



Supported By The American People

Millennium Challenge Account Zambia

Monitoring and Evaluation Plan

August 2017

ACRONYMS	3
1. INTRODUCTION	4
1.1 ABOUT THE COMPACT	4
1.2 PURPOSE OF THE M&E PLAN	4
1.3 COMPONENTS OF THE M&E PLAN	5
1.4 PROCESS OF DEVELOPING THE M&E PLAN	6
2. COMPACT OVERVIEW AND OBJECTIVES	7
2.1 COMPACT GOAL AND OBJECTIVES	7
2.2 COMPACT OVERALL LOGIC	7
2.3 THE COMPACT ACTIVITIES	18
2.4 ACTIVITY LOGICS	25
2.5 PROJECTED ECONOMIC BENEFITS AND BENEFICIARIES	28
2.5.1 <i>Economic Rate of Return (ERR) Analysis</i>	28
2.5.2 <i>Beneficiaries</i>	28
3. MONITORING COMPONENT	29
3.1 SUMMARY OF MONITORING STRATEGY	29
3.2 INDICATORS	29
3.2.1 <i>Indicator Levels</i>	29
3.2.2 <i>Common Indicators</i>	30
3.3 DATA SOURCES	31
3.4 INDICATOR BASELINES AND TARGETS	32
3.5 FREQUENCY OF DATA COLLECTION	32
3.6 DATA QUALITY REVIEWS	32
3.6.1 <i>Data Quality Standards</i>	32
3.6.2 <i>Conducting a Data Quality Review</i>	33
3.7 SOCIAL AND GENDER ANALYSIS	34
3.8 STANDARD INDICATOR REPORTING REQUIREMENTS	35
4. EVALUATION COMPONENT	37
4.1 IMPACT EVALUATIONS	37
4.2 SPECIAL STUDIES	38
4.3 KEY EVALUATION QUESTIONS	38
4.4 EVALUATION METHODOLOGIES	41
4.5 DATA COLLECTION PLANS	41
4.6 TIMING OF ANALYTICAL REPORTS	41
4.7 STATUS OF INDEPENDENT EVALUATIONS	41
5. IMPLEMENTATION AND MANAGEMENT OF M&E	43
5.1 M&E UNIT STRUCTURE AND RESPONSIBILITIES	43
5.2 MANAGEMENT INFORMATION SYSTEM FOR M&E	45
5.3 REVIEW AND REVISION OF THE M&E PLAN	45
6. M&E BUDGET	47
7. ANNEXES	47

ACRONYMS

CSO	Central Statistics Office
DQR	Data Quality review
EDAMS	Electronic Data and Management Systems
ERR	Economic Rate of Return
GRZ	Government of Republic of Zambia
IEC	Information, Education, Communications
ITT	Indicator Tracking Table
LCC	Lusaka City Council
LWSC	Lusaka Water and Sewerage Company
LWSSD	Lusaka Water Supply, Sanitation and Drainage
M&E	Monitoring and Evaluation
MCA	Millennium Challenge Account
MCC	Millennium Challenge Corporation
MIS	Management Information System
NGO	Non-Governmental Organization
NRW	Non-Revenue Water
PIA	Program Implementation Agreement
SME	Small to Medium Enterprises
WASH	Water, Access, Sanitation and Hygiene

1. INTRODUCTION

1.1 About the Compact

In May 2012, the Government of the United States of America acting through the Millennium Challenge Corporation (MCC) and the Government of the Republic of Zambia (GRZ) entered into the Millennium Challenge Compact for a grant of US\$354 million for implementation of the Lusaka Water Supply Sanitation and Drainage (LWSSD) Project (“the Project”) to be implemented by the Millennium Challenge Account Zambia (MCA-Zambia). The project will expand access to, and improve the reliability of, water supply and sanitation, and improve drainage services in select urban and peri-urban areas of the city of Lusaka. This is in order to decrease the incidence of waterborne and water-related diseases, generate time savings for households and businesses and reduce non-revenue water. It is expected that 1.2 million people in Lusaka will benefit from the project. The project is to be implemented over a period of five years from 2013 to 2018.

1.2 Purpose of the M&E Plan

The Monitoring and Evaluation (M&E) Plan is a tool to manage the process of monitoring, evaluating and reporting progress towards Compact results. The plan is guided by principles stipulated in the Millennium Challenge Corporation (MCC) Policy for Monitoring and Evaluation of Compacts and Threshold programs (DCI-2007-55.2 from 05/12/2009, <http://www.mcc.gov/pages/results>) as well as the Compact and the Program Implementation Agreement (PIA) (<http://www.mcc.gov/documents/agreements/compact-zambia.pdf>).

The M&E plan serves the following functions:

- i. Explains in detail how MCC and MCA-Zambia will monitor the various projects to determine whether they are achieving their intended results and measure their larger impacts over time through program evaluation and rigorous impact evaluations.
- ii. Outlines any M&E requirements that MCA-Zambia must meet in order to receive disbursements.

- iii. Serves as a guide for program implementation and management, so that MCA-Zambia staff, Board of Directors, Implementing Entities' staff, beneficiaries, and other stakeholders understand the objectives and targets they are responsible for achieving, and are aware of their progress towards those objectives and targets during implementation.
- iv. Establishes a process to alert implementers, stakeholders and MCC to any problems in program implementation and provides the basis for making any needed program adjustments.
- v. Outline the designs and methodologies for conducting rigorous impact evaluation to demonstrate impact and attributions.
- vi. Includes a description of complementary data to be collected by MCA-Zambia for evaluation of the program but not to be reported to MCC on a regular basis, including qualitative studies.

The M&E Plan is a binding document, and failure to comply with its stipulations could result in suspension of disbursements. It may be modified or amended as necessary in accordance with the MCC's M&E Policy.

In accordance with MCC's M&E Policy, Gender Policy and Gender Integration Guidelines, the M&E Plan includes social and gender analysis, where Compact design and logic reflects assumptions and conditions related to these social differences. This is mainly captured through disaggregation of data, but also through evaluation questions, design, and methods.

1.3 Components of the M&E Plan

The MCA-Zambia M&E Plan includes:

- A summary of the Compact goal and objectives, including program logic and expected outcomes;
- The number of expected beneficiaries, defined in accordance with MCC's Guidelines for Economic and Beneficiary Analysis (<http://www.mcc.gov/documents/guidance/guidance-economicandbeneficiaryanalysis.pdf>);

- Key indicators and targets to be used for measuring performance and impact of the project;
- Disaggregation's by sex, age, income, and location where appropriate;
- General requirements for data collection, reporting and data quality reviews;
- Specific requirements for evaluation of the project and a brief description of the methods to be used;
- Requirements of the implementation of the M&E plan, including information management and MCA-Zambia responsibilities; and
- A brief description of other components of the M&E Plan (such as M&E costs, assumptions and risks).

1.4 Process of Developing the M&E Plan

The M&E plan was developed using consultative and participatory approaches. Various stakeholders were involved in the development of this M&E plan. Stakeholders that participated in this process included implementing entities, Lusaka Water and Sewerage Company (LWSC) and Lusaka City Council (LCC), institutions and Non-Governmental Organizations (NGO's) working in water and sanitation. Consultative meetings were held and consensus reached especially on project logics and indicators. In September 2012, MCC and MCA-Zambia hosted an M&E Workshop where stakeholders including LWSC, LCC, NGO and implementing firms attended, to help develop more detailed program logics for Compact Activities. This M&E Plan incorporates the feedback from that workshop and follow-on meetings with stakeholders. Additionally this plan has been formally approved by LCC and LWSC.

2. COMPACT OVERVIEW AND OBJECTIVES

2.1 Compact Goal and Objectives

In October 2009, the GRZ initiated a constraints analysis that identified four main binding constraints to Zambia's economic growth: infrastructure, externalities, micro and macro business climate, and skilled labor. In December 2009, the GRZ initiated a targeted consultative process that included over five hundred individuals from government, private sector, civil society, and donors. Feedback from these consultations resulted in a list of prioritized sectors as key to Zambia's economic development, including ecotourism, hydropower, roads, vocational and secondary education, and water, from which the GRZ developed and submitted six concept papers for MCC consideration. High costs ultimately led MCC to narrow the scope and number of projects under review, and after an extensive internal and external peer review process, MCC and the GRZ decided to focus solely on the Lusaka water supply, sanitation and drainage.

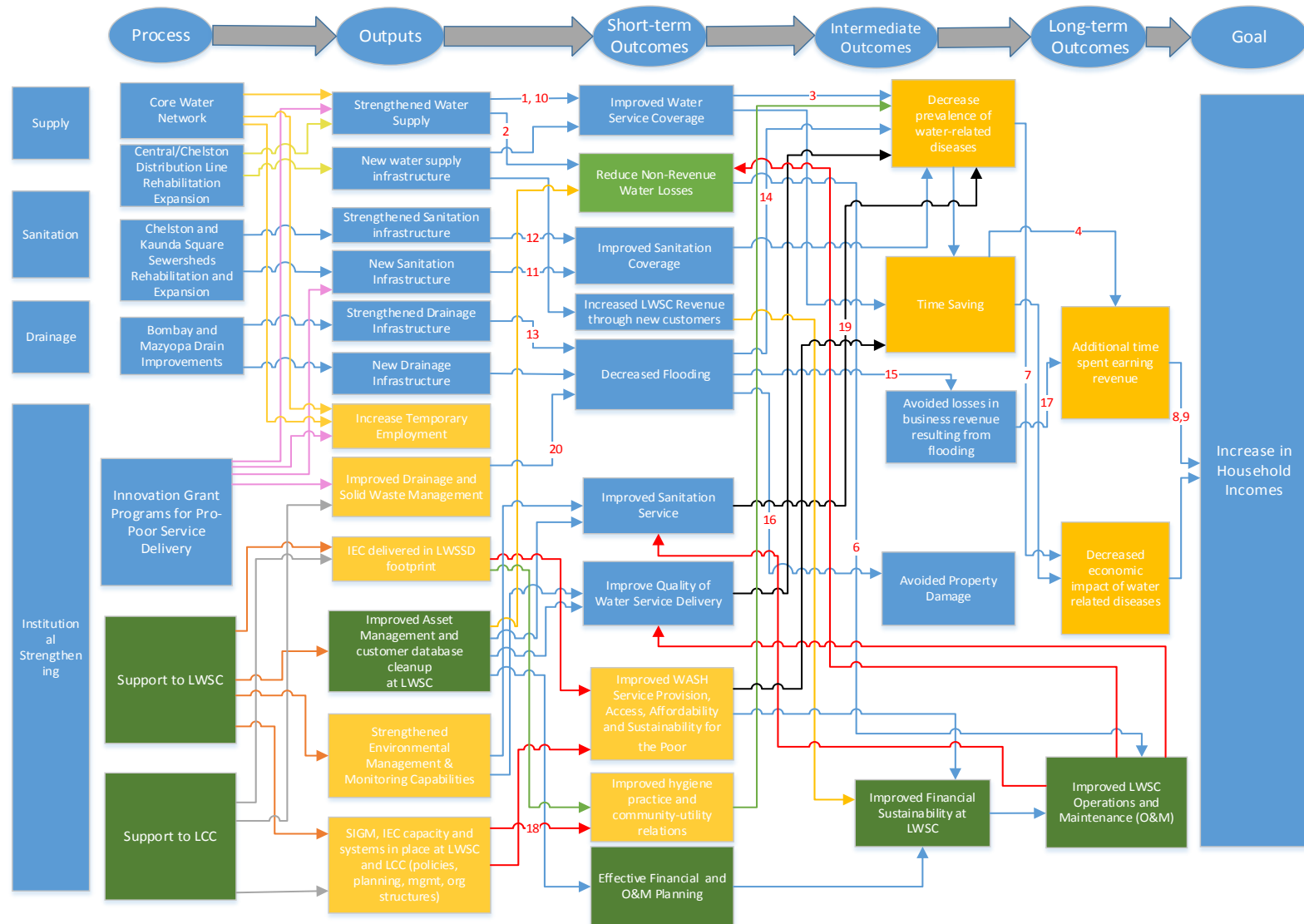
The overall goal of the Compact is to reduce poverty through economic growth in Lusaka by expanding access to, and improve the reliability of, water supply and sanitation, and improving drainage services in select urban and peri-urban areas of the City of Lusaka.

These infrastructure activities, along with Information, Communication and Education (I.E.C) activities geared towards quality sanitation practices and institutional strengthening to improve service access and delivery, should decrease the incidence of water-borne and water related diseases, generate time and cost savings for households and businesses, decrease the burden of health payments and reduce non-revenue water in the water supply network. The drainage activities should also reduce damage to property and increase business revenue in select areas of Lusaka where flooding will be reduced.

2.2 Compact Overall Logic

The M&E Plan is built on the following logic model which illustrates how the program, the project and the activities contribute to the Compact Goal and the project objective.

Compact Logic



*This logic diagram uses colors for ease of comprehension. The colors do not signify any additional meaning.

Explanation of Logic

A program logic is a series of “If...Then” statements; if these activities are conducted then these short term outcomes will result, etc. In the logics for this Compact, linkages are drawn to better illustrate the cause and effect relationships between the different logic hierarchies. The narratives below focus on the cause and effect logic chains for each input or activity. Outcome targets and indicator definitions are included in annex 2.

It should be noted that the outcomes associated with the Asset and Environmental Management inputs take effect on a completely different timeline than the health and time savings outcomes. They are presented in the same logic here for modeling purposes but the Asset and Environmental Management outcomes will take place over the course of years where as health and time savings outcomes are relatively more immediate. The same can be said for the Social Inclusion and Gender Mainstreaming institutional strengthening activity, which will take place over the course of years, while the Information, Education, and Communications (IEC) activities should have more immediate outcomes.

Assumptions

Embedded within the program logic are numbered lines (1,2,...). These numbers represent the presence of assumptions in our “if...then” statements. Assumptions are leaps in logic that must hold true in order for the next level of outcomes to be reached, meaning that we are assuming certain things happen in order for our outcomes to be met. Accordingly, these assumptions carry risks to overall results if they are proven to be untrue. This section of the logic outlines our current assumptions and our monitoring strategies. In the case of this Compact, most of the feedback regarding the mitigation of the risk associated with assumptions will come late in, if not after, Compact close out. Because of this our Post-Compact evaluation activities become extremely important in not only answering questions on overall effect but in answering how that effect was achieved, or not.

Some assumptions and relationships between variables can be highly affected by social differences, most often gender. These assumptions will thus be tested using disaggregated data by sex, age, and income, where relevant. For example, assumptions about relationships between time saving and work or education have strong gender dimensions.

1: Strengthening the current supply system will include some increase into the amount of water that is being pumped into the system but most of the increase in supply will come from decreasing the amount of water lost in the system (repairing pipe leaks, decreasing illegal taps, etc.). Given the extension of the system and the expected increase of households tapping into and creating demand on the system, the assumption is that the

amount of supply (coming from stemming system losses and increasing the water flow into the system) will be sufficient to meet this demand.

Risk: If water supply does not meet demand then households will not necessarily gain access to clean water from with household taps as houses only have water for limited amounts of time a day or experience varying levels/ low levels of water pressure.

Risk Monitoring: Number of new connections (demand) will be tracked along with decreases in water losses to the system as well as level of water being pumped into the system (supply) while surveys will monitor households' access to clean water based on source (public tap, household tap, etc).

2: Reducing financial loss is dependent on not only increasing revenue but reducing non-revenue water loss. Expanding the supply network could offer up new opportunities for theft from the system. The assumption is that any new theft is not significant enough to prevent the meeting of non-revenue water reduction targets.

Risk: New theft is indicative of an inability on the part of Lusaka Water Supply and Sewerage Company (LWSC) and communities to police illegal taps into the system and can decrease the amount of revenue coming into LWSC (assuming that some of the illegal connections could have ended up as legal, metered connections or by affecting water pressure significantly enough to reduce access, if the quantity of water demanded by a paying customer is less than what can be provided). Such a situation undermines the financial sustainability of LWSC.

Risk Monitoring: LWSC will report on non-revenue water loss which will be tracked in this M&E plan. IEC will also address vandalism and illegal connection to the system.

3: Receiving any health benefits from the increase in availability of water depends upon:

1. The water at point of source is clean (whether household tap or public kiosk)
2. The water at point of use is clean (meaning effective sanitation practices are used)
3. Increase in the consumption and use of clean water is sufficient for intended health effects (meaning that symptoms of water borne illness are not due to another source like food and that there is a sufficient quantity of safe water to meet basic health and hygiene needs)
4. Beneficiaries are able to pay for the increased quantity of water available and needed.

Risk: Without targeted health outcomes being achieved the Compact will incur heavy costs with no measurable economic benefits for beneficiaries.

Risk Monitoring: Monitoring this risk is dependent on three primary actions.

1. MCA-Zambia will be implementing IEC training on effective water, sanitation, and hygiene techniques.
2. Monitoring of effective sanitation practices. The Independent Evaluator will incorporate into its survey work, an assessment of households in the sample frame to demonstrate effective sanitation practices and will conduct testing of water stored in the house to determine whether effective sanitation practices are being used.
3. Water source testing will help to ensure that the water coming out of the household tap or public tap is clean. Such testing will be conducted by LWSC as part of their routine water quality monitoring and among a sub-sample of households by the Independent Evaluator.

4: Given that time savings stem from decreasing the time beneficiaries spend collecting water or suffering from a waterborne illness, our logic states that this additional time will be spent earning revenue that was hitherto not earned due to time constraints which are now alleviated. However the assumptions are:

1. That beneficiaries spend their time looking for additional revenue generating activities. There is some literature on time/cost use and savings that shows a variety of different uses of time saved from improved water supply, but few demonstrate labor and income gains (see e.g. “Happiness on Tap: Facilitating the purchase of private water connection on credit improved household’s quality of life” featuring an evaluation by Florencia Devoto, Esther Duflo, Pascaline Dupas, William Pariente, Vincent Pons. J-PAL, February 2013) that indicates that beneficiaries do not necessarily spend a proportionate, if any, of their time savings looking for additional revenue generating activities. They could spend the additional time in leisure, engaged in capital investment activities that do not earn revenue for a delayed period of time (school, building their house, etc.), increasing their care activities that improve the human capital of children, also with delayed revenue benefits. In peri-urban settlements, much revenue generating activity is also very informal, especially for women whose time is most affected by water access, and harder to detect through common labor surveys.
2. That there is a demand for the increase in labor. The MCC interventions are taking place in concentrated areas of Lusaka. There is the possibility that the demand for labor in these areas is not sufficient to meet the new supply and beneficiaries will be forced to travel to look for work in areas where the health benefits from the Compact will not be felt.

Risk: Even with the accomplishment of health outcomes, without beneficiaries looking for and engaging in additional revenue generating activities there will not be an increase in household income.

