receiving training and technical assistance in beetle, CLYD, and other related pest control.
Modification Type	Change in disaggregation
Details and Justification	Indicator now disaggregated by gender as well.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Farmer Income Support Project
Indicator	Number of farmers trained in alternative crops production
Indicator Definition	Number of farmers trained in alternative crops and productive enhancing strategies.
Modification Type	<ul style="list-style-type: none"> • Change in indicator name • Change in definition

	<ul style="list-style-type: none"> • Change in disaggregation • Change in frequency
Details and Justification	Indicator name changed from “number of farmers trained in crop diversification technologies”. Definition changed from “number of farmers receiving training and technical assistance in intercropping and other productivity enhancing strategies”. Disaggregation changed from none to gender. Frequency changed from annual to quarterly.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Farmer Income Support Project
Indicator	Farmers who have applied improved practices as a result of training
Indicator Definition	The number of primary sector producers (farmers, ranchers, fishermen, and other primary sector producers) that are applying new production or managerial techniques introduced or supported by MCC training or technical assistance such as input use, production techniques, irrigation practices, post-harvest treatment, farm management techniques, or marketing strategies.
Modification Type	<ul style="list-style-type: none"> • Change indicator name • Change in definition • Change in unit of measure • Change in disaggregation
Details and Justification	Indicator change from “number of farmers that have applied improved techniques”. Definition changed from “total number of farmers applying new techniques introduced on beetle, CLYD, and other related pest control”. Units changed from farmers to number. Disaggregation changed from none to male/female.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Farmer Income Support Project
Indicator	Environmental permit issued by MICOA
Indicator Definition	Permit received and FISP Contractor procurement proceeds.
Modification Type	<ul style="list-style-type: none"> • Change in unit of measure • Change in disaggregation
Details and Justification	Unit changed from permit to date. Disaggregation changed from none to province (Nampula & Zambézia).

Indicator Modification Form	
-----------------------------	--

Date	January 2014
Project/ Activity	Farmer Income Support Project
Indicator	Environmental permit issued by MICOA for Nampula
Indicator Definition	Permit received and FISP Contractor procurement proceeds.
Modification Type	Retirement of indicator
Details and Justification	Indicator no longer relevant.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Farmer Income Support Project
Indicator	Hectares under improved practices as a result of training
Indicator Definition	The number of hectares on which farmers are applying new production or managerial techniques introduced or supported by MCC, such as input use, production techniques, irrigation practices, post-harvest treatment, farm management techniques, or marketing strategies.
Modification Type	Addition of new indicator
Details and Justification	Inclusion of common indicator

Indicator Modification Form	
Date	January 2014
Project/ Activity	Farmer Income Support Project
Indicator	Enterprises that have applied improved techniques
Indicator Definition	The number of rural enterprises; producer, processing, and marketing organizations; water users associations; trade and business associations; and community-based organizations that are applying managerial or processing techniques introduced or supported by MCC.
Modification Type	Addition of new indicator
Details and Justification	Inclusion of common indicator

Indicator Modification Form	
-----------------------------	--

Date	January 2014
Project/ Activity	Farmer Income Support Project
Indicator	Proportion of farmers adopting improved techniques in surveillance and pest and disease control for coconuts
Indicator Definition	Percentage of farmers adopting improved techniques in surveillance and pest and disease control for coconuts.
Modification Type	Addition of new indicator
Details and Justification	Inclusion important outcome indicator.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Farmer Income Support Project
Indicator	Proportion of farmers adopting improved techniques in surveillance and pest and disease control for coconuts
Indicator Definition	Percentage of farmers adopting improved techniques in surveillance and pest and disease control for coconuts.
Modification Type	Addition of new indicator
Details and Justification	Inclusion of important outcome indicator.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Farmer Income Support Project
Indicator	Proportion of farmers adopting planting and post planting management techniques of coconuts
Indicator Definition	Percentage of farmers adopting planting and post planting management techniques.
Modification Type	Addition of new indicator
Details and Justification	Inclusion of important outcome indicator.

Indicator Modification Form	
Date	January 2014

Project/ Activity	Farmer Income Support Project
Indicator	Number of farmers trained in planting and post planting management of coconuts
Indicator Definition	Number of farmers who receive training in the management of planting and post planting of coconut seedlings.
Modification Type	Addition of new indicator
Details and Justification	Inclusion of important output indicator.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Farmer Income Support Project
Indicator	Proportion of farmers adopting alternative crops techniques
Indicator Definition	Percentage of farmers adopting alternative crops and productivity enhancing strategies.
Modification Type	Addition of new indicator
Details and Justification	Inclusion of important outcome indicator.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Farmer Income Support Project
Indicator	Farmers trained
Indicator Definition	The number of primary sector producers (farmers, ranchers, fishermen, and other primary sector producers) receiving technical assistance or participating in a training session (on improved production techniques and technologies, including post-harvest interventions, developing business, financial, or marketing planning, accessing credit or finance, or accessing input and output markets).
Modification Type	Addition of new indicator
Details and Justification	Inclusion of important output indicator.

Indicator Modification Form	
Date	January 2014

Project/ Activity	Farmer Income Support Project
Indicator	Enterprises assisted
Indicator Definition	The number of enterprises; producer, processing, and marketing organizations; water users associations; trade and business associations; and community-based organizations receiving assistance.
Modification Type	Addition of new indicator
Details and Justification	Inclusion of common indicator

Indicator Modification Form	
Date	January 2014
Project/ Activity	Farmer Income Support Project
Indicator	Income from intercropping
Indicator Definition	Average household income from intercropping
Modification Type	Change in baseline
Details and Justification	Baseline changed from 0 to 3,467 because data became available.

Indicator Modification Form	
Date	January 2014
Project/ Activity	Farmer Income Support Project
Indicator	Number of businesses benefiting from BDF activities
Indicator Definition	Number of formal and informal businesses benefiting from BDF activities
Modification Type	<ul style="list-style-type: none"> • Change in year 4 target • Change in year 5 target • Change in end of compact target
Details and Justification	Year 4 target changed from 3,750 to 150, year 5 and end of compact target changed 5,000 to 150.

ANNEX IV: Technical documentation of economic analysis of Water Supply and Sanitation Project

Overview

Sub-Saharan African countries generally do not have improved and routinely controlled water and sanitation.¹⁵ The MCC Urban Water Project would transform Mozambique cities from this situation to one in which improved water systems are available. This transformation would result in measurable time savings for women who must carry water, lower water costs and business growth.¹⁶ Using parameters specific to sub-Saharan Africa, such a transformation would produce high economic returns.¹⁷

The urban water system model contains two types of benefits:

- Household Benefits
 - Monetary Savings/Costs
 - Monetized Time Savings

- Business Benefits
 - Increased Value Added

The end of Compact ERR analysis compares these benefits to project costs and operating and maintenance expenditures for Nampula and Nacala.

Household Benefits:

Household benefits stem, in part, from reductions in the cost of water based on liters per person that would have been consumed without the project. (By contrast, increased household water use (post-project) is viewed as a consumption choice that does not create any addition in disposable income. Increased consumption may, however, lead to health benefits that are not included in the model.)¹⁸ Households that pay for water usually pay less per cubic meter (m³) when they have private (house and yard) connections as compared to purchases at standpipes. Household generally pay more for water purchased from neighbors compared to standpipes or private connections. (Relative prices used in the model are based current prices and expert opinion.) Further, some

¹⁵ Hutton and Haller. 2004. "Evaluation of the costs and Benefits of Water and Sanitation Improvements at the Global Level," WHO/SDE/WSH/04.04, World Health Organization

¹⁶ WHO/UNICEF/WSSCC. 2000. Global water supply and sanitation assessment 2000 report. World Health Organization/United Nations Children's Fund Water Supply and Sanitation Collaborative Council, Geneva.

¹⁷ Hutton, G and L Haller. 2004. "Evaluation of the costs and Benefits of Water and Sanitation Improvements at the Global Level," WHO/SDE/WSH/04.04, World Health Organization, and Esray, SA, JB Potash, L. Roberts, and C Shiff. 1991. "Effects of improved water supply and sanitation on ascariasis,

¹⁸ This is one of the differences between the MCC approach for Mozambique and the Asian Development Bank approach which includes the valuation of consumer surplus.

households may be willing to pay for more expensive water, if they save time by doing so – for instance, purchasing water from a neighbor’s connection rather than walking to a standpipe.

Benefits in the model are calculated by subtracting the value of water consumed before and after project implementation and adding back the value of water consumed at the post-project tariff.¹⁹ By this process, household savings for a pre-project water consumption are separated from additional (post-project) consumption.

Some sources of water, such as water from rivers, lakes, and private wells are free of charge. Households may switch from free sources to purchased sources if they make shorter trips to fetch water, have shorter waits to collect water, and understand that unimproved sources lead to poor health outcomes. Time gained from shorter trips to collect water can be used for productive purposes. Based on the 2003 Demographic and Health Survey (DHS),²⁰ women in northern Mozambique cities average over than 3.5 hours daily collecting water from standpipes. With a house connection or a closer water point, women have more time to engage in productive activities.

The hourly value of productive activity is modeled based the contribution of each working adult to household consumption rather than a market wage rate, as only a small fraction of the urban population hold formal-sector jobs in northern Mozambique. (In addition to these benefits, closer water sources may also free up the time of girls who assist their mothers in water collection, allowing them to attend school longer.):

Business Benefits

Benefits from expanded piped water systems are attributable to increases in business value-added. In general, piped systems installed prior to independence are at capacity and often fail to provide water 24 hours a day. While some businesses may develop their own water systems, entrepreneurial growth is likely to be constrained if piped water is not expanded. A World Bank study indicates that industry generates about 100 times the value-added and 10 times the employment per unit of water compared to irrigated agriculture.²¹

Specific Modeling for Water Systems

Initial Assumptions

Current Coverage

Initial assumptions on the size of the formal system in each city were taken from data provided by [Departamento Nacional de Água (DNA – National Water Department)] to be updated

¹⁹ This value is added to the cost of the project as well to represent O&M costs for households

²⁰ This survey is funded by USAID and follows up an earlier 1997 survey. DHS surveys are regularly funded by USAID around the world. [cite forthcoming survey for Maputo]

²¹ World Bank. 2005. “Review of the role of water in SADC economies” (memorandum).

