

Annex 11: Monitoring and evaluation plan for the 3R-CReWS Project

1. Background:

Small Island Developing States (SIDS), such as Barbados, are directly exposed to the extreme impacts of climate change. By their very nature, sea level rise (SLR) is having a significant impact on the coastal zones, where communities and infrastructure tends to be concentrated. SLR needs to be considered in all aspects of long-term national planning, and more so in planning for critical public infrastructure which tends to have a design lifetime of several decades. SLR is reducing the *solution space* available to Barbados, with options to protect assets or accommodate SLR diminishing, forcing solutions based on a retreat from the coastal zone. This proposal is premised primarily on an approach to stretch the *protect* and *accommodate* solution space through augmenting the replenishment of the freshwater aquifer and thus reduce salination, arguably the most pressing impact of climate change on Barbados currently as virtually all freshwater used is extracted from groundwater. This will create more time for the Government to respond to the inevitable impacts of SLR.²⁵

Wastewater management strategies using reclaimed water will be a critical component to help mitigate impacts to groundwater levels, tightly linked to overall island water resources. Reclaimed water is wastewater that has been treated to tertiary levels so that it can be beneficially reused to satisfy a wide range of specific water demands and offset the volume of water relied on directly from rain to fill the aquifer (CCCCC, 2019). Tertiary treatment of wastewater will allow for the reuse of water for non-potable sources, such as agriculture, landscaping, turf maintenance, and recharging the aquifer (CCCCC, 2019). Secondary treated sludge can be used as fertilizer for the agricultural community and activated sludge can be used in landscaping, turf maintenance of lawns, golf courses, reclamation, soil erosion, and dump covering (CCCCC, 2019).

This project is an upgrade to the Bridgetown Sewage Treatment Plant (BTSTP) to a tertiary treatment system and the installation of decentralized wastewater treatment systems in two communities located in Zone A to promote the circular approach to "reduce use, treat, reuse and recycle" wastewater, contributing to resilience from climate change vulnerability and greater water and food security. The project will also promote a shift to low carbon use/emission at the BTSTP by using a combination of renewable solar energy and controls that enhance energy effectiveness.

Specifically, the goal of 3R CReWS is to facilitate the **enhancement of the health, wellbeing and productivity of Barbadians through the use of carbon neutral and climate resilient water and energy management technologies and strategies that ensures water is protected, managed, recycled, reused, and conserved.**

3RCReWS will achieve this goal by advancing the following four (4) key components:

- Component 1 involves installing centralized and decentralized cluster wastewater collection and treatment systems to achieve a tertiary water-quality for multiple non-potable water reuse applications that will increase water availability and the water sector's resilience to climate change.
- Component 2 focuses on enhancing the climate resiliency and low carbon operations of the BSTP wastewater treatment system through the installation of renewable photovoltaic energy, energy conservation and improved efficiency measures
- Component 3 is focused on enhancing options for scaling-up wastewater reuse as well as the capabilities of technical personnel at BWA to promote sustainability.

- Component 4 is focused on enhancing the enabling environment for wastewater management by advancing stakeholders' (government, public, tourists, teachers, students, private sector/businesses, civil society) buy-in, leadership and ownership

1.1 Purpose of the M&E plan

Monitoring and evaluation (M&E) is a powerful public management tool that can be used to improve the way governments and organizations achieve results. Just as governments need financial, human resource, and accountability systems, governments also need good performance feedback systems.

There has been an evolution in the field of monitoring and evaluation involving a movement away from traditional implementation-based approaches toward new results-based approaches. The latter help to answer the “so what” question. In other words, governments and organizations may successfully implement programs or policies, but have they produced the actual, intended results. Evaluation takes the analysis of results to another level in terms of answering the “why” question, that is, why did the change occur (positive or negative). The “why” question is an important one to be able to identify best practices and lessons for promoting replicability and scalability of key project activities.