Risk Monitoring: Part of the evaluation survey will ask questions on time use to determine the amount of time spent looking for and engaged in additional revenue generating activities, and will focus on informal as well as formal work.

5: Risk 5 has been removed and will only serve as a placeholder.

6: Reducing non-revenue water is intended to improve the financial stability of LWSC however this would necessitate that:

1. Reduction in non-revenue water is significant enough to improve LWSC financial sustainability. This reduction in non-revenue water would need to drastically increase revenue while;
2. Costs do not disproportionately increase. The source for cost changes are numerous, many of which like operations and maintenance will increase under the Compact, while the source of revenue is single (metered connections) and dependent on households not only connecting but paying their water bills.

Risk: Costs for LWSC will permanently rise as a result of the Compact, as opportunity for theft could increase with an extension of the network into new areas, while there is no guarantee revenue streams will increase proportionately. As a result there is a possibility LWSC is left in a more untenable position post-Compact than before.

Risk Monitoring: As with many aspects of this Compact, given it is large infrastructure, there is a delay in the information feedback for many of the decision making processes that can mitigate some of the risks identified here. In the case of this particular risk, households will not connect to the water supply network until after construction is complete on the network in their area, perhaps even long after construction is complete if at all.

Because of this our evaluation will track household connections into the Post-Compact period against targets as established in our ERR.

6.1: Decreasing non-revenue water can be achieved without any additional households connecting to the supply system. However improving the financial sustainability at LWSC is dependent on additional households connecting to the supply network and paying their bills to the degree that the cost of the improvement, expansion and maintenance of the sanitation network is offset.

Risk: Without this revenue LWSC would not be able to maintain its current system or expand it to new beneficiaries post-Compact.

Risk Monitoring: The number of new connections and resulting revenue will be monitored and compared to increased LWSC costs and sustainment plans.

7: While a reduction in medical costs, as a result of a decrease in illness, does not automatically result in an increase in household income (because amount of revenue has not increased, only disposable income); it is assumed that people go to the doctor or purchase medicine when they are sick.

Risk: While it is assumed people incur some costs when they are sick, our ERR model assumes that most of these costs are time costs due to not being able to earn revenue. As a result, medical costs are assumed to be low hence the risk associated with this assumption is low given our current logic. This logic could change depending on baseline data collection regarding medical costs incurred by households due to water borne illness.

Risk Monitoring: Baseline data collection will focus on consumption patterns of households, including medical costs associated with water borne illness. This will confirm or enable us to re-assess this assumption.

8: The ERR assumes a certain rate of revenue per additional hour engaged in a revenue generating activity, this serves to inform our targets regarding increases in household income. There is a possibility that while time spent engaged in revenue generating activities increases, there may not be expected increase in household income since the rate of revenue may not be as high as expected. It is entirely possible that people may experience a diminishing rate of return per unit of revenue generating labor instead of a consistent rate.

Risk: If a diminishing rate of return is experienced then targets for household increases in income could not be accomplished.

Risk Monitoring: Household surveys will be designed to track time spent engaged in revenue generating activities and the resulting additional household revenue to inform ERR assumptions.

9: It is assumed in our ERR that children, if they are the water gatherers and incur a time savings, will attend school instead of using their time savings to engage in revenue generating activities. This could potentially lead to higher household revenue but at a much later date after the child has completed their schooling. A further assumption is that school attendance is a valid option for children experiencing time savings, meaning that schools are accessible, there are no cost prohibitions, etc.

Risk: The risk associated with this assumption is that children engage in revenue generating activities instead of using their time savings to attend school.

Risk Monitoring: The current survey only monitors time savings for water collectors hence if children are not the primary water collectors for the household then they will not be included in the survey as they will not be incurring any time savings. If the children are the primary water gatherers then the parents will answer survey questions on behalf of the children.

10: Increased coverage, as measured by access, is dependent on household connections to the network. The ERR established targets for the number of household connections required for the intended outcomes and is based on various assumptions:

1. Households can afford connection costs;
2. If the landlord does not connect, tenants gain access in some way;
3. Rental prices do not increase to the point that the poorer beneficiaries targeted by the Compact from being “priced out”;
4. Tenants are not evicted from houses without due process being followed; and
5. Landlords who connect to the network give access to their tenants as well.

Risk: Without the targeted number of household connections and access to intended beneficiaries, costs may rise without any health or economic benefits. If poorer tenants are forced to move due to evictions, are priced out or do not gain access through their landlord, then the Compact will still accrue some benefit but for a richer pool of beneficiaries and at a possible lower level of impact outcome.

Risk Monitoring: While individual households may not be able to afford their own connection, they may gain access through neighborhood household connections that they have right of usage to, which could lead to some health and economic benefits. Institutional strengthening and IEC activities implemented in coordination with Lusaka City Council (LCC) will address tenant and landlord rights and responsibilities with respect to water and sanitation service access. Surveys will monitor the source for households’ increased water access, if there is any, as well as number of new connections and household expenditures disaggregated by poverty level, and landlord/tenant status. Additionally rental prices and evictions related to the inability of tenants to pay rental rate increases will be monitored. Given that all legal household connections to the supply network must take place under LWSC supervision, LWSC will track the number of new connections to assess how well the ERR assumptions on the number of new household connections hold valid. This will be course this is under the assumption that the vast majority of new connections will be made legally. Through monitoring household consumption data, rough estimate of the affordability of the new water bills households are incurring will be obtained (for household consumption and sanitation) but not a definitive answer. LWSC will also be reporting on household disconnections due to non-payment.

11: Improved sanitation coverage is the result of not only an extension of sanitation infrastructure but from having toilets connected to the network so they may be used in a

sustainable manner (which denotes affordability and proper O&M). Hence improved coverage is dependent on house connections to the network in addition to access to toilets connected to the network. This does not mean that all households require their own connection and connected toilet but that people in that household have access to a connected toilet. The set of landlord-tenant issues/risks noted above for water apply to sanitation as well, with potentially higher risk of landlords preventing access to improved sanitation facilities. Water bill increases from water-borne sanitation must also be affordable.

Risk: If people cannot afford to pay for access to the piped sewer network and provision of a flush toilet, or are not willing to pay, there will not be health benefits associated with this intervention.

Risk Monitoring: LWSC is leading a working group in developing a solution whereby a tariff structure for provision of house connections and toilets will be established and the Impact Evaluation will monitor access to network connected toilets. IEC and sanitation marketing will focus on increasing people's understanding of the importance of sanitation to increase willingness to pay, promote maintenance of facilities, and addressing landlord/tenant conflict. Institutional strengthening with LWSC will improve policies for increasing affordability for the poor on an ongoing basis. Qualitative evaluation methods could examine people's responses to the new connection opportunities, economic and social barriers to participation, and effectiveness of mitigation measures.

12: Achieving improved sanitation coverage is dependent on the improved sanitation system being able to meet the newly created demand on the system as a result of Compact activities.

Risk: If the new demands on the system outpace the capability of the system, resulting in overflows, blockages, etc., then an increase in access may not be achieved. Such a scenario would result in an actual decrease in access because loss of trust in the system could result in households pursuing other alternatives such as open defecation, pit latrines, etc.).

Risk Monitoring: Monitoring data from LWSC on system capacity and demand will be triangulated with data from the impact evaluation that assesses beneficiary use and satisfaction towards the sanitation network.

13: Achieving the targeted reduction in flooding assumes that the new capacity of the drainage infrastructure is adequate for standard rainfall. This means that the targets for the reduction in flooding are reasonable given the standard rainfall and new drainage capacity.

Risk: If the targets are too high then it could be that the targets for the subsequent health and economic outcomes could be too high as well and overestimate Compact effects. Alternatively, if the targets are too low then MCC and MCA-Zambia would have overestimated the negative impact of flooding and drainage issues.

Risk Monitoring: The data collected from indicators on the reduction in flooding will be monitored in comparison to the baseline data to determine adequacy of targets.

14: Having a decrease in flooding result in a decrease in water borne illness assumes that the water borne illness is due to flooding and not some other source.

Risk: If flooding decreases but there is no decrease in the incidence of water borne illness then there is a possibility that the wrong source of illness is being targeted.

Risk Monitoring: The evaluation will attempt to control for other sources of water borne illness in determining the role of flooding in causing water borne illness, but the ability of the Impact Evaluation to do this is extremely limited due to the lack of a valid control group.

15: While business may be open more because of a decrease in flooding, there may not be sufficient demand to increase revenue in a measureable way. It could be that demand is largely being met with the current situation and that an increase in supply on the business side (more hours of operation) does not automatically mean an increase in demand by customers.

Risk: Having no change in business revenue means that those households of business owners may not experience an increase in household income resulting from an increase in business revenue (they may still experience an increase in income from time savings, etc.)

Risk Monitoring: Measures of business revenue before and after a decrease in the amount of flooding, as well as measures of hours of operation, will hopefully demonstrate how much change of revenue, if any, is due to the decrease in flooding.

16: If flooding is frequent enough there is the possibility that businesses have acclimated to the flooding and design their structures and conduct their business in a way that accounts for frequent flooding. As a result, there may not be a measureable change in property damage due to flooding.

Risk: While property damage leads to the incurrence of cost by property owners, if there is presently no significant property damage due to flooding, then the benefit stream in the ERR would need to be adjusted.

Risk Monitoring: Data will be collected on this assumption with the intent to inform the calculation of this particular benefit stream in the ERR.

17: While businesses may experience an increase in revenue there is no guarantee that this increase in revenue will translate into high household income. The revenue could be invested in ways that do not measure as income. For example the increase in revenue can be used to expand inventory for the business or to improve the physical structure itself.

Risk: If businesses are experiencing an increase in income and using the money in ways that do not measure as household income then the risk varies depending on how the increased revenue is used. If the increased revenue is used in risky ventures that do not eventually translate into higher household income then the risk is high, etc.

Risk Monitoring: This risk is difficult to monitoring as the households included in the “flood” survey are not the business owners that will be included in the survey.

18: Given that sustained health outcomes are dependent upon consistent use of proper sanitation techniques; this requires a degree of institutionalization of IEC activities to ensure that beneficiaries maintain good sanitation practice. It has been demonstrated in previous WASH campaigns that consistent IEC is required for sustained application of proper water, sanitation, and hygiene practices.

Risk: Without an institutionalization of IEC activities there is a risk that proper water, sanitation, and hygiene practices will not be applied long after Compact IEC activities have ceased.

Risk Monitoring: Capacity building for sustained IEC is part of institutional strengthening activities and a possible evaluation will assess the sustained impact of these activities.

19: The provision of boreholes and water supply in some of the more affluent L3 areas are targeting increasing revenue streams for LWSC and not necessarily health outcomes for the beneficiaries. It is unlikely that the beneficiaries in these areas will experience any health impacts as a result of the new water supply given the higher socio-economic status of the beneficiaries.

Risk: Given the prominence of pre-existing private boreholes in the treatment areas there is the risk that beneficiaries will choose not to tap into the new water system and hence the targeted revenue will not be generated for LWSC, as a result of the treatment and the financial sustainability of LWSC is undermined.

Risk Monitoring: The impact evaluation will track the number of connections into the new water system to ascertain whether the number of targeted connections is being

obtained. Additionally other possible evaluation methods could be implemented to assess the factors affecting household decision making on whether to hook up to the new system or not.

20: In order for the drainage master plan to lead to improved drainage management there must exist the capacity (resources, skill sets, effective organizational structures/process, etc.) within LCC to not only implement the master plan but to meet the new requirements placed on it as a result of Compact activities.

Risk: If sufficient capacity within LCC does not exist to meet the new requirements placed on it by Compact activities the new master plan will not only fail to be fully implemented but the new drainage infrastructure will not be properly managed and any health and economic outcomes would not be met.

Risk Monitoring: MCC and MCA-Zambia will need to conduct a capacity assessment of LCC to determine the ability of LCC to:

- Perform the functions required during Compact implementation
- Sustain the effects of Compact activities

This assessment would serve as the basis for an action plan to ensure sustainability of Compact investments.

2.3 The Compact Activities

The Compact consists of two activities and multiple sub-activities:

1. Infrastructure Activity (Infra \$283.8 million): Interventions for this activity were selected to support the continued future growth of LWSC's ability to better manage Lusaka's water sector. As such, a majority of the proposed interventions is focused on rehabilitation of the core water supply network, including those designed specifically to reduce Non-revenue Water (NRW). Additionally this Activity includes interventions to expand the water supply network, rehabilitate and enlarge select sewer networks, and improve select drainage infrastructure. All of the project components considered in this Activity were based on the results of Investment Master Plans developed for both the Water Supply and Sanitation sectors. Each of the following project components was selected based on the results of Feasibility Studies undertaken for select priority projects identified in the Investment Master Plans and in consultation and agreement with GRZ:-

- a. Core Water Network Rehabilitation: This component includes rehabilitation at the intake/treatment plant at the Iolanda transmission and distribution centers; strengthening of the water supply network primary distribution backbone; and reduction of unaccounted for water or Non-Revenue Water (NRW). The NRW for LWSC system stands at 56.8% of the total water delivered to the LWSC system. The objective of this project component is to reduce NRW to 41.3% by the end of the Compact term through a number of interventions. The Core Water Network Rehabilitation component is expected to provide more reliable water service and increased water supply and coverage as leakages are reduced and intake is improved. As this component addresses issues fundamental to supply, the component is considered a prerequisite for any water supply expansion project in the network. These sub-projects are part of construction Contract Packages (CP) 1 and 2.
 - b. Chelston Distribution Line Rehabilitation and Expansion (Water): This component consists of extension and rehabilitation of secondary and tertiary networks into the Central and Chelston Branch district metering areas, including the extension of distribution pipes into residential areas to facilitate new household connections, construction of new water kiosks, and rehabilitation of existing kiosks. Supply is expected to improve in Mtendere, Kamanga, Kwamwena, and Ndeke-Vorna Valley areas of Lusaka. These sub-projects are part of CPs 3 and 5.
 - c. Chelston and Kaunda Square Sewer sheds Rehabilitation and Expansion (Sanitation): This component consists of improvements to the Chelston pump station and force main; and rehabilitation of the Kaunda Square treatment ponds, the associated interceptor, and expansion of household sewer services in Mtendere. These sub-projects are part of CPs 3 and 4.
 - d. Bombay and Mazyopa Drain Improvements (Drainage): Extension and rehabilitation of the Bombay drainage system in central Lusaka, and rehabilitation of the Mazyopa Drain in Northern Lusaka to accommodate the expected increased flow from the Bombay Drain. An estimated 188,000 people are expected to benefit from these drainage improvements. These sub-projects are part of CPs 7 and 8.
2. Institutional Strengthening Activity (ISA \$26.7 million). In addition to the infrastructure improvements, investments have been identified to help support the incumbent utility (LWSC) and the municipal authority (LCC) which have jurisdiction over the proposed infrastructure investments under the LWSSD Project. The

Institutional Strengthening Activity (ISA) investments are organized into three sub activities: (a) Support to LWSC; (b) Support to LCC, and (c) Innovation Grants for Pro-Poor Service Delivery. In addition, there are cross-cutting (d) Environmental Management, and (e) Social Inclusion and Information, Education, and Communication (IEC) sub-activities that reach across the entire LWSSD Project.

MCC's proposed investment complements ongoing and long-standing institutional reform support from the World Bank. ISA is tasked with building capacity within LWSC and LCC to:

- Institutionalize environmental analysis and monitoring;
- Institutionalize gender mainstreaming and social inclusion and capacity to plan and carry out Information, Education and Communication (IEC) and Sanitation Marketing (SM);
- Develop, implement and manage IEC and SM to support uptake and sustainability of Compact investments;
- Provide capacity for Asset Management for Lusaka Water and Sewerage Company;
- Provide support on non-revenue Water for LWSC;
- Provide support to improve solid waste management and drainage improvements for Lusaka City Council, and
- Provide an innovative grant to demonstrate an innovative approach or technology to improve water use, sanitation and hygiene practices among the poor, strengthen security tenure in community projects and capacity for community based planning; and/or expand opportunities for entrepreneurship and income generating activities related to water, sanitation and drainage.

Longer term outcomes of this activity include improved financial sustainability of LWSC, operations and maintenance, environmental management and social inclusion of LWSC and LCC, and support of Compact outcomes through the Innovation Grant Program (IGP). The Institutional Strengthening Activity is intended to build the overarching base upon which the Infrastructure Activity can take place. The sustainability of the entire LWSSD Project depends on the outcomes of the Institutional Strengthening Activity.

- a. Assistance to LWSC: Policy responsibilities in the Water Sector are divided between the Ministry of Local Government (MoLG) and the Ministry of Water Development Sanitation and Environmental Protection (MoWSEP). The National Water Supply and Sanitation Council (NWASCO) is responsible for

economic regulation, and local government and commercial utilities owned by local government are responsible for service provision in urban areas. LWSC is one such utility. LWSC was formed in 1988 with the purpose of improving water supply and sewerage services to the city of Lusaka by operating on a commercially sustainable basis. It was established as a private limited liability company to operate the business of selling water and sewerage services. This sub-activity is focused on building the capacity of LWSC to conduct comprehensive asset management planning and execution, environmental management and monitoring, outreach, and pro-poor water-sanitation service delivery.

The Asset Management portion of the Activity is expected to improve the financial position of LWSC significantly and provide an opportunity to institute a comprehensive program of maintenance for all LWSC assets. This component will enable LWSC to improve its maintenance capacity and capability; specifically to (i) further develop its Electronic Data and Management Systems (EDAMS) platform to incorporate systemization of maintenance; (ii) create an asset register; (iii) provide diagnostic and ultrasonic monitoring equipment, and (iv) systematically plan maintenance, asset renewal and capital programs in an affordable manner. Additionally this component will assess the most effective modality for conducting maintenance through the use of in-house resources, performance-based contracts, or a combination of the two.

The Nonrevenue Water (NRW) portion of the ISA is expected to strengthen the ability of the LWSC to manage NRW and ultimately improve the financial position of the utility. Note that a single firm was hired to provide oversight of Infra CP6 as well as to provide technical assistance to LWSC for remedying both commercial and physical NRW (through commercial customer database clean up, and creation of District Metered Areas]

- b. Assistance to LCC: Lusaka City Council is a corporate body established under the Local Government Act Cap 281 to operate as a local authority which is an agent of the central government with delegated functions relating to provision of services to the residents of the City. The Act defines the functions of the local authorities amongst which include the provision of water supply, sanitation and drainage systems to the City of Lusaka. Under the Water and Sanitation Act No.28 of 1997, the provision of safe water supply and adequate sewerage services has been delegated to Lusaka Water and Sewerage Company (LWSC) by LCC and other Lusaka province local authorities namely:

Kafue, Chongwe and Luangwa districts. Technical Assistance for this project will focus on defining the flooding problem in Lusaka and then on developing a road map for mitigating it; strengthening LCC's institutional capacity; and enabling LCC to effectively maintain drainage infrastructure including management of solid waste within the drains.