Informal System

The distribution of the population using informal water sources was modeled as follows:

- **Value(s):**
 - i) *Inside neighbors house*: equal to proportion of served population with a house connection (e.g. if 10% of served population has a house connection than 10% of *unserved* population gets water from their neighbor's house)
 - ii) *Neighbor's yard*: equal to proportion of served population with a yard tap (e.g. if 20% of served population has a yard tap than 20% of *unserved* population gets water from their neighbor's yard)
 - iii) *Public well* (protected & unprotected):
 - (1) Small city: 66% of those not served by either a house connection, yard tap, neighbor's house, neighbor's tap, or public standpost
 - (2) Small town: 75% of those not served by either a house connection, yard tap, neighbor's house, neighbor's tap, or public standpost
 - iv) *Other source* (natural source, rainwater harvesting, etc.)
 - (1) Small city: 33% of those not served by either a house connection, yard tap, neighbor's house, neighbor's tap, or public standpost
 - (2) Small town: 25% of those not served by either a house connection, yard tap, neighbor's house, neighbor's tap, or public standpost

- **Justification:**

Data from the Government of Mozambique's Ministry of Health (Demographic and Health survey 2003) shows that for small cities (N=855) the proportion of people getting water in their homes among those served by piped sources (20%) is the same as the proportion of people getting water from their neighbors' homes among those not served by piped sources (18%). The situation is similar among yard tap users, the proportion of own yard tap users among those served by piped sources (18%) is the same as the proportion of people among the unserved getting water from their neighbors' taps (17%).

This proportion is also witnessed among small towns, particularly among yard tap sources. However, the difference between those getting water in their own homes versus those getting water from neighbors' homes is significant. Still, because the reticulated piped network will change the water use dynamics in small towns early in the project, it is assumed that small town water resale will begin to resemble the current situation in small cities. Thus, the proportions are kept constant among home connection users in small towns as well.

Water Consumption

- **Value(s):**
 - Inside house..... 70 lpcd
 - Yard connection..... 70 lpcd
 - Public standpost..... 27 lpcd
 - Inside neighbor's house... 24 lpcd
 - neighbor's yard..... 24 lpcd

- public well..... 21 lpcd
- other..... 15 lpcd

- **Justification**

There were several studies undertaken in Mozambique that collected data on water consumption. Most of these took place in the capital city, Maputo, and its surrounding peri-urban areas. One study, conducted by Hydroconseil, a French engineering consultancy, was a market demand analysis that included data on water consumption among peri-urban households. Another study was undertaken by JV Lahmeyer International, a Dutch consultancy, in conjunction with the Ministry of Housing and Public Works. This study looked at water consumption in Maputo city as a whole. The third was a survey of small-scale private providers of water in Maputo’s peri-urban areas, conducted by MIT and the Water and Sanitation Program-Africa, which collected data on water sold to peri-urban households. Figures from the three sources were averaged to get our assumptions. We call them assumptions and not just data inputs because we are assuming that water consumption in the Northern provinces that consist of cities and towns smaller than Maputo will have similar water consumption patterns. Although this may be true, it is also true that wealthier populations consume more lpcd. Still, we did not feel comfortable scaling down the figures without accurate data on water consumption from the north or the elasticity of water consumption relative to income. Instead, we cross-checked these consumption levels with other data from Sub-Saharan Africa and we find that our consumption assumptions for the Northern provinces are very similar to average consumption rates across Sub-Saharan Africa.

Time to Collect Water

- **Value(s)**

Source	Without project	With project
Standpost	32 minutes	15 minutes
Public well	31 minutes	31 minutes
Other	42 minutes	41 minutes

- **Justification**

Figures for time spent gathering water come directly from DHS Plus Survey estimates for northern small cities and towns. Thus, the ‘without project’ figures should be considered data inputs rather than assumptions. The assumptions come in for time spent gathering water ‘with project’. Because each project will increase the number of household connections, yard taps, and standposts, it is estimated that time spent gathering water will be reduced. These increased connections and standposts will reduce the number of people queuing at each standpost. Plus, increased standposts will also reduce the average minutes spent traveling to each standpost. Time savings from increased coverage to homes and increased standposts will more than offset any time burdens presented by population growth in the service area. We estimate that collection times will resemble

time spent collecting water in areas with better coverage, like Maputo, and some areas of Uganda and Tanzania with improved sources. The average time spent collecting water in these areas is 15 minutes.

Cost of Water

- **Value(s):**

<i>Source</i>	<i>Without project</i>	<i>With project</i>
Inside house/yard	various	various
Standposts	\$1.04	\$ 1.04
Inside neighbor's house	\$ 2.07	\$ 2.07
Neighbor's yard	\$ 2.07	\$ 2.07

- **Justification**

Estimates of formal system prices are difficult to determine as the rate system is based on a formula which differs by city and by amount of water consumed, with the initial costs for lower consumptions lower than the m³ costs for higher consumption. The model uses average tariffs for cities based on judgmental assessment are grounded in actual DNA data for five cities over 11 months in 2006. (Tariff assumptions for each city can be found on spreadsheets for each city in the folder CDM Water ERRs/CDM Large Piped Systems/Water System – updated all ways. DNA data on costs and consumption can be found in the folder CDM Water ERRs/CDM Large Piped Systems/Data for Urban Water and CDM Water ERRs/ CDM Large Piped Systems/Water Connections.)

Average Family Size

Average family size used is based on tabulations of data from 2003/2003 Mozambique Household survey (IAF – Inquérito aos Agregados Familiares sobre Orcamento Familiar). Family size differs for rural and urban areas and by province. The range is from 4.0 to 5.1 members per household.

Number of Trips to Fetch Water

- **Value(s):**

- Standpost: 6.1
- Public well: 4.7
- Other: 3.4

- **Justification:**

Trips per day were calculated off of assumed daily consumption levels, average regional family size, and container capacity. The most common container used for fetching water in Sub-Saharan Africa is the jerrican, which holds 20 liters. In most cases, only 1 jerrican can be carried by one

person at a time. Thus, the following methodology was used to calculate trips per day: (Average family size assumed lpcd at source)/20 liters.

Population

Baseline population data for cities are taken from INE data for 1997 and INE staff estimates for 2005 (see spreadsheets in folder Demographic Data/Projections for MCC Cities).

Value of Time

The model does not use an actual wage rate to estimate the hourly productivity of individuals who save time as a result of shorter trips to fetch water but instead values time based on the average contribution of each worker in the consumption aggregate from the IAF survey 2008 that is the initial basis for the Mozambique poverty calculation by province for urban dwellers (the 'proxy wage'). Daily consumption values are divided by eight to arrive at hourly consumption.

The survey 'proxy wage' was updated to 2008 by multiplying the base figure by a projected percentage change in wages. That change was based on applying an elasticity of the effect of an increase per capita real regional GDP (INE macro-economic data) on the change the regional poverty rate calculated from the 1997 and 2002 IAF surveys (World Bank). For the rural borehole analysis, this figure was multiplied by 63 percent, the ratio of rural per capita consumption to total per capita consumption. (IAF tabulations can be found on spreadsheets in the folder CDM Water ERRs/Time Savings.)

	Hourly 'wage' proxy (MZM)	Poverty rate 2002	Projected poverty rate 2008	% Δ Poverty rate	% Δ 'proxy wages'
Niassa	3,140.0	48.70%	44.24%	-9.2%	31.3%
Cabo Delgado	2,231.1	56.57%	51.50%	-9.0%	27.0%
Nampula	1,744.0	44.91%	39.28%	-12.5%	34.0%
Niassa	2,869.6	45.16%	39.40%	-12.7%	33.8%

Projections

Demographic Projections

In the larger cities, population growth between 2006 and 2011 is assumed to move from its 1997-2005 growth rate to the provincial growth rate plus an increment reflecting higher urban growth rates. Population growth in each city between 2011 and 2015 is assumed to increase at the provincial growth rate plus the increment reflecting higher urban growth rates. Population growth from 2016 on is assumed to increase at the national urban growth rate, that is, at 2.7 percent. The end growth rates are based on INE assumptions for Mozambique urban areas.

Labor Productivity Projections

The value of time ('proxy wage rate) was projected to future years based on past real GDP growth and projections of real per capita GDP growth. A usual equation was employed in which:

$$\% \Delta \text{Wages} = \% \Delta \text{GDP pc} + \% \Delta \text{Population.}$$

An average growth forecast of real per capita GDP for Mozambique is approximated from Ianchovichina and Kacken (2005).²² This paper also indicates that the variance of forecasts can be considerable even when modeled in a relatively conservative manner, as is done in the paper. A conservative population growth rate of 2.3 percent per annum is added to the per-capita GDP growth rates, a rate consistent with INE projections for Mozambique and slightly lower than projections for urban areas. (The projections can be found in the folder CDM Water ERRs/Time Savings/Hours Reduction.)

Coverage Projections

Without-project coverage assumed a constant number of persons (and households) covered in the formal system over the projection period. The number of uncovered persons (and households) equaled the projected population less covered persons.

With-project coverage for large cities was modeled based on a projected coverage rate formulated in the Baker reports (MCC 609(g) infrastructure contractor). The 50-50 division between standpoints and private (house and yard) connections was based on the recommendations in the CDM reports (MCC Due Diligence infrastructure contractor). System capacity based on the CDM reports was compared to household consumption at the end of the projection period to verify that the original DNA and Baker assumptions about coverage given lpcd were realistic. (The CDM report did not provide new figures on numbers of connections or coverage rates.) (Coverage projections for each city can be found in the folder CDM Water ERRs/CDM Large Piped Systems/Water System – updated all ways.)

Coverage for the two small piped systems is estimated based on projected connections documented in Baker reports (609(g) consultant).

²² e. Kanchovichina and P. Kacker, "Growth Trends in the Developing World: Country Forecasts and Determinants," World Bank Policy Research Working Paper 3775 (November).