This M&E plan for the 3R-CReWS is therefore designed to achieve the following:

1. Promote transparency which leads to better accountability of key project stakeholders such as the project team, BWA, GOB, CCCCC, and GCF to their reporting authority
2. Identify pitfalls early to take corrective actions, thereby promoting a culture of adaptive management during project implementation.
3. Promote the efficient use of resources and time by keeping focused on the intended results thereby improving the project's efficiency and effectiveness
4. Support the project implementation unit/team, including BWA and CCCCC, to stay organized and effectively manage the project
5. Facilitate the identification of lessons, which will promote a culture of learning. This is important for meeting the
6. Keep the project focused on the beneficiaries and engaging them to obtain their feedback on performance

1.2 Performance Indicators

Indicators underpin an M&E system's practical applicability as they serve to help practitioners know when outcomes or results have or have not been achieved and inform adjustments to current interventions and decision making toward future interventions.

The performance indicators for the 3R-CReWs comprise a mix of GCF's core and supplementary indicators as well as project specific indicators. The final list of indicators is detailed in the Table below.

Result	Indicators
GCF Impact Level: Paradigm Shift Potential	
Scale	NA – 3-point rating
Replicability	NA – 3-point rating
Sustainability	NA – 3-point rating
GCF Outcome level: Reduced Emissions and Increased Resilience	
Total amount of GHG emission reduction	Core Indicator 1: GHG emissions reduced, avoided or removed/sequestered (Unit: tonnes of carbon dioxide equivalent) ¹⁶ (Disaggregation: results area)
MRA1- Reduced emission through increased low-emission energy access and power generation	Core Indicator 1: GHG emissions reduced, avoided or removed/sequestered (Unit: tonnes of carbon dioxide equivalent) ¹⁶ (Disaggregation: results area)
	Supplementary indicator 1.3: Installed renewable energy capacity (MW)
MRA3 Buildings, cities, industries and appliances	Core 1: GHG emissions reduced, avoided or removed/sequestered
	Supplementary 1.1: Annual energy savings
Total number of direct and indirect project beneficiaries	Core 2: Direct and indirect beneficiaries reached
ARA1.0 - Increased resilience and enhanced livelihoods of the most vulnerable people, communities, and regions	Core indicator 2: direct and indirect beneficiaries reached <i>Disaggregate by individuals and result area. If data on individuals are not available, households could be reported and converted into individuals based on average number of people per household. Detailed guidance will be provided in the results handbook.</i>
	Supplementary indicator 2.5: Beneficiaries (female/male) adopting innovations that strengthen climate change resilience
ARA2.0 - Increased resilience of health and wellbeing, and food and water security	Supplementary indicator 2.3: Beneficiaries (female/male) with more climate-resilient water security
ARA3: Infrastructure and built environment	Supplementary 2.5: Beneficiaries (female/male) adopting innovations that strengthen climate change resilience (number of individuals)
GCF Outcome level: Enabling environment	Core indicator 5: Degree to which GCF investments contribute to strengthening institutional and regulatory frameworks for low-emission climate-resilient development pathways in a country-driven manner
	Core indicator 6: Degree to which GCF investments contribute to technology deployment, dissemination, development or transfer and innovation
	Core indicator 7: Degree to which GCF investments contribute to market development/transformation at the sectoral, local or national level