Comprehensive Drainage Investment Master Plan: The first phase of this project will be accomplished through the development of a drainage strategic plan that will identify root causes of the flooding problem in different parts of broader Lusaka region, and include a proposed road map and a menu of technical interventions to solve the flooding problem. This builds on the Drainage Investment Plan for Priority Areas that was drafted as a preliminary report by the United States Army Corps of Engineers and its subcontractor CH2MHILL with the support of MCC funding, and on behalf of the Millennium Challenge Account – Zambia Limited, in 2011.

Strengthening Institutional Capacity: The second phase of this component will provide technical assistance to improve LCC's institutional capabilities to manage the drainage sector, particularly in the areas of planning, management and maintenance of drainage infrastructure and services in and around the city. As part of this component, the Compact will support GRZ efforts to establish of an interinstitutional coordination strategy to coordinate future planning decisions on water resources management made by the national government, local authority, private sector, and/or the donor community. The groundwater study, as well as the proposed inter-institutional coordination strategy, will be necessary to better determine proper engineering and institutional solutions for the serious flooding problem in the city.

Drainage Infrastructure Maintenance and Removal of Solid Waste: The aim of this TA is to develop a drainage maintenance regime that would enable LCC to sustainably maintain the city's storm water system in an efficient and effective manner. The efficacy of storm water infrastructure and solid waste management system in an urban setting is dependent on a number of factors including good design approach, quality of construction, and management of generated solid waste, by specifically ensuring effective removal of debris in the drainage channels in order for the said infrastructure to collect, convey and dispose of the storm water and ultimately reduce the frequency and severity of flooding events. In addition, an effective program on maintenance of the infrastructure is imperative to sustain the products of good design and construction. This comprises both corrective and preventive maintenance

activities which culminate into effective drainage outfalls and reduction of flooding. This will be the thrust of the technical assistance to LCC for drainage maintenance. The main objectives of this activity are to:

- Enable LCC to effectively and efficiently manage current and future drainage infrastructure;
- Ensure the effective collection, transportation, and proper disposal of municipal solid waste, and particularly to minimize the accumulation of debris in the drainage channels and the resultant obstruction and reduction in storm water conveyance capabilities; and
- Institute best practice business and engineering processes, structures and framework that will enable LCC to sustainably manage storm water within the City of Lusaka.

- c. Innovation Grant for Pro-Poor Services Delivery (IGP): This component provides complementary services to the Compact's infrastructure and technical assistance investments, increasing access of the poor to services while increasing private sector participation in the Compact and potentially creating new job opportunities for Zambians. Growing private sector participation in the Compact was undertaken with a focus on increasing small and medium enterprise participation in the program and broadening access to infrastructure services and new opportunities through innovation grants.
- d. Environmental Management (cross-cutting): This component is expected to strengthen the LWSC's environmental management and monitoring capabilities, specifically as they relate to monitoring effluents, treated sewage, and water quality. It is also expected to help initiate and integrate LWSC's environmental management system into the utility's broader corporate culture and enterprise systems, as appropriate. This component is also expected to strengthen the LCC's environmental management and compliance systems in order to enhance the sustainability of the Compact's investments and contribute to the health and wellbeing of beneficiaries. Priority technical assistance (TA) needs at LWSC and LCC shall be identified and targeted TA delivered to strengthen those capacities with the aim of enhancing the sustainability of benefits generated by the Compact.
- e. Social Inclusion and Gender Mainstreaming (SIGM), Information, Education & Communication (IEC), and Sanitation Marketing (SM) (cross-cutting): The central objective of this Technical Assistance (TA) to both LCC and LWSC is to

improve Service provision, Access, Affordability, and Sustainability (SAAS) for poor and disadvantaged populations of peri-urban Lusaka. This includes a strong focus on gender as well as income inequalities.

- “Service” refers to the extension of appropriate services to the poor
- “Access” refers to the ability of people to access those services in the context of their needs, conditions, and constraints.
- “Affordability” refers to the ability to pay for these services.
- “Sustainability” In this context refers to services that are designed to be appropriate to the context of customers, so that they are able to use and maintain the services, and able to afford and ensure proper maintenance of local assets.

The SAAS activities in the compact address key assumptions and risks in the overall LWSSD project, protecting MCC’s investments and building long-term capacity in the sector. These activities derive from an in-depth institutional strengthening needs assessment (ISNA) contracted by MCA-Zambia and completed in February 2014, of the institutional capacities and needs of LWSC and LCC to systematically develop and implement policies and planning for SAAS for the poor.

Social Inclusion and Gender Mainstreaming: The TA works to strengthen the capacity of LCC and LWSC to develop and implement gender mainstreaming and social inclusion related policies and operational procedures. This will further enhance staffing and budget planning that will increase their ability and incentives to provide services to peri-urban poor and vulnerable populations, to improve the affordability and sustainability of services, and to systematically integrate social and gender inclusion across their work.

Information Education and Communication (IEC) and Sanitation Marketing (SM): A systematic, coordinated and well-researched approach to IEC and SM on water supply, sanitation and solid waste management for peri-urban Lusaka is being undertaken through targeting the messages needed to promote uptake and sustainability of services, and promote good hygiene practices. The approach includes building LWSC and LCC capacity and conducting IEC/SM during implementation of the Infrastructure Activity:

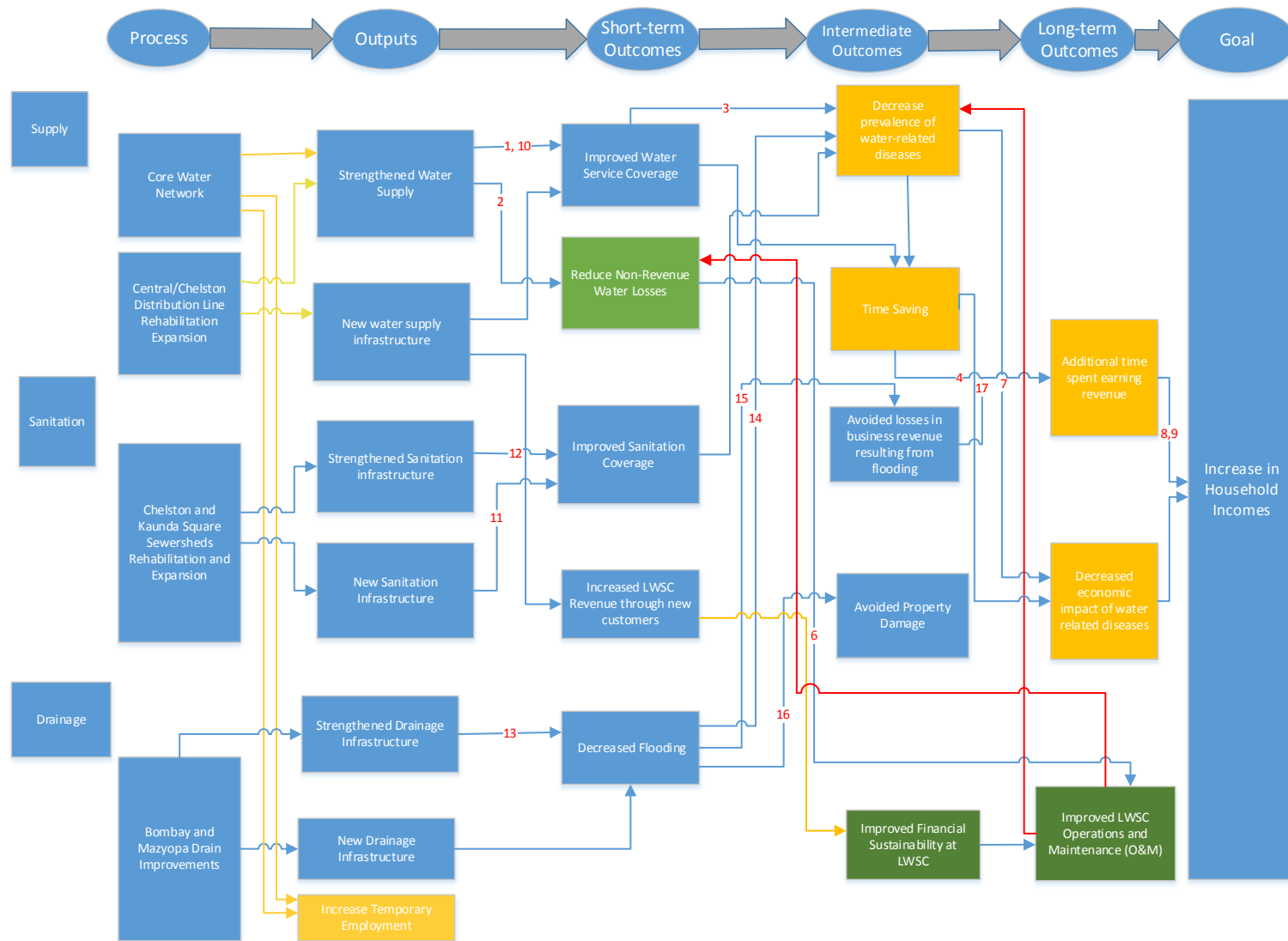
- The IEC/SM TA sub-activity is designed to strengthen the long-term capacity of LWSC and LCC to systematically identify IEC needs and plan and implement IEC for sustainability and for future investments. LWSC IEC and SM pertains to water supply and sanitation, while LCC’s IEC pertains to solid waste management and drainage in low-income, peri-urban areas of Lusaka.

- Specific IEC/SM activities are being done to support uptake and sustainability of Compact investments during implementation. The IEC and SM activities have been designed for project components with direct implications for individual, household and community actions and behavior change (tertiary water and sanitation connections, and drainage). Those are activities associated with Contract Packages CP2, CP 3, CP 5, CP 6, CP 7, CP 8 and Mazyopa. The work involved formative research, messaging design and development, strategies and implementation of a coordinated and systematic approach to IEC and SM for peri-urban Lusaka, targeting the messages needed to promote uptake and sustainability of services, and promote good hygiene practices. It is thus key to the achievement of the economic and health benefits and rate of return estimated for the project.

2.4 Activity Logics

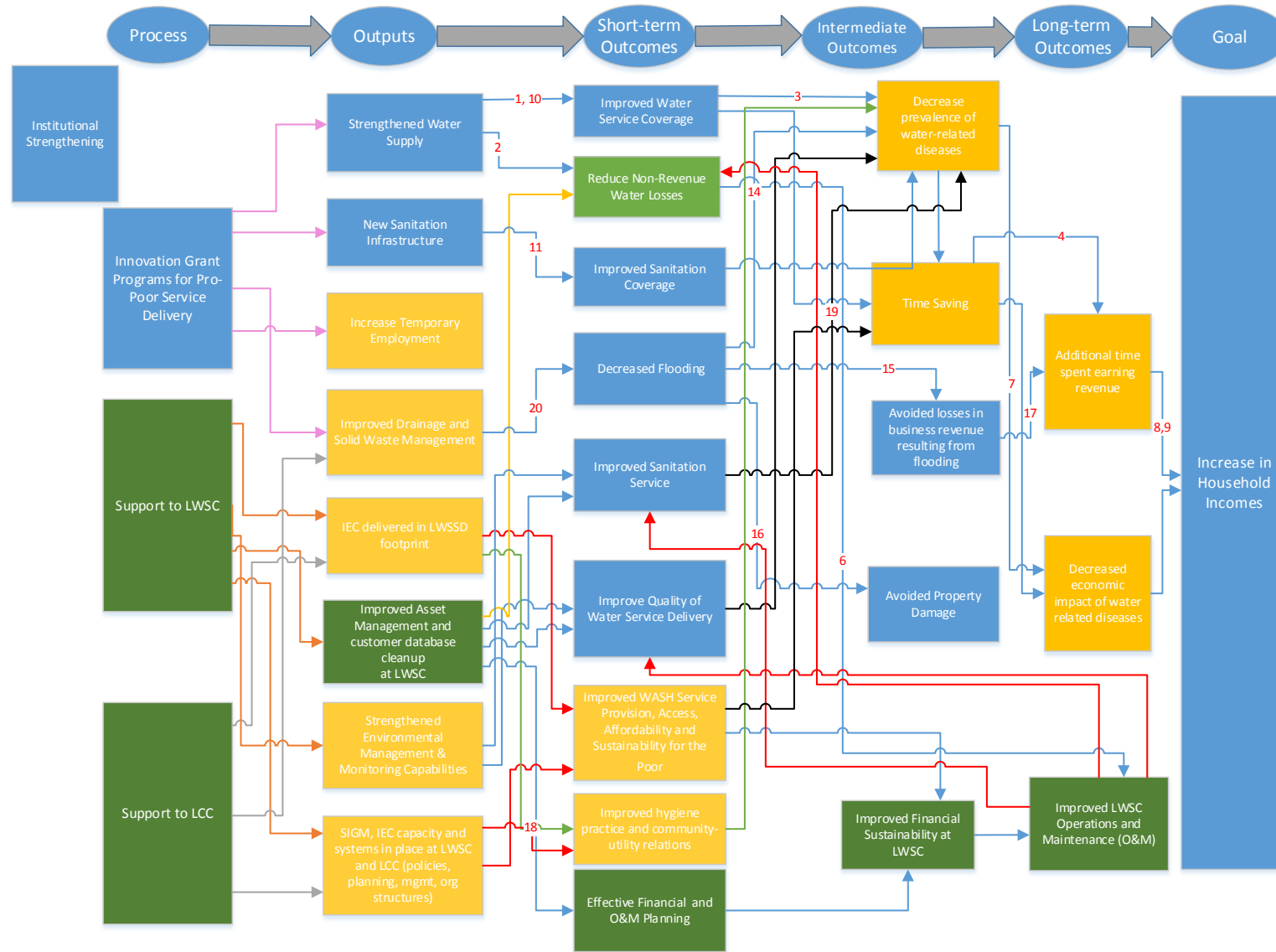
The path ways to measure outcomes and impact of Compact activities has been delineated into two logic models, Infrastructure Activity and Institutional Strengthening Activity. These logics show how using MCC investment, project outputs, outcomes and impact will be attained. These logics are shown below:

Infrastructure Activity



*This logic diagram uses colors for ease of comprehension. The colors do not signify any additional meaning.

Institutional Strengthening



*This logic diagram uses colors for ease of comprehension. The colors do not signify any additional meaning.

2.5 Projected Economic Benefits and Beneficiaries

2.5.1 Economic Rate of Return (ERR) Analysis

MCC's methodology for ERR analysis is best described as micro-economic growth analysis, which measures the expected increases in household incomes or the value-added of individual firms as a result of the intervention. ERRs can also be considered MCC's best pre-investment estimate of the likely economic impact of the proposed investment. These ERRs also include income or value added that is expected to be generated through environmental and social improvements, but do not attempt to quantify and incorporate the broader social value of these improvements. More details of the ERR concept can be found on the MCC website. Ideally, every ERR calculation considers two scenarios:

1. The expected outcome with the project investment; and
2. The expected outcome without the project investment.

The water supply and sanitation project is expected to benefit approximately 1,240,000 individuals over twenty years, which is the standard length of time allocated to infrastructure activities in MCC ERR's. The ERR for the entire project is estimated at 14.7%.

The benefit streams supporting the investment are health, time savings, non-revenue water, local labor, avoided property damage and avoided loss in value added.

2.5.2 Beneficiaries

The LWSSD Project is expected to benefit approximately 1,199,962 individuals over twenty years in some way, shape or form. Of these beneficiaries, approximately 73% are expected to be poor, which is defined as living on less than US\$2.00 per day on a purchasing power parity basis. The main channels through which these beneficiaries are expected to benefit from the LWSSD Project are through time savings, improved health outcomes and a reduction in NRW. The entire ERR calculation is available on MCC's website.

3. MONITORING COMPONENT

3.1 Summary of Monitoring Strategy

Monitoring is defined by MCC M&E Policy as “a continuous function that uses the systematic collection of data on specified indicators to gauge progress toward final program goals and achievement of intermediate results along the way”. For MCA-Zambia, Project and Activity performance will be monitored systematically and on an on-going basis through the indicator tracking system. This analysis will allow managers of MCA-Zambia and MCC to make programmatic adjustments as necessary with the view towards improving the overall impact of the Program.

For the purposes of Impact Evaluation efforts, the Independent Evaluator will be responsible for monitoring implementation progress and coordinating implementation with the evaluation design. This monitoring will be continuous but will be reported quarterly by the Independent Evaluator. Other Institutional Strengthening will have separate monitoring frameworks set up to inform implementation.

3.2 Indicators

Project and Activity level outcomes will be measured by indicators. The Indicator Definition Tables provide a detailed definition of each indicator; unit of measurement, source of data, method of data collection, frequency of data collection, and the entity responsible for collecting the data.

The Output Indicators presented in the table are preliminary, and implementers may request revisions or propose modifications before beginning implementation of the relevant Activity. This M&E Plan will be amended to reflect any changes made to those indicators, after they have been approved by MCC.

3.2.1 Indicator Levels

Goal Indicators: these indicators measure the economic growth and poverty reduction that occur during or after implementation of the program. For MCC Compacts, goal indicators will typically be a direct measure of local income. In this Compact, income will be measured using expenditure methods.

Outcome Indicators: these indicators measure the intermediate effects of an Activity or set of Activities and are directly related through the program logic to the output indicators

Output Indicators: these indicators measure immediate results that arise from processes and the implementation of activities.

Process Indicators: these indicators measure progress toward the completion of Project Activities. They are a pre-condition for the achievement of output indicators and a means to ascertain that the work plan is proceeding on time.

3.2.2 Common Indicators

Common indicators are used by MCC to measure progress across Compacts within certain sectors, in the case of the Zambia Compact these are water-specific as well as disbursement-related indicators. They allow MCC to aggregate results across countries and report to key external stakeholders. Common indicators may be specified at all indicator level (process, output, outcome and goal).

The list in Table 1 shows common indicators which are aggregated across countries for water, sanitation and hygiene Compacts. Only selected indicators appropriate to Zambia have been included.

Table 1: List of Common Indicators

CI Code	Indicator Level	Indicator Name
WS-3	Process	Value of signed water and sanitation construction contracts
WS-4	Process	Percent disbursed of water & sanitation construction contracts
WS-5	Process	Temporary employment generated in water and sanitation construction
WS-6	Output	People trained in hygiene and sanitary best practices
WS-7	Output	Water points constructed
WS-8	Outcome	Non-revenue water
WS-9	Outcome	Continuity of service
WS-10	Outcome	Operating cost coverage
WS-11	Outcome	Volume of water produced
WS-12	Outcome	Access to improved water supply
WS-13	Outcome	Access to improved sanitation
WS-14	Outcome	Residential water consumption
WS-16	Outcome	Prevalence of diarrhea

3.3 Data Sources

Data sources have been identified and vetted for all the indicators listed in Annex 1. Monitoring data will be obtained from primary sources including implementing partners (LWSC and LCC), Construction Supervising Engineer (CSE) and contractors. Higher level indicators will be measured through impact evaluations and special studies and will be reported to MCC when data becomes available. When appropriate, secondary data will also be obtained from government institutions such as Central Statistics Office (CSO) and international agencies.

