

**THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF FINANCE**



MILLENNIUM CHALLENGE ACCOUNT - TANZANIA

MONITORING AND EVALUATION PLAN

June 2013

This monitoring and evaluation plan is a binding document that serves as a guide for program implementation and management. It will help Millennium Challenge Account – Tanzania (MCA-T), its Governing Board, Auditors, MCA-T Management Team, Implementing Entities, beneficiaries, and other stakeholders know the progress being made towards the achievement of objectives and results.

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LIST OF ABBREVIATIONS AND ACRONYMS

AADT	Average Annual Daily Traffic
DMA	District Metering Area
DPO	District Project Officer
ERR	Economic Rate of Return
GDP	Gross Domestic Product
GoT	Government of Tanzania
GIP	Gender Integration Programme
GFP	Gender focal Point
HBS	Household Budget Survey
HDM-4	Highway Development and Maintenance – version 4 (analysis program)
IRI	International Roughness Index
KVa	Kilo volt ampere
KWh	Kilowatt hour
M&E	Monitoring and Evaluation
MCA-T	Millennium Challenge Account – Tanzania
MCC	Millennium Challenge Corporation
MIS	Management Information System
MKUKUTA	Mkakati wa Kukuza Uchumi na Kupunguza Umaskini Tanzania (Swahili acronym for National Strategy for Growth and Reduction of Poverty)
MKUZA	Mkakati wa Kukuza Uchumi na Kupunguza Umaskini Zanzibar (Swahili acronym for the Zanzibar Strategy for Growth and Reduction of Poverty)
MLD	Million Liters per Day
MoF	Ministry of Finance
MVa	Megavolt Ampere
MoIC	Ministry of Infrastructure and Communications
MWh	Megawatt hour
NORAD	Norwegian Agency for Development
NEMC	National Environmental Management Council
NPS	National Panel Survey
NRW	Non-Revenue Water
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
T&D	Transmission and Distribution
TANESCO	Tanzania Electric Supply Company
TANROADS	Tanzania National Roads Agency
TAA	Tanzania Airports Authority
TBD	To be Determined
TOR	Terms of Reference

TWG	Technical Working Group
URT	United Republic of Tanzania
US\$	United States Dollar
ZECO	Zanzibar Electricity Corporation
ZDoE	Zanzibar Department of Environment

1 INTRODUCTION

The Government of the United States of America acting through the Millennium Challenge Corporation (MCC) and the Government of Tanzania (GoT) have entered into a Millennium Challenge Compact in the amount of 698 million USD for Millennium Challenge Account-Tanzania (MCA-T) to help facilitate poverty reduction through economic growth in Tanzania.

The Compact will be implemented over a five (5) year period from 2008-2013, and infrastructure projects are the core activities under the Compact. The M&E functions under the Compact will be implemented in parallel with Compact activities. M&E plays an important role in the management of the Compact by ensuring that the Compact resources and investments are being utilized effectively and efficiently; activities are implemented in a timely manner; services generated are being accessed, utilized and beneficiaries are satisfied with the services; and the expected results are being achieved in a sustainable manner.

The M&E Plan is a tool to manage the process of monitoring, evaluating and reporting progress toward 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:

- Explains in detail *how* and *what* the MCC and MCA-T 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;
- Includes all indicators that must be reported to MCC on a regular basis;
- Includes a description of complementary data to be collected by MCA-T for evaluation of programs, but not reported to MCC on a regular basis, including quantitative and qualitative studies;
- Includes any M&E requirements that the MCA-T must meet in order to receive disbursements;¹ and
- Serves as a communication tool, so that MCA-T staff and other stakeholders clearly understand the objectives and targets the MCA is responsible for achieving.

The MCA-T M&E Plan includes:

- A summary of the Tanzania Compact Goal
- A summary of each Tanzania Compact Project's objectives and logics;
- The number of expected beneficiaries by Project, defined in accordance with MCC's [*Guidelines for Economic and Beneficiary Analysis*](#);
- A summary of the initial and any re-scoped Economic Rate of Return (ERR) analysis

¹ Substantial compliance with the M&E Plan is a condition for approval of each quarterly disbursement request by the country.

- An overview of the monitoring activities, including selecting indicators and identifying data sources, baseline and target values, quarterly reporting, gender analysis requirements and additional monitoring activities led by MCA-T M&E unit
- A description of the performance and impact evaluations under the Compact
- Summary of the assumptions and risks related to M&E under the Compact
- Description of the institutional framework for managing MCA-T M&E activities and portfolio
- MCA-T M&E directorate work plans and budget

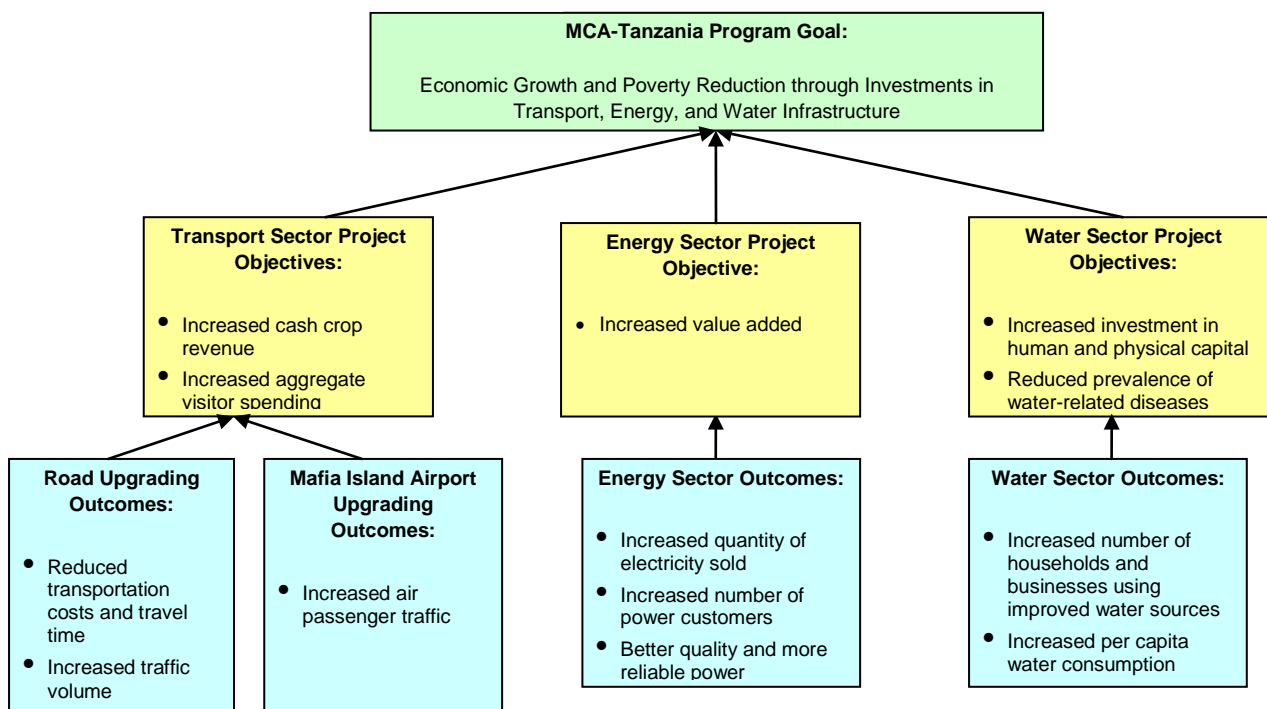
MCC and MCA-T may make adjustments to the M&E Plan as needed, provided any significant modifications or amendments of the plan are consistent with the requirements of the Compact and any relevant Supplemental Agreement between the Parties and have been approved by MCC and the MCA-T Governing Board..

2 COMPACT ACTIVITIES

2.1 Compact Goal

The Compact Goal is to advance poverty reduction through economic growth in Tanzania through strategic investments in transportation, energy and water infrastructure. The compact logic is illustrated below.

Tanzania, comprised of the Mainland and Zanzibar, is located in East Africa bordering the Indian Ocean and eight nations.² Following independence from British colonial rule in 1961, Mainland Tanzania established a democratic government and merged with Zanzibar in 1964 to form the URT. In the 1990s, the policies of the GoT began to shift to market liberalization and reform. This trend has continued and strengthened over the last several years and Tanzania has achieved



² Tanzania's border countries include Kenya, Uganda, Rwanda, Burundi, Democratic Republic of Congo, Zambia, Malawi, and Mozambique.

a high degree of macroeconomic stability. Although a drought in 2006 slowed economic growth, Tanzania continues to be one of Africa's high performers, with real annual GDP growth projected at 7.2% in 2008.³

In spite of this macroeconomic stability and 6.4% annual growth, nearly 36% of the Mainland population⁴ and 49% of the Zanzibar population⁵ live below the national poverty line. In 2007, three key constraints to economic growth and private investment were identified during the Compact due diligence: (i) an inadequate transportation network, (ii) an insufficient and unreliable supply of energy, and (iii) a shortage of potable water. The MCC Compact is designed specifically to address each of these constraints. More detailed Compact information is available on the MCC website – <http://www.mcc.gov/pages/countries/program/tanzania-compact>.

2.2 Transport Project

The Transport Project objectives are to (i) increase cash crop revenue through access to improved Mainland trunk and Pemba rural roads and (ii) increase aggregate tourist spending through upgrades to the Mafia Island Airport.