Result	Indicators
	Core indicator 8: Degree to which GCF investments contribute to effective knowledge generation and learning processes, and use of good practices, methodologies and standards.
Project Level Results	
OUTCOME 1: Enhanced availability, management and use of tertiary level reclaimed water to improve the water sector's resilience to climate change	Volume (m3) of treated wastewater utilized for aquifer recharge and agricultural irrigation per year
	Quality of the treated wastewater
	# of direct beneficiaries (Disaggregated by type and sex). Type: farmers, households
Output 1.1 The Bridgetown Sewage Treatment Plant (BSTP) is upgraded to treat wastewater to a tertiary water-quality standard.	# of STPs that can treat water to tertiary water quality standard
Output 1.2 Tertiary wastewater is available to supplement non-potable use	Km of pipeline installed for transporting tertiary treated wastewater
	Volume (m3) tertiary treated waste water made available per day
Output 1.3 Decision-support tools and infrastructure implemented to mitigate potential climate change risks to the wastewater collection and treatment systems	# of decision-support tools implemented to mitigate potential climate change risks (Disaggregate by type - CMMS, flow meters, laboratory)
	# of infrastructure implemented to mitigate potential climate change risks
Output 1.4 Decentralized treatment systems or cluster treatment systems installed	# of decentralized treatment plants operational
OUTCOME 2: Climate resilient low carbon operations achieved at BSTP	Level of energy efficiency of the BSTP (energy consumption/total water treated per year)
Output 2.1 Energy efficiency and renewable energy technologies are implemented	# of MV of PV installed
	# of EE technologies implemented (disaggregate by type - sludge dewatering, automated controls)
OUTCOME 3: Enhanced capacity and capability to support a preventative maintenance (PM) and climate resiliency programme	% of persons trained are directly involved (utilizing knowledge from training) in the implementation, maintenance, operations and management of the BSTP
Output 3.1 Improved capabilities of wastewater technical personnel to operate, maintain and monitor and implement climate change adaptation planning strategies for wastewater management	# of customized trainings developed/adopted
	# of persons trained (disaggregated by sex)
	# of documents updated/developed (disaggregate by type - SOPs, operational manual, risk management framework)
Output 3.2 A strategic plan is developed to guide the replication of water treatment facilities along the west coast corridor	# of plans completed for the replication of the brackish water RO treatment plant along the west coast corridor
OUTCOME 4: An enabling environment is created for wastewater technologies and use of reclaimed water	# of private businesses and individuals adapting wastewater technologies for enhanced treatment and/or use of wastewater

Result	Indicators
	Level of effectiveness of the re-education and public education programme
Output 4.1 Governance and planning roadmaps enhanced to enable use of reclaimed water in a controlled and regulated manner.	# of roadmaps/action plans, with recommended actions, completed (Disaggregate by type: legislative review, master plan)
Output 4.2 Mechanisms developed/expanded to encourage the adoption of wastewater treatment and reuse applications by private individuals and businesses	# of stakeholder engagement tools/mechanisms developed. (Disaggregate by type: engagement strategy/action plan, incentive programme, RAFF)
Output 4.3 Gender Sensitive Public Education and Awareness Campaign Implemented.	# of persons benefitting from education and training activities (Disaggregated by sex)
	# of project updates available on the dedicated 3R-CReWS project webpage
	# of project updates available on the dedicated social media accounts
Co-benefit Results	
Enhanced availability, management and use of non-potable water from the treatment of wastewater to tertiary level to improve the water sector's resilience to climate change	SDG indicator 2.4.1 Proportion of agricultural area under productive and sustainable agriculture
	Quantity of reclaimed water made available for non-potable use
Improved water quality in the marine environment	SDG indicator 6.3.1 Proportion of domestic and industrial wastewater flows safely treated
	Amount of wastewater discharged into marine environment
Improved air quality in the proximity of the plant	Level of H2S emissions
	Number odour complaints from communities surrounding of the BSTP and lift stations received per year
Increased participation of women in the production and use of reclaimed water	Number of persons, especially women, involved in the production and use of reclaimed water

2. M&E Plan

Monitoring Plan (Total US\$160,000¹)

Data/Source	Collection Tool	Frequency	Indicator	Total Indicative Budget USD
GCF Impact level: Paradigm shift potential				
Project progress reports, annual monitoring reports, reports of interviews with stakeholders, communications products (press releases, case studies etc.)	Key informant interviews, focus groups, Document review	End-of-term	Scale - 3-point score card (GCF to provide)	8,000.00
Project progress reports, annual monitoring reports, reports of interviews with stakeholders, communications products (press releases, case studies etc.)	Key informant interviews, focus groups, Document review	End-of-term	Replicability - 3-point score card (GCF to provide)	8,000.00
Project progress reports, annual monitoring reports, reports of interviews with stakeholders, communications products (press releases, case studies etc.)	Key informant interviews, focus groups, Document review	End-of-term	Sustainability - 3-point score card (GCF to provide)	9,000.00
GCF Outcome Level: Reduced Emissions and Increased Resilience				
Reports on solar PV generation and volume of CO2 avoided. BLP monthly electricity bills and statements of credit (from Feed in Tariffs)	Document review	Annually	Core Indicator 1: GHG emissions reduced, avoided or removed/ sequestered (Unit: tonnes of carbon dioxide equivalent) (Disaggregation: results area)	4,500.00
Site inspections, equipment specifications, procurement reports, Contractors' installation report	Document review	Annually	Supplementary indicator 1.3: Installed renewable energy capacity (MW)	3,500.00
Ministry of Agriculture database/records on Farmers in target areas, RAFF applications, registration forms for training events, website analytics for	Government data/records Document review	Annually	Core indicator 2: direct and indirect beneficiaries reached Disaggregate by individuals and result area. If data on individuals are not available, households could be reported and converted into	5,000.00

¹ See Appendix A for detail notes and assumptions.