Methods of Data Collection

Both qualitative and quantitative data collection methods will be used to assess progress made towards the goal of the Compact. Quantitative methods will include surveys whereas focus group discussions and key informant interviews are likely form of qualitative methods. When appropriate, participatory methods such as observations will also be used to collect data. Qualitative methods will help to explain the presence or absence of outputs, outcomes and impacts, as well as to assess and explain the effectiveness of some of the institutional strengthening activities and IEC.

3.4 Indicator Baselines and Targets

Indicator baseline and targets have been set for each indicator (Annex 2). Where data is not available, the baseline values and end of Compact targets will be completed when data become available.

3.5 Frequency of data collection

Data will be collected at multiple points during the Compact period. Depending on the level of indicator, the standard cycle of data collection will be quarterly, semi-annually and annually. Data collection will also be synchronized with MCC reporting to ensure efficiency.

Implementing entities will be required to report on project milestones and outputs on a monthly basis and where appropriate quarterly.

3.6 Data Quality Reviews

Data quality standards will be prioritized by MCA-Zambia to ensure transparency and quality in the processes of data collection as well as manipulation of data. High quality data ensures usability and high confidence in decision-making processes at all levels. For this reason, all attempts will be made to ensure that data is of high quality through adhering to data quality standards and conducting Data Quality Reviews (DQRs).

3.6.1 Data Quality Standards

Data quality standards will mirror MCC standards of validity, reliability, timeliness, precision and integrity.

Validity: Data are valid to the extent that they clearly, directly and adequately represent the result to be measured. Measurement errors, unrepresentative sampling and simple transcription errors may adversely affect data validity. Data should be periodically tested to ensure that no error creates significant bias.

Reliability: Data should reflect stable and consistent data collection processes and analysis methods over time. Project managers and M&E staff should be confident that progress toward performance targets reflects real changes rather than variations in data collection methods. Reliability can be affected by questionable validity as well as by changes in data collection processes.

Timeliness: Data should be available with enough frequency and should be sufficiently current to inform management decision-making. Effective management decisions depend upon regular collection of up-to-date performance information.

Precision: Data should be sufficiently accurate to present a fair picture of performance and enable project managers to make confident decisions. The expected change being measured should be greater than the margin of error. Measurement error results primarily from weakness in design of a data collection instrument, inadequate controls for bias in responses or reporting, or inadequately trained or supervised enumerators.

Integrity: Data that are collected, analyzed and reported should have mechanisms in place to reduce the possibility that data are subject to erroneous or intentional alteration.

3.6.2 Conducting a Data Quality Review

Data Quality Reviews (DQRs) are a mechanism to review and analyze the utility, objectivity and integrity of performance information. DQRs include the following:

- Quality of data
- Data collection instruments
- Survey sampling methodology
- Data collection procedures
- Data entry, storage and retrieval processes
- Data manipulation and analyses
- Data dissemination

MCA-Zambia hired an independent entity (CRISIL Risk & Infrastructure Solutions Limited) in 2016 to conduct a data quality review of the performance indicators comprising the

Compact's M&E Plan, identify data quality issues impacting the entities contributing to the M&E Plan and suggest detailed recommendations for improvement of data quality. The final report was delivered in March 2017 and some recommendations are included in the final revision of the M&E Plan.

The objective of any data quality review is to verify the quality and the consistency of performance data over time, across different implementers and reporting institutions. Such data quality reviews will also identify cases in which the highest degree of data quality is not possible, given the realities of the data collection circumstances. These assessments will cover data reported from implementers and other data sources as necessary, such as the Central Statistics Office (CSO).

Internal DQRs will also be undertaken by the M&E unit on program process and output level indicators to ensure compliance to indicator definitions, manipulations and data collection procedures.

3.7 Social and Gender Analysis

Where appropriate, indicators will be disaggregated by sex, age, socio-economic status (poverty level), as well as area. The purpose of this disaggregation is to understand distributional impacts of MCC project benefits. Given the risk that social inequalities pose to accessing and sustaining benefits, disaggregation of data monitors the extent to which the project is benefitting or excluding different social groups, for example, the poor, women and girls. Table 2 shows the indicators that will be disaggregated by categories of social and gender differences at both primary and secondary disaggregation level:

Table 2: Social and Gender Disaggregated Indicators

Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting
Goal	Average Household income	Average household income per year based on expenditure patterns	US Dollars	Female-headed household / Male-headed household	Household Survey	CDC	Other
Outcome	Time spent gathering water	Total number of hours households spend gathering water per day. This includes waiting time for gather water	Hours	Sex(Female/Male) and age	Household Survey	CDC	Other
Outcome	Access to improved water supply	The percentage of households in the MCC project area whose main source of drinking water is a private piped connection (into dwelling or yard), public tap/standpipe, tube-well, protected dug well, protected spring or rainwater.	Percentage	Urban/Rural and Female-headed household / Male-headed household	Household Survey	CDC	Other

Outcome	Access to improved sanitation	The percentage of households in the MCC project area 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.	Percentage	Urban/Rural and Female-headed household / Male-headed household	Household Survey	CDC	Other
Outcome	Residential water consumption	The average water consumption in liters per person per day.	Liters per capita per day	Urban/Rural and Female-headed household / Male-headed	Household Survey	CDC	Other
Output	Number of people trained in Non-Revenue Water	The total number of people trained from LWSC in Non-revenue water	Number	Sex (Female/Male)	Training logs	NRW consultant/LWSC	Quarterly
Output	Number of connections(sewerage)	Total number of NEW sewerage connections in the project area	Number	Female-headed household / Male-headed	CDC End line Evaluation Report	CDC	Other
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	Sex (Female/Male)	CSE Progress Report	CSE	Quarterly
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	Sex (Female/Male)	Training logs	SGA/IEC TA	Quarterly
Output	Number of people trained in Social Inclusion and Gender Mainstreaming	The number of people who have completed training in any relevant area on SGA such as gender mainstreaming and social inclusion	Number	Sex (Female/Male)	Training logs	SGA/Social and Gender Institutional Strengthening TA	Quarterly
Output	The number of households reached with messages on hygiene and sanitary best practices	These will include people reached by the community mobilizers during the door to door campaign	Number	Female-headed household / Male-headed	Community Mobilization Logs	SGA/IEC TA	Quarterly
Output	Number of Beneficiary Individuals	Number of beneficiary individuals to receive improved water or sanitation access from Innovation Grant project's	Number	Female-headed household / Male-headed	IGPM/Grantee administrative data	IGPM	Quarterly
Output	Numbers of temporary jobs created	Number of individuals who received temporary employment through the Innovation Grant projects	Number	Sex (Female/Male)	IGPM/Grantee administrative data	IGPM	Quarterly

Further studies will be conducted to assess outcomes of the Social Inclusion and Gender Mainstreaming activity, and the effect of the IEC and sanitation marketing activities.

3.8 Standard Indicator Reporting Requirements

The Disbursement Request and Reporting package is submitted by MCA-Zambia to MCC on a quarterly basis. This includes the completed ITT, which displays performance targets

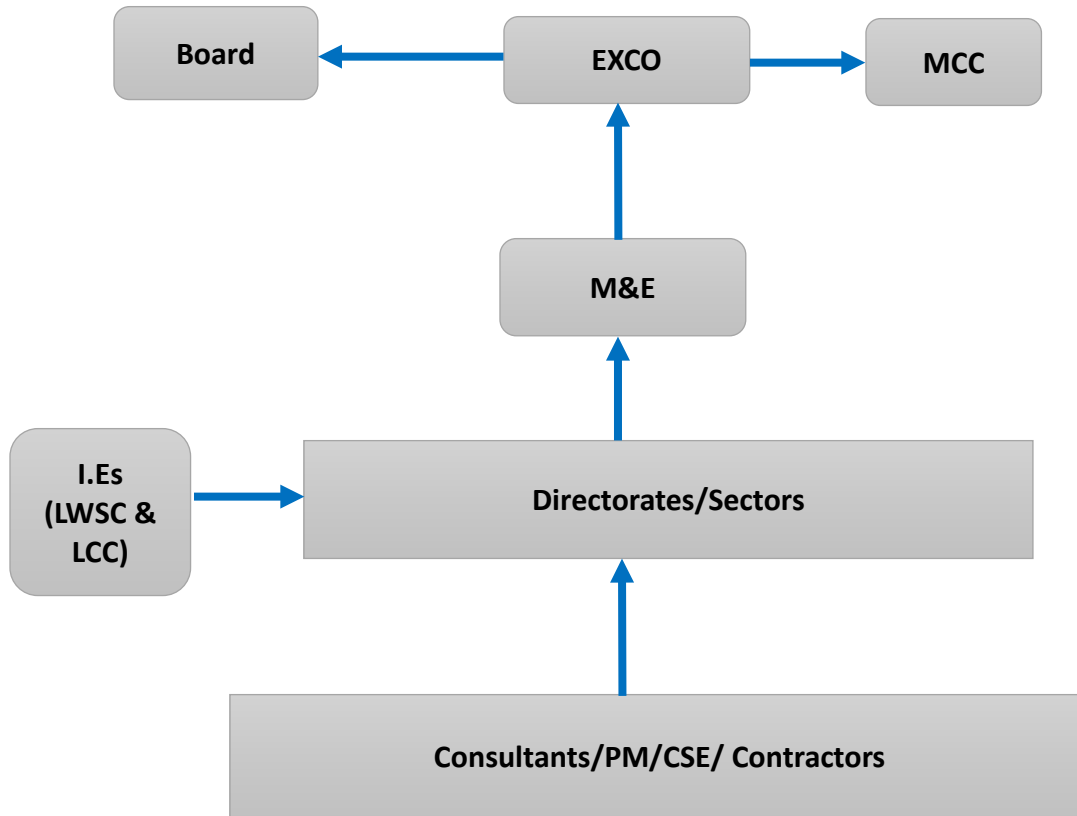
(projections) and tracks progress against them (actual), as well as a corresponding narrative report which explains progress made and performance and any reasons for deviations from the targets when applicable.

The overall narrative report is the responsibility of all staff of MCA-Zambia 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 provides explanations where there are deviations from the plans,
- Challenges that might affect implementation and proposed measures to address these 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.
- Analysis of data and information from the ITT

The quarterly reports are submitted by MCA-Zambia M&E to Project Directorates for review.

Figure 1: Quarterly Reporting / Data Flow



4. EVALUATION COMPONENT

While good program monitoring is essential for program management, it is not sufficient for assessing ultimate results. The evaluation component of MCA-Zambia will comprise of three types of evaluations and will be consistent with MCC Evaluation Policy as follows;

- i. Impact evaluation
- ii. Performance evaluations and
- iii. Special Studies.

4.1 Impact Evaluations

The Compact will be evaluated based on the extent to which the interventions contribute to the Compact Goal, which is to increase household income in selected peri-urban areas of Lusaka. Impact Evaluations are distinctive in their use of control and treatment groups

to establish a counter-factual to facilitate attributing outcomes to specific activities. The Compact Impact Evaluation will include a baseline survey, successive surveys and other forms of data collection in order to validate, through triangulation, findings of Compact effects. The baseline survey will be conducted prior to beginning of implementation affecting beneficiaries to ensure it serves as a valid comparison point.

Specifically, Impact Evaluations will measure the following:

- Effectiveness of program activities in meeting Compact goals;
- Attribution of measurable outcomes to interventions;
- Reasons behind the success or failure to achieve goals, objectives and targets;
- Unintended results of the program (positive and negative);
- Long-term sustainability of results;
- Re-estimated economic rates of return, comparisons to original estimates, and assessment of differences;
- Lessons learned applicable to similar projects.
- Distributional impacts

MCC will engage Independent Evaluators to conduct baseline and final evaluations to assess impact. The Independent Evaluator will be procured by MCC while data collection firms and firms to carry out any special studies will be procured by MCA-Zambia.

4.2 Special Studies

MCA-Zambia may request ad hoc evaluations or special studies of Projects, Project Activities or the Program as a whole prior to the expiration of the Compact term to be conducted by an outside entity contracted in compliance with the Procurement Plan.

4.3 Key evaluation questions

In order for this Impact Evaluation to inform decision making, end uses for each evaluation question should be identified before resources are expended in answering the question. Some questions are asked to inform the program logic while others are asked to inform policy discussion or implementation decision making. During the course of the evaluation it is entirely expected for new questions to arise as we test our logic and information needs arise.

The initial key evaluation questions center on three fundamental questions that Monitoring and Evaluation should answer:

- 1.) Are the correct activities to produce the designated outcomes being implemented? Meaning, were constraints to economic growth correctly and projects identified that contribute to the alleviation of those constraints correctly identified in a cost effective manner?
- 2.) Are activities being implemented according to the logic? Is the way we are implementing our activities in line with our original plans and intent? How is implementation influencing overall impact?
- 3.) What is our overall effect in achieving our goal and objectives? Why?

In order to answer these three questions the M&E strategy should incorporate analysis of several areas of focus including:

- The process by which projects were identified and designed;
- The program logic that lays out the cause and effect relationships that begin with implementation of activities and ends with an increase in household income for beneficiaries ;
- Implementation of activities;
- The degree to which Compact activities were responsible for achieving objectives and goal (attribution of impact).

Evaluation Questions on Needs Assessment, Project Identification/Design, Logic, Implementation and Effect

Each area of focus outlined above has specific evaluation questions.

- Needs assessment and project identification
 - What was the evidence and process for decision making for identifying constraints to economic growth and selected projects to alleviate those constraints?
 - Are Compact activities the most effective mitigators against the constraints to economic growth (are we doing the right things)?
 - How did this needs assessment and project identification/design process affect the overall impact of the Compact?
- Program Logic
 - Was the program logic sound, meaning were the cause and effect relationships sufficiently articulated, contextualized or were there evidence gaps?

- Were assumptions clearly detailed and monitored? What assumptions held and which assumptions did not hold? Why?
- What were the contextual variables influencing the logic? Were these accounted for in program planning and implementation?
- Were the evaluation questions correctly linked to the logic, are additional questions needed or do some need to be changed?
- Implementation and program results
 - To what extent were activities undertaken; new activities were introduced; activities were fully implemented? What were the causal dynamics responsible for these changes?
 - Are there unintended impacts of the program (positive or negative)?

Additionally there are specific evaluation questions that relate to targeted impact of Compact activities. Social and gender analysis will be incorporated where appropriate, i.e. where there is the potential for differential impacts across social, economic, and demographic groups.

Health

- What are the health benefits attributable to each type of Compact activity?

Safe Water Supply/Consumption

- What are the current consumption rates of safe versus un-safe water consumption and usage?
- Do compact activities lead to an increase in safe water consumption?
- Are recipients of IEC treatments using effective sanitation habits?
- How sustainable are sanitation related behavior change?

Economic and Social

- Do households experience an increase in income due to compact activities?
- Are households able to afford household connections, toilets, and water bills?
- What are the current wages and probability of finding work for beneficiaries?
- What are the time and cost savings/use attributable to each Compact activity?

Flooding

- Is there a decrease in the frequency, intensity and duration of flooding?

- Is there a decrease in property damage and loss of business due to flooding?
- Is there a decrease in travel time due to flooding?

Lessons learned

- What lessons can MCC apply in future programs related to program design and implementation?
- What are the implications of the evaluation findings for scaling up, replication or long-term policymaking?

4.4 Evaluation Methodologies

Rigorous impact evaluation methods will be adopted with a clear counterfactual. All evaluations will be conducted using a scientific rigorous method with an emphasis on with or without the project. It is anticipated that mixed method approaches will be used.

4.5 Data collection plans

An independent local data collection firm will be hired to collect data as required by MCA-Zambia and MCC. Baseline data collection will be done prior to implementation of construction activities.

4.6 Timing of analytical reports

Analytical reports will be produced after any study, including baseline. The results will be presented to stakeholders to deepen the understanding of the project progress. Quarterly review meetings will also be held.

4.7 Status of Independent Evaluations

At the time of the Final M&E Plan revision, three independent evaluations of the LWSSD are underway or planned. They are listed below:

- Infrastructure Activity Independent Evaluation (CDC): Infrastructure Activity is being evaluated by the Centers for Disease Control (CDC). This evaluation is designed to measure impacts on water-related diseases and time savings for households and businesses. It comprises of a 12,000 household survey in treatment and control neighborhoods, a traffic study to measure the effects of

the drainage sub-activities, and water quality monitoring in households and along the water supply infrastructure. The baseline data collection for the drainage portion is complete, while the other components will be completed within 2017. Baseline reports from all components are expected to be available in early 2018. Aspects of the Infrastructure Activity that are not directly captured by the CDC evaluation include NRW interventions affecting both the physical and commercial losses.

- *Innovation Grant Program Independent Evaluation (AIR)*: The Innovation Grant Program is being evaluated by the American Institutes for Research. A baseline performance report for the IGP was submitted in October 2016 and additional targeted impact assessments of individual grant projects are currently being designed.
- *LWSSD Overarching Evaluation with emphasis on the Institutional Strengthening Activity*: A independent performance evaluation to assess the LWSSD Project performance in contributing to the Water, Sanitation, and Drainage sector sustainability through its effect on institutions (LWSC and LCC) is in the process of being contracted. MCC is interested in assessing the effectiveness of the LWSSD Project as a whole, with a particular emphasis on the Institutional Strengthening Activity through interventions on the water utility LWSC, and LCC. The successful Evaluator must incorporate data inputs from the two other independent evaluations and minimize redundancy.

5. IMPLEMENTATION AND MANAGEMENT OF M&E

The MCA-Zambia M&E activities will be conducted by sector directors and coordinated by the M&E unit. The PMC will also perform M&E tasks that will feed into the overall M&E strategy.

5.1 M&E Unit Structure and Responsibilities

The M&E unit of MCA-Zambia will have three staff members, with the Director M&E and Economics as the overall lead. The other two members will be M&E Specialists. Roles and responsibilities of these staff are given below:

M&E Director

- Guide the establishment of the M&E system, including data-collection, data-analysis and reporting systems;
- Collaborate with the Procurement Officer to prepare and conduct procurement of M&E contracts;
- Preparation of periodic reports for MCA-Zambia, Board of Directors, and MCC (including the Quarterly and Annual Performance Reports).
- Designing the impact evaluation strategy in collaboration with MCC and external consultants
- Advise MCA-Zambia management on all M&E issues, and also collaborate with all sectors regarding reporting requirements

Economics and Evaluations Specialist

- Act as an advisor to the M&E Director and MCA-Zambia Senior Management.
- Ensure that the M&E Plan and ERR analysis are modified and updated as improved information becomes available;
- Assist in designing the impact evaluation strategy in collaboration with MCC and external consultants;
- Ensure that findings are disaggregated by gender, age, and income, as applicable;
- Monitor economic aspects of overall program execution, including both financial and physical implementation and monitor key assumptions made in the ERR calculations for the program.