2.2.1 Transport Activities

The activities financed under the Transport Project include:

- **Mainland Trunk Roads:** Upgrading of up to 435 kilometers of trunk roads to bitumen pavement standards for the following road segments: Tanga-Horohoro, Tunduma–Sumbawanga and Namtumbo - Songea and Peramiho – Mbinga (on Mtwara Corridor);
- **Zanzibar Rural Roads:** Upgrading of up to 35 kilometers of rural roads on Pemba Island
- **Road Maintenance:** funding to improve maintenance management efficiency; and
- **Mafia Island Airport:** Upgrading 1.6 kilometers of Mafia Island Airport.

2.2.2 Transport Project Logic

Mainland Trunk Roads, Zanzibar Rural Roads and Road Maintenance

Figure 1 summarizes the Project Logic and key indicators for monitoring and evaluation of Mainland and Pemba Roads and Road Maintenance.

Through the Mainland and Pemba Transport Activities, MCC will finance design, construction

³ Country Report August 2007, The Economist Intelligence Unit. www.eiu.com

⁴ Poverty and Human Development Report 2005, GoT Research & Analysis Working Group.

⁵ 2004/2005 Household Budget Survey - Zanzibar, GoZ, Office of Chief Government Statistician September 2006.

and supervision activities for five main road activities. In addition, MCC will finance capacity building and technical assistance activities for the implementing entities, including supply of equipment. The outputs associated with these inputs include 470 kilometers of upgraded roads, improved policy related to road maintenance and budget for road maintenance activities, and temporary employment through construction contracts.

The outcomes expected to be realized through implementing the Roads Project include: an increase in savings in Vehicle Operating Costs as measured by the International Roughness Index; and increase in time savings and Average Daily Traffic (AADT). In addition, the project will monitor trends in Road Traffic Fatalities.

The Road Maintenance Activity, budgeted at approximately \$694,000, will provide technical assistance and equipment to TANROADS and Zanzibar Ministry of Infrastructure and Communication (MOIC) to improve the institutions' capacity in road maintenance planning and management. This will include the provision of equipment for measuring road strength and roughness and the establishment of Roads Maintenance Management System software to store data on road assessments. It will also consist of training on maintenance planning and HDM-4 analysis and continued capacity building for MOIC conducted by TANROADS.

The outcomes expected to be realized through the Road Maintenance Activity are: (1) improved capacity within TANROADS to plan and implement asphalt pavement strengthening and overlay projects in a cost effective manner, and (2) improved capacity within MOIC and the Zanzibar Roads Fund Board to effectively plan, fund, and implement road maintenance activities on the Zanzibar road network.

For the original ERR analysis of the Roads Projects, MCC estimated two main benefit streams:

1. Increase in economic activity and investment. Improved, all-year access to markets is expected to lead to an increase in revenue from cash crop production. Total cash crop revenue for the "without project scenario" was assumed to be total current cash crop revenue times an adjustment factor (ratio of length of each road to length of total regional trunk road network) times a productivity growth rate of 4% per year. Total cash crop revenue for the "with project scenario" was assumed to be that of the "without project scenario" times a one-time 25% jump in revenue times a 3% annual growth rate times a uniform adjustment factor of 50%. This translates to an expected increase in cash crop revenue between 6-16% over 2007 estimates. Given that the roads may also trigger additional economic activities, either through households living near the roads investing in income generating activities (IGA) or through increase in the number of stand-alone businesses, the project will also monitor these indicators for economic activities.

2. Improved human capital accumulation through improved health and productivity. The roads project is also assumed to improve access to health services. This is expected to result in fewer sick days per year, and conversely, more time spent on productive activities. These benefits are estimated to affect the percentage of the population in the labor force (80%) which is within the zone of influence of the road (43% for mainland roads and 80% for rural roads). For the ERR analysis, these benefits were monetized using an annual increase in estimated adult rural wage due to improved health (rural roads were assumed to lead to a higher benefit in this regard than trunk roads). Estimated adult wage in rural area was calculated by multiplying the regional GDP per capita by 50% (to estimate the share of GDP attributable to wages and scale it to a rural setting).

Mafia Island Airport Upgrade

Figure 2 summarizes the Project Logic and key indicators for monitoring and evaluation of the Mafia Island Airport Upgrade.

Through the Transport Activities, MCC will also finance design, construction and supervision activities for upgrades to the Mafia Island Airport, focused primarily on upgrading and extending the runway. In addition, MCC will finance capacity building and technical assistance activities for the implementing entity, including supply of equipment and training sessions. The outputs associated with these inputs include an extended, paved runway, and temporary employment through construction contracts.

The ERR analysis for the Mafia Island Airport project assumes that resurfacing the airport's runway and improving other airport facilities will allow for easier and cheaper access to the island, resulting in increased tourist and business travel to and from the mainland. This is expected to translate into more dollars spent in the local economy for tourism-related businesses. In 2008, approximately 8526 passengers arrived at the airport, including a mix of both business and leisure travel. The number of visitors to Mafia Island is estimated to increase by 10% post upgrade and then experience an annual growth rate of 6%. Without the upgrade, there is no expected post-project spike in visitor growth rate and the general annual growth in number of visitors is estimated at 4%, the local growth rate of GDP for Mafia Island. As of 2007, travelers stayed an average of three nights and spent approximately US\$100 per night. The increase in visitor nights on Mafia Island is expected to increase annual visitor spending by more than US\$900,000 five years after the rehabilitation and upgrade of the airport.

2.2.3 Transport Beneficiaries

The anticipated beneficiaries of the Transport Project were identified in feasibility reports as the population of the towns through which the roads would pass, as well as the population of Mafia Island.

TABLE 1: BENEFICIARIES TRANSPORT SECTOR PROJECT

Activity	Estimated number of Beneficiaries by 2027
Tanga-Horohoro	397,946
Tunduma-Sumbawanga	587,360
Mtwara Corridor	456,007
Pemba Rural Roads	109,421
Mafia Island Airport	73,819
Total	1,624,553

Figure 1: Transport Sector Project Logic for Mainland and Pemba Roads

TRANSPORT SECTOR PROJECT LOGIC									
Mainland and Pemba Roads									
PROCESS		OUTPUTS		OUTCOMES		OBJECTIVES		COMPACT GOAL	
Activities	Indicators	Result	Indicators	Result	Indicators	Result	Indicators	Result	Indicators
Finance design activities	Value of design contract (\$)*	Improvements in roads (upgrading)	Schedule of Performance Ratio (ratio)	Increase in savings in Vehicle Operating Costs (VOC)	International Roughness Index (m/km)*	Increase in time savings	Average time to market from home (min)	Poverty Reduction and Economic Growth	Average annual household income per capita (\$)
	Value disbursed on design contract (\$)*		Percentage of base completed (%)				Average time to medical facilities from home (min)		
	Certificate for Environmental Impact Assessment (EIA) issued (#) RAP approved (#)		Percentage of surfacing completed (%)	Increase in traffic volume	Average daily traffic count (#)*	Increase in investment and economic activities	Average annual cash crop revenue per household (\$)		
Value of construction contract (\$)*	Total km of roads completed (taken over) (km)*		Percentage of households with IGA (%)						
Finance construction activities	Value disbursed for construction contract (\$)*	Increased technical and administrative capacity to improve sustainability of road quality	Percent of total maintenance budget spent (%)	Improved road safety	Annual road traffic fatalities (#)*	Improve human capital accumulation	Average hours worked in the last week (hrs)		
KM of road under contract (km)*	Total number of people temporarily employed/contracted by contractors (#)*						Number of stand-alone businesses (#)	Percentage of school children who missed any in the last 4 weeks (%)	
Establish partnerships		Wildlife Management Area MoU signed between MCA-T and USAID (Date)	Increased temporary employment	Total number of people temporarily employed/contracted by contractors (#)*	Improved road safety	Annual road traffic fatalities (#)*	Improve human capital accumulation	Average hours worked in the last week (hrs)	
Provide capacity building and technical support	Value of in-kind equipment for IEs (\$)	Percentage of school children who missed any in the last 4 weeks (%)							

Bolded text refers to Indicator Tracking Table (ITT) Indicators which will be reported on a quarterly basis. All other indicators will be reported on as data is available.
 * Refers to Millennium Challenge Corporation Common Indicators for the Transport Sector

Please note: HDM-4 analysis is designed to compute, for different vehicle types and road conditions, vehicle speeds, fuel consumption, vehicle operating costs, passenger time costs, emission and accident costs based on the Highway Development and Management Model (HDM-4) relationships. The model computes unit road user costs, performs sensitivity analysis, computes network road user costs and performs a simplified economic evaluation of a road project. (World Bank). MCA-T and MCC Transport Sector Leads will confirm if a transport specialist will be contracted to conduct HDM-4 analysis.

Figure 2: Transport Sector Project Logic for Mafia Island Airport Upgrade

TRANSPORT SECTOR PROJECT LOGIC									
Mafia Island Airport									
PROCESS		OUTPUTS		OUTCOMES		OBJECTIVES		COMPACT GOAL	
Activities	Indicators	Result	Indicators	Result	Indicators	Result	Indicators	Result	Indicators
Finance design and supervision activities	Value of design and supervision contract (\$)*	Improvement in airport	Percentage of runway surfacing complete (%)	Increase in travel	Total annual passenger arrivals - dry season (#)	Increase in investment and economic activities	Annual aggregate visitor spending - dry season (\$)	Poverty Reduction and Economic Growth	Average annual household income per capita (\$)
	Value disbursed on design and supervision contract (\$)*						Annual aggregate visitor spending - wet season (\$)		
	Certificate for Environmental Impact Assessment (EIA) issued (#)						Percentage of households with IGA (%)		
Finance construction activities	Value of construction contract (\$)*	Increased temporary employment	Total number of people temporarily employed/contracted by contractors (#)*	Increase in travel	Total annual passenger arrivals - wet season (#)	Increase in investment and economic activities	Percentage of households with IGA (%)	Poverty Reduction and Economic Growth	Average annual household income per capita (\$)
	Value disbursed for construction contract (\$)*						Number of stand-alone businesses (#)		
Provide capacity building and technical support	Value of in-kind equipment for IEs (\$)								

Bolded text refers to Indicator Tracking Table (ITT) Indicators which will be reported on a quarterly basis. All other indicators will be reported on as data is available.