Business Benefits

Businesses are assumed to be constrained by the current water supply and while some would be able to furnish their own water, economic growth would be constrained as some new businesses would not be able to start operations without a city water supply and some existing businesses would not be able to expand their operations. It was judgmentally assumed that one quarter of value added would be constrained by a lack of water supply in each city. Initial calculations estimated the ratio of urban to rural value added per capita.

Summary of Methodology to Calculate Ratio of Urban to Total Per Capita Value Added	
1	Take Number of Workers in 1997 (INE publication)
	Calculate Employment Rate for 1997 dividing Number of Workers (step 1) by
2	population age 15-64 (INE spreadsheets)
	Calculate total Employment for 2002 by multiplying population age 15-64 for
3	2002(INE spreadsheets) by Employment Rate for 1997
	Calculate Distribution of Employment for 1997 from Employment by Industry in
4	1997
	Estimate Total Employment by Industry for 2002 by multiplying Total Employment
5	(step 3) by Distribution of Workers by Industry (step 4)
	Estimate Percent of Population Age 15-65 In the North by dividing Total
6	Employment in the North (INE spreadsheets) by Total Population Age 15-56 (INE spreadsheets)
	Estimate Per Worker value added in North from Value Added in North *Total
7	Employment (step 5)*Percent of Population Age 15-65 in North (step 5)
	Create Index of Value Added for Urban/Rural/Total by Multiplying Per Worker
8	Value Added in North (step 7) by World Bank Distribution of Employment by Urban/Rural
	Calculate Ratio of Urban Index of Worker Value Added in North to Total Index of
9	Worker Value Added in North

This ratio (3.03) was applied to the population of each of the cities to determine the share of value added related to that city. GDP for each city was then estimated by projecting the original GDP figure by a GDP growth rate similar to that used to project real wage growth. (See workbook CDM Water ERRs/CDM Large Piped Systems/Business Use Estimates for Water.)

Investment Costs

Investment costs were based on actual and projected project expenditures for each activity. In addition, ERRs were calculated for all MCC investments (including costs for activities de-scoped) to estimate an activity-wide and project-wide MCC ERR.

Operation and Maintenance (O&M)

As with the estimates of the formal system water tariffs, O&M costs were very difficult to determine. The difficulty in estimating O&M costs is related to tariff determination, as O&M costs are a function of water usage. In theory, tariffs should cover O&M, investment payback, and funding for future investments. Further, tariffs (and connection costs) may be cross-subsidized or state subsidized. Thus, O&M costs were estimated in two parts: (ii) household O&M costs a

consumption (m3) times the tariff assumption, and (ii) business O&M costs as 46 percent of household costs based on actual 11-month data for five systems provided by DNA. (Tabulations of the original data can be found in CDM Water ERRs/ CDM Large Piped Systems/Water Connections.

Comparison of original, rescoped and current ERRS

Project/Activity/Sub-Activity Name	Original ERR	Rescoped ERR	Current ERR
Nacala Urban Water Supply	22.8	9.4%	-2.8%
Nampula Urban Water Supply	35.7	26.1%	11.1%
Mocuba Urban Water Supply	41.4	-	-2.5%

The original ERRS (2009) have been rescoped due to the high investment costs. At close out, ERRs have been recalculated and are now current according to implementation status and initial impacts. Mocuba water supply project scope has been dramatically reduced.

Mozambique Storm Water Drainage

Overview

Sub-Saharan African countries often have poor urban drainage systems that lead to increases in malaria, cholera and other transmittable diseases. In addition, without proper drainage system, costs accrue to households and business from damage due to flooding. While many of these benefits may be important motivations for improving or updating drainage systems, due to data limitations only one is considered in the economic analysis, specifically benefits from the reduction in the incidence of Malaria.

The ERR analysis includes benefits from re-scoped activities in Quelimane and Nampula. In particular, the analysis focuses on the reduction of economic costs from malaria.

Findings:

The Storm Water Drainage ERR model has been integrated with Crystal Ball software, which uses Monte Carlo simulations to estimate an expected ERR and provide sensitivity analysis. For Nampula, the expected ERR is 37 percent (with a standard deviation of 6.5 percent). The mean

expected ERR, based on 8,000 trials, lies within an interval of between 25 and 47 percent with 95 percent probability. Overall the likelihood that the Nampula Storm Water Drainage activity produces an ERR of over 10 percent is 100 percent.

By contrast, for Quelimane, the expected ERR is 0.7 percent (with a standard deviation of 1.5 percent). The mean expected ERR, based on 8000 trails, lies within an interval of minus 2.2 and 3.1 percent with 95 percent probability. Overall the likelihood that the Quelimane Storm Water activity produces an ERR of over 10 percent is zero.

These differences are striking. Most simply, the total population of Quelimane in 2014, the first year benefits are forthcoming, is estimated at less than 40 percent of the population of Nampula, whereas the costs of Nampula are only 54 percent of those of Quelimane. Higher costs and a smaller benefits base ruin the Quelimane ERR.

DETAILED MODEL DESCRIPTION

Benefits

Improvements in health from better storm-water drainage management are related to reductions in the incidence of malaria (and consequent reductions in morbidity and mortality). Ministry of Health data indicate that in Mozambique, 16 percent of all hospital admissions and 40 percent of health center cases are for confirmed cases of malaria. Households living with endemic malaria are less likely to be able to take advantage of economic opportunities and may have to modify economic activities to adapt to their disease environment. Most observers correlate the increased incidence of mosquitoes to poor storm-water drainage. While the use of insecticide-impregnated bed-nets, DDT spraying in homes and preventative medication are important public health measures, environmental management has also been identified by the World Bank as an important strategy for disease-management.²³ According to Gallup and Sachs (2001), a 10 percent reduction in malaria is associated with 0.3 percent higher growth.²⁴

Malaria Incidence

The incidence of malaria in the Project's economic analysis is based on research conducted by Snow et al (1999)²⁵ and Caldas de Castro et al (2004)²⁶ rather than official statistics which

²³ S. Lindsay, M. Kirby, E. Baris and R. Bos. 2004. "Environmental Management for Malaria Control in East Asia and Pacific (EAP) Region," HNP Discussion Paper, World Bank (April).

²⁴ Gallup and Sachs. 2001. p. 90.

²⁵ Snow, RW, M Craig, U Deichmann, and K Marsh. 1999. "Estimating mortality, morbidity and disability due to malaria among Africa's non-pregnant population," *Bulletin of the World Health Organization* 77 (8).

²⁶ M. Caldas de Castro, Y. Yamagata, D Mtasiwa, M Tanner, J Utzinger, J. Keiser and B.H. Singer (2004), *Integrated Urban Malaria Control: A Case Study in Dar ES Salam, Tanzania.*, *American Journal of Tropical Medical Hygiene* 71 (Supplement 2), pp 103-117.

radically undercount malaria incidence as many cases do not present to the official health system.²⁷

Median morbidity and mortality rates were used based on figures representing areas with a stable transmission of malaria risk. Stable transmission areas have malaria for most, if not all of the year and it is in these areas where the burden of malaria is greatest.²⁸

Incidence rates used in the ERR model differ by age, with the highest rates among the 0-4 year old age group at 100%. This does not mean that all babies will contract malaria, but, rather that those babies who contract the disease may face more than one incidence per year. Rates for school children are lower at 24 percent and those for those 15 and older are somewhat higher at 40 percent. These figures lead to an overall rate of 43 percent in Quelimane and 45 percent in Nampula. The differences reflect a slightly different age distribution in both cities based on the 2009 age distribution reported by the Mozambique Statistical Office (INE).²⁹

Alawa and Alawa³⁰ report that approximately 50 percent of the Nigerian population experiences at least one episode per year. And that the rate is likely increasing due to the current malaria resistance to first line anti-malarial drugs (WHO, 2000).

Malaria Deaths

The rate of death from Malaria in Mozambique is calculated using WHO statistics on deaths by disease and age divided by INE population projections for 2008. The rate for children age 0-4 was 65 per 10,000, for children age 5-14 was 20 per 10,000; and for those 15 years and over was 2.0 per 10,000. The same rates were assumed to hold for the full 20-year projection period.

Malaria Reduction:

Qualitatively, it is clear that environmental management, particularly via the maintenance of drains, is especially important for a sustainable malaria control program. The quantitative impact of environmental control on malaria disease rates has not been very well documented, however. In fact, in years past, environmental control measures have been put on the back burner, so to speak, as other measures, starting with the use of dichlorodiethyl trichloroethane (DDT). The focus for malaria reduction has been on other methods even after DDT use has been condemned in

²⁷ Chilundo, B., J. Sundby, and M. Aanestad (2004). "Analyzing the quality of routine malaria data in Mozambique" *Malaria Journal*, v.3.

²⁸ In areas of stable transmission, the most important risk groups are under-five year olds, pregnant women and travelers who normally reside in unstable or malaria-free areas. The consequences of malaria in pregnancy include anemia, miscarriages, stillbirths and low birth weight. Cerebral malaria can lead to disabling neurological sequelae. Hence, among young children, an episode of severe malaria may negatively impact on their educational attainment. In stable transmission countries severe anemia among under-fives is more common than cerebral malaria. In unstable transmission countries, cerebral malaria is the main complication of severe malaria (World Health Organization).

²⁹ Mozambique *Instituto Nacional de Estatística*.

³⁰ OA Alaba and OB Alaba, (2002). "Malaria in Rural Nigeria: Implications for the Millennium Development Goals."

developed countries, including other insecticides and nets. There has been a renewed interest in environmental controls in recent years, however, in part due to vector resistance to insecticides.

*Keiser et al*³¹ did the first systematic meta-analysis of the evaluation literature and found 40 studies that emphasized environmental management interventions. Of those, only some were for urban and semi-urban areas. Further, many were from the beginning of the 20th century and not in countries in Southern Africa.³² These studies, however, all showed that environmental management, including drainage control, was highly effective.

Two other studies appear applicable to Mozambique. Caldas de Castro et al (2004) studied the impact of a bilateral program funded by Japan and Tanzania that focused on environmental control in Dar-es-Salam, Tanzania from 1988 to 1996. They noted that while multiple interventions were used, drain cleaning was considered as one of the most effective measures. The malaria prevalence rates among school age children were reduced by approximately 50 percent over the program period. While rate reductions were not reported by age group and type of intervention separately, drain maintenance was cited at the intervention with the highest priority, hopefully because it was the most effective.