- Monitor economic conditions affecting implementation and the prospects for achieving program outputs and outcomes.
- Liaise with MCC on periodic revision of ERR analyses, particularly in support of project re-scoping.
- Collaborate with the Ministry of Finance on attribution and measurement of the Program's macroeconomic impact, including in particular on growth and poverty.
- Review periodic reports regarding program monitoring and evaluation that will be submitted to the Steering Committee, Stakeholders Group and MCC.
- Disseminate results and learning products among stakeholders
- Train counterparts and GRZ in evaluation approaches and coordinate with implementation.

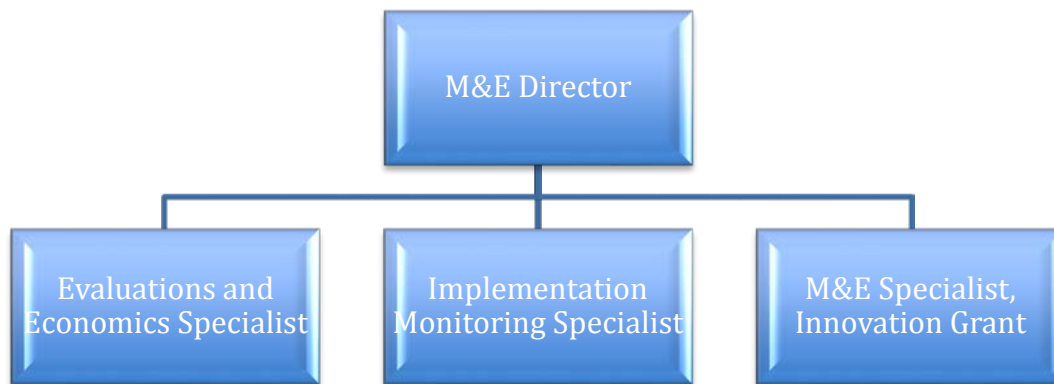
Implementation Monitoring Specialist

- Participate in monitoring through site visits, review of program reports
- Assist in the management and the implementation of the Compact's M&E Plan
- Facilitate learning exchanges and information dissemination;
- Organize and oversee regular independent data quality reviews
- Managing the MIS and producing reports as needed
- Capacity building of implementing entities in M&E
- Ensure that findings are disaggregated by gender, age, and income, as applicable;
- Assist in the preparation of periodic reports for MCA-Zambia, Board of Directors, and MCC (including the Quarterly and Annual Performance Reports). Assist M&E Director and Economist in the write up of quarterly and annual reports, data analysis and studies.
- Liaison with Implementing Entity M&E Point of Contacts to gather information and train these on the MCA-Zambia M&E plan.

M&E Specialist – Innovation Grant

- *Responsible for all M&E activities for the innovation Grant including reporting, evaluations and study designs.*

Figure 1: Structure of the M&E and Economics Unit



Additionally, the M&E unit will hire short-term consultants as need arises. The M&E and Economics unit will carry out or hire contractors to complete the following and other related activities:

- Capacity building /training of partners in M&E
- Rapid assessments of program interventions using participatory methods
- Operational research
- Documenting best practices and lessons learned

5.2 Management Information System for M&E

Results of M&E for MCA-Zambia will be used to improve performance and decision-making processes among all stakeholders. A comprehensive interactive MIS will therefore be developed for the MCA-Zambia. Among other benefits, the system which will be developed should have the following:

- Good processes (mechanisms) for reporting data/information with MCC
- Data quality assurance mechanisms
- User-friendly and can be used in simple to complex environments.
- Integration to other systems in the project cycle such as finance, procurement and project management.

5.3 Review and Revision of the M&E Plan

Before beginning implementation of the Project Activities, MCA-Zambia will orient staff and project implementers on how project performance is to be measured and will provide training necessary to comply with the M&E Plan. MCA-Zambia will also review comments and

suggestions from implementing partners and other stakeholders. MCC and MCA-Zambia may make adjustments to the M&E Plan as needed, provided any modification or amendment of the M&E Plan has been approved by MCC and is otherwise consistent with the requirements of the Compact and any relevant Supplemental Agreements between the Parties.

6. M&E Budget

The original M&E Budget estimate for M&E activities for the five year term of the Compact total \$5,841,000, or 1.6 percent of Compact total. The table below outlines this estimated budget.

Zambia M&E Compact Budget (Estimated)

Activity	
Impact Evaluation Support	\$2,900,000
Capacity Development and Software	\$1,266,000
Special Studies and Analysis	\$1,675,000

7. ANNEXES

Annex I: Indicator Documentation Table

Annex II: Table of Indicator Baselines and Targets

Annex III: Modifications to the Zambia Monitoring and Evaluation Plan

Annex IV: Modifications to Program Logic

Zambia V3
Annex I: Indicator Documentation Table

Results Statement	CI Code	Indicator Level	Indicator Name	Definition	Unit of Measure	Disaggregation	Primary Data Source	Responsible Party	Frequency of Reporting	Additional Information
Compact Wide Indicators										
Increase in household income (Outcome)		Goal	Average Household income	Average household income per year based on expenditure patterns	US Dollars	Female-headed household / Male-headed household	Household Survey	CDC	Other	The conversion rate for this indicator is 8.9. Monthly expenditure: All Food 9,516 Non-food Total 10,356 Schooling (all items) 4133 Health Care 0
Time Saving (Outcome)		Outcome	Time spent gathering water	Total number of hours households spend gathering water per day. This includes waiting time for gather water	Hours	Sex(Female/Male) and age	Household Survey	CDC	Other	Baseline Source: Data through July 28, 2017, representing 9,088 households or nearly 75% of CDC target sample size.
Improved quality of water service delivery (Outcome)	WS-9	Outcome	Continuity of service	Average hours of service per day for water supply.	Hours per day	Residential/Institutional commercial Industry (ICI)	LWSC Company Performance Overview Quarterly Report	LWS C	Quarterly	

Improved quality of water service delivery (Outcome)	WS-11	Outcome	Volume of water produced	Total volume of water produced in cubic meters per day for the service area, i.e. leaving treatment works operated by the utility and purchased treated water, if any.	Cubic meters per day*		LWSC Company Performance Overview Quarterly Report	LWSC	Quarterly	Baseline Source: Performance Report page 13 Table 10 Water Production. Quarter 4 2013 Calculation: $V_t = V_a + V_b$ where: V_t = Total Volume of water produced V_a = Volume *Correct unit is "cubic meters". To be corrected after WASH Common Indicators are updated
Avoided loss in business revenue resulting from flooding (Outcome)		Outcome	Average Days of business closures due to flooding	Average number of days the surveyed businesses were closed as a result of flooding in the flood plain of the project area per month during the rainy season	Days	By Month (December-March)	CDC Baseline Drainage Report	CDC	Other	Baseline Source: CDC Drainage Report, Section C. iii. A. Flooding and Business Days
Activity 1: Infrastructure Activity										
Improved water service coverage (Outcome)	WS-12	Outcome	Access to improved water supply	The percentage of households in the MCC project area whose main source of drinking water is a private piped connection (into dwelling or yard), public tap/standpipe, tube-well, protected dug well, protected spring or rainwater.	Percentage	Urban/Rural and Female-headed household / Male-headed household	Household Survey	CDC	Other	Baseline Source: Data through July 28, 2017, representing 9,088 households or nearly 75% of CDC target sample size. The disaggregations are not needed as the project is only working in urban areas.

Improved Sanitation Coverage (Outcome)	WS-13	Outcome	Access to improved sanitation	The percentage of households in the MCC project area 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.	Percentage	Urban/Rural and Female-headed household / Male-headed household	Household Survey	CDC	Other	<p>Baseline Source: Data through July 28, 2017, representing 9,088 households or nearly 75% of CDC target sample size.</p> <p>MCA-Zambia will consider % of households who get access to and use an improved sanitation facility such as flush toilet to a piped sewer system. For MCA-Zambia the urban/rural disaggregation does not apply</p>
Improved water service coverage (Outcome)	WS-14	Outcome	Residential water consumption	The average water consumption in liters per person per day.	Liters per capita per day	Urban/Rural and Female-headed household / Male-headed	Household Survey	CDC	Other	<p>Baseline Source: Baseline Source: Data through July 28, 2017, representing 9,088 households or nearly 75% of CDC target sample size.. This is a weighted average</p> <p>For MCA-Zambia the urban/rural disaggregation does not apply.</p>
Decreased prevalence of water related diseases (Outcome)	WS-16	Outcome	Prevalence of Diarrhea	The percentage of individuals reported as having diarrhea in the two weeks preceding the survey	Percentage	Under age 5 / 5 years and older	Household Survey	CDC	Other	The data that is being collected represents prevalence of diarrhea in the last 7 days. As per the updated WHO standards.

Reduce Non-Revenue water losses (Outcome)	WS-8	Outcome	Non-revenue water	The difference between water supplied and water sold (i.e. volume of water “lost”) expressed as a percentage of water supplied.	Percentage		LWSC Company Performance Overview Quarterly Report	LWSC	Quarterly	NRW Baseline of 56.8% for all of Lusaka. Baseline Source: MCC NRW Consultant
		Outcome	Metering ratio	Total number of connections with operating meter/ total number of connections, expressed in percentage	Percentage		LWSC Company Performance Overview Quarterly Report	LWSC	Quarterly	LWSC Company Performance Report January 2014-March 2014 [Page 11]. Table 7: Metered Connections
Decreased Impact of Flooding (Outcome)		Outcome	Property damage due to flooding	Percentage of households who experienced property damage due to flooding in the last month.	Percentage		CDC Baseline Drainage Report	CDC	Other	6.5% of households reported experiencing household or property damage as a result of floodwaters. Damage to the building or walls (40%), clothing (20%), and furniture (17%) were most commonly reported.” (Page 7)
		Outcome	Travel time to School associated with flooding	Additional time spent travelling from home to school due to flooding	Hours		CDC Baseline Drainage Report	CDC	Other	Average time to get to school with Flooding = 29.9 Average time to get to school without Flooding = 22.3 (CDC Drainage Report Table 10) [(Time with Flooding) - (Time Without Flooding)]/60

Decreased Impact of Flooding (Outcome)		Outcome	Travel time to Work associated with flooding	Additional time spent travelling from home to work during due to flooding	Hours		CDC Baseline Drainage Report	CDC	Other	<p>Average time to get to Work with Flooding = 44.24</p> <p>Average time to get to work without Flooding = 34.72 (CDC Drainage Report Table 10)</p> <p>$[(\text{Time with Flooding}) - (\text{Time Without Flooding})]/60$</p>
		Outcome	Frequency of flooding	Percentage of surveyed households who experienced flooding during the prior month, in the project area	Percentage		CDC Baseline Drainage Report	CDC	Other	Baseline Source: Table 7 of CDC Baseline Drainage Report.
Improved Quility of water Service Delivery		Outcome	Percentage of Samples with fecal contaminant at the point of consumption (within a household)	E.Coli Postive Samples collected at the point of consumption (stored water or tap)	Percentage		CDC Quarterly Report	CDC	Other	Baseline Source: POC & Stored: N= 1193; 976 (82%) >0 (CFU/100ml)
		Outcome	Percentage of Samples with Nitrate (NO3) contaminant at the point of consumption (within a household)	Nitrate Samples collected at the point of consumption (stored water or tap) above the WHO guideline (50mg/l)	Percentage		CDC Quarterly Report	CDC	Other	Baseline Source: POC & Stored: N= 1204; 717 (60%) >49.5 (mg/L)

Sub-Activity 1: Core Water Network Rehabilitation (CP 1 & CP2)

Reduce Non-Revenue water losses (Outcome)		Output	Number of people trained in Non-Revenue Water	The total number of people trained from LWSC in Non-revenue water	Number	Sex (Female/Male)	Training logs	NRW consultant/LWSC	Quarterly	
		Output	Number of meters installed/replaced	Total Number meters installed or replaced in the service area of Lusaka	Number		CSE Progress Report	NRW consultant/LWSC	Quarterly	
Strengthened Water Supply (Output)		Output	Total length of pipes replaced	Total length of old pipes in kilometers to be replaced in project intervention areas	Kilometers		CSE Progress Report	NRW consultant/LWSC	Quarterly	
New Water Supply infrastructure (Output)		Output	Total length of new pipes installed	Total length of pipes in kilometers to be installed in project intervention areas	Kilometers		CSE Progress Report	NRW consultant/LWSC	Quarterly	
Sub-Activity 2: Chelstone Distribution Line Rehabilitation and Expansion (CP3)										
New Water Supply infrastructure (Output)		Output	Length of water distribution network constructed	Total pipe length of the distribution network for water supply only. This should include all different sizes of NEW pipes laid. Sewer pipes are not included.	Kilometers		CSE Progress Report	CSE	Quarterly	
Strengthened Water Supply (Output)		Output	Length of transmission lines constructed/rehabilitated	Total length of transmission lines constructed and rehabilitated	Kilometers		CSE Progress Report	CSE	Quarterly	
Strengthened water supply system (Output)	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	Urban/Rural	CSE Progress Report	CSE	Quarterly	

Sub-Activity 3: Chelstone and Kaunda Square Sewer sheds Rehabilitation and Expansion (CP3 & CP4)

Strengthened Sanitation Infrastructure (Output)		Output	Total Length of sewer pipes constructed (Tertiary)	Total Length of sewer pipes constructed excluding secondary interceptors and primary mains	Kilometers		CSE Progress Report	CSE	Quarterly	
		Output	Total length of interceptors constructed (Secondary)	Total length of interceptors constructed (secondary sewer pipes which carry sewer from smaller tertiary pipes to primary mains)	Kilometers		CSE Progress Report	CSE	Quarterly	
Strengthened Sanitation Infrastructure (Output)		Output	Length of mains constructed (Primary)	Total length of mains constructed (primary main sewer pipes which carry sewer from sewer interceptors or wastewater plant or ponds)	Kilometers		CSE Progress Report	CSE	Quarterly	
		Output	Number of connections (sewerage)	Total number of NEW sewerage connections in the project area	Number	Female-headed household / Male-headed	CDC End line Evaluation Report	CDC	Other	

Sub-Activity 4: Central Distribution Line Rehabilitation and Expansion (CP5)

Improved water service coverage (Outcome)		Output	Number of kiosks constructed	These are NEW kiosks that have been constructed using MCA-Zambia funds. Construction should have been completed in order to be counted.	Number		CSE Progress Report	CSE	Quarterly	
		Output	Number of connections (Water)	Total number of NEW water supply connections in the project area. These are household connections and do not include Kiosk connections	Number		LWSC Company Performance Overview Quarterly Report	LWSC	Quarterly	

Sub-Activity 5: Bombay Drain Improvements (CP 7,8 & CP 10)

Strengthened drainage infrastructure (Output)		Output	Length of drains constructed / rehabilitated	This indicator measures the total length of drains that have been constructed or rehabilitated using Compact funds	Kilometers		CSE Progress Report	CSE	Quarterly	
Strengthened drainage infrastructure (Output)		Output	Length of drains fenced	Total length of the drainage that will be fenced off to prevent access by public	Kilometers		CSE Progress Report	CSE	Quarterly	
Strengthened drainage infrastructure (Output)		Output	Length of drains covered	Total length of the drainage that will be covered with concrete	Kilometers		CSE Progress Report	CSE	Quarterly	
Strengthened drainage infrastructure (Output)		Output	Number of crossings constructed	Total number of crossings over the drainage both for pedestrians and vehicles	Number		CSE Progress Report	CSE	Quarterly	
Infrastructure Activity Process Milestones										
Process achieved	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		Signed Contract	MCA-Z Procurement	Quarterly	If the value of a contract changes, the total contract value should be reported in the quarter that the change occurred. Non-Compact funding with government or other donors should not be included. .The value of water and sanitation contracts includes drainage as well. disaggregation by sub-project (water supply, sanitation and drainage)

Process achieved	WS-4	Process	Percent disbursed of water & 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	Percentage		Signed Contract	MCA-Z Procurement	Quarterly	The value of water and sanitation contracts includes drainage as well.
	WS-4.1	Process	Value disbursed of water and sanitation construction contracts	The amount disbursed of all signed construction contracts for reconstruction, rehabilitation, or upgrading of water The amount disbursed of all signed construction contracts for reconstruction, rehabilitation, or upgrading of water and sanitation works using compact funds	US Dollars		Disbursement contract tracker	MCA-Z	Quarterly	The value of water and sanitation contracts includes drainage as well.
Process achieved	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		Signed Contract	MCA-Z Procurement	Quarterly	The value of water and sanitation contracts includes drainage as well.