* Refers to Millennium Challenge Corporation Common Indicators for the Transport Sector

2.3 Energy Project

The Energy Project objectives are: (1) to increase value added to businesses, as measured through increases in business revenue, wages and reductions in non-electricity energy expenditures; and (2) to improve human capital accumulation as measured through improved health and education indicators.

2.3.1 Energy Activities

The activities financed under the Energy Project include:

- **Distribution Systems Rehabilitation and Extension:** rehabilitating existing distribution infrastructure (including new transformers and switchgear for an estimated 22 substations), and extending distribution line to underserved areas in Mwanza, Tanga, Morogoro, Iringa, Dodoma, and Mbeya regions. The Kigoma region was added following the cancellation of the Malagarasi Hydropower project.
- **Zanzibar Cable Interconnector:** laying of an approximately 40 km long, 132kV, 100MW capacity submarine electric transmission cable from the mainland to Unguja Island, Zanzibar; and
- **Kigoma Solar:** the design, supply, delivery, installation, testing, commissioning, and handing-over of fully operational solar PV systems for selected secondary schools, health facilities, markets, and fishing communities for night fishing. In addition, a commercially-oriented household solar program is expected to sell 61,275 systems to households over four years.

Note: A previous activity, the Malagarasi Hydropower and Kigoma Distribution project, was canceled after due diligence found that the project posed high environmental risks. In place of this activity, a feasibility study on the hydropower project was conducted, the Kigoma Solar activity was developed for implementation, and Kigoma region was added to the Distribution activity.

2.3.2 Energy Project Logic

Mainland Distribution Systems, Rehabilitation and Extension

Figure 3 summarizes the Project Logic and key indicators for monitoring and evaluation for Mainland Distribution Systems, Rehabilitation and Extension.

Through the Energy Activities, MCC will finance the design, construction and supervision activities for transmission and distribution (T&D) investments in seven regions. In addition,

MCC will finance capacity building and technical assistance activities for the implementing entities, including supply of equipment and training sessions for implementing entity. The outputs associated with these inputs include over 1,300 kilometers of 33/11 KV lines constructed, 1,779 kilometers of LV lines constructed, increase in the grid and primary substation capacity, improved policy-related financial sustainability of the utilities, temporary employment through construction contracts, as well as training sessions for implementing entities.

The outcomes expected to be realized from the T&D Project include: an increase in the number of domestic, commercial and industrial customers; improvements in the quality of service delivered as measured by reductions in duration and frequency of power outages⁶; increases in the quantity of electricity sold, and reductions in the consumption of other energy sources, such as kerosene and diesel.

For the original ERR analysis⁷ of the T&D activity, MCC estimates several different benefit streams:

1. Increased investment and economic activity. The provision of additional supplies of energy should increase investment and economic activity in the targeted regions. The basis for the analysis here is Calderon and Serven, (2005), and we will monitor changes in business revenue, total annual wages and total business expenditures on energy and protective equipment.
2. Power quality improvements reducing costs associated with protective equipment and damages
3. Accumulation in human capital from improvement in health status. The main social benefits arise from improvements in education and health. According to the World Bank, Indoor Air Pollution (IAP) is a major risk factor, accounting for 4 percent of the global burden of disease measured by disability adjusted life years (DALYs) lost. It is caused by the use of low-cost, widely available traditional energy sources such as coal and bio-mass (wood, dung, and crop residues) for cooking and home heating. Use of solid fuels, biomass or coal causes respiratory and other illnesses. It also has implications for household safety (burns and disfiguration, fire), allocation and use of the time of household members, especially women, and local ecology (hygiene, fire hazards, ambient air pollution, etc.)⁸.

⁶ Due to the fact that data on the number of customers affected per outage is not collected by the implementing entity, the computation of SAIFI and SAIDI (frequency and duration per customer) is not possible.

⁷ At the time of the final M&E Plan revision, the Closeout ERR model was in the process of being developed to reflect new information since Compact signing. As this revised model was not yet finalized, it could not be included in the M&E Plan.

⁸ Reference World Bank Indoor Air Pollution site:

<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTHEALTHNUTRITIONANDPOPULATION/EXTPHAAG/0,,cont>

4. Accumulation in human capital from increase in schooling. It is anticipated that children enrolled in school will be able to study longer as electricity provides lighting.

It is unclear if these benefits are more likely to accrue as a result of direct household connection or spillover effects from community-level access to electricity. The impact evaluation for the energy T&D project will attempt to address these questions. In addition, although the investment is not intended to directly affect technical and non-technical losses, this will be monitored under the project, as this is a link between the outputs produced (increase in electricity distribution and substation capacity), the expected improvements in outcomes (improve quality of service and increase electricity consumption), and the benefits expected to accrue at the population level. If technical and non-technical losses remain high, the amount and quality of electricity reaching the population will face continued constraints.

Zanzibar Cable Interconnector

Figure 4 summarizes the Project Logic and key indicators for monitoring and evaluation for Zanzibar Cable Interconnector.

Through the Energy Activities, MCC will finance the design, construction and supervision activities for laying a 40km cable from mainland to Zanzibar's Unguja Island. In addition, MCC will finance capacity building and technical assistance activities for the implementing entities, including supply of equipment and training sessions. The outputs associated with these inputs include 65 kilometers of 132 kV lines constructed (submarine cable and T&D lines), increase in the transmission and distribution substation capacity, improved policy-related financial sustainability of the utilities, temporary employment through construction contracts, as well as training sessions for implementing entities.

The outcomes expected to be realized from the Zanzibar Project include: an increase in the number of domestic, commercial and industrial customers; improvements in the quality of service delivered as measured by reductions in duration and frequency of power outages; increases in the quantity of electricity sold and reductions in the consumption of other energy sources, such as kerosene and diesel.

The original ERR analysis of the Zanzibar Interconnector is very similar to the T&D analysis. MCC estimates three different benefit streams:

1. Increased investment and economic activity -The provision of additional supplies of energy should increase investment and economic activity in the affected regions. The basis for the analysis here is Calderon and Serven (2005), and we will monitor changes in business revenue, total annual wages and total business expenditures on energy and protective equipment.
2. Power quality improvements reducing costs associated with protective equipment and damages
3. Accumulation in human capital through increase in education and improvement in health status. There are also potential social and environmental benefits arising from providing more electricity in addition to the economic benefits. The main social benefits arise from improvements in education and health, including health benefits related to avoiding emissions from diesel and kerosene use. These social benefits are primarily associated with smaller domestic customers, where the replacement energy is non-electric and there is a closer link to health and education. It is unclear if these benefits are more likely to accrue as a result of direct household connection or spillover effects from community level access to electricity. The impact evaluation for the Mainland T&D project will help to address these questions.

In addition, although the investment is not intended to directly affect technical and non-technical losses, this will be monitored under the project, as this is a direct link between the outputs produced and the expected improvements in outcomes and objective indicators.

The evaluation focuses primarily on the hotel industry on Unguja Island as this is the largest industry and the one expected to maximize benefits from improvements in access and quality of electricity. However, the monitoring activities will look at outcomes for the Unguja Island as a whole.

Kigoma Solar

Figure 5 summarizes the Project Logic and key indicators for monitoring and evaluation for Kigoma Solar.

Through the Energy Activities, MCC will finance the design, construction and supervision activities for installing solar systems in secondary schools, health facilities, markets and fishing communities. In addition, MCC will finance capacity building and technical assistance activities, specifically training sessions for end users of the solar energy installations. The outputs associated with these inputs include the number and capacity of systems installed, as measured by kilowatts per hours, as well as hours of training sessions for households.

The outcomes expected to be realized from the Kigoma Solar Project include: an increase in the number of customers served by solar power installations; improvements in the quality of electricity service delivered as measured by duration of power availability; increases in the quantity of solar electricity sold, reductions in non-solar electricity consumption, and reductions in the consumption of other energy sources, such as kerosene and diesel.

Similar to the main Energy projects, the Kigoma Solar project is also intended to increase economic activity and investment, and improve human capital accumulation in order to contribute to poverty reduction and economic growth.

Since the Kigoma Solar Activity was developed mid-Compact as a replacement for the canceled Malagarasi Hydropower and Kigoma Distribution project, its ERR analysis does not yet exist, but is expected prior to the Compact End Date.

2.3.3 Energy Beneficiaries

Beneficiaries are estimated as the sum of existing and new customers by 2027. Customers include residential and industrial and commercial connections. Given the re-scoping and removal of the Malagarasi Hydropower project and addition of the Kigoma Solar project, the final beneficiary numbers will not be known until an estimate of the number of beneficiaries under the Kigoma Solar project is available.

TABLE 2: BENEFICIARIES ENERGY SECTOR PROJECT

Activity	Estimated number of Beneficiaries by 2027
Tanga T&D	194,087
Dodoma T&D	127,356
Morogoro T&D	191,585
Iringa T&D	115,453
Mwanza T&D	274,959
Mbeya T&D	180,222
Zanzibar Interconnector	400,313
Kigoma Solar	Not Currently Available ⁹
Total	1,483,975

⁹ The ERR Model for Kigoma PV Solar Project is yet to be constructed to determine the number of beneficiaries by 2027. It will be developed prior to the close of Compact.