The second most applicable findings to assess the impact of the MCC program is from the findings on the environmental management of malaria in mining communities in Northern Rhodesia (now Zambia) from 1930-1949. This study was cited by Keiser et al, the data were thoroughly reanalyzed by *Utzingler et al* (2001).³³ The impetus for the mine owners to implement a malaria reduction program was to ensure that they could recruit workers to the mines. In fact, prior to the program, the Roan Antelope copper mine was losing workers. The Utzinger studies report a reduction in the incidence of malaria among mineworkers from 414 per 1000 to 263 per 1000 from 1929-1930. By 1931 the rate was further reduced to 151 per 1000.

Based on this research, in the ERR models for Nampula and Quelimane drainage, the risk of malaria is assumed to be reduced by an average estimated 50 percent. However, it is important to keep in mind that other measures beyond storm water drainage were also implemented in these two other programs. Further, even the initial incidence rates are difficult to determine with accuracy. Urban rates of malaria tend to be lower than rural rates. Although our literature review suggests that we have made a reasonable choice for the initial rates selected (Caldas de Castro et al crosschecked by Snow et al.), these rates are still subject to considerable uncertainty. As such, the ERR analysis benefits from the Crystal Ball sensitivity analysis (described below).

³¹ J. Keiser, BH Singer and J Utzinger (2005). "Reducing the burden of malaria in different eco-epidemiological settings with environmental management: a systematic review", *The Lancet* (vol. 5, November), pp. 695-707.

³² Some of the representative studies were for Hong Kong (1901-1905), Hardwar, India (1987- 1995), Candia Crete (1902-1905), and Athens, Greece (1906). The only study that directly reported reductions in incidence rates was for the India study where cases were reduced by nearly 94 percent.

³³ J. Utzinger, Y. Tozan and BH Singer, "Efficacy and cost effectiveness of environmental management for malaria control" manuscript submitted to *Tropical Medicine and International Health* and J. Utzinger, M Tanner, D Kammen and B Singer (2001) "The Challenges of New Efforts to Control and Old Disease: Research Briefs, Woodrow Wilson School of Public and International Affairs, Princeton University, The Center for Health and Wellbeing and the Research Program in Development Studies..

Productivity Gains

Productivity gains due to reductions in the incidence of diarrhea are measured as reductions in DALYs from malaria, that is, Disability Adjusted Life Years are measured as the sum of years of potential life lost due to premature mortality and the years of productive life lost due to disability. DALYs are computed by the World Health Organization (WHO) by major disease groups for countries based on rates per 100,000. The Model uses 2004 WHO rates for Mozambique (published in 2009) as the basic DALY rate for the populations of Nacala and Nampula using unimproved water sources and reduces those rates by 50 percent (with simulated alternatives) for the with-project case.

Health Care Savings

Benefits from reductions in the incidence of malaria accrue from two sources:

- Increased income due to reduced health care expenditures (direct and secondary)
- Increased productivity due to fewer lost caregiver work days

Many of the assumptions about health care expenditures, health care costs, lost work days, lost school days, etc., are based on estimates for sub-Saharan Africa and are found in Hutton and Haller x(2004) study on diarrhea, to the extent that appropriate specific estimates of the costs of malaria are unavailable.³⁴ Utzinger et al report that the average length of disability derived from a single malaria attack is nine days, according to the World Health Organization data. Alaba and Alaba (2010) indicate that in Nigeria, the average number of workdays lost per malaria episode was 16 in the agrarian households and 15 days in non-agricultural households. Further, they estimated that caregivers lost between three and five days for non-agriculture and agriculture respectively. Salihu and Sanni³⁵ reported an average of about three days lost by sick adult, about two days by the caretaker while on the average a sick student misses about two school days. Thus, the range of days lost from school or productivity activities varies considerably by study.

Household benefits from time gained taking care of infants and children are valued as the contribution to household consumption of a working adult (described below).

Value of Time

Household benefits from time gained for alternative productive activities are valued as the contribution to household consumption of each working adult. The model does not use an actual market wage rate to estimate the hourly productivity of individuals who save time as a result of shorter trips to fetch water but instead values time based on a consumption aggregate from the

³⁴ Hutton, G. and L. Haller (2002). "Evaluation of the Costs and Benefits of Water and Sanitation Improvements at the Global Level, Water, Sanitation and Health Protection of the Human Environment", World Health Organization, Geneva, p 25.

³⁵ OM Salihu and NA Sanni (2013) "Malaria Burden and the Effectiveness of Malaria Control Measures in Nigeria" *Journal of Economics and Sustainable Development*.

2008/2009 Mozambique Household Survey.³⁶ As formal wage employment accounts for a relatively small share of consumption in Mozambique and home production is important in rural environments (even in cities), using consumption to approximate value added is more reasonable than assigning some paid wage to adult workers.

Median per-capita consumption for urban areas of Nampula province (Nampula city) and Sofala-Zambézia province (Quelimane) is multiplied by average family size to estimate an average family consumption aggregate.³⁷ The number of workers per family was estimated based labor force participation estimates from tabulations from the 2004 household survey adjusted for 2009 population age distributions in Nampula and Quelimane using INE population projections. These data indicated that approximately 56 percent of the whole population was working (albeit not necessarily in the formal sector, entirely or partially). Applying that proportion to an average family size of 5.1 persons results in an approximate number of workers per family. Dividing family consumption by the employment rate yields an average ‘wage’ per worker.

The value of time by year (‘the proxy wage rate’) was projected based on past real GDP growth and projections of real per capita GDP growth from the International Monetary Fund. Real GDP growth was assumed to be maintained at the same constant 5.7 percent rate over the full 20-year projection period past the IMF’s final 2017 projection.

Population Coverage:

A key assumption used in the model is the percentage of the population that will reap the benefits of improved storm water drainage in the municipality. The actual works only cover a relatively small percentage of the populations of Nampula and Quelimane. Discussions with implementers and independent engineers with regard to Quelimane assured the MCC/MCA economics team that benefits would accrue not only to those living and working in the area of the drainage system, but to the entire population in the catchment area, as improvements in the drainage system would provide the same benefits upstream. The proportion of the population benefiting from the MCC Compact activities was estimated at 70 percent for Quelimane. Based on discussions with implementers over time, it would appear that the problems of poor drainage in Quelimane are greater than those in Nampula. For that reason, the base assumption for Nampula was reduced to 60 percent. These are estimates that would need to be verified carefully during post-Compact evaluation.

Additional Assumptions

Demographic estimates are based on projections made by INE for Nacala and Nampula using the 2007 Mozambique Census. Age distributions are from the same source. These are used to estimate the number of workers in an average household who create the per-capital consumption enjoyed by the average household. It is assumed that the current MCC- funded works will protect

³⁶ Ministry of Planning and Development National Directorate of Studies and Policy Analysis (2010) “Poverty and Wellbeing in Mozambique: Third National Poverty Assessment”. Table 12-3: Food-based indicators of poverty and well-being, page 106, (October).

³⁷ Ministry of Planning and Development, National Directorate of Studies and Policy Analysis, (2010) “Poverty and Wellbeing in Mozambique: Third National Poverty Assessment.” Table 12.2, p. 106 (October).

the 2013 population in each city according to population coverage assumptions (see above), and that future population expansion, will occur in outlying peri-urban areas that are not protected by the current drainage system.

Average Family Size

Average family size used is based on tabulations of data from 2003/2003 Mozambique Household survey (IAF – *Inquérito aos Agregados Familiares sobre Orçamento Familiar*). Family size differs for rural and urban areas and by province. The estimate for urban areas was 5.1 persons per household.

GDP growth rates are based on IMF annual estimates and projections. Growth is projected past 2017 using the IMF estimate of 5.7 percent per annum.

Unmeasured Benefits:

The measured benefits from malaria control are not the only benefits that can be expected from improved storm water drainage. Particularly in Quelimane, where flooding is a considerable problem, poor drainage can also lead to property losses and losses in productivity as the workforce cannot reach their places of employment. Severe floods can lead to malaria, cholera and diarrhea epidemics at far higher rates than occur during periods of normal wet-season rainfall. This is occurred in 2013. Unfortunately, data are not available to estimate property losses and productivity losses in Quelimane even during ‘normal’ rainfall years. Municipalities have not collected such data and studies done in other countries are not applicable due to differences in the extent of flooding and in property values. Information from the Land Titling Services economic analysis describes the difficulties in estimating property values when real estate markets are primarily informal.³⁸

Some ‘guesstimates’ of the benefits from storm water damage can be gleaned from the Zambia water and sanitation model. According to the drainage component of that model, benefits from health improvements range from 56 to 66 percent of total benefits. That meant that damage and productivity losses accounted for 44 to 34 percent of total benefits. There is no reason to believe that these percentages are applicable to Quelimane, even though casual empiricism suggests that damage is a continuing issue in that city.

Differences from Original Model

It is particularly important to analyze the reasons why the ERR for Quelimane Storm Water Drainage activity is considerable below the MCC 10-percent hurdle rate currently, which was not the case either for the initial economic analysis or under re-scoping. The reduction in the ERR can be explained both by increased contract costs compared to re-scoping estimates and by

³⁸ See “Documentation of Economic Analysis: Land Tenure Services Project.”

modeling differences resulting from the modeling productivity gains from disease reduction substituting current MCC best-practice methodology.

The current methodology monetizes malaria DALYs, or disability adjusted life years, as reported by the World Health Organization to estimate gains in productivity from disease reduction. By contrast, the earlier methodology calculated (i) the net present value of lifetime earnings lost by persons as a result of death and (ii) the value of days lost to disease. Because the NPV methodology did not adjust for the age pattern of deaths due to malaria, it consequently overestimated the impact of lost earnings over a lifetime. On the cost side, actual costs for Quelimane were nearly one-quarter above those used in the ERR model at the time of re-scoping.

Costs

The economic analysis takes into account two types of costs to distinguish the with-project case from the counterfactual. These are (i) MCC costs for each city's storm water drainage rehabilitation and (ii) additional costs of Operation and Maintenance for system maintenance.