Process achieved	WS-2	Process	Percent disbursed 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	Percentage		Disbursement contract tracker	MCA-Z	Quarterly	The value of water and sanitation contracts includes drainage as well.
Process achieved	WS-2.1	Process	Value 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.	US Dollars		Disbursement contract tracker	MCA-Z	Quarterly	
Increase temporary employment (Output)	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	Sex (Female/Male)	CSE Progress Report	CSE	Quarterly	

onal Strengthening Activity

Improved hygiene practice and community-utility relations (Outcome)		Outcome	Percentage of people practicing safe hygiene	This indicator measures the percentage of people in the project area who report practicing safe hygiene including hand washing and treatment of water	Percentage		Household Survey	CDC	Other	This indicator corresponds to the following question from the CDC. Percentage of people who report washing their hands with soap and water, who also have soap present.
Improved financial sustainability at LWSC (Outcome)	WS-10	Outcome	Operating cost coverage	Total annual operational revenues divided by total annual operating costs.	Percentage		LWSC Company Performance Overview Quarterly Report	LWSC	Annual	Baseline Source: Derived from input indicators
	WS-10.1	Outcome	Total Annual Operational Revenues	The monetary amount billed and collected annually by the utility for utility service rendered and for other services incidental thereto.	US Dollars		LWSC Company Performance Overview Quarterly Report	LWSC	Annual	Baseline Source: Sum of Q1-Q4 Revenue. Unit of exchange is 1USD=8.9 Zambian Kwacha
Improved financial sustainability at LWSC (Outcome)	WS-10.2	Outcome	Total Annual Operating Cost	Annual expenses, including maintenance costs, and capital costs incurred as part of the water utility's operations.	US Dollars		LWSC Company Performance Overview Quarterly Report	LWSC	Annual	Baseline Source: Sum of Q1-Q4 Revenue Unit of exchange is 1USD=8.9 Zambian Kwacha
Reduce Non-Revenue Water Losses (Outcome)		Outcome	Collection efficiency	Revenue acquired in the current period(including arrears collected in current period) /Billed Revenue	Percentage		LWSC Company Performance Overview Quarterly Report	LWSC	Annual	Baseline Source: Table 3 Sales Data. Calculated: Revenue (ZK)/Collections (ZK)

Improved hygiene practice and community-utility relations (Outcome)	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	Sex (Female/Male)	Training logs	SGA/IEC TA	Quarterly	
Improved WASH Service Provision, Access, Affordability and Sustainability for the Poor (Outcome)		Output	Number of people trained in Social Inclusion and Gender Mainstreaming	The number of people who have completed training in any relevant area on SGA such as gender mainstreaming and social inclusion	Number	Sex (Female/Male)	Training logs	SGA/Social and Gender Institutional Strengthening TA	Quarterly	
Improved hygiene practice and community-utility relations (Outcome)		Output	The number of households reached with messages on hygiene and sanitary best practices	These will include people reached by the community mobilizers during the door to door campaign	Number	Female-headed household / Male-headed	Community Mobilization Logs	SGA/IEC TA	Quarterly	
Activity 1: Support to LWSC										
Reduce Non-Revenue (Outcome)		Outcome	Average number of days taken to fix leakages	Number of days taken to fix leakages by LWSC	Days		LWSC Database	LWSC	Quarterly	Baseline Source: 2013 Q4
Improved Sanitation Service (Outcome)		Outcome	Biological Oxygen Demand (BOD) - mg/l	Biological Oxygen Demand (BOD) measurement at the outlet of the Kuanda Waste Stabilization Pond"	Milligram per litre		LWSC/ZEMA Reports	LWSC	Quarterly	Baseline is an average of Sept-November 2012

Improved Financial Sustainability at LWSC		Outcome	Actual Revenues	Actual revenues collected by LWSC	ZMW		LWSC Company Performance Overview Quarterly Report	LWSC	Quarterly	Baseline source: LWSC Company Performance Overview Report January-March 2014, Pg 7, Table 3 Sales Data.
Improved LWSC Operations and Maintenance (O&M)		Outcome	O&M Costs covered by Collection	The ratio of O/M cost and revenues realized	Percentage		LWSC Company Performance Overview Quarterly Report	LWSC	Quarterly	Baseline Source: Operating & admin costs (less depreciation & doubtful debts)/ Collection Note: Adequate maintance is not being being budgeed as part of LWCS budget planning. This leads the baseline to be artificially high.
Activity 2: Support to LCC										
Decrease Flooding (Outcome)		Output	Drainage Management Master plan in place	Development of a Stormwater Management Master Plan with a 25 year planning horizon	Date		LCC	TA for LCC	Once	
Grant Program for Pro-Poor Service Delivery										
Improved water supply, sanitation access and solid waste management		Output	Number of Beneficiary Individuals	Number of beneficiary individuals to receive improved water or sanitation access from Innovation Grant project's	Number	Female-headed household / Male-headed	IGPM/ Grantee administrative data	IGPM	Quarterly	
Increase temporary employment (Output)		Output	Numbers of temporary jobs created	Number of individuals who received temporary employment through the Innovation Grant projects	Number	Sex (Female/Male)	IGPM/ Grantee administrative data	IGPM	Quarterly	

Process achieved		Process	Value of contract agreements signed with grantees	The value of all signed contracts with firms/organizations using Grants funds. If the value of a contract changes, the total contract value should be reported in the quarter that the change occurred. Non-Compact funding with government or other donors should not be included.	US Dollars		Signed Contracts	IGPM	Quarterly	
Process achieved		Process	Percent of total contract amount disbursed	The total amount of all signed grants disbursed divided by the total value of all grants signed	Percentage		Signed Contracts	IGPM	Quarterly	

Zambia V3
Annex II: Table of Indicator Baselines and Targets

Indicator Level	Indicator Name	Indicator Classification	Unit of Measure	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact Target	ERR linked
					Jan-2014 to Nov-2014	Jan-2014 to Dec-2015	Jan-2014 to Dec-2016	Jan-2014 to Dec-2017	Jan-2014 to Dec-2018		
Compact Wide Indicators											
Goal	Average household income	Level	US Dollars	4,107					5,914	5,914	Yes.
Outcome	Time spent gathering water	Level	Hours	1.02					0.57	0.57	Yes.
Outcome	Continuity of service	Level	Hours per day	18	18	18	18	20	22	22	
Outcome	Volume of water produced	Level	Cubic meters per quarter	23,085,180	23,085,180	23,085,180	23,420,950	24,631,810	24,631,810	24,631,810	
Outcome	Average Days of business closures due to flooding	Level	Days	1.04 (Total)					0	0	Yes
				0.73 (December)							
				1.22 (January)							
				1.72 (February)							
				1.88 (March)							
Activity 1: Infrastructure Activity											

Outcome	Access to improved water supply	Level	Percentage	84.0 (Total)					No Target	To Target	Yes. Target not linked yet
				83.5 (Female-headed households)							
				85.4 (Male-headed households)							
Outcome	Access to improved sanitation	Level	Percentage	83.6 (Total)					No Target	No Target	Yes. Target not linked yet
				83.8 (Female-headed households)							
				83.3 (Male-headed households)							
Outcome	Residential water consumption	Level	Liters per capita per day	26							
Outcome	Prevalence of diarrhea	Level	Percentage	2.8 (Total)					No Target	No Target	Yes. Target not linked yet
				7.0 (Under age of 5)							
				2.1 (5 years and older)							
Outcome	Non-revenue water	Level	Percentage	57					34	34	Yes
Outcome	Metering ratio	Level	Percentage	68			90	90	90	90	
Outcome	Property damage due to flooding	Level	Percentage	6.5%					0	0	

Outcome	Travel time to School associated with flooding	Level	Hours	0.13					0	0	Yes
Outcome	Travel time to Work associated with flooding	Level	Hours	0.16					0	0	Yes
Outcome	Frequency of flooding	Level	Percentage	60			49	26	3	3	Yes
Outcome	Percentage of Samples with fecal contaminant at the point of consumption (within a household)	Level	Percentage	82							
Outcome	Percentage of Samples with Nitrate (NO3) contaminant at the point of consumption (within a household)	Level	Percentage	60							
Sub-Activity 1: Core Water Network Rehabilitation (CP3, CP5 and CP6)											
Output	Number of people trained in Non-Revenue Water	Cumulative	Number	0	80	80	80	80	80	80	
Output	Number of meters installed/replaced	Cumulative	Number	0			39,200	50,400	56,000	56,000	

Output	Total length of pipes replaced	Cumulative	Kilometers	0			136.5	175.5	195.0	195.0	
Output	Total length of new pipes installed	Cumulative	Kilometers	0			8.5	12.1	12.1	12.1	
Sub-Activity 2: Chelstone Distribution Line Rehabilitation and Expansion (CP2, CP3 and CP5)											
Output	Length of water distribution network constructed	Cumulative	Kilometers	0			227.4	308.7	324.9	324.9	
Output	Length of transmission lines constructed/ rehabilitated	Cumulative	Kilometers	0			43.5	59.1	62.2	62.2	
Output	Water points constructed	Cumulative	Number	0			6	12	12	12	
Sub-Activity 3: Chelstone and Kaunda Square Sewer sheds Rehabilitation and Expansion (CP3)											
Output	Total Length of sewer pipes constructed (Tertiary)	Cumulative	Kilometers	0			57.4	73.8	82.0	82.0	
Output	Total length of interceptors constructed (Secondary)	Cumulative	Kilometers	0			3.1	3.1	3.1	3.1	
Output	Length of mains constructed (Primary)	Cumulative	Kilometers	0			1.54	2.2	2.2	2.2	

Output	Number of connections(sewer age)	Cumulative	Number	0			4,737	6,768	7,520	7,520	
Sub-Activity 4: Central Distribution Line Rehabilitation and Expansion (CP3 and CP5)											
Output	Number of kiosks constructed	Cumulative	Number	0			15	35	37	37	
Output	Number of connections (Water)	Cumulative	Number	0			14,000	21,000	27,000	27,000	
Sub-Activity 5: Bombay Drain Improvements (CP 7,8 & CP 10)											
Output	Length of drains constructed / rehabilitated	Cumulative	Kilometers	0			16.50	24.75	27.5	27.5	
Output	Length of drains fenced	Cumulative	Kilometers	0			6.5	6.5	6.5	6.5	
Output	Length of drains covered	Cumulative	Kilometers	0			0.75	0.75	0.75	0.75	
Output	Number of crossings constructed	Cumulative	Number	0			50	65	65	65	
Infrastructure Activity Process Milestones											
Process	Value of signed water and sanitation construction contracts	Cumulative	US Dollars	0			183,002,480	183,002,480	183,002,480	183,002,480	
Process	Percent disbursed of water & sanitation construction contracts	Level	Percentage	0			42	93	100	100	

[illegible]

Outcome	Percentage of people practicing safe hygiene	Level	Percentage	61.5							
Outcome	Operating cost coverage	Level	Percentage	107%	107	108	110	112	115	115	
Outcome	Total Annual Operational Revenues	Level	US Dollars	22,330,437.64							
Outcome	Total Annual Operating Cost	Level	US Dollars	20,803,871							
Outcome	Collection efficiency	Level	Percentage	91%			100	100	100	100	
Output	People trained in hygiene and sanitary best practices	Cumulative	Number	0	42	127	211	296	310	310	
Output	Number of people trained in Social Inclusion and Gender Mainstreaming	Cumulative	Number	0	30	90	150	210	210	210	
Output	The number of households reached with messages on hygiene and sanitary best practices	Cumulative	Number	0	0	0	3,000	7,000	10,000	10,000	

Sub-Activity 1: Support to LWSC

Outcome	Average number of days taken to fix leakages	Level	Days	20							
Outcome	Biological Oxygen Demand (BOD) - mg/l	Level	Milligram per litre	91			40	40	40	40	
Outcome	Actual Revenues	Level	ZMW	56,049,000							
Outcome	O&M Costs covered by Collection	Level	Percentage	83%					100	100	
Sub-Activity 2: Support to LCC											
Output	Drainage Management Master plan in place	Date	Date						30th June 2018	30th June 2018	

Sub-Activity 3: Innovation Grant Program for Pro-Poor Service Delivery											
Output	Number of Beneficiary individuals	Cumulative	Number	0			4,460	30,000	50,000	50,000	
Output	Numbers of jobs created	Cumulative	Number	0							
Process	Value of contract agreements signed with grantees	Cumulative	US Dollars	0		1,800,000	6,000,000	6,000,000	6,000,000	6,000,000	
Process	Percent of total contract amount disbursed	Level	Percentage	0			41	59	100	100	

Annex III

Modifications to the Zambia Monitoring and Evaluation Plan

Version 3 – August 2017

3.1 Modifications to the M&E Plan

The following are changes which have occurred to the M&E framework since the signature of the Compact in May of 2012:

- The Project descriptions have been updated to reflect how the compact has advanced and developed since entering into force in November 2013. The following project/activity descriptions were updated and/or expanded:
 - Core Water Network Rehabilitation
 - Chelston Distribution Line Rehabilitation and Expansion (Water)
 - Chelston and Kaunda Square Sewer sheds Rehabilitation and Expansion (Sanitation):
 - Bombay and Mazyopa Drain Improvements (Drainage):
 - Institutional Strengthening Activity
 - Assistance to LWSC
 - Assistance to LCC
 - Comprehensive Drainage Investment Master Plan
 - Strengthening Institutional Capacity
 - Drainage Infrastructure Maintenance and Removal of Solid Waste:
 - Innovation Grant for Pro-Poor Services Delivery (IGP)
 - Environmental Management (cross-cutting)
 - Social Inclusion and Gender Mainstreaming (SIGM), Information, Education & Communication (IEC), and Sanitation Marketing (SM) (cross-cutting)
- The Compact Overview and Objectives section (2.1) has been updated using language from the Investment Memorandum to describe the results of the Constraints Analysis.
- The Compact and Project level program logics have been updated to reflect changes in the project descriptions and to align with current projects.¹
- Updated text to reflect status of the Data Quality Review (DQR).
- Table 2: Social and Gender Disaggregated Indicators has been updated to reflect changes in Annex I.
- Status of Independent Evaluations has been added to reflect current and planned evaluations.

¹Changes to the Compact and Project level Program Logics can be found in Annex IV.

Indicator Changes:

Average Household Income							
Project:	Water Supply, Sanitation and Drainage Project						
Activity:	Infrastructure Activity						
Sub-Activity:	N/A						
07-June-17	Change Description:	Baseline Modification					
	Change:	Previous			Revised		
		612			4,107		
	Justification:	Baseline change					
	Justification Description:	Reflects the new data collected through the CDC survey within the project area. Original baseline was based on labor survey data from 2008.					
07-Jun-17	Change Description:	Target Modification					
	Change:	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact
	Revised Targets	No Target	No Target	No Target	No Target	5,914	5,914
	Previous Targets	612	633	689	787	883	883
	Justification:	Corrections to erroneous data					
	Justification Description:	The target was changed to align with the new indicator baseline.					

Time Spent Gathering Water		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	N/A	
07-June-17	Change Description:	Change Definition from “Total number of hours households spend gathering water per year. This includes waiting time for gather water” to “Total number of hours households spend gathering water per day. This includes waiting time for gather water”

	Justification:	Change to erroneous data					
	Justification Description:	To reflect the question in the CDC Household Survey Question; “How much time did you/HH MEMBER spend collecting water per day? This includes time spent walking, waiting, filling buckets, and bringing them back to the house. (Pg 40, Question 26)					
07-Jun-17	Change Description:	Target Modification					
	Change:	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact
	Revised Targets	Blank	Blank	Blank	Blank	.57	.57
	Previous Targets	717	700	634	517	401	401
	Justification:	Change in Baseline					
	Justification Description:	The target was changed to align with the new indicator definition and baseline.					
07-June-17	Change Description:	Baseline Modification					
	Change:	Previous			Revised		
		717			1.02		
	Justification Description:	Occurrence of exogenous factor					
Change Description:	The baseline was changed to align with the new indicator definition and new data from the CDC household survey.						

Continuity of service		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	N/A	
07-June-17	Change Description:	Change the primary data source from LWSC customer data base to LWSC Company Performance Overview Quarterly Report
	Justification:	Corrections to erroneous data
	Justification Description:	The Previous data source “ <i>LWSC Customer Database</i> ” does not exist. There is no such data field in the customer database, nor is there any mechanism for capturing such data in any form.
07-June-17	Change Description:	Change Frequency of Reporting from Annual to Quarterly.

	Justification:	Work plan update
	Justification Description:	As the project enters the final year of the compact this indicator will be increasing more frequently and will need to be monitored more close to ensure completion.

Volume of water produced	
Project:	Water Supply, Sanitation and Drainage Project
Activity:	Infrastructure Activity
Sub-Activity:	N/A

07-June-17	Change Description:	Change of primary data source from Meter logs to LWSC Company Performance Overview Quarterly Report
	Justification:	Corrections to erroneous data
	Justification Description:	The “ <i>Monthly Production Report</i> ” is submitted by the Water Supply Manager to the M&E Head at LWSC and the Director – Engineering Division. This report contains the data needed to monitor this indicator.

07-June-17	Change Description:	Baseline Modification	
	Change:	Previous	Revised
		97,409,240.79	23,085,180
	Justification Description:	Occurrence of exogenous factor	
	Change Description:	The current baseline is measured over the course of year. To have the indicator align with LWSC reports. The baseline must be adjusted to reflect water from a quarter.	

	Change Description:	Target Modification					
	Change:	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact
	Revised Targets	23,085,180	23,085,180	24,689,020	24,631,810	24,631,810	24,631,810
	Previous Targets	97,409,240.79	97,409,240.79	98,756,090.79	104,143,490.79	104,143,490.79	104,143,490.79
	Justification:	Correction to Erroneous data					
	Justification Description:	The targets are currently set per year. However, the data we receive is on a quarterly bases. So the targets should be reflect by quarterly output					

Average Days of business closures due to flooding			
Project:	Water Supply, Sanitation and Drainage Project		
Activity:	Infrastructure Activity		
Sub-Activity:	N/A		
07-June-17	Change Description:	Name Change from “Percentage of Business closures due to flooding” to “Average Days of business closures due to flooding”	
	Justification:	Correction to Erroneous data	
	Justification Description:	Reflects the information collected in the CDC survey	
07-June-17	Change Description:	Definition Change from “Percentage of time surveyed businesses were closed as a result of flooding in the flood plain of the project area per month during the rainy season” to “Average number of days the surveyed businesses were closed as a result of flooding in the flood plain of the project area per month during the rainy season”	
	Justification:	Correction to Erroneous data	
	Justification Description:	Reflects the information collected in the CDC survey.	
07-June-17	Change Description:	Unit Change from Percentage to Days to reflect definition change	
	Justification:	Correction to Erroneous data	
	Justification Description:	Reflects the information collected in the CDC survey	
07-June-17	Change Description:	Change the primary data source from Business Surveillance base to CDC Baseline Drainage Report	
	Justification:	Corrections to erroneous data	
	Justification Description:	The Previous data source “Business Surveillance” is part of the CDC Baseline Drainage Report. To keep the Data Source consistent with other CDC drainage indicators	
07-June-17	Change Description:	Baseline Modification	
	Change:	Previous	Revised
		20	1.04
	Justification Description:	Occurrence of exogenous factor	

	Change Description:	Reflects the information collected in the CDC survey

Access to improved water supply	
Project:	Water Supply, Sanitation and Drainage Project
Activity:	Infrastructure Activity
Sub-Activity:	N/A

07-June-17	Change Description:	Baseline Modification	
	Change:	Previous	Revised
		TBD	84
	Justification:	Baseline change	
	Justification Description:	Reflects the information collected in the CDC survey	

07-Jun-17	Change Description:	Target Modification					
	Change:	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact
	Revised Targets	Blank	Blank	Blank	Blank	No Target	No Target
	Previous Targets	TBD	TBD	TBD	TBD	TBD	TBD
	Justification:	TBD replaced with Target					
	Justification Description:	This indicator will not be directly changed by the program interventions, because of this no target is required.					

Access to improved sanitation	
Project:	Water Supply, Sanitation and Drainage Project
Activity:	Infrastructure Activity
Sub-Activity:	N/A

07-June-17	Change Description:	Baseline Modification			
	Change:	Previous		Revised	
		TBD		83.57	
	Justification:	Baseline change			

	Justification Description:	Reflects the information collected in the CDC survey					
07-Jun-17	Change Description:	Target Modification					
	Change:	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact
	Revised Targets	Blank	Blank	Blank	Blank	No Target	No Target
	Previous Targets	37	40	52	75	80	80
	Justification:	TBD replaced with Target					
	Justification Description:	This indicator will not be directly changed by the program interventions, because of this no target is required.					