Figure 3: Energy Sector Project Logic for Mainland Transmission and Distribution

ENERGY SECTOR PROJECT LOGIC									
Mainland Transmission and Distribution									
PROCESS		OUTPUTS		OUTCOMES		OBJECTIVES		COMPACT GOAL	
Activities	Indicators	Result	Indicators	Result	Indicators	Result	Indicators	Result	Indicators
Finance feasibility activities	RAP approved (#)	Increase electricity distribution and substation capacity	Total kilometers of 33 and 11 KV constructed (km)	Improve electricity service coverage	Number of current domestic power customers (household) (#)	Increase investment and economic activities	Average annual business revenue (\$)	Poverty Reduction and Economic Growth	Average annual household income per capita (\$)
	Certificate for Environmental Impact Assessment (EIA) issued (Date)		Total kilometers of LV lines constructed (km)		Number of current commercial power customers (#)		Average annual wages (\$)		
Finance design and supervision activities	Value of feasibility, preliminary design and supervision contracts (\$)	Improve financial sustainability	Total transmission and distribution substation capacity (MVA)	Improve quality of service	Technical and non-technical losses (%)	Improve human capital accumulation	Average annual expenditure on energy (\$)		
	Value disbursed of feasibility, preliminary design and supervision contract (\$)		Cost Recovery Ratio (ratio)		SAIDI proxy - average duration of blackouts (hrs)		Percentage of population with indoor air pollution related illness (%)		
Finance construction activities	Value of design and build construction contract (\$)	Increased temporary employment	Collection Efficiency (%)	Increase electricity consumption	SAIFI proxy - Average frequency of blackouts (#)	Average availability of power per day (hrs)			
	Value disbursed of design and build construction contract (\$)		Total number of people temporarily employed/contracted by contractors (#)		Average annual quantity of other energy sources (kerosene, diesel) consumed (varies)		Average hours spent studying last week for all children enrolled in school (hours)		
Provide capacity building and technical support	Value of in-kind equipment (\$)	Increase in technical and administrative capacity	Total hours of training delivered to implementing entities (hrs)						

Bolded text refers to Indicator Tracking Table (ITT) Indicators which will be reported on a quarterly basis. All other indicators will be reported on as data is available.

Figure 4: Energy Sector Project Logic for Zanzibar Cable

ENERGY SECTOR PROJECT LOGIC

Zanzibar Cable

PROCESS		OUTPUTS		OUTCOMES		OBJECTIVES		COMPACT GOAL	
Activities	Indicators	Result	Indicators	Result	Indicators	Result	Indicators	Result	Indicators
Finance feasibility activities	RAP approved (#) Certificate for Environmental Impact Assessment (EIA) issued (Date) Environmental and Social Management Plan approved (Date)	Increase electricity distribution and substation capacity	Total km of 132 KV constructed (km)	Improve electricity service coverage	Number of current domestic power customers (household) (#)	Increase investment and economic activities	Average annual business revenue (\$)	Poverty Reduction and Economic Growth	Average annual household income per capita (\$)
Finance design and supervision activities	Value of feasibility, preliminary design and supervision contracts (\$)		Total transmission and distribution substation capacity (MVA)		Number of current commercial power customers (#)		Average annual wages (\$)		
	Value disbursed of feasibility, preliminary design and supervision contract (\$)	Number of current industrial power customers (#)			Average annual expenditure on energy (\$)				
Finance construction activities	Value of design and build construction contract (\$)	Improve financial sustainability	Cost Recovery Ratio (ratio)	Improve quality of service	Technical and non-technical losses (%)	Improve human capital accumulation	Average number of employees per hotel (#)		
	Value disbursed of design and build construction contract (\$)		Collection Efficiency (%)		SAIDI proxy - average duration of blackouts (hrs)				
Provide capacity building and technical support	Value of in-kind equipment (\$)	Increased temporary employment	Total number of people temporarily employed/contracted by contractors (#)		SAIFI proxy - Average frequency of blackouts (#)			Average availability of power per day (hrs)	
		Increase in technical and administrative capacity	Total hours of training delivered to implementing entities (hrs)	Increase electricity consumption	Total quantity of electricity sold (MWh/year) Average annual quantity of other energy sources (kerosene, diesel) consumed (varies)				

Bolded text refers to Indicator Tracking Table (ITT) Indicators which will be reported on a quarterly basis. All other indicators will be reported on as data is available.

Figure 5: Energy Sector Project Logic for Kigoma Solar

ENERGY SECTOR PROJECT LOGIC									
Kigoma Solar									
PROCESS		OUTPUTS		OUTCOMES		OBJECTIVES		COMPACT GOAL	
Activities	Indicators	Result	Indicators	Result	Indicators	Result	Indicators	Result	Indicators
Finance feasibility, design activities	Value of feasibility contracts (\$)	Increase access to electricity	Total capacity of systems installed (kWp)	Improve electricity service coverage	Number of PV systems sold and installed at household (#)	Increase investment and economic activities	Average annual business revenue (\$)	Poverty Reduction and Economic Growth	Average annual household income per capita (\$)
	Value disbursed of feasibility contracts (\$)		Number of PV systems installed (#)		Daily solar power consumption		Average annual wages (\$)		
Finance construction (implementation) activities	Value of construction contracts (\$)	Increase in technical and administrative capacity		Total hours of training delivered to end users (#)		Improve quality of service	Average availability of power in the last 24 hours		
	Value disbursed of construction contract (\$)		Increase electricity consumption		Average annual quantity of other energy sources (batteries, kerosene, diesel) consumed (varies)	Availability of vaccines (#)			

Bolded text refers to Indicator Tracking Table (ITT) Indicators which will be reported on a quarterly basis. All other indicators will be reported on as data is available.

2.4 Water Project

The Water Project objective is to increase investment in human and physical capital and reduce prevalence of water-related diseases.

2.4.1 Water Activities

The activities financed under the Water Project include:

- **Lower Ruvu Plant Expansion:** expanding the capacity of the Lower Ruvu water treatment plant serving the Dar es Salaam area, from about 180 million liters per day (MLD) to approximately 270 MLD;
- **Morogoro Water Supply:** improving water supply in Morogoro through rebuilding the non-functioning Mambogo water treatment plant, rehabilitating the Mafiga water treatment plant, and improving water transfer in the existing distribution network. The overall interventions will increase the production of treated water from the baseline 19 million liters of treated water per day to 33 million liters per day (19 MLD to 27 MLD at Mafiga and an additional 6 MLD from Mambogo). Note that the Mambogo system currently supplies 4 MLD of untreated water.

2.4.2 Water Project Logic

Figure 6 summarizes the Project Logic and key indicators for monitoring and evaluation for the Lower Ruvu and Morogoro Water Supply.

Lower Ruvu and Morogoro Water Supply

Through the Water Activities, MCC will finance the design, construction and supervision activities for expanding water treatment plants in order to increase the volume of treated water produced. In addition, MCC will finance the capacity building and technical assistance activities, specifically targeting the utilities' billing and collections activities. The anticipated outputs associated with these inputs include increasing the volume of water produced, improved financial sustainability of the utility companies, and increase in temporary employment under construction activities.

The outcomes expected to be realized from the Water Activities include: an increase in the number of domestic and non-domestic customers, as well as a decrease in the ratio of non-active customers to total customers. Non-active customers are defined as customers who are currently connected to the line and willing to pay for water, but currently not receiving water. With the increase in water volume produced, the Activity will try to increase the water service area to reach customers who are already connected to the line. Although the Activity will not finance

direct connections, it is also possible that more people will connect if the supply area is larger and supply is more reliable. In addition, the Activity is expected to produce improvements in the quality of service delivered as measured by average hours of service and the quality of water as measured by Nephelometric Turbidity Units (NTU), Coliform Microbial Density (per 100 milliliters), and Free Chlorine Residual. Although the Lower Ruvu Activity does not include a water quality improvement component, the Morogoro Activity does include improving the water treatment at source. Even though Lower Ruvu project does not invest directly in improving water quality, the investment will result in a higher quantity of *treated* water provided to Dar es Salaam, which supports the important link between the increase water supply and expected improvements in health status described below. Finally, the Activity is expected to increase the volume of water consumed both by commercial, non-commercial (schools, hospitals) and residential users.

For the original ERR analysis of the Water Project, MCC identifies four benefit streams:

1. Decrease in prevalence of water-related illness. The investment is expected to increase the volume of clean water supplied, thereby reducing the prevalence of water-related diseases, such as cholera.
2. Improved human capital accumulation. As household members become healthier and see reductions in morbidity, we expect to see increase in labor market participation and schooling as individuals are healthier and spend less time taking care of sick relatives.
3. Increased household investment. Reductions in mortality lead households to increase investment in physical capital.
4. Increased business investment and economic activity. Businesses have more access to reliable water, which implies that they can make better investment decisions.

2.4.3 Water Beneficiaries

Beneficiaries are estimated as the sum of existing and new customers by 2027. Customers include residential and industrial and commercial connections.