Data/Source	Collection Tool	Frequency	Indicator	Total Indicative Budget USD
<i>PEA materials (videos, posts), Barbados Population and Housing Census Reports (BSTP catchment and decentralized cluster sites catchment), site visits, survey/questionnaire reports</i>	<i>Field observation visits</i>		<i>individuals based on average number of people per household. Detailed guidance will be provided in the results handbook.</i>	
<i>Survey report on the number of wastewater treatment technologies adapted/implemented by the households, communities, business and public sector as part of the incentive program, RAFF mechanism and possible PEA outreach programmes. BWA project progress reports to CCCCC. Reports from the RAFF (beneficiaries, their progress reports etc.),</i>	<i>Document review, survey/questionnaire</i>	<i>Bi-annually</i>	<i>Supplementary indicator 2.5: Beneficiaries (female/male) adopting innovations that strengthen climate change resilience</i>	<i>6,000.00</i>
<i>BWA weekly water quality reports based on in-house laboratory analyses of wastewater water quality and volumes produced. BWA reports on volumes of wastewater used for aquifer recharge and agriculture reuse. Ministry of Agriculture database/records on Farmers in target areas. BWA customers records (for water treatment plan that will utilize the recharged aquifer water).</i>	<i>Government data/records Document review</i>	<i>Annually</i>	<i>Supplementary indicator 2.3: Beneficiaries (female/male) with more climate-resilient water security</i>	<i>15,000.00</i>
GCF Outcome level: Enabling Environment				
<i>Final report on the review of legislation and recommendations for updating. Final SOP and updated manual. Reports on training completed (evaluation and register of participants), Consultant reports for systems implemented such as the</i>	<i>Key informant interviews, focus groups, Document review</i>	<i>Annually</i>	<i>Core indicator 5: Degree to which GCF investments contribute to strengthening institutional and regulatory frameworks for low-emission climate-resilient development pathways in a country-driven manner</i>	<i>5,000.00</i>

Data/Source	Collection Tool	Frequency	Indicator	Total Indicative Budget USD
CMMS, SOPs, Weekly reports from the on-site laboratory, BWA meeting reports, final reports of the private sector engagement strategy, urban water reuse strategy,				
Final report of Consultant Firm/Contractors on the installation of the PV and STP upgrade. Final report of Consultant Firm/Contractors on the installation of the onsite decentralized wastewater treatment plants	Key informant interviews, focus groups, Document review	Annually	Core indicator 6: Degree to which GCF investments contribute to technology deployment, dissemination, development or transfer and innovation	5,000.00
RAFF reports, Town and Country Planning Reports on applications for retrofitting homes for facilitating wastewater reuse, Survey report on market transformation for the wastewater sector	Key informant interviews, focus groups, Document review, questionnaire/survey	Annually	Core indicator 7: Degree to which GCF investments contribute to market development/transformation at the sectoral, local or national level	5,000.00
KAP survey report, training reports, M&E annual reports, BWA annual work plan for the project,	Key informant interviews, focus groups, Document review, questionnaire/survey	Annually	Core indicator 8: Degree to which GCF investments contribute to effective knowledge generation and learning processes, and use of good practices, methodologies and standards.	5,000.00
Project Performance Indicators – Outcome 1				
BWA consumption figures (water meters installed at farms along the 9km pipeline and at infiltration wells)	Document review	Annually	Volume (m3) of treated wastewater utilized for aquifer recharge and agricultural irrigation per year	2,500.00
BWA laboratory reports, interviews with farmers and other users	Document review	Weekly	Quality of the treated wastewater	5,000.00
BWA project reports, BWA consumer reports for decentralized locations and farms, MOA reports on farmer beneficiaries	Field observation visits, Document Review	Annually	# of direct beneficiaries (Disaggregated by type and sex). Type: farmers, households	3,750.00
Laboratory reports, reports of contractors hired to upgrade the BSTP, BWA progress reports, Supervising Engineer's Certification of Completion	Document review, Field observation visits,	Weekly	# of STPs that can treat water to tertiary water quality standard	3,750.00