Residential water consumption							
Project:	Water Supply, Sanitation and Drainage Project						
Activity:	Infrastructure Activity						
Sub-Activity:	N/A						
07-June-17	Change Description:	Baseline Modification					
	Change:	Previous			Revised		
		161			26		
	Justification Description:	Correction to erroneous data					
	Change Description:	Reflects the information collected in the CDC survey					
07-Jun-17	Change Description:	Target Modification					
	Change:	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact
	Revised Targets				No Target	No Target	No Target
	Previous Targets				TBD	TBD	
	Justification:	TBD Replaced with target					
	Justification Description:	This indicator will not be directly changed by the program interventions, because of this no target is required.					

Prevalence of Diarrhea

Project:	Water Supply, Sanitation and Drainage Project						
Activity:	Infrastructure Activity						
Sub-Activity:	N/A						
07-June-17	Change Description:	Baseline Modification					
	Change:	Previous			Revised		
		TBD			2.84		
	Justification Description:	Baseline change					
Change Description:	Reflects the information collected in the CDC survey. Original baseline used in ERR was based on WHO data.						
07-Jun-17	Change Description:	Target Modification					
	Change:	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact
	Revised Targets				Blank	No Target	No Target
	Previous Targets				TBD	TBD	TBD
	Justification:	TBD Replaced with target					
	Justification Description:	Due to the updated baseline, this indicator will have no target, as to measure the decrease from its current value will be too costly.					
07-June-17	Change Description:	Indicator name change from “Incidence of Diarrhea” to Prevalence of Diarrhea”					
	Justification:	Corrections to erroneous data					
	Justification Description:	To align with the WASH common Indicators					

Non-Revenue Water (NRW)		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	N/A	
07-June-17	Change Description:	Frequency of reporting from other to quarterly
	Justification:	Occurrence of exogenous factors

	Justification Description:	The data is available ever quarter.					
07-June-17	Change Description:	Change primary data source from LWSC customer database to LWSC Company Performance Overview Quarterly Report					
	Justification:	Corrections to erroneous data					
	Justification Description:	The LWSC Company Performance Overview Quarterly Report contains the data needed for this indicator and also contains a narrative to support and explain the data.					
07-June-17	Change Description:	Baseline Modification					
	Change:	Previous			Revised		
		48			56.8		
	Justification Description:	Baseline change					
Change Description:	Reflects the new information from the Non-Revenue Water Consultant						
07-Jun-17	Change Description:	Target Modification					
	Change:	Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact
	Revised Targets					34	34
	Previous Targets					25	25
	Justification:	Baseline Change					
	Justification Description:	Change in baseline required commensurate modification of target.					

Metering Ratio		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	N/A	
07-June-17	Change Description:	Frequency of Reporting from Annual to Quarterly
	Justification:	Work plan update

	Justification Description:	This indicator should be reported on a quarterly since changes to the indicator value may happen more frequently as the new meters get installed, non-operational meters get replaced or repaired and new connections get issued. This move will also align the indicator's frequency with that of the NRW indicator.
07-June-17	Change Description:	Change primary data source from LWSC customer database to LWSC Company Performance Overview Quarterly Report
	Justification:	Corrections to erroneous data
	Justification Description:	The LWSC Company Performance Overview Quarterly Report contains the data needed for this indicator and also contains a narrative to support and explain the data.

Property damage due to flooding							
Project:	Water Supply, Sanitation and Drainage Project						
Activity:	Infrastructure Activity						
Sub-Activity:	N/A						
07-June-17	Change Description:	Baseline Modification					
	Change:	Previous			Revised		
		TBD			6.5		
	Justification Description:	Baseline Change					
	Change Description:	This indicator baseline comes from the CDC Draft Drainage Report.					
07-Jun-17	Change Description:	Target Modification					
		Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact
	Revised Targets			Blank	Blank	0	0
	Previous Targets			TBD	TBD	TBD	TBD
	Justification:	TBD replaced with target					
	Justification Description:	The goal of the drainage project is to reduce flooding in the project area.					
07-June-17	Change Description:	Change the primary data source from Household and business surveillance to CDC Baseline Drainage Report					
	Justification:	Corrections to erroneous data					

	Justification Description:	The Previous data source “Household and business surveillance” is part of the CDC Baseline Drainage Report. To keep the Data Source consistent with other CDC drainage indicators					
07-June-17	Change Description:	Name change from “Reduction in property damage due to flooding” to “Property damage due to flooding”					
	Justification:	Corrections to erroneous data					
	Justification Description:	Reflects the information collected in the CDC survey					
07-June-17	Change Description:	Definition change from “Amount of property damaged to households and business caused by flooding per month during the rainy season”					
	Justification:	Corrections to erroneous data					
	Justification Description:	Reflects the information collected in the CDC survey					
07-June-17	Change Description:	Changing the Units from U.S. Dollar to Percentage					
	Justification:	Corrections to erroneous data					
	Justification Description:	Reflects the information collected in the CDC survey					

Travel time to School associated with flooding							
Project:	Water Supply, Sanitation and Drainage Project						
Activity:	Infrastructure Activity						
Sub-Activity:	N/A						
07-June-17	Change Description:	Baseline Modification					
	Change:	Previous			Revised		
		TBD			.13		
	Justification Description:	Baseline change					
	Change Description:	Reflects the information collected in the CDC survey					
07-Jun-17	Change Description:	Target Modification					
		Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact

	Revised Targets			Blank	Blank	0	0
	Previous Targets			TBD	TBD	TBD	TBD
	Justification:	Replacing TBD with Target					
	Justification Description:	Reflects the information collected in the CDC survey					
07-June-17	Change Description:	Change indicator name from “Reductions in travel time due to decrease in flooding” to “Travel time to School associated with flooding”					
	Justification:	Corrections to erroneous data					
	Justification Description:	Aligning indicator name to question from CDC drainage report.					
07-June-17	Change Description:	Change definition from “Amount of time spent travelling from one place to another within Lusaka” to “Additional time spent travelling from home to school due to flooding”					
	Justification:	Corrections to erroneous data					
	Justification Description:	Aligning indicator definition to question from CDC drainage report.					
07-June-17	Change Description:	Change the primary data source from Household and business surveillance to CDC Baseline Drainage Report					
	Justification:	Corrections to erroneous data					
	Justification Description:	The Previous data source “targeted survey” is part of the CDC Baseline Drainage Report. To keep the Data Source consistent with other CDC drainage indicators					

Travel time to Work associated with flooding		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	N/A	
07-June-17	Change Description:	New Indicator
	Justification:	New issues emerged, suggesting importance of a new indicator
	Justification Description:	Reflects the information collected in the CDC survey

Frequency of Flooding			
Project:	Water Supply, Sanitation and Drainage Project		
Activity:	Infrastructure Activity		
Sub-Activity:	N/A		
07-June-17	Change Description:	Baseline Modification	
	Change:	Previous	Revised
		TBD	60
	Justification Description:	Baseline Change	
	Change Description:	This indicator baseline comes from the CDC Draft Drainage Report.	
07-June-17	Change Description:	Change definition from “Percentage of flooding per month in surveyed houses and business during the rainy season within the floodplain of the drainage activities” to “Percentage of surveyed households who experienced flooding during the prior month, in the project area.”	
	Justification:	Corrections to erroneous data	
	Justification Description:	Aligning indicator definition to question from CDC drainage report.	
07-June-17	Change Description:	Change the primary data source from Household Surveillance to CDC Baseline Drainage Report	
	Justification:	Corrections to erroneous data	
	Justification Description:	The Previous data source “targeted survey” is part of the CDC Baseline Drainage Report. To keep the Data Source consistent with other CDC drainage indicators	

Percentage of Samples with Nitrate (NO ₃) contaminant at the point of consumption (within a household)	
Project:	Water Supply, Sanitation and Drainage Project
Activity:	Infrastructure Activity
Sub-Activity:	N/A

07-June-17	Change Description:	New Indicator
	Justification:	New issues emerged, suggesting importance of a new indicator
	Justification Description:	To monitor water contamination in the household

Percentage of Samples with fecal contaminant at the point of consumption (within a household)		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	N/A	
07-June-17	Change Description:	New Indicator
	Justification:	New issues emerged, suggesting importance of a new indicator
	Justification Description:	To monitor water contamination in the household

Number of people trained in Non-Revenue Water		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	Sub-Activity 1: Core Water Network Rehabilitation	
07-June-17	Change Description:	Frequency of Reporting from Other to Quarterly
	Justification:	Work plan update
	Justification Description:	As the project enters the final year of the compact this indicator will be increasing more frequently and will need to be monitored more close to ensure completion.

Number of meters installed/replaced		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	Sub-Activity 1: Core Water Network Rehabilitation	
07-June-17	Change Description:	Change primary data source from Engineers Certificate to CSE Progress Report
	Justification:	Corrections to erroneous data

	Justification Description:	The data is being extracted from monthly reports submitted by the CSE – accordingly the primary data source should be updated
07-June-17	Change Description:	Change frequency of reporting from others to quarterly
	Justification:	Work plan update
	Justification Description:	As the project enters the final year of the compact this indicator will be increasing more frequently and will need to be monitored more close to ensure completion.

Total length of pipes replaced		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	Sub-Activity 1: Core Water Network Rehabilitation	
07-June-17	Change Description:	Change the primary data source from Engineers Certificate to CSE Progress Report
	Justification:	Corrections to erroneous data
	Justification Description:	The data is being extracted from monthly reports submitted by the CSE – accordingly the primary data source should be updated
07-June-17	Change Description:	Change frequency of reporting from other to quarterly
	Justification:	Work plan update
	Justification Description:	As the project enters the final year of the compact this indicator will be increasing more frequently and will need to be monitored more close to ensure completion.

Total length of new pipes installed		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	Sub-Activity 1: Core Water Network Rehabilitation	
07-June-17	Change Description:	Change primary data source from Engineers Certificate to CSE Progress Report
	Justification:	Corrections to erroneous data
	Justification Description:	The data is being extracted from monthly reports submitted by the CSE – accordingly the primary data source should be updated

07-June-17	Change Description:	Change frequency of reporting from others to quarterly
	Justification:	Work plan update
	Justification Description:	As the project enters the final year of the compact this indicator will be increasing more frequently and will need to be monitored more close to ensure completion.

Length of water distribution network constructed		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	Sub-Activity 2: Chelston Distribution Line Rehabilitation and Expansion	
07-June-17	Change Description:	Change primary data source from Engineers Certificate to CSE Progress Report
	Justification:	Corrections to erroneous data
	Justification Description:	The data is being extracted from monthly reports submitted by the CSE – accordingly the primary data source should be updated

Length of transmission lines constructed/rehabilitated		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	Sub-Activity 2: Chelston Distribution Line Rehabilitation and Expansion	
07-June-17	Change Description:	Change primary data source from Engineers Certificate to CSE Progress Report
	Justification:	Corrections to erroneous data
	Justification Description:	The data is being extracted from monthly reports submitted by the CSE – accordingly the primary data source should be updated

Water points constructed	
Project:	Water Supply, Sanitation and Drainage Project
Activity:	Infrastructure Activity
Sub-Activity:	Sub-Activity 2: Chelston Distribution Line Rehabilitation and Expansion

07-June-17	Change Description:	Change primary data source from Engineers certificate to CSE Progress Report
	Justification:	Corrections to erroneous data
	Justification Description:	The data is being extracted from monthly reports submitted by the CSE – accordingly the primary data source should be updated
07-June-17	Change Description:	Frequency of reporting Other to Quarter
	Justification:	Work plan update
	Justification Description:	As the project enters the final year of the compact this indicator will be increasing more frequently and will need to be monitored more close to ensure completion.

Total Length of sewer pipes constructed (Tertiary)		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	Sub-Activity 3: Chelston and Kaunda Square Sewer sheds Rehabilitation and Expansion	
07-June-17	Change Description:	Change indicator definition from “Total Length of sewerage network constructed or rehabilitated including service network and interceptor” to “Total Length of sewer pipes constructed excluding secondary interceptors and primary mains”
	Justification:	Corrections to erroneous data
	Justification Description:	This change will allow the indicator definition to align with the indicator name
07-June-17	Change Description:	Change primary data source from Engineers Certificate to CSE Progress Report
	Justification:	Corrections to erroneous data
	Justification Description:	The data is being extracted from monthly reports submitted by the CSE – accordingly the primary data source should be updated
07-June-17	Change Description:	Change indicator name from “Total Length of sewerage network constructed” to “Total Length of sewer pipes constructed (Tertiary)”
	Justification:	Corrections to erroneous data
	Justification Description:	Clarifying the name to align with correct terminology

Total length of interceptors constructed (Secondary)		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	Sub-Activity 3: Chelston and Kaunda Square Sewer sheds Rehabilitation and Expansion	
07-June-17	Change Description:	Change primary data source from Engineers Certificate to CSE Progress Report
	Justification:	Corrections to erroneous data
	Justification Description:	The data is being extracted from monthly reports submitted by the CSE – accordingly the primary data source should be updated
07-June-17	Change Description:	Frequency of reporting Other to Quarter
	Justification:	Work plan update
	Justification Description:	As the project enters the final year of the compact this indicator will be increasing more frequently and will need to be monitored more close to ensure completion.
07-June-17	Change Description:	Change indicator name from “Total length of interceptors constructed” to “Total length of interceptors constructed (Secondary)”
	Justification:	Corrections to erroneous data
	Justification Description:	Clarifying the name to align with correct terminology
07-June-17	Change Description:	Change indicator definition from “Total length of interceptors constructed (main sewer pipes which carry sewer from sewer main or network to ponds by gravity)” to “Total length of interceptors constructed(secondary sewer pipes which carry sewer from smaller tertiary pipes to primary mains)”
	Justification:	Corrections to erroneous data
	Justification Description:	This change will allow the indicator definition to align with the indicator name

Length of mains constructed (Primary)	
Project:	Water Supply, Sanitation and Drainage Project
Activity:	Infrastructure Activity
Sub-Activity:	Sub-Activity 3: Chelston and Kaunda Square Sewer sheds Rehabilitation and Expansion

07-June-17	Change Description:	Change primary data source e from Engineers Certificate to CSE Progress Report
	Justification:	Corrections to erroneous data
	Justification Description:	The data is being extracted from monthly reports submitted by the CSE – accordingly the primary data source should be updated
07-June-17	Change Description:	Frequency of reporting Other to Quarter
	Justification:	Work plan update
	Justification Description:	As the project enters the final year of the compact this indicator will be increasing more frequently and will need to be monitored more close to ensure completion.
07-June-17	Change Description:	Change indicator name from “Length of forced sewer mains constructed” to “Length of mains constructed (Primary)”
	Justification:	Corrections to erroneous data
	Justification Description:	Clarifying the name to align with correct terminology
07-June-17	Change Description:	Change indicator definition from “Total Length of forced sewers mains constructed (main sewer pipes which carry sewer from smaller pipes or network to sewer interceptors)” to “Total length of mains constructed (primary main sewer pipes which carry sewer from sewer interceptors or wastewater plant or ponds)”
	Justification:	Corrections to erroneous data
	Justification Description:	This change will allow the indicator definition to align with the indicator name

Number of connections (sewerage)		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	Sub-Activity 3: Chelston and Kaunda Square Sewer sheds Rehabilitation and Expansion	
07-June-17	Change Description:	Change primary data source from Engineers certificate to CDC End line Evaluation Report
	Justification:	Corrections to erroneous data
	Justification Description:	The data is being extracted from monthly reports submitted by the CSE – accordingly the primary data source should be updated

07-June-17	Change Description:	Change responsible party from CSE to CDC
	Justification:	Corrections to erroneous data
	Justification Description:	The scope of work of contractor covers only constructing the connection – the responsibility for providing the connection rests with LWSC.
07-June-17	Change Description:	Change definition from “Total number of households that have connected to the sewerage network” to “Total number of NEW sewerage connections in the project area”
	Justification:	Corrections to erroneous data
	Justification Description:	The change makes the indicator specific to new connections and only to project areas.

Number of pit latrines decommissioned		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	Sub-Activity 3: Chelston and Kaunda Square Sewer sheds Rehabilitation and Expansion	
07-June-17	Change Description:	Retire Indicator
	Justification:	Irrelevant due to change in Program, Project or Activity Scope
	Justification Description:	MCC will not be decommissioning any Pit Latrines using compact funds.

Number of kiosks constructed		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	Sub-Activity 4: Central Distribution Line Rehabilitation and Expansion	
07-June-17	Change Description:	Change primary data source from Engineers Certificate to CSE Progress Report
	Justification:	Corrections to erroneous data
	Justification Description:	The data is being extracted from monthly reports submitted by the CSE – accordingly the primary data source should be updated

Number of connections (Water)		
-------------------------------	--	--

Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	Sub-Activity 4: Central Distribution Line Rehabilitation and Expansion	
07-June-17	Change Description:	Change frequency of reporting from Semi-Annual to Quarterly
	Justification:	Work plan update
	Justification Description:	As the project enters the final year of the compact this indicator will be increasing more frequently and will need to be monitored more close to ensure completion.
07-June-17	Change Description:	Name Change from “Number of Connections” to Number of Connections (Water)”
	Justification:	Corrections to erroneous data
	Justification Description:	To clearly align the indicator with the project.
07-June-17	Change Description:	Change primary data source from EDAMS to Company Performance Overview Quarterly Report
	Justification:	Corrections to erroneous data
	Justification Description:	The data is being extracted from Quarterly reports submitted by LWSC – accordingly the primary data source should be updated

Length of drains constructed / rehabilitated		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	Sub-Activity 5: Bombay drain Improvements	
07-June-17	Change Description:	Change primary data source from Engineers Certificate to CSE Progress Report
	Justification:	Corrections to erroneous data
	Justification Description:	The data is being extracted from monthly reports submitted by the CSE – accordingly the primary data source should be updated.
07-June-17	Change Description:	Frequency of reporting Other to Quarter
	Justification:	Work plan update

	Justification Description:	As the project enters the final year of the compact this indicator will be increasing more frequently and will need to be monitored more close to ensure completion.

Length of drains fenced		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	Sub-Activity 5: Bombay Drain Improvement	
07-June-17	Change Description:	Change primary data source from Engineers Certificate/Design Reports to CSE Progress Report
	Justification:	Corrections to erroneous data
	Justification Description:	The data is being extracted from monthly reports submitted by the CSE – accordingly the primary data source should be updated
07-June-17	Change Description:	Frequency of reporting Other to Quarter
	Justification:	Work plan update
	Justification Description:	As the project enters the final year of the compact this indicator will be increasing more frequently and will need to be monitored more close to ensure completion.