TABLE 3: BENEFICIARIES WATER SECTOR PROJECT

Activity	Estimated number of Beneficiaries by 2027
Lower Ruvu	2,585,898
Morogoro Water	215,961
Total	2,801,859

Figure 6: Water Sector Project Logic for Lower Ruvu and Morogoro Water Supply

WATER SECTOR PROJECT LOGIC											
Lower Ruvu Plant Expansion and Morogoro Water Supply											
PROCESS		OUTPUTS		OUTCOMES		SHORT-TERM OBJECTIVES		MEDIUM-TERM OBJECTIVES		COMPACT GOAL	
Activities	Indicators	Result	Indicators	Result	Indicators	Result	Indicators	Result	Indicators	Result	Indicators
Finance feasibility, design activities	Value of feasibility/design contract (\$)*	Improve treatment plants	Schedule of Performance Ratio (ratio)	Improve water service coverage	Number of non-domestic customers (#)*	Decrease incidence of water-borne related morbidity	Percentage of population with diarrhea in the last 2 weeks (%)	Decrease in mortality	National level <5 mortality rate (per 1000 births)	Poverty Reduction and Economic Growth	Average annual household income per capita (\$)
	Value of feasibility/design contract disbursed (\$)*	Increase water production	Volume of water produced (million liters/day)*		Number of domestic customers (#)*						
	Certificate for Environmental Impact Assessment (EIA) issued (Date)	Reduce water losses	Non-revenue water (%)*		Percentage of households with access to improved water supply (%)	Continuity of service (hours/day)*	Average hours worked last week (hours)				
Finance construction activities	Value of construction contract (\$)*	Improve financial sustainability	Operating Cost Coverage (ratio)*	Improve quality of service	Nephelometric turbidity units (NTU)	Improve human capital accumulation	Percentage of school children who missed any in the last 4 weeks (%)	Increase investment and economic activities	Average current value of household assets per capita (\$)	Poverty Reduction and Economic Growth	Average annual household income per capita (\$)
	Value of construction contract disbursed (\$)*	Increase temporary employment	Total number of people temporarily employed/contracted by MCA-IEs (#)*	Improve quality of water	Coliform Microbial Density (per 100 milliliters)						
					Increase water consumption	Volume of commercial water consumption (cubic meters per month)*					
					Volume of residential water consumption (liters/capita/day)*						

Bolded text refers to Indicator Tracking Table (ITT) Indicators which will be reported on a quarterly basis. All other indicators will be reported on as data is available.

* Refers to Millennium Challenge Corporation Common Indicators for the Water Sector

2.5 Estimated Total Beneficiaries

The estimated total number of beneficiaries for the Compact covers 2008-2027 and is the sum of beneficiaries of each of the activities, except in the case where there are two activities in the same region. Therefore, total beneficiaries exclude energy beneficiaries in Tanga, Morogoro and Mbeya to avoid possible double-counting with the Transport and Water projects in these areas.

TABLE4: TOTAL BENEFICIARIES

Activity	Estimated number of Beneficiaries by 2027
Tanga-Horohoro	397,946
Tunduma-Sumbawanga	587,360
Mtwara Corridor	456,007
Pemba Rural Roads	109,421
Mafia Island Airport	73,819
Tanga T&D	194,087
Dodoma T&D	127,356
Morogoro T&D	191,585
Iringa T&D	115,453
Mwanza T&D	274,959
Mbeya T&D	180,222
Zanzibar Interconnector	400,313
Kigoma Solar	N/A
Dar Lower Ruvu	2,585,898
Morogoro Water	215,961
Total	5,910,387

2.6 Economic Rate of Return Analysis

As discussed above, specific sub-projects were selected for MCC funding based on an ERR of greater than or equal to double the average of the economic growth rates in Tanzania over the three years prior to the Compact (12.8%)¹⁰. Further, the monitoring indicators for the three Projects are tied closely to the assumptions used in the economic analysis of the Projects. Tanzania Compact ERR calculations can be found at <http://www.mcc.gov/pages/countries/err/tanzania-compact>.

The original sector-level ERR for the Mainland Projects are: (1) transport sector 16.0%, (2) energy sector 26.7%, (3) water sector 20.3%, and the original overall ERR for the Zanzibar projects is 17.8%.

TABLE 5: SUMMARY OF ECONOMIC RATES OF RETURNS

Project	2007 Base Case ERR (Hurdle = 12.8%)	2007 Estimated Range of ERR
Tanga – Horohoro	15%	12-17%
Tunduma – Sumbawanga	20%	17-23%
Mtwara Corridor	14%	12-16%
Pemba Roads	12%	8-15%
Mafia Island Airport	17%	15-20%
Tanga T&D	42%	15-58%
Dodoma T&D	16%	10-32%
Morogoro T&D	24%	15-41%
Iringa T&D	52%	25-69%
Mwanza T&D	31%	4-45%
Mbeya T&D	53%	10-80%
Zanzibar Interconnector	21%	10-31%
Kigoma Solar	N/A	N/A
Dar Lower Ruvu	27%	23-31%
Morogoro Water	5%	0-8%

¹⁰ This hurdle rate corresponds to MCC Guidelines for Economic Analysis as of November 2005. In 2010, the hurdle rate was increased to 14.2%.

3 MONITORING

Monitoring is defined by MCC as “a continuous function that uses the systematic collection of data on specified indicators to gauge progress toward final program objectives and achievement of intermediate results along the way”. Effective project monitoring is considered to be essential for tracking process indicators (financial and in-kind inputs) and the generated outputs and outcomes of those investments.

A comprehensive system of monitoring and evaluation requires (a) defining the expected processes, outputs, outcomes and objectives, (b) identifying monitoring indicators for each, (c) ensuring that baseline data are available and d) targets are set to assess progress, and (e) making sure a system is in place to frequently collect, analyze and report the data to monitor progress. It should also include M&E a detailed program logic that documents assumptions & risks in addition to indicators.

The Compact Activities will be monitored through specified indicators which are consistent with the Project Logics (Figures 1-6) and Annex I and II of this document. Five types of indicators will be measured including goal, objective, outcome, output and process level indicators. The M&E plan also specifies data sources, frequency of data reporting, and baseline and target values.

3.1 Indicators

Indicators are used to measure progress toward the expected results throughout the design and implementation period and beyond. Different types of indicators are needed at different points in time to trace each point along the Program Logic. All indicators in the M&E plan should have a specified unit of measurement, which must align with MCC’s approved list of units of measurement. Units may be added to this list at the request of an MCA if necessary, but they will be subject to MCC approval.

The M&E plan tracks key process, output, outcome, objective and goal level indicators. MCC defines these indicators as:

- **Process Indicator:** An indicator that measures progress toward the completion of a Project Activity, a step toward achievement of Project Outputs and a way to ensure the work plan is proceeding on time.
- **Output Indicator:** Indicators that directly measure Project Activities. They describe and quantify the goods and services produced directly by the implementation of an Activity.
- **Outcome Indicator:** Indicators that measure the intermediate effects of an Activity or set of Activities and are directly related to the Output Indicators.

- **Objective Indicator**¹¹: Indicators that measure the high-level impacts of the Activity and are directly linked to the Outcomes Indicators.
- **Goal Indicator**: Indicators that measure the economic growth and poverty reduction changes that occur during or after implementation of the program.

The monitoring and evaluation indicators are summarized in Annex I, including the definition, unit, and data source (citing the material evidence when possible). Modification memos which summarize any revisions during the March 2010, April 2012, and May 2013 M&E plan revisions are in Annex III.

3.2 Data Sources

Data is derived from several sources:

- **Economic Rate of Return**. When possible, the ERR captured baseline and target values for indicators assumed to be impacted by the Compact Activities. The ERR mostly focuses on objective and goal level indicators.
- **Evaluation Surveys**. MCC and MCA-T have financed impact evaluation baseline surveys in the Transport (Mainland/Pemba Roads projects only - 2009), Energy (Mainland T&D only - 2011), and Water (2013) Sectors. In addition, performance evaluation baseline surveys have been financed for Zanzibar Cable (2010), Mafia Island Airport Upgrade (2012), Kigoma Solar (2013), and the Gender Integration Program described below (2013). Finally, a Traffic Count Survey has been commissioned for June 2013 for the Mainland Roads. When evaluation surveys are financed, MCA-T will ensure data collection efforts respond to the data requirements of the M&E plan, including both monitoring data, as well as data for any applicable impact or performance evaluations. This data is typically on key output, outcome, and goal level indicators.
- **Secondary Data Sources**. When possible, MCA-T and MCC reference secondary data sources that represent the beneficiary population for Activity areas either when data is not available from primary sources or to triangulate and verify existing data. Secondary data sources include the Demographic and Health Survey (DHS), Tanzania Household Budget Survey (HBS), and Tanzania National Panel Survey (NPS). This data typically informs output, outcome, and goal level indicators.
- **Implementing Entities**. MCA-T M&E and Sector Leads need to have a strong link with the Implementing Entities (IE) in order to report on and monitor data on key indicators for which data is available. While the IEs are the only reliable source for most output indicators, the M&E team will triangulate data regarding outcome level indicators with Secondary Data and Evaluation Surveys when possible.

¹¹ As of April 2012, the MCC M&E Policy no longer includes the category of Objective level indicators, however it remains in the Tanzania M&E Plan since the indicator framework was developed prior to the policy change.

TABLE 6: SUMMARY OF MAIN DATA SOURCES, FREQUENCIES AND INDICATOR TYPES

Source	Frequency	Indicators
Economic Rate of Return	Baseline and Target for select indicators only	Goal, Objective, and Outcome level
Evaluation Surveys	Baseline and Follow-up	Goal, Objective, and Outcome level
Secondary Data Sources	As available	Goal, Objective and Outcome level
Implementing Entities	Quarterly	Outcome, Output level
MCA-T	Quarterly	Process level

The list of indicators, unit of measure, definitions, disaggregation levels, data source, responsible party or parties and frequency of reporting are summarized in Annex I, with baseline and target values in Annex II. Data on these indicators will be reported to MCA-T Management and to MCC on a quarterly basis through the ITT unless otherwise noted in the frequency of reporting column.