MCC Investment Costs

Investment costs were based on actual and projected project expenditures for each activity. In addition, ERRs will be calculated for all MCC drainage investments (including costs for activities de-scoped) to estimate an activity-wide MCC ERR.

Operation and Maintenance Costs

Operation and maintenance costs were taken from the original pre-feasibility study by Baker. These should be updated and confirmed.

Conversion to Meticaïs

All Compact ERRs for Mozambique are calculated in Meticaïs rather than US dollars.³⁹ As a consequence, compact costs, which totaled US\$42.7 million, were converted to Meticaïs over the five-year investment period using the 2009 exchange rate. This does not take into account either inflation in the US or the domestic content of the MCC investment. The total project cost was 1,266 million MT. Cost data in US dollars were received from official cost accounting spreadsheets provided by the MCA. Adjustments may be needed for adjustments in expenditures post-Compact.

³⁹ Benefits are computed in constant Meticaïs.

Risk and Sensitivity Analysis:

While it originally appeared that the Quelimane storm water drainage project would not be completed within the Compact, it now appears that both systems will be completed during the close-out period with consequent funding.

The key assumptions used for the Crystal Ball Monte Carlo sensitivity analysis are as follows:

Reduction in Malaria Incidence Rates	50.0%
Population Coverage	70.0% / 60.0%

The population coverage assumptions accounted for 64 percent of the variation in Quelimane and 78 percent in Nampula. The reduction in malaria incidence accounted for 35.5 percent of the variance in Quelimane and 22 percent in Nampula.

The sustainability of this project depends crucially on the management of the continued maintenance of the drainage systems, including system management and system funding.

Comparison of original, rescoped and current ERRS

Project/Activity/Sub-Activity Name	Original ERR	Rescoped ERR	Current ERR
Nampula Storm Water Drainage	17.9	38.9%	38.6%
Quelimane Storm Water Drainage	10.2	10.1%	2%

The original ERRS (2009) have been rescoped due to the high investment costs. At close out, ERRs have been recalculated and are now current according to implementation status and initial impacts.

MOZAMBIQUE RURAL WATER

Overview

The Rural Bore Hole Activity is part of the MCC Water and Sanitation Project. The activity was originally scheduled to install and rehabilitate approximately 600 rural water supply points in Nampula and Cabo Delgado provinces. Although the activity was subsequently reduced during re-scoping, it has been expanded again to the original size, as implementation proceeded on schedule. In addition, six solar systems have been included in Cabo Delgado in areas where the originally planned Afro-dev pump was not successful. The solar systems, while more expensive to install (\$35,000 vs. \$15,000 dollars per bore hole), can serve a population that is three times as large in the target communities and operate using three spigots with faster flow-through.

Economic Analysis Findings:

For the base-case run, the expected ERR from the Rural Bore Hole Project is 10.6 percent, with a standard deviation of 6.5 percent. The ERR model has been integrated with Crystal Ball software, which uses Monte Carlo simulations to estimate an expected ERR and provide sensitivity analysis. The mean expected ERR, based on 8,000 trials, lies within an interval of between 0 percent and 21.5 percent with 95 percent probability. Overall, there is a 53 percent likelihood that the Rural Bore Hole activity produces an ERR of over 10 percent, the MCC hurdle rate.

Detailed Model Description:

Benefits

The modeling of the benefits changed considerably since re-scoping as project specific impact evaluation data became available from the 2011 “Mid-Term Report for the Nampula” and the 2013 Working Draft of the “Impact Evaluation of the Rural Water Supply Activity (RWSA)” under a Cooperative Agreement between MCC and Stanford University. The rural water system ERR model focuses on improvements in consumption resulting from time savings. The original model included health benefits, but these were eliminated in the final model as there was no statistically significant decrease in the incidence of diarrhea reported in the impact evaluation. Further, the evaluators did not anticipate that this situation was likely to change in the future.

Benefits were not included for the 60 solar systems. These systems used deeper wells and provided three taps (rather than hand pumps) which could serve larger communities. The benefits were not included for two reasons: (i) at the time of the evaluation there had been significant breakdowns in many of the systems; (ii) the evaluation indicated that there were many management issues; (iii) data provided by the evaluator was not sufficiently rich to populate the model; and (v) the findings reported were potentially inconsistent with the size of the communities reported by the implementers.

Household Benefits:

In rural areas without improved bore holes, water from rivers, lakes, rain collection and private wells are free of charge. Households may switch from free sources to improved boreholes if they make shorter trips to fetch water, have shorter waits to collect water, and/or understand that

unimproved sources lead to poor health outcomes. Time gained from shorter trips to collect water can be used for productive purposes. With a house connection or a closer water point, women have more time to engage in productive activities.

The hourly value of productive activity is modeled based the contribution of each working adult to household consumption, rather than on a market wage rate, as only a small fraction of the urban population hold formal-sector jobs in northern Mozambique. (In addition to these benefits, closer water sources may also free up the time of girls who assist their mothers in water collection, allowing them to attend school longer and more regularly.)

Data Sources

The evaluation is limited to Nampula and was not conducted in Cabo Delgado, although the project was implemented in both provinces. Two variables from the impact evaluation reports were used: water consumption and time to collect water with observations for the wet season and the dry season. An approximation was made to average these figures assuming approximately 8 months for the wet season and 4 months for the dry season. In point of fact, many of the wet season months are of an intermediate value in terms of rainfall. Further, the data from the draft final impact evaluation were approximated in the final model as the latter report did not provide data that was entirely comparable to the mid-term report as it focused on difference-in-differences estimates that showed changes that were not clearly explicable over time.⁴⁰

Time spent to collect water was divided into wait time and walking time by season and by water source. Two water sources, hand pump and unprotected wells were assumed to account for all water sources. In fact, other water sources, such as surface, rain water, and springs were also used by households, but hand pumps and unprotected wells accounted for the bulk of community consumption.

Not all households in the 500 person distribution used the bore holes (and presumably were willing to pay for the service). These figures differed in the wet and dry seasons with fewer users in the wet season when water was more available from free sources.

⁴⁰ While a new model could have been developed based solely on the draft, final evaluation, given time constraints, this did not appear to be a worthwhile use of resources. This could be done in a final, post-Compact evaluation.

Bore Hole Users

Users	Dry	Wet	Total
Percent Using Pumps	78%	35%	49%
Percent Only Not Using Pumps	22%	65%	51%

Water Consumption

Consumption	Treatment	Comparison
Average consumption (lpcd)	19	17

Time to Collect Water

	Walk Time	Wait Dry	Wait Wet
Hand Pumps - Phase 1 Treatment	33	51	19
Unprotected Wells			
<i>Phase 1 Comparison</i>	66	101	23
<i>Phase 1 Treatment</i>	66	84	21

Self-reported walk times were adjusted, however, by estimates the evaluators made on how using GPS technology on how long it would take an individual to walk the distance at average speeds. Recent studies have suggested that respondents tend to overestimate walk times. The ratio of the average-speed estimates to respondent information was 31 percent. A baseline reduction of 75 percent was used in the model as the evaluators suggested that the low estimate may have been based on faster walking speeds than were actually used. Reducing the walk time included in the model has a large impact in terms of the estimated ERR.

The percentage of households using (and paying for) the hand pump is also calculated. This is based on estimates of the time it takes to pump one 20-liter jerrycan and on the length of time the hand pump is in operation per day. The time it takes to pump was estimated by the project implementers to be around 3.5 minutes per person. The number of hours that the hand pump is open for use is estimated to be 8 hours per day based on information from the evaluation. However, based on evaluator observation of hand-pump users, the gap between one user and another was longer than the fill time and averaged nearly 10 minutes. This estimate was used in the Crystal Ball simulations. For this reason, the average number of time between users was also reduced below the potential to 5 minutes per person. These changes in assumptions also served to reduce the estimated ERR.

Value of Time

The model does not use a market wage rate to estimate the hourly productivity of individuals who save time as a result of shorter trips to fetch water but instead values time based on a consumption aggregate for rural areas from the 2008/2009 Mozambique poverty assessment, averaged for Nampula and Niassa/Cabo Delgado.⁴¹ As formal wage employment accounts for a relatively small share of consumption in Mozambique and home production is important in rural environments (even in cities), using consumption to approximate value added is more reasonable than assigning some paid wage to adult workers.

Per-capita consumption for rural areas of Nampula and Cabo Delgado is multiplied by average family size from the impact evaluation mid-term report to estimate an average family consumption aggregate. The number of workers per family was estimated based on labor force participation estimates from tabulations from the 2004 household survey adjusted for 2009 population age distributions in Nampula and Nacala using INE population projections. These data indicated that approximately 56 percent of the whole population was working (albeit not necessarily in the formal sector, entirely or partially). Applying that proportion to an average family size of 4.2 persons⁴² results in an approximate number of workers per family. Dividing family consumption by the employment rate yields an average ‘wage’ per worker.

The value of time by year (‘the proxy wage rate’) was projected based on past real per-capita GDP growth and projections of real per capita GDP growth from the International Monetary

⁴¹ Ministry of Planning and Development, National Directorate of Studies and Policy Analysis (2010), “Poverty and Wellbeing in Mozambique: Third National Poverty Assessment”, Table 12-2: Nominal consumption and poverty rates (2002/03 and 2008/09), page 106, (October).

⁴² The average household size for the treatment group was used. That of the comparison group is approximately the same and the difference is not likely to be statistically significant.

Fund. Real per capita GDP growth was assumed to be maintained at the same constant 5.7 percent rate over the 20-year projection period beyond the IMF's final 2017 per-capita GDP projection.

Time Used Productively

Time savings may be used for production or leisure. Unfortunately, there are few studies that look at this issue and those that do infer that leisure activities take up a large proportion of women's reductions in walking and waiting time. Studies have seldom taken up this issue in a way that is directly applicable to the ERR analysis. Unfortunately, the rural water evaluation did not provide applicable data either, although it reported no increase in income in the treatment communities. Yet this is not surprising in a rural society where cash incomes provide a relatively small proportion of total consumption vis a vis home production.