Length of drains covered		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	Sub-Activity 5: Bombay Drain Improvement	
07-June-17	Change Description:	Change primary data source from Engineers Certificate/Design Report to CSE Progress Report
	Justification:	Corrections to erroneous data
	Justification Description:	The data is being extracted from monthly reports submitted by the CSE – accordingly the primary data source should be updated
07-June-17	Change Description:	Frequency of reporting Other to Quarter
	Justification:	Work plan update
	Justification Description:	As the project enters the final year of the compact this indicator will be increasing more frequently and will need to be monitored more close to ensure completion.

Number of crossings constructed		
---------------------------------	--	--

Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	Sub-Activity 5: Bombay drain Improvement	
07-June-17	Change Description:	Change primary data source from Engineers Certificate/Design Reports to CSE Progress Report
	Justification:	Corrections to erroneous data
	Justification Description:	The data is being extracted from monthly reports submitted by the CSE – accordingly the primary data source should be updated
07-June-17	Change Description:	Frequency of reporting Other to Quarter
	Justification:	Work plan update
	Justification Description:	As the project enters the final year of the compact this indicator will be increasing more frequently and will need to be monitored more close to ensure completion.

Value disbursed of water and sanitation feasibility and design contracts		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	Process Milestones	
	Change Description:	New Indicator
	Justification:	MCC requires new common indicator
	Justification Description:	We will need to add this indicator as it is required to calculate Percent disbursed of signed water and sanitation feasibility and design contracts

Temporary employment generated in water and sanitation construction		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	Process Milestones	
07-June-17	Change Description:	Change of primary data source from signed contracts to CSE Monthly progress report
	Justification:	Corrections to erroneous data
	Justification Description:	The data is being extracted from monthly reports submitted by the CSE – accordingly the primary data source should be updated

Percentage of people practicing safe hygiene							
Project:	Water Supply, Sanitation and Drainage Project						
Activity:	Institutional Strengthening Activity						
Sub-Activity:	N/A						
07-Jun-17	Change Description:	Target Modification					
		Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact
	Revised Targets	Blank	Blank	Blank	Blank	Blank	Blank
	Previous Targets	TBD	TBD	TBD	TBD	TBD	TBD
	Justification:	TBD replaced with target					
	Justification Description:	This indicator does not reflect a project that we are targeting specifically and will be used for the evaluation.					
07-Jun-17	Change Description:	Baseline Modification					
	Change:	Previous			Revised		
		TBD			61.53		
	Justification Description:	Baseline Change					
	Change Description:	Reflects the information collected in the CDC survey					

Operating cost coverage							
Project:	Water Supply, Sanitation and Drainage Project						
Activity:	Institutional Strengthening Activity						
Sub-Activity:	N/A						
07-Jun-17	Change Description:	Target Modification					
		Year 1	Year 2	Year 3	Year 4	Year 5	End of Compact
	Revised Targets	107	108	110	112	115	115
	Previous Targets	1.06	1.08	1.1	1.12	>1.15	>1.15
	Justification:	Corrections to erroneous data					
	Justification Description:	The data should be expressed in a percentage.					

07-Jun-17	Change Description:	Baseline Modification	
	Change:	Previous	Revised
		1.06	106
	Justification Description:	Baseline Change/ Corrections to erroneous data	
	Change Description:	The data should be expressed in a percentage.	
07-June-17	Change Description:	Change primary data source from ACKPACK Database to LWSC Company Performance Overview Quarterly Report	
	Justification:	Corrections to erroneous data	
	Justification Description:	To align the data source with current reporting source.	
07-June-17	Change Description:	Change frequency of reporting from Other to Annual	
	Justification:	Work plan update	
	Justification Description:	As the project enters the final year of the compact this indicator will be increasing more frequently and will need to be monitored more close to ensure completion.	

Total Annual Operational Revenues			
Project:	Water Supply, Sanitation and Drainage Project		
Activity:	Institutional Strengthening Activity		
Sub-Activity:	N/A		
07-Jun-17	Change Description:	Baseline Modification	
	Change:	Previous	Revised
		TBD	22,330,437.64
	Justification Description:	Baseline Change	
	Change Description:	New data has been received, which allows us to update the baseline.	
07-June-17	Change Description:	Change primary data source from ACKPACK Database to LWSC Company Performance Overview Quarterly Report	
	Justification:	Corrections to erroneous data	

	Justification Description:	To align the data source with current reporting source.
07-June-17	Change Description:	Change frequency of reporting from Other to Annual
	Justification:	Work plan update
	Justification Description:	As the project enters the final year of the compact this indicator will be increasing more frequently and will need to be monitored more close to ensure completion.

Total Annual Operating Cost			
Project:	Water Supply, Sanitation and Drainage Project		
Activity:	Institutional Strengthening Activity		
Sub-Activity:	N/A		
07-Jun-17	Change Description:	Baseline Modification	
	Change:	Previous	Revised
		TBD	20,803,871
	Justification Description:	Baseline Change	
	Change Description:	New data has been received, which allows us to update the baseline.	
07-June-17	Change Description:	Change primary data source from ACKPACK Database to LWSC Company Performance Overview Quarterly Report	
	Justification:	Corrections to erroneous data	
	Justification Description:	To align the data source with current reporting source.	
07-June-17	Change Description:	Change frequency of reporting from Other to Annual	
	Justification:	Work plan update	
	Justification Description:	As the project enters the final year of the compact this indicator will be increasing more frequently and will need to be monitored more close to ensure completion.	

Collection Efficiency			
Project:	Water Supply, Sanitation and Drainage Project		
Activity:	Institutional Strengthening Activity		
Sub-Activity:	N/A		
07-June-17	Change Description:	Change responsible party from Sustainability agreement consultant to LWSC	
	Justification:	Corrections to erroneous data	
	Justification Description:	Collection efficiency is being reported by each branch/ zonal office of LWSC, aggregated by the LWSC Commercial division and reported on a monthly basis.	
07-June-17	Change Description:	Change of primary data source from “Sustainability Agreement Technical Audit Reports” to “LWSC Company Performance Overview Quarterly Report”	
	Justification:	Corrections to erroneous data	
	Justification Description:	Collection efficiency is being reported by each branch/ zonal office of LWSC, aggregated by the LWSC Commercial division and reported on a monthly basis in the Monthly Performance Report.	
07-June-17	Change Description:	Baseline Modification	
	Change:	Previous	Revised
		107.5	91
	Justification:	Corrections to erroneous data	
	Justification Description:	Data has been verified and the correct number is the revised baseline.	
07-June-17	Change Description:	Change definition from “XX” to Revenue acquired in the current period(including arrears collected in current period) /Billed Revenue	
	Justification:	Corrections to erroneous data	
	Justification Description:	Collection efficiency is being reported by each branch/ zonal office of LWSC, aggregated by the LWSC Commercial division and reported on a monthly basis in the Monthly Performance Report.	

The number of households reached with messages on hygiene and sanitary best practices	
Project:	Water Supply, Sanitation and Drainage Project

Activity:	Institutional Strengthening Activity	
Sub-Activity:	N/A	
07-June-17	Change Description:	Change frequency of reporting from annual to quarterly
	Justification:	Work plan update
	Justification Description:	As the project enters the final year of the compact this indicator will be increasing more frequently and will need to be monitored more close to ensure completion.

Average number of days taken to fix leakages			
Project:	Water Supply, Sanitation and Drainage Project		
Activity:	Institutional Strengthening Activity		
Sub-Activity:	Sub Activity 1: Support to LWSC		
07-June-17	Change Description:	Baseline Modification	
	Change:	Previous	Revised
		TBD	20
	Justification:	TBD replaced with actual	
	Justification Description:	Updating TBD with baseline from 2013	

Biological Oxygen Demand (BOD)-mg/l			
Project:	Water Supply, Sanitation and Drainage Project		
Activity:	Institutional Strengthening Activity		
Sub-Activity:	N/A		
07-Jun-17	Change Description:	Baseline Modification	
	Change:	Previous	Revised
		TBD	91
	Justification Description:	Baseline Change	
	Change Description:	Updating TBD with baseline from 2013	
07-June-17	Change Description:	Change the indicator definition from “Amount of biological oxygen demand at time of testing from ponds” to “Biological Oxygen Demand (BOD) measurement at the outlet of the Kuanda Waste Stabilization Pond”	

	Justification:	Corrections to erroneous data
	Justification Description:	To align with the current activity in the project
07-June-17	Change Description:	Change Classification from Cumulative to Level
	Justification:	Corrections to erroneous data
	Justification Description:	BOD measurements are independent of each other, because of this the indicator classification should be level.
07-June-17	Change Description:	Change Frequency from Other to Quarterly
	Justification:	Corrections to erroneous data
	Justification Description:	As the project enters the final year of the compact this indicator will be increasing more frequently and will need to be monitored more close to ensure completion.

Actual Revenues		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	Sub-Activity 1: Support to LWSC	
07-June-17	Change Description:	New Indicator
	Justification:	New issues emerged, suggesting importance of a new indicator
	Justification Description:	To monitor LWSC financial stability

O&M Costs covered by Collection		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Infrastructure Activity	
Sub-Activity:	Sub-Activity 1: Support to LWSC	
07-June-17	Change Description:	New Indicator
	Justification:	New issues emerged, suggesting importance of a new indicator
	Justification Description:	To monitor LWSC financial stability

Drainage Management Master plan in place		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Institutional Strengthening Activity	
Sub-Activity:	Activity 1: Support to LWSC	
07-June-17	Change Description:	Change frequency of reporting from annual to once
	Justification:	Change to erroneous data
	Justification Description:	This indicator is a date indicator and will only be reported on once

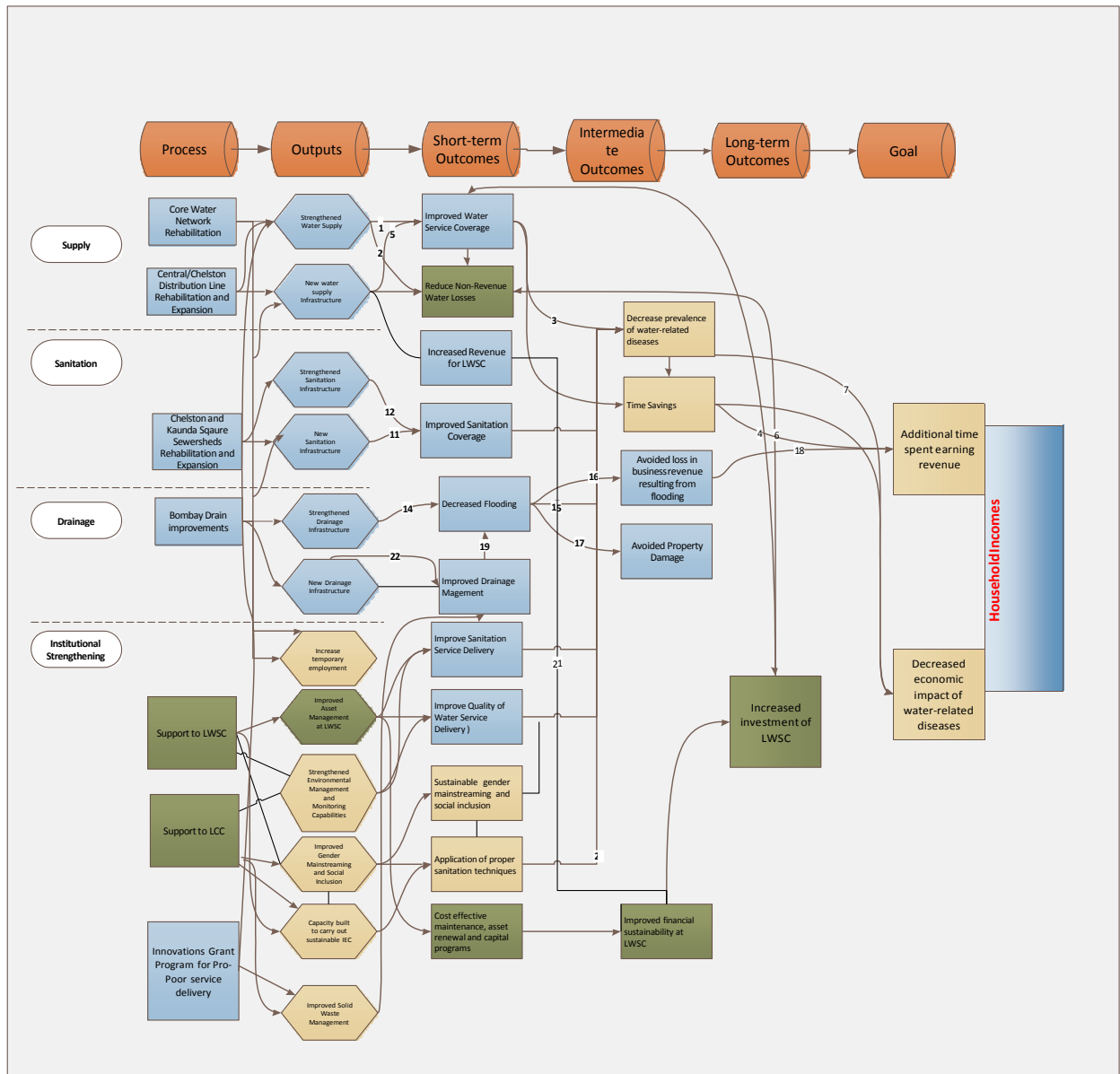
Number of Beneficiary Individuals		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Institutional Strengthening Activity	
Sub-Activity:	Sub-Activity 3: Innovation Grant Program for Pro-Poor Service Delivery	
07-June-17	Change Description:	Change indicator definition
	Justification:	Corrections to erroneous data
	Justification Description:	Change the indicator definition from “Number of beneficiary households to receive improved water or sanitation access from Innovation Grant project’s” to “Number of <u>beneficiary individuals</u> to receive improved water or sanitation access from Innovation Grant project’s”
07-June-17	Change Description:	Frequency of reporting from Annual to Quarterly
	Justification:	Work plan update
	Justification Description:	As the project enters the final year of the compact this indicator will be increasing more frequently and will need to be monitored more close to ensure completion.

Number of jobs temporary created		
Project:	Water Supply, Sanitation and Drainage Project	
Activity:	Institutional Strengthening Activity	
Sub-Activity:	Sub-Activity 3: Innovation Grant Program for Pro-Poor Service Delivery	
07-June-17	Change Description:	Frequency of reporting from Annual to Quarterly
	Justification:	Work plan update

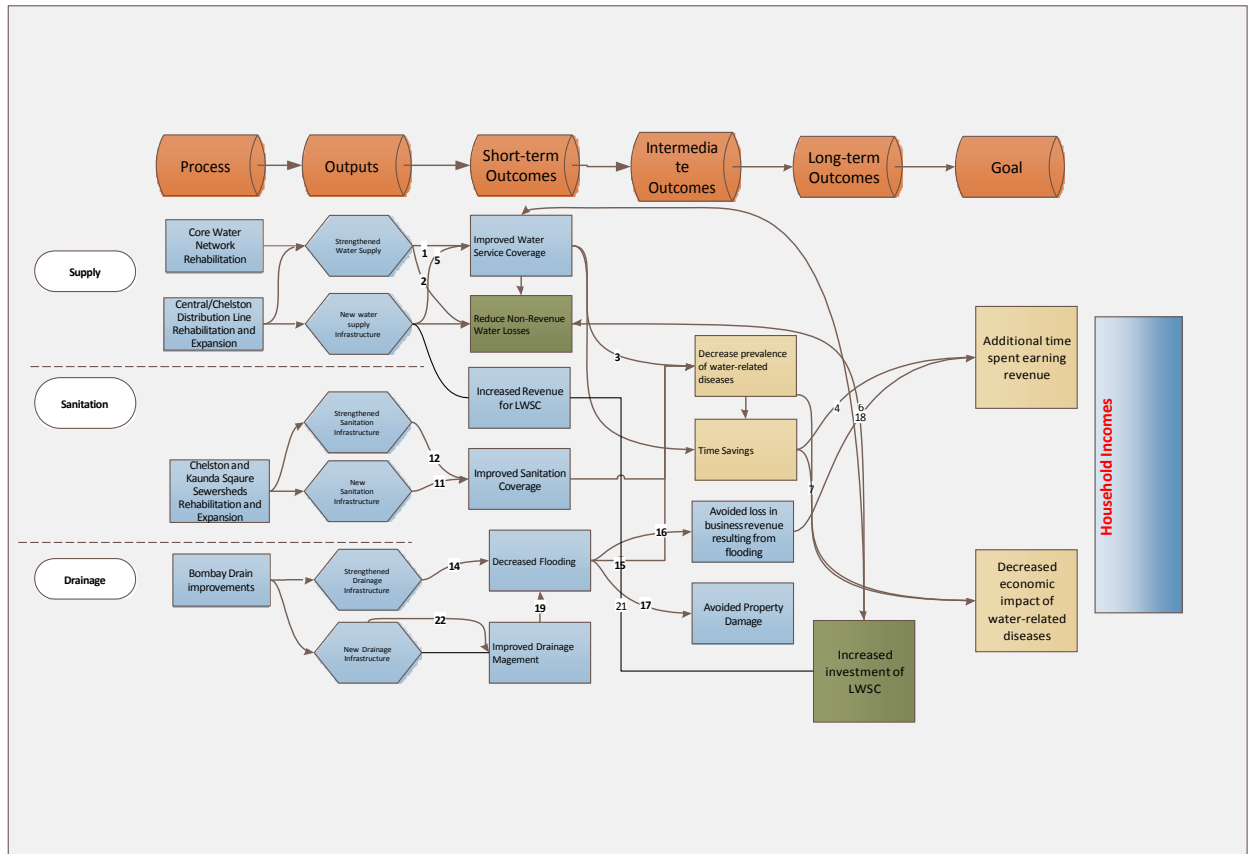
	Justification Description:	As the project enters the final year of the compact this indicator will be increasing more frequently and will need to be monitored more close to ensure completion.
07-June-17	Change Description:	Change Definition from “Number of individuals who got employment through Innovation Grant projects” to “Number of individuals who received temporary employment through the Innovation Grant projects”
	Justification:	Correction to erroneous data
	Justification Description:	Currently the job contracts that have created these jobs will expire by CED.
07-June-17	Change Description:	Change the name from “Number of jobs created” to “Number of temporary jobs created”
	Justification:	Correction to erroneous data
	Justification Description:	To better align with the new definition.

Annex IV Modifications to the Zambia Program Logic Version 3 – August 2017

Compact Program Logic: Version 2, July 2016



Infrastructure Activity Logic: Version 2 July 2016



Institutional Strengthening: Version 2, July 2016