3.3 Setting Baseline and Target Values

Every indicator selected must have a baseline value. For the Tanzania Compact, the baseline values are mostly set at the pre-Compact period July-August 2008, but in some cases later data from years prior to the start of the project intervention had to be used due to data constraints. The MCA-T M&E unit is responsible for documenting the actual start date of each sub-project in order to distinguish between pre-intervention trends and post-intervention trends. Any evaluation analysis will consider the actual start date of the sub-activity.

Indicators in the M&E plan also include annual and compact targets whenever possible and appropriate. Some indicators will not have a target set and will maintain Not Applicable (N/A) for the targets. The majority of these indicators were added during Compact implementation as they fit within the project logic, but targets were never set. Otherwise, these indicators were for objective tracking purposes and no target needed to be set.

For indicators derived from the economic analysis, targets are based on the ERR model.

MCC does not require quarterly targets; however, the MCA may choose to set quarterly targets for internal management purposes. Quarterly reporting of progress against annual targets is required by MCC.

3.4 Gender Analysis

Gender inequality can be a constraint to economic growth and poverty reduction, and gender issues can be a determining factor for the effectiveness of an intervention. In light of this, MCA-T developed a Gender Integration Policy which emphasizes the recognition of gender inequality as a major constraint to the growth of the economy, including efforts to reduce poverty. The policy further identifies the priority areas and directions in gender integration within the Transport, Energy, and Water sector projects.

The MCA-T Gender Policy is directly linked with Tanzania's national policy frameworks which emphasize empowerment of men and women of all ages to fully participate in the development process and remove gender bias in access to resources, participation in decision making, ownership of property. These frameworks and MCA-T's policy also focus on increasing opportunities for the formation of women's groups to promote formal education, training, skills development and equal rights for employment; providing women with legal rights to own property, credit; and adopting effective technologies for relieving women from domestic and agricultural chores. Details of Gender issues for the Compact are described in the Gender Integration Program (GIP) document.

Under the GIP, Gender Focal Points (GFPs) are located at the district level, and are responsible for reporting quarterly data on GIP progress and results on gender and women's enterprise activity. In addition to the GIP, under the Compact the M&E Directorate is responsible for collecting and analyzing differential trends in results for men and women for key indicators. Annex I specifies which indicators will be disaggregated by gender. Whenever possible, analysis of trends and impacts will be disaggregated by gender. To achieve this, all evaluation analysis and all evaluations will collect relevant data on men and women in order to examine the differential impacts of the Activities by gender., MCA-T will disaggregate data by gender where possible in quarterly reporting with the ITT and the quarterly ITT narrative will include a brief description of GIP activities and data, complementing the broader M&E data.

In the Tanzania Compact, targets in the M&E plan are not required for the number of women or men being served by an Activity, as the project designs are not directly linked to performance to gender-specific outcomes.

3.5 Data Quality Assurance

M&E data is the key source of information on progress towards the achievement of Compact results and supports decision making by program managers. Ensuring that the underlying data are of good quality is essential to maintain a high level of confidence in the decisions that are made using the data.

The Data Quality Review (DQR) is a mechanism to review and analyze the utility, objectivity, and integrity of performance data. It is a key process in promoting evidence-based decision making in development projects and program management. It is critical to establishing whether data producers and users can confidently engage in performance measurement through using the monitoring data that is reported. DQRs consist of the scientific and statistical evaluation of data along the chain from the original source to final report. They cover: 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.

DQRs are part of periodic performance audits of the MCA-T M&E unit. MCA-T contracts the data quality reviewers competitively in compliance with MCC's [Program Procurement Guidelines](#). The Terms of Reference for the DQR must be approved by MCC.

The first DQR, led by IDEA International, was initiated in October 2011, with the final report released in September 2012. Lessons learned and some of the recommendations made were adopted by the MCA-T Directorate. MCA-T will commission the last DQR for MCA-T (I) in May 2013. The objective of the second DQR is to examine to what extent the DQR I recommendations were implemented and validate the final data sets reported by MCA-T. DQR II will also provide lessons and recommendations for the MCA-T (II) M&E team.

The M&E Directorate in collaboration with other directorates will also conduct regular internal data quality reviews through visits to implementing entities and project sites.

3.6 Management Information System (MIS)

In August 2011, MCA-T established a Management Information System (MIS) which should serve as the primary source of information for the overall M&E of the program, projects and activities. The MIS was to be used as a management tool to track MCA-T processes, outputs and outcomes and to monitor whether these are being delivered in line with the expectations of MCA-T and MCC. It would provide information to MCA-T's stakeholders¹² about the progress and performance of activities, and permit MCA-T staff to track the movement of resources as projects are implemented. MCA-T's MIS will enable generation of the monthly, quarterly, annual, as well as ad-hoc, reports on program activities.

In 2011, the consultant contracted to develop the application (Synergy International Systems) declared it had been completed and went ahead to commission it. In 2012, it was, however established that the system lacked some necessary modules notably the off-line module and the executive dashboard. The consultant was, therefore called upon to design the two modules and

¹² Information available to the public will be in accordance with MCC M&E Guidance.

retrain the users. Even after the two processes were completed, the MIS did not function as well. Rather than spend more money on it and given the time limitations, the MCA-T decided not to use the system.

3.7 Reporting

There are two levels of reporting, namely within program (MCA-T) and MCC level.

3.7.1 Program Level¹³

Implementing Entities are mandated to report data on selected indicators which are in the ITT on a monthly basis (refer to Annex I). In addition, Supervising Engineers submit monthly reports to the sectors detailing the progress, successes, challenges and lessons learned in quarterly basis. The Sector Directorates send copies of these reports to M&E Directorates for further analysis and consolidation. The consolidated reports including the ITT and its narrative are submitted to MCA-T Management for review.

3.7.2 MCC Level

MCA-T is mandated to report to MCC when submitting disbursement requests on a quarterly basis. The reporting package will include the (1) completed ITT, which displays performance targets (projections) and tracks progress against them (actual); (2) corresponding narrative report which explains progress made and performance and any reasons for deviations from the targets when applicable; and (3) the overall Detailed Financial Plan (DFP) Narrative Report. The overall DFP narrative report is the responsibility of all MCA-T directorates and provides a brief description of the previous quarter's performance and explains how requested funds will be used in the coming quarter. The narrative report, which is not a public document and is limited to five pages, includes the following:

- Status of implementation of activities planned during the previous quarter for each component of the program and provide explanations in case there are deviations from the plans,
- Challenges that might affect implementation and propose measures to address the challenges,
- Significant M&E activities that took place during the quarter such as data collection, M&E Procurements and results of any M&E studies.

The ITT narrative Reports will be prepared by the MCA-T M&E Directorate and submitted to management and are to be consolidated into the DFP report for submission to MCC management

¹³ MCA-T M&E Directorate may develop a detailed M&E Reporting Framework to be presented to the Management for approval.

for review and approval. Additional guidance on reporting is contained in MCC's [*Guidance on Quarterly MCA Disbursement Request and Reporting Package*](#).

3.8 Feedback Loop

The MCA-T M&E Directorate encourages critical reflections upon compact results at all levels. For example, when sector Directorates get monthly reports from supervising engineers they discuss, provide feedback and recommendations for improvements. Feedbacks from MCC will also be relayed by MCA-T to Implementing Entities. M&E Directorate will also work hand in hand with Public Outreach Unit to publish compact success stories. There will also be other forums for sharing and using compact information, including but not limited to Annual Stakeholders' review Workshops. To - date the MCA-T has conducted one stakeholder's workshop in February 2013.

3.8.1 Annual Performance Review

MCA-T may choose to conduct Annual Performance Reviews and submit an Annual Supplemental Report to regular quarterly reporting. The Annual Supplemental Report may provide information on accomplishments and developments of Compact implementation related to progress on Activities, the consultative process, donor coordination and lessons learned and best practices. Though not an MCC requirement, the Annual Supplemental Report may be submitted to MCC one month after the end of each US fiscal year (October 30).

These annual performance reviews may include workshops. A workshop would be moderated by competent facilitator(s). Participants of the workshop would include representatives from a wide range of stakeholders. The workshops would provide opportunities for:

- Reviewing the overall implementation progress of MCA - T;
- Analyzing problems encountered in the course of implementation and discuss possible actions;
- Reviewing the projects and proposing modifications as necessary; and
- Using the findings for planning activities for the subsequent year.

If the MCA-T M&E unit would like to propose an Annual Performance Review, the M&E unit must first have a final Concept Note detailing the objectives of the workshop, participants, expected deliverables and estimated budget approved by MCA-T management.

4 PERFORMANCE AND IMPACT EVALUATIONS

In order to determine the extent to which the Tanzania Compact has contributed to economic growth and poverty reduction, performance and impact evaluations of sub-activities will be carried out by independent evaluators.

A **Performance Evaluation** is a study that starts with descriptive questions, such as: what were the objectives of a particular project or program, what was achieved; how was it implemented; how was it perceived and valued; whether expected results are occurring and are sustainable; and other questions that are pertinent to program design, management and operational decision making. MCC's performance evaluations also address questions of program impact and cost-effectiveness. However, a performance evaluation typically lacks the ability to estimate the causal impacts on outcomes that are attributable to the sub-project.

An **Impact Evaluation** is a study that measures the changes in income and/or other aspects of well-being that are *attributable* to a defined intervention. Impact evaluations require a credible and rigorously defined counterfactual, which estimates what would have happened to the beneficiaries absent the project. Estimated impacts, when weighed with total related costs, provide an assessment of the intervention's cost-effectiveness.