One older study cited in the review by Rosen and Vincent⁴³ reports figures directly applicable to the Mozambique rural water activity.⁴⁴ Even though the data were collected in 1980s, this study is likely still relevant, since the communities in the MCC activity are still primarily engaged in subsistence agriculture that is not likely to differ substantially from that of the communities studied earlier.

The data indicate that 44 percent of reduced hours were used for other than leisure activities. This is likely the upward boundary to the increase in the productive use of time. However, a lower bound of 11 percent can be estimated if household activities are excluded. The base estimated in the ERR splits the difference at 27.8 percent and allows for Crystal Ball simulations over the full range. A recent study also found that rural water points also increased the school enrollment of girls.⁴⁵ This benefit was not included in the model as it would require rather assumptions about future productivity from increased schooling.

⁴³ S. Rosen and JR Vincent. 1999. "Household Water Resources and Rural Productivity in Sub-Saharan Africa:

A Review of the Evidence," Harvard Institute for International Development, p. 27.

⁴⁴ Cairncross, S., and J. L. Cliff. 1987. "Water use and health in Moeda, Mozambique."

Transactions of the Royal Society of Tropical Medicine and Hygiene 81: 51-54.

⁴⁵ C. Nuage and J. Strand. 2013. "Water Hauling and Girl's School Attendance: Some New Evidence from Ghana." The World Bank Development Research Group Environment and Energy Team, Policy Research Working Paper 6443 (May).

Repair Down-Time

To the extent that bore holes that are installed do not function, the time savings and health benefits will not be included. In the past, many bore holes were used for several years and then were left idle as neither parts nor funds nor expertise were available in the community to avoid their shut-down. Technical assistance provided through the MCC Compact has been in place to assure adequate funding for repairs and to also ensure that communities have the ability to find replacement parts. At this point, none of the bore holes have broken down and all are in working order. Estimates provided by implementers, however, suggest that from 30 to 40 percent of boreholes could be out of service. The model uses an optimistic assumption that 85 percent of all project boreholes will be in service, with a range of alternative assumptions included in the Crystal Ball scenarios. Down-time is estimated to negatively affect all model benefits.

Additional Assumptions:

GDP estimates are based on provincial GDP using official INE tabulations of regional GDP from 1997 to 2011. To estimate GDP per capita, provincial GDP divided by provincial population projections. GDP growth rates from 2011 – 2016 are based on IMF annual estimates and projections. Growth is projected past 2017 using the final IMF projection estimate for 2017 of 5.7 percent per annum. As both the IMF and INE use a GDP deflator with a base year of 2003, the deflator has been adjusted to 2009 for ERR modeling purposes, the first year of the MCC Compact.

Costs

The economic analysis takes into account two types of costs to distinguish the with-project case from the counterfactual. These are (i) MCC costs for the rural water activities; and (iii) costs of Operation and Maintenance.

MCC Investment Costs

Investment costs were based on actual and projected project expenditures for each activity.

Operation and Maintenance (O&M)

Operation costs are based on a requirement of at least \$50 per borehole per quarter to ensure that sufficient funds are available for maintenance. These contributions are expected to cover the routine maintenance of Afro-dev pumps and solar systems.⁴⁶

Conversion to Meticaais

All Compact ERRs for Mozambique are calculated in meticaais rather than US dollars.⁴⁷ As a consequence, compact costs, which totaled US\$19.2 million, were converted to meticaais over the five-year investment period using the 2009 exchange rate. This does not take into account either inflation in the US or the domestic content of the MCC investment. The total project cost was 566.7 million MT. Cost data in US dollars were received from official cost accounting spreadsheets provided by the MCA. Adjustments may be needed for adjustments in expenditures post-Compact.

Sensitivity Analysis

The key assumptions used for the sensitivity analysis are as follows:

Percent Using Pumps	
Dry	78.0%
Wet	35.0%
Hours pump operating	8
Minutes between use	5
Adjustment for overestimate of walk time	75%
Operating Costs per liter	0.75

⁴⁶ From discussions with Nilton Trindade, MCA Water Specialist and Cowater officials; see Economic Analysis January 2013 Trip Report.

⁴⁷ Benefits are computed in constant meticaais.

Percent of Handpumps in Service 85%

Percent of Time spent productively 27.8%

The key contributors to variance are (i) the percent of time spent productively (70 percent); (ii) the adjustment for the overestimate of walk time (8 percent); (iii) the percent of handpumps in service (7 percent), and (iv) minutes between use (-7 percent).

ANNEX V Technical documentation of economic analysis of Roads Rehabilitation Project

The original economic analysis for the road project were calculated using the RED – Road Economic Decision Model. The model performs an economic evaluation of road investments options using the consumer surplus approach and is customized to the characteristics of low-volume roads such as a) the high uncertainty of the assessment of the model inputs, particularly the traffic and condition of unpaved roads; b) the importance of vehicle speeds for model validation; c) the need for a comprehensive analysis of generated and induced traffic; and d) the need to clearly define all accrued benefits. RED computes benefits for normal, generated, induced, and diverted traffic, and takes into account changes in road length, condition on the dry and wet seasons, geometry, surface type, and accident rates. Users can add to the economic analysis other benefits or costs such as social benefits and environmental impacts, if computed separately.

Main assumptions of the original economic analysis using the RED model were:

Road Segment	Road Length	Normal Traffic Growth Rate	Generated Traffic (% of normal traffic)	IRI Without Project	IRI With Project	Cost/km
Rio Lúrio-Metoro	74.3	5.2	10	10	3.5	253.29
Namialo- Rio Lúrio (combined)	148	5.4	10	10	3.5	253.29
Nampula-Rio Ligonha	101.5	5.6	10	10	3.5	284.32
Nicoadala-Chimuara	166.6	5.4	10	11	3.5	278.12

Revised ERRs were calculated using the HDM4 model, the Highway Development and Maintenance Model. It is a computer program for analyzing the total transport costs of alternative road improvement and maintenance strategies through life-cycle economic evaluation. The program provides detailed modeling of pavement deterioration and maintenance effects, and calculates the annual costs of road construction, maintenance, vehicle operation, and travel time needed to perform the economic evaluation of the alternatives being considered. It is the

recommended software for evaluating highway investment options. The change to this model was justified first by the acknowledgement that these roads were classified as highways and not simply rural roads, and therefore traffic volumes should be given the right weights in the analysis and it also allowed to include in the analysis, the probability of deterioration of the roads according to the two scenarios, with and without maintenance. Unfortunately MCA and MCC teams did not reach an agreement on maintenance costs to be used.

Detailed information on the assumptions used to re-scope the project is in the table below.

Road Segment	Road Length	Normal Traffic Growth Rate	Generated Traffic (% of normal traffic)	Speed (max-min km/min)	AADT	IRI Without Project	IRI With Project	Cost/km
Namialo- Rio Lúrio (combined)	148	6 -7%	10	100-80	300-500	8	3.5	USD 509
Nampula-Rio Ligonha	102.5	5.6-6.4%	10	100-80	608	3.7-4	3.5	USD 350.33

Comparison of the Economic of return before and after re-scoping.

Roads Rehabilitation Project			
Date	Context	Road Segments	ERR
2009	Original ERRs	Nampula - Rio Ligonha Namialo – Rio Lúrio	7.1% 6.7%
2012	Re-scoped project due to high investment rehabilitation construction costs per km	Nampula - Rio Ligonha Namialo – Rio Lúrio	0.65% -0.19%

ANNEX VI: Technical documentation of economic analysis of Land Tenure Services Project

Reducing the inefficiency and risk associated with Mozambique’s land tenure system is needed to encourage ongoing economic growth. The Land Tenure Project is designed to focus on the four Northern provinces affected by the Compact. It is intended to improve implementation of the country’s current land law and the transparency and operational efficiency of land registration, thereby improving the security and transferability of land rights. Greater security and transferability of land use rights should result in more efficient land allocation and higher levels of investment.

The program does not legalize all informal market-based transfers or require the complete elimination of governmental approval of transfers of rural land-use rights (abbreviated as “DUATs” from the Portuguese). However, the Project includes a policy condition for the submission of regulatory reform proposals to the appropriate authorities, including parliament, within the Compact timeframe.⁴⁸ The Project also supports improved records management and administrative processes to reduce discretionary procedures and time-lags in approvals. Policy monitoring measures are intended to lead to improved transferability. While the ERR measures income gains to direct/targeted beneficiaries, the policy reforms and capacity building components also are intended to improve the efficiency and transparency of land titling and transfers nationally.

Unfortunately, a lack of good data and paucity of rigorous quantitative evidence has presented a challenge for projecting the economic impact of the Mozambique Land program. The absence of rigorous studies that could help quantify the projected impacts of Mozambique’s land tenure program could lead to an under- or over- estimation of projected benefits. Therefore, the assumptions used in the base case scenario are intended to be conservative. The ERR only includes benefit streams reasonably based upon empirical studies from Mozambique or other African countries. Benefits are included for communities and associations, as well as to urban and rural parcel-holders who are expected to receive a DUAT under the program.

The Land Tenure Project economic analysis was revised substantially from the original formulation, as many of the original assumptions could not be verified with recent data. A new model was formulated to reflect the economic impact of the project on direct beneficiaries in keeping with project activities. The updated, revised ERR analysis differs from the original as it does not include transaction-cost savings accruing to large commercial investors who currently pay substantial costs in time and legal fees to access land in Mozambique. Those transaction cost savings were based on anecdotal evidence, and also contained a serious arithmetic error. However, these benefits were a relatively small fraction of total benefits, however, and as commercial investors often receive other advantages in establishing enterprises in Mozambique, these potential benefits did not appear crucial as the core projects led to an ERR higher the MCC hurdle rate. In addition, benefits are no longer based on estimates of likely transactions leasing or transferring land rights to investors, but, rather are based on estimates of increased farm productivity for communities, increased investments for associations, and increased GDP for urban parcels receiving DUATs.

Benefits to Urban Households and Rural Smallholders

The most comprehensive way to value the hypothesized urban benefits of land “titling” (including increased security of investments on the land, increased transferability, and reduced transactions costs) is to assume that they are capitalized into an increased market value for land use rights when a DUAT is obtained. The benefits to urban land holders are based on an evaluation of parcel prices

⁴⁸ As of July, 2012, this condition has been delayed and to date has not been met.

before the project compared to land prices after the project, based on estimates of the impact of the DUAT multiplier on the prices of land in urban areas in Mozambique. The total number of parcels to be surveyed is contractually obligated.

According to the Michigan State University impact evaluation report, “Accurate figures are difficult to obtain but it is estimated that not more than 2-3 percent of land holdings nationally have DUATs, with a high proportion of these being provisional DUATs.”⁴⁹ Consequently, because the market for urban land is largely informal, with very few transactions having DUATS, findings from an earlier Mozambican study of urban land markets (Negrão, 2004)⁵⁰ estimating parcel price increases upon the acquisition of a DUAT is used. In that study, the estimated multiplier of real estate prices for parcels in urban areas with a DUAT was ranged from 1.3 to 2.7. Recognizing that the multiplier found in the study is may overstate the effect of obtaining a DUAT, a conservative multiplier of 1.3 was used for urban parcels. In other words, property values are projected to rise by 30 percent once a DUAT is obtained.

Estimated prices of residential, agricultural and other types of property in the peri-urban areas under the project to be surveyed and provided DUATs are transferred into implicit rental benefit streams based on the principals used in GDP accounting. According to the US Bureau of Economic Analysis, “Housing services are a component of personal consumption expenditures (PCE), and consequently part of GDP, in the national income and product accounts (NIPAs). The rental value of tenant-occupied housing and the imputed rental value of owner-occupied housing are both part of PCE housing services, reflecting the amount of money tenants spend for the service of shelter and the amount of money owner occupants would have spent had they been renting. Owner-occupied housing is included in PCE because the NIPAs treat the owner-occupant as if it were a rental business, or in other words, a landlord renting to him or herself.”⁵¹

The rental value of property was calculated by applying a price/rental value of 20 – in keeping with worldwide experience.⁵² Values above 20 suggest that it is more valuable to buy than rent and values below 20 suggest that it is better to rent property than purchase it. While we do not know the correct figures for Mozambique, it is likely it is currently more favorable to rent land without DUATs but that it will become increasingly profitable to purchase land after parcels receive DUATs.

⁴⁹Mywish K. Maredia, Raul Pitoro, Songqing Jin, Ellen Payongayong and Gerhardus Schultink, (2012) “Impact Evaluation of Site-specific Activities under the Land Tenure Services Project: Report of the Baseline Survey Conducted in Two Urban Areas in Northern Mozambique”, Michigan State University p. 16.

⁵⁰ Jose Negrão, Almeirim de Carvalho, João Donato, Tomás Manhicane Júnior, (2004). “Urban Land Market in Mozambique”, Cruzeiro do Sul - José Negrão Research Institute for Development, p.53. (as well as the Portuguese version, “*Mercado de Terras Urbanas em Moçambique*.”

⁵¹ Nicole Mayerhauser and Marshall Reinsdorf. (2007), “Housing Services in the National Economic Accounts,” Bureau of Economic Analysis, U.,S. Department of Commerce.

⁵² <http://www.numbeo.com/property-investment/rankings.jsp>

The contractor for the surveying of urban ‘hotspots’, HTSPE, has divided the properties subject to surveying into several categories: (i) domiciles; (ii) agriculture; and (iii) several other types of property. Housing is generally in urban areas while agriculture represents smallholders in rural areas. The square meters of each parcel vary by type with residential properties smaller than agricultural parcels and other types of urban usage. The model uses the average parcel sizes from HTSPE.

Property values per square meter for urban property without DUATs (the counterfactual) were difficult to determine due to lack of transaction or tax assessment data. We investigated two likely data sets; (i) calculations from MCC RAPs (resettlement action plans) and (ii) survey data on selected urban and rural ‘hotspots’ collected by Michigan State University for the Land Reform Project. Only the Quelimane was found to be usable.⁵³ That RAP reported an average residential value of \$4.52 m² based on an average area of 488 m² from the HSTPE activity for makeshift houses similar to many found on an MCC M&E/EA site visit. The second source of data, the MSU survey reported average housing values based on respondents retrospective reporting of purchase prices from 2007-2011. The per-meter price of housing plots was an estimated \$2.19 m². The calculated price to rental value using the MSU data may be lower in part due to land insecurity making it cheaper to rent than to buy. The MSU data may also be biased downward due to poor recall, concerns about reporting to the authorities, and/or the prevalence of inter-family sales at less than market rates. Both these estimates are lower than the average urban value \$7.40 reported in the Negrão study.⁵⁴

Using conservative assumptions, the value of property used for other functions (commercial, industrial, service sector, municipal, and other) was assumed to be the same as housing. The benefits for rural property hotspots were calculated based on assumptions of increased farm income for farm communities outlined below.

Benefits to Rural Communities

On community land, given the budget available for delimitation, approximately 222 communities are expected to be delimited and 145 associations to be demarcated,⁵⁵ with average areas of 4,949 and 68 hectares respectively. The original ERR analysis was based on the hypothesis in all communities, averaging 15,000 hectares each, 20 percent of each communities land would be invested in commercial partnerships.

⁵³ Several of the RAPs, however, did not provide values per square meter. The Rio-Ligonha RAP valued most structures at the same per-meter price no matter the construction materials. The RAP for the Namialo road had fewer observations with a median value far lower than the mean. It was decided that adding these values to those of the Quelimane residential housing would not add to the accuracy of the analysis.

⁵⁴ Negrão, p. 52.

⁵⁵ Delimitation refers to communities and demarcation to (producer) associations.

The contract for the delimitation and demarcation of rural communities is being implemented by a consortium of KPMG and iTC,⁵⁶ who have had experience with similar projects prior to MCC funding. The iTC Midterm Review report⁵⁷ indicated that “iTC has identified a total of 65 projects, of which 45 were or are being implemented.”⁵⁸ However, the report only provided evidence on four partnerships. In other words, partnerships were implemented in fewer than 10 percent of all communities⁵⁹ and projects were proposed and approved in a relatively small proportion of the communities iTC worked with. Further, KPMG indicated that given the smaller size of community lands compared to that originally, only 1,000 hectares to the total would be expected to be available for partnerships.

For this reason, the revised economic analysis sought to find a better way to measure the benefits of delimitation and demarcation. Most reports evaluating the impact of improvements in rural land tenure in Africa agree that there will be a large impact on agricultural investment and maintenance of soil. Following a log-frame approach, the delimitation of rural communities will lead to increased agricultural investment (including better use of fertilizers and investments in farm machinery) that will subsequently lead to higher farm income and economic growth. To model these effects, data on farm income was used to represent the base case based on information reported from the Mozambique TIA survey by the Ministry of Agriculture and Michigan State University.⁶⁰

A number of international studies on the impact of land tenure projects on improved productivity suggested that an increase in income of nine percent from community delimitation would be conservative. Similarly, a considerably lower estimate of three percent for associations would be a very conservative estimated on gains to income that might be anticipated from demarcation.⁶¹

⁵⁶ iTC is an independent fund to strengthen the capacity of communities to secure their land and resource rights as a basis for promoting sustainable development in Mozambique. iTC stands for Mozambique Community Land Initiative (Iniciativa para Terras Comunitárias).

⁵⁷ Lorenzo Cotula, Agnès Deshormes, Selma Martins and João Carrilho, “*Iniciativa para Terras Comunitárias*, Mid-term Review Report (2010).

⁵⁸ iTC p. 8.

⁵⁹ In Mpunga (Manica), community delimitation facilitated the establishment of a joint venture between the community and a private investor, Eco-Micaia, to develop community tourism. In Gaza, the legalization of existing informal groups of farmers and the demarcation of their land led to the financing of agricultural equipment by the Mandlakaze District’s FIIL endowment, and of primary and secondary irrigation canals by Africa Works, an international NGO, in Guijá District. In Cabo Delgado, delimitations will allow two communities to trade carbon credits with a specialized company, Envirotrade.

⁶⁰ David Mather, Benedito Cunguara, and Duncan Boughton (2008), “Household Income and Assets in Rural Mozambique, 2002-2005: Can Pro-poor Growth be Sustained?” Research Report No 66 (December), Ministry of Agriculture, Directorate of Economics.

⁶¹ Findings from the following studies were used for the assumptions used about income growth. Deininger, KI, Ali, DA, and Alemu, T. (2008) “Impacts of Land Certification on Tenure Security, Investment and Land Markets: Evidence from Ethiopia.” World Bank, Policy Research Working Paper 4764; Deininger, K. and Ali, D.A. (2007) “Do Overlapping Land Rights Reduce “Agricultural Investment? Evidence from Uganda”, World Bank, Policy Research Working Paper 4310; and Deininger, K., Ayalwe, D. and Yamano, T. (2006) “Legal Knowledge and Economic Development: the case of land rights in Uganda,” World Bank, Policy Research Working Paper 3868.

ANNEX VII: Technical documentation of economic analysis of Farmer Income Support Project

The Millennium Challenge Corporation is funding a project to control the spread of Coconut Lethal Yellowing Disease (CLYD) in Zambézia and Nampula. By cutting and burning infected palms in endemic and epidemic areas the project aims to limit the spread of the disease in those areas. This intervention is coupled with a program to plant seedlings to replace lost income streams in the affected areas. The goal is to maintain the quantity of coconuts to generate income.

While the overarching goal of the project is the same as it was at Compact signing, the structure of the project has changed to focus on two specific areas of CLYD infection: (i) an ‘endemic’ area in which virtually all of the trees were infected, and (ii) an ‘epidemic’ area in which the infection rate was less than 10 percent of the trees planted. In the endemic area, the project intends to clear the land of all vegetation, and providing coconut seedlings to replant the area, with technical assistance for coconut maintenance, as well as inputs for intercropping alternative crops with coconut seedlings, in order to support smallholder income during the seven-year growth period required before coconuts should be harvested.

In the epidemic area, the project is intended to remove diseased trees (but not clear the land as many trees are not diseased) and to provide coconut seedlings to farmers to partially replace the diseased trees removed, including technical assistance for the maintenance of the seedlings.

Each of the two activities is modeled separately. A description of each part of the ERR model and relevant data sources are provided below.