MCA-T balances the expected accountability and learning benefits with the evaluation costs to determine what type of evaluation approach is appropriate. Impact evaluations are performed when their costs are warranted by the expected accountability and learning. MCA-T will follow any MCC specific guidelines and standards for the selection, preparation, review and dissemination of performance and impact evaluations.

Each of the three Compact Projects, as well as the Gender Integration Program training, is being evaluated. Figure 7 provides a summary of all the MCA-T performance and impact evaluations planned as of May 2013.

Details regarding the specific program evaluations are provided in the Annex IV.

Figure 7: Summary of Tanzania Compact Evaluation Activities

Evaluations by Sector	EVALUATOR	METHODOLOGY					BASELINE			FOLLOW-UP	IMPACT
		Classification	Design	Method(s)	Population	Sample Size	Survey Firm	Data Collection Dates	Report	Data collection Dates	Report
Transport											
(i) Mainland Trunk Roads	EDI (baseline); NORC (since 2012)	Previously Impact, currently being re-designed	Previously PSM-DID	Quantitative ; Qualitative	Baseline: Community	200 sub-villages	EDI	Mar-May 2009	Nov-09	TBD	2016
(ii) Pemba Roads		Previously Impact, currently being re-designed	Previously PSM-DID	Quantitative ; Qualitative	Baseline: Community; Household	80 villages		Jun-Aug 2009		TBD	2016
(iii) Mafia Island	Individual Consultant	Performance	Before/after	Quantitative ; Qualitative	Hotel Managers; Hotel Guests; Arriving Passengers; Village Leaders; FGDs; Individuals	16; 473; 770; 21; 3 male, 3 female; 60	Individual Consultant	Feb-Jun 2012	Dec-12	2015	2015
Energy											
(i) Zanzibar Cable and T&D	MPR	Performance	Before/after	Quantitative ; Qualitative	Hotels	30 hotels	MPR	Jun-Aug 2010	Mar-11	2014	2015
(ii) Mainland T&D		Impact	PSM-DID	Quantitative ; Qualitative	Tanga enterprise; Household	356 sub-villages	NRECA	August - November 2011	Dec-12	2014	2015
(iii) Mainland Customer Connection Financing Scheme (CCFS)		Impact (part of Mainland T&D Evaluation)	RCT	Quantitative ; Qualitative	Household	29 Communities (from T&D Baseline sample)	NRECA	August - November 2011	Dec-12	2014	2015
(iv) Kigoma Solar	Individual Consultant	Performance	Before/after	Qualitative	Fishing industry; village markets; schools; health facilities; households	TBD	Individual Consultant	May - August 2013	Sep-13	2014	2015
Water											
(i) Lower Ruvu and Morogoro	Social Impact	Impact	PSM-DID	Quantitative ; Qualitative	Community; Househols	628	EDI	April - October 2013	Dec-13	2015	2016
Cross-Cutting											
Skill Based Groups and Gender Focal Point (SBG-GIP) Study	Individual Consultant	Performance	Before/after	Quantitative ; Qualitative	GFPs; SBGs; SBG Members	230; 37; 585	Individual Consultant	April - June 2013	Aug-13	N/A	N/A

5 CAPACITY BUILDING

The MCA-T M&E Directorate will continuously familiarize stakeholders, including MCA-T and Implementing Entities staff, on how to effectively implement the M&E Plan. M&E advocacy will continue at all levels within MCA-T and Implementing Entities. Specific training on M&E as well as exchange visits to other MCAs may be required for implementers to comply with the M&E plan.

6 COMPACT CLOSE-OUT

The MCA-T will draft the Compact Completion Report (CCR) by July 2013 following MCC guidelines. The report will highlight operational performance and how the intermediate objectives have been met. MCA-T M&E will contribute to the report with analysis of ITT, performance and impact evaluation data to determine: (1) if resources were availed and committed as planned; (2) activities were completed; (3) stakeholders met their obligations and covenants; (4) implementation was cost effective; (5) objectives were met, and if not why?; (6) intended beneficiaries accessed the services and benefited from compact activities, and if so, to what extent?; (7) there are unintended results, and who were affected; (8) there are challenges encountered and how they were mitigated; and (9); there are adequate sustainability arrangements.

The CCR will also outline lessons learned and best practices, as well as actionable recommendations.

The draft report will be submitted to the MCA-T Governing Board for review and further to MCC for review and approval. MCC will then draft the Post-Completion Assessment Report (PCAR) within 6 months after the compact ends (April 2014) to evaluate these same fundamental questions and other aspects of Compact program performance.

7 ASSUMPTIONS AND RISKS

The program logic, expected outcomes and impact are based on assumptions about the linkages between individual project activities and the long-term goal of poverty reduction through economic growth. Assumptions inform the initial economic return analysis while risks are likely to affect program success.

The assumptions and risks for each of the three Projects are presented in Table 8 below:

TABLE 8: COMPACT'S ASSUMPTIONS AND RISKS

Hypothesis	Risks	Mitigation
Investment in transport, energy and water will steer economic growth and therefore reduce poverty in Tanzania	Slow responsiveness of beneficiaries.	GIP training to Skill-Based Groups Raise awareness through public outreach.
Transport Sector Project		
Reduce transport costs and travel times, facilitating access to markets and thereby increasing economic activity	Poor disorganized, markets could lead to slow responsiveness in underutilization of opportunities created by the Compact	Work closely with partners intervening in marketing programs.
Easier, more efficient, and safer access to Mafia Island resulting in increase in visitors and visitor spending	Lack of marketing information about Mafia Island as a tourist destination will lead to few tourists coming; Undeveloped aviation industry might lead to few flights to Mafia Island	The tourist industry to aggressively market Mafia as a tourist destination Aviation industry to encourage more private flights to Mafia Island.
Energy Sector Project		
Access to electricity leads to investments in productive assets and human capital.	Unfavorable weather condition might lead to low generation of hydropower resulting into power overloads and prolonged load-shading. Low cost recovery as a result of high operational costs High connection costs (estimated at \$110 - \$200) compared to annual per capita income of \$1,400 (year 2010 estimate) may slow down connections.	More investment in power sources to cope with increased demand Phasing out of postpaid meters will increase collections, and thus increase cost recovery ratio. MCA-T/TANESCO Financing Scheme 5,800 offering subsidized connection rates as a pilot
Water Sector Project		
Access to water leads to better health outcomes, more time spent on productive activities and increased value-added for businesses.	Failure for the Project to remain sustainable due to tariff reforms falling short of recovery costs or implementing agencies not realizing expected efficiencies in operations Existence of many confounding factors exist such as water quality at point of use and storage, sanitation facilities, hand washing behavior and other water-related factors which are correlated with health outcomes might jeopardize beneficiaries' health	MCA-T building the capacity of water utilities in improving efficiency in operations It is assumed that sustained supply of chemicals to treat the water. Water utilities will monitor water quality at the source and at the point of consumption. It is assumed that Public Health Department will continue to implement sanitation awareness campaigns.

8 INSTITUTIONAL FRAMEWORK

Implementation of MCA–T M&E activities will be done by all MCA–T Directorates and will be coordinated by the M&E Directorate. Specific responsibilities and implementation arrangements are outlined below as follows:

8.1 M&E Directorate Responsibilities

The MCA-T M&E Directorate is responsible for the overall coordination of Tanzania Compact M&E strategy and implementation, including related activities within the Program and through its implementing entities, while providing timely and relevant information to Program stakeholders in the GoT, civil society and the private sector. This entails close communication with all involved in M&E implementation.

Duties and responsibilities of the directorate include:-

- Develop, manage, and ensure adherence to the M&E Plan
- Develop, manage, and implement the M&E Directorate Work Plan; includes roles and responsibilities, budget and timeline
 - Includes identifying capacity gaps and M&E staff performance
 - Includes hiring new consultants/staff as appropriate to address capacity gaps
- Manage monthly and quarterly data collection and analysis for the Quarterly Progress Report
 - Includes development and management of worksheets for Implementing Entities to submit disaggregate, quarterly data by project. The M&E Directorate will assess the capacity constraints of Implementing Entities and collaborate with Sector Directorates to address any capacity gaps for reliable data reporting.
 - Includes aggregating Implementing Entity data into the Indicator Tracking Table (ITT)
 - Includes written narrative and analysis of progress and performance of Compact Activities
 - Review data with decision makers to ensure that the Compact Activities are accomplishing objectives and corrective actions are taken if changes are warranted;
- Participate in the monitoring of the Program components through site visits, review of Program reports and review of secondary data to inform Quarterly Progress Report
- Develop and submit Quarterly Disbursement Requests
- Ensure M&E Plan and Economic Rates of Return (ERR) analysis are modified and updated as improved information becomes available (updating indicators, baselines, and

targets upon the receipt of information from technical studies or better statistical information on income and/or poverty);

- Collaborate with MCC to develop and implement Performance and Impact Evaluations of Compact Activities, including quantitative and qualitative evaluations,
 - Ensure evaluations disaggregate impacts by gender, age and income, as applicable;
- Collaborate with the Procurement Director to prepare and conduct procurement of various M&E contracts (Monitoring System, Data Quality Review, Data Collection, etc)
 - Includes development of Terms of Reference, leading evaluation, interview and selection of candidates
- Initiate and manage timely data quality reviews;
- Manage technical implementation of contracts with local and/or international consultants for M&E services and verify the quality and quantity of all deliverables
 - Includes effective management, documentation and storage of all deliverables
- Coordinate and execute special studies and ad hoc evaluations, as needed, to assess activity impacts;
- Draw lessons to improve information sharing systems within MCA-Tanzania, Tanzanian public and the donor community and enhance advocacy for policies and Program;
- Facilitate the execution of the Program annual reviews;
- Coordinate the installation of hardware and software for the Management Information System (MIS);
 - Lead efforts to utilize the MIS for monitoring purposes
- Perform any other M&E-related responsibilities that may be requested from time-to-time by the CEO

The MCA-T M&E Directorate is comprised of the following:

1. Director
2. M&E Officer
3. M&E Management Consultant
4. Results Monitoring and Reporting Consultant

It is possible that other M&E human resources may be sourced after considering the reviewed detailed work plan.