Endemic Area Model: In the endemic area there is more than 75% incidence rate. The project operates in 8000 hectares and the following activities are being implemented by the service provider:

- Cutting and cleaning
- Replanting coconut trees
- Intercropping coconut seedlings with other cash crops

It is assumed that there are no more infected coconut trees as they are all dead. There is no more CLYD since there are no more living plants and the phytoplasm cannot survive in dead plant tissue. So after clearing the area completely and ensuring that there are no possible infection focus the project assists in the plantation of new seedlings which start producing economic benefits after 7 years when they start producing coconuts. In this way the project intends to restore a healthy coconut supply. This activity is complemented with the introduction of cash crops with the objective of diversifying farmers’ income.

Benefits from Alternative Crops:

The project is providing technical assistance on planting care as well as inputs in kind for the intercropping of cash crops with coconut seedlings. The area for intercropping occupies 80% of the seedlings planting area in the first year, 75% in the second, 65% in the third year and 15% from the seventh year onwards. There are four crops being intercropped: groundnut, cowpea, pigeon pea and sesame.

Out of the 8000 hectares 2395 hectares will be intercropped in the first year, 3000 hectares in the second and 2605 in the following years.

Revenue from intercropping is calculated as such:

$$Y_n = (y * P) - I$$

Where:

Y_n-Net Income from intercropping

y- Yield (kg/hectare)

P- Farm gate price per kg

I -Inputs (sum of costs of production)

Benefits from Coconuts

Smallholder benefits are derived from three sources of revenue from coconut trees: (i) coconut sales; (ii) copra sales, and (iii) mats.⁶² The coconut income depends on the maturation of the replanted seedlings. On average, a coconut tree is assumed to reach full maturity after seven years of growth. It is assumed that seedlings in the Endemic area will not be re-infected with CLYD. (Naturally, any re-infection would lower benefits.) The pattern of seedling provision is based on actual implementation and on implementer plans. Based on experience in the field, only 62 percent of the seedlings planted will reach maturity.

Beneficiary Stream 1: Coconut Sales

Coconut sales depend on the number of fruits a palm can produce in a year – generally about 50 coconuts per tree. Total coconut yield in an area is the number of trees times the average number of fruits produced per tree. The price is assumed to be equal to the farm gate price of 4 MTn. Revenue from coconuts can be expressed as the number of coconuts sold/consumed times the price per coconut:

$$R_c = T_t * C * P$$

⁶² This estimate and other estimates related to coconut production, product inputs and sales prices are based on Mozambique expert opinion.

Where:

R_c = Revenue from coconuts

T_t = The number of coconut trees in area in year t

C = Number of coconuts produced on a typical tree in a year

P = Farm-gate price of a coconut (4 Mtn)

This figure is multiplied by 45 percent, as that is the fraction of coconuts either sold or produced a while fruit.

Beneficiary Stream 2: Copra Sales

Copra is the kernel of the coconut, commonly referred to as the coconut's 'meat'. Copra sales depend on the number of coconuts that each tree can produce. Copra is sold in kilograms. Seven fresh coconuts can produce 1 kg of wet copra that can be sold at 5 MTn. Revenue from copra sales is determined by dividing the number of coconuts used for copra by the number required to produce 1 kg of copra and then multiplying that quantity by the price of copra .

$$R_r = ((T * C) / 7) * P$$

Where:

R_r = Revenue from copra sales

T = Number of coconut trees in area

C = Number of coconuts produced on a typical tree in a year

P = Price per kilogram of copra

As only 50 percent of all coconuts are assumed to be used for copra, this figure must be multiplied by one-half.

Beneficiary Stream 3: Mats

The leaves of coconut trees also have value. A Coconut palm drops 13 leaves per year. Each leaf can be woven into a mat, which can have multiple purposes, including material for roofing. Each mat sells for 2 MTn.

$$R_m = L * T * P$$

Where:

R_m = Annual revenue from mat sales

T = number of coconut trees in area

L = Leaves per tree

P = Price for a mat

Epidemic Area Model

The benefits for the Epidemic area stem solely from coconuts and their derivatives, depending on the number of coconut trees in the area. The tree population is dependent on the number of trees producing, which will be diminishing over time due to the CLYD infection. The rate at which trees are infected is calculated using an epidemiological formula that relies on tree population data at two points in time in infected areas. This formula is derived from a logistic growth model⁶³ that is frequently used to forecast the progress of plant diseases. This model is cited in the analysis Eden-Green⁶⁴ conducted for MCC and was also used in the initial MCC model. The rate of disease progression has been updated, based on actual implementation data derived from the project itself.

In the without-project counterfactual, the ERR analysis assumes that the infection rate will remain the same during the entire 20-year projection period. With the project, there is a slow decline in the percentage of plants affected by CLYD as diseased trees are removed from the plantations. However, because there is not a 100 percent removal of all diseased trees anticipated, it is assumed that when the project ends the disease progression will continue again at the same infection rate.

Benefits from Coconuts

The pattern of seedling replacement is based on actual implementation and on implementer plans. In view of experience in the field, it is assumed that only 62 percent of the seedlings planted will reach maturity. The replacement trees are varieties that are more resistant to CLYD. Thus, it is assumed hypothetically that the mature seedlings will be 25 percent more likely to survive than existing coconut trees. In the case of the Epidemic area, revenue from must be adjusted for the number of trees producing fruit each year.

$$R_c = T_t * (1 - r_t) * C * P$$

⁶³ For a useful review of the logistic model and other common growth models see LV Madden (1980), Quantification of Disease Progression, *Protection Ecology*, 2, pp. 159-176.

⁶⁴ Simon F. Eden-Green (2006) "An assessment of Coconut Lethal Yellowing-type Disease (LYD) in Mozambique" (November), manuscript.

Where:

R_c = Revenue from coconuts

T_t = The number of coconut trees in area in year t

r_t = the percentage of trees that have been destroyed between year t and year t-1.

C = Number of coconuts produced on a typical tree in a year

P = Farm-gate price of a coconut (4 Mtn)

The two other coconut benefit streams are modeled in the same way as in the Endemic area. No intercropping technical assistance or seeds are provided in the Epidemic area.

Original assumptions of FISP Economic Model:

Current number of coconut producing trees in Zambézia and Nampula provinces 10,374,669

- Disease incidence rate without project intervention 0.028
- Disease incidence rate after project intervention complete 0.016
- New coconut seedlings mature and begin to yield coconut fruits in year 7
- Seedlings that mature and are cultivated using fertilizer yield 80 coconuts per tree
- Existing coconut trees yield 30 coconuts per tree
- Price per coconut \$0.04
- Price per kg of wet copra = \$0.10
- Price per mat = \$0.04
- Number of coconuts needed for 1 kg of copra = 8
- Number of coconut fruits needed for \$0.20 of milk = 10
- Number of leaves dropped by each tree per year = 2
- Number of leaves needed for mats = 2
- Percent of coconut yield used for just coconuts = 25 percent
- Percent of coconut yield used for copra = 70 percent
- Percent of coconut yield used for mil = 5 percent
- Percent of a hectare cultivated as Groundnut =20%
- Percent of a hectare cultivated as Cowpea =20%
- Percent of a hectare cultivated as Cassava =20%

- Percent of a hectare cultivated as Pigeon pea =15%
- Percent of a hectare cultivated as Pineapple =15%
- Percent of a hectare cultivated as Chickpea =10%
- Net income from a hectare of Groundnut \$70.37
- Net income from a hectare of Cowpea \$69.44
- Net income from a hectare of Pineapple \$84.33
- Net income from a hectare of Pigeon pea \$71.29
- Net income from a hectare of Chickpea \$195.00

Exchange rate: 26.1 MTn

Update of the FISP Economic model

Updated assumptions of the FISP Economic Model, based on new information available (Coconut baseline survey) and implementation in 2010:

- Current number of coconut producing trees in Zambézia and Nampula provinces = 4,240,000
- Disease incidence rate without project intervention = 0.028
- New coconut seedlings mature and begin to yield coconut fruits in year 7
- Seedlings that mature and are cultivated using fertilizer yield 50 coconuts per tree
- Existing coconut trees yield 50 coconuts per tree
- Price per coconut = \$0.04 - 4 Mtn
- Price per kg of wet copra = \$0.10
- Price per mat = \$0.04
- Number of coconuts needed for 1 kg of copra 7
- Number of coconut fruits needed for \$0.20 of milk 10
- Number of leaves dropped by each tree per year 2
- Number of leaves needed for mats 2
- Percent of coconut yield used for just coconuts 25 percent
- Percent of coconut yield used for copra 70 percent
- Percent of coconut yield used for mil 5 percent
- Percent of a hectare cultivated as Groundnut =14%

- Percent of a hectare cultivated as Cowpea =16%
- Percent of a hectare cultivated as Pigeon pea =11%
- Percent of a hectare cultivated as sesame =60%
- Net income from a hectare of Groundnut \$133.33
- Net income from a hectare of Cowpea \$6.99
- Net income from a hectare of Pigeon pea \$228.18
- Net income from a hectare of Sesame \$216.86

A restructure of the model was done in 2012 after a field visit and discussion with the implementing team to better reflect implementation in the Economic Analysis. More detailed information is presented in FISP M&E Plan Annex B, which is a technical note on the update of the FISP Economic Model.

Comparison of Original and Current ERRs

Farmer Income Support Project			
Date	Context	Changes	ERR
2009	Original Economic Analysis		25%
2010	New information from 2010 Coconut survey by MSU	<ul style="list-style-type: none"> • Update of assumptions <ul style="list-style-type: none"> ○ Number of crops to be introduced reduced to four ○ Prices of coconut and value added products • Change of the Structure of the model based on contract implementation (removal of income from states) 	26.5%
2012	New information from implementation, discussed over the Economic Department MCC mission	<ul style="list-style-type: none"> • Restructure of the model based on the current contract between MCA and ACIDI- VOCA <ul style="list-style-type: none"> ○ Include both Epidemic and Endemic scenarios 	20.5%
2013	Update based on Implementation status at close out of activities	<ul style="list-style-type: none"> • Major review of implementation costs 	36%