8.2 Implementing Entities

MCA-T M&E will be working closely with the following Implementing Entities in Transport, Energy and Water Sectors:

- Transport
 - TANROADS

- MoIC (Zanzibar)
- TAA
- Energy
 - TANESCO
 - ZECO
- Water
 - DAWASA/DAWASCO
 - MORUWASA

The working arrangement is based on a partnership model as documented in their respective Implementing Entities' Agreements.

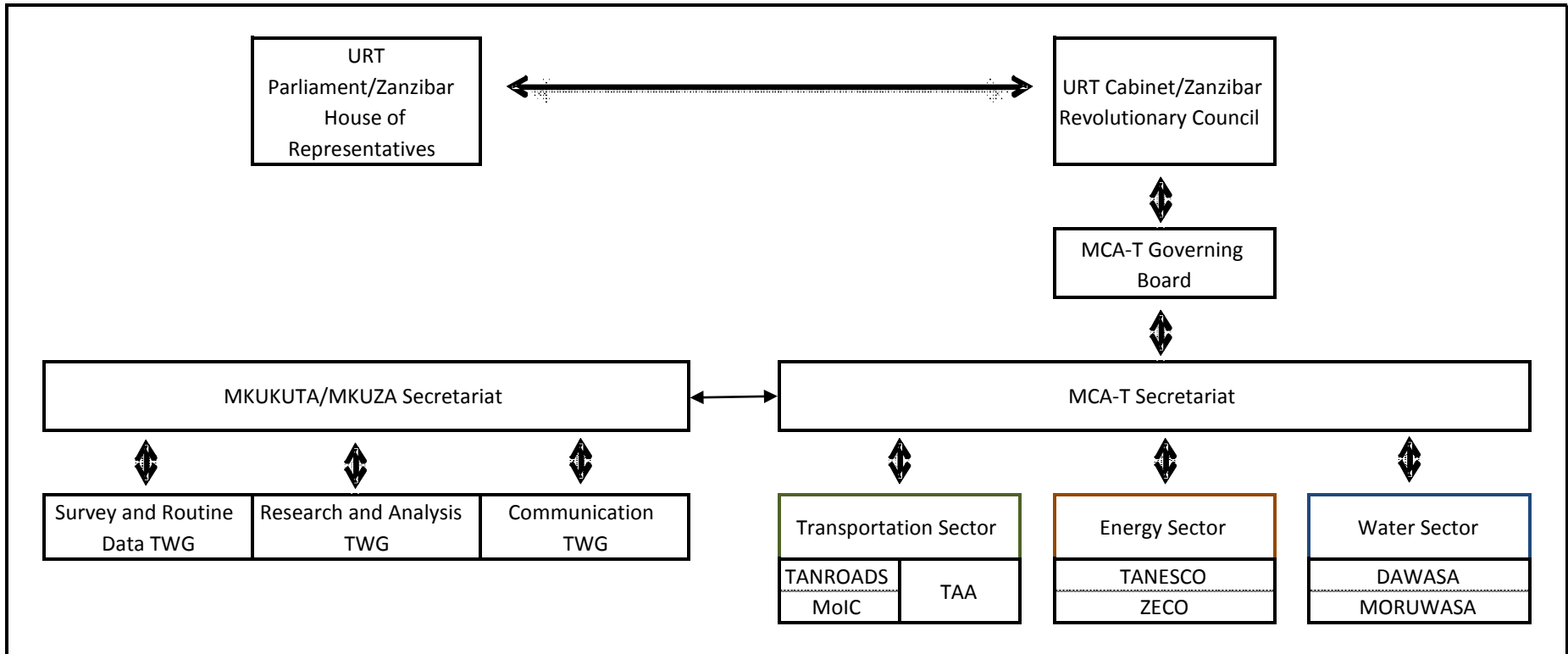
Additional partners include IE contractors/supervising engineers as well as environment and social stakeholders, namely NEMC (Mainland) and ZDoE (Zanzibar) who monitor the environment and social issues. This is a means of enhancing commitment to a broad stakeholder engagement in monitoring processes.

The institutional arrangement for monitoring of MCA-T activities is therefore based on the proposed synergy between the MCA-T secretariat and the existing national poverty monitoring system (MKUKUTA/MKUZA). Efforts will be done to synchronize MCA-T data collection with these national monitoring systems. The MCA-T secretariat will provide and receive information from MKUKUTA/MKUZA secretariat and report to the MCA-T management and other stakeholders.

Since the existing system tracks changes in GDP growth on an annual basis, and on periodic basis through the routine data system and multi-year survey plan, the MCA-T will focus on input and output monitoring at one level, and link with MKUKUTA/MKUZA poverty monitoring system (PMS) on measuring the outcomes. Input-Output reporting will be undertaken on a quarterly basis while outcome reporting will be done on medium term.

Figure 8 below indicates institutional arrangement for monitoring:

FIGURE 8: MCA-T FRAMEWORK FOR MONITORING AND EVALUATION



9 WORK PLAN

Figure 9: MCA-T M&E Work Plan

COMPACT YEAR	1				2				3				4				5			
Compact Quarter	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	
Identify and Recruit M&E Personnel	■	■	■	■								■	■	■	■					
Finalize and Publicize M&E Plan			■	■	■															
Design Indicator Tracking Strategy							■	■	■	■	■	■								
M&E Capacity Building								■	■	■	■	■	■	■	■	■	■	■		
Field Monitoring												■	■	■	■	■	■	■		
M&E Plan Review													■	■	■	■	■	■		
Disbursement Requests and Progress Reports	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Annual Stakeholders' review Workshop																	■	■		
Transport Sector Baseline and Impact Evaluation - Mafia Airport Island Project														■	■	■	■	■		
Transport Sector Baseline and Impact Evaluation – Mainland Roads				■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Energy Sector Baseline and Impact Evaluation											■	■	■	■	■	■	■	■		
Water Sector Baseline and Impact Evaluation							■	■	■	■	■	■	■	■	■	■	■	■	■	
External and Routine Data Quality Review												■	■	■	■	■	■	■		
Skill Based Group – Gender Focal Points Study																■	■	■		
Management Information System											■	■	■	■	■	■	■	■		
Compact Closeout Activities; including Compilation of Compact Closure Report (CCR)												■	■	■	■	■	■	■		

Color Key:

■ Past Activity (either fully complete or continuing)

■ Future Activity

10 BUDGET

The tentative budget for M&E is based on the activities outlined in the work plan. Resources will be required to facilitate routine monitoring, data collection, data quality review, beneficiary assessment, evaluation, communication, and building the capacity of stakeholders.

In addition, it should be noted that \$1,778,979 from the M&E budget was reallocated to the Energy Sector in order to contract and manage the Energy Subsidy Pilot.

Specific resource requirements are as follows:

TABLE 10: MCA-T M&E Budget Commitments as of Mar 31, 2013 (US\$)

	Q1-Q18	Q19-Nov 2013	Post-Compact	TOTAL
Technical Assistance				
MIS	\$ 231,982	\$ -	\$ -	\$ 231,982
Capacity Building Workshop(s)	\$ -	\$ 30,000	\$ -	\$ 30,000
Management Consultant	\$ 475,319	\$ -	\$ -	\$ 475,319
ITT Consultant	\$ 94,152	\$ -	\$ -	\$ 94,152
NBS (in-kind)	\$ 41,986	\$ -	\$ -	\$ 41,986
NBS (data collection)	\$ 124,364	\$ -	\$ -	\$ 124,364
Sub-total	\$ 967,803	\$ 30,000	\$ -	\$ 997,803
M&E Studies				
Roads Data Collection	\$ -	\$ 300,000	\$ 1,150,050	\$ 1,450,050
Mafia Island Data Collection	\$ 98,954	\$ -	\$ 150,000	\$ 248,954
T&D Data Collection	\$ 1,404,900	\$ -	\$ 1,600,000	\$ 3,004,900
Zanzibar Data Collection	\$ -	\$ -	\$ 100,000	\$ 100,000
Kigoma Solar Evaluation	\$ 97,250	\$ -	\$ 102,750	\$ 200,000
Water Data Collection	\$ 897,682	\$ 99,662	\$ 219,497	\$ 1,216,850
Skill-based Group Data Collection	\$ 146,786	\$ -	\$ 150,000	\$ 296,786
Data Quality Review	\$ 278,657	\$ 200,000	\$ -	\$ 478,657
M&E Manual	\$ 35,500	\$ -	\$ -	\$ 35,500
Compact Completion Report	\$ 145,664	\$ -	\$ -	\$ 145,664
Stakeholders Workshop	\$ 45,858	\$ -	\$ -	\$ 45,858
Sub-total	\$ 3,151,251	\$ 599,662	\$ 3,469,598	\$ 7,220,511
TOTAL	\$ 4,119,054	\$ 629,662	\$ 3,469,598	\$ 8,221,022

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