Data/Source	Collection Tool	Frequency	Indicator	Total Indicative Budget USD
<i>Supervising Engineer's Certification of Completion</i>	<i>Document review, Field observation visits,</i>	<i>Weekly</i>	<i>Km of pipeline installed for transporting tertiary treated wastewater</i>	<i>3,750.00</i>
<i>Reports from flow meter installed at BSTP, laboratory reports on water quality</i>	<i>Document review</i>	<i>Annually</i>	<i>Volume (m3) tertiary treated waste water made available per day</i>	<i>1,250.00</i>
<i>Consultant/contractors reports, equipment purchase orders, Supervising Engineer's Certification of Completion for Laboratory, BWA Monthly flow rate reports</i>	<i>Field observation visits, Document Review</i>	<i>Annually</i>	<i># of decision-support tools implemented to mitigate potential climate change risks (Disaggregate by type - CMMS, flow meters, laboratory)</i>	<i>3,750.00</i>
<i>Interviews with neighbouring communities, reports of contractors hired to build the decentralized systems, Supervising Engineer's Certification of Completion</i>	<i>Field observation visits, Key informant interviews, Document review</i>	<i>Annually</i>	<i># of decentralized treatment plants operational</i>	<i>3,750.00</i>
Project Performance Indicators – Outcome 2				
<i>energy bills, influent and effluent flows, equipment horsepower and model information</i>	<i>Document review</i>	<i>Annually</i>	<i>Level of energy efficiency of the BSTP (energy consumption/total water treated per year)</i>	<i>1,250.00</i>
<i>BSTP electricity bill, License to operate the PV system from the Division of Energy, GOB Electrical Engineering Department (GEED) certificate of compliance, site visits/observation</i>	<i>Document review</i>	<i>Annually</i>	<i># of MV of PV installed</i>	<i>1,250.00</i>
<i>Supervising Engineer's Certification of Completion</i>	<i>Document review, Key informant interviews</i>	<i>Annually</i>	<i># of EE technologies implemented (disaggregate by type - sludge dewatering, automated controls)</i>	<i>2,000.00</i>
Project Performance Indicators – Outcome 3				
<i>BWA HR information system, work sheets/work assignments</i>	<i>Document review</i>	<i>Annually</i>	<i>% of persons trained are directly involved (utilizing knowledge from training) in the implementation, maintenance, operations and management of the BSTP</i>	<i>1,250.00</i>
<i>Final course materials/training package</i>	<i>Document review</i>	<i>Quarterly</i>	<i># of customized trainings developed/adopted</i>	<i>5,000.00</i>
<i>registration forms for trainings, certificates of completion</i>	<i>Document review</i>	<i>Quarterly</i>	<i># of persons trained (disaggregated by sex)</i>	<i>5,000.00</i>

Data/Source	Collection Tool	Frequency	Indicator	Total Indicative Budget USD
<i>Final risk framework, SOPs. O&M manual and project document</i>	<i>Document review</i>	<i>Annually</i>	<i># of documents updated/developed (disaggregate by type - SOPs, operational manual, risk management framework)</i>	<i>1,250.00</i>
<i>Final strategic plan</i>	<i>Document review</i>	<i>Annually</i>	<i># of plans completed for the replication of the brackish water RO treatment plant along the west coast corridor</i>	<i>1,250.00</i>
Project Performance Indicators – Outcome 4				
<i>MOUs/agreements, interviews with private businesses and individuals.</i>	<i>Document review, Key informant interviews</i>	<i>Annually</i>	<i># of private businesses and individuals adapting wastewater technologies for enhanced treatment and/or use of wastewater</i>	<i>3,750.00</i>
<i>Interviews with training beneficiaries, training evaluation reports</i>	<i>Document review, Key informant interviews</i>	<i>Annually</i>	<i>Level of effectiveness of the re-education and public education programme</i>	<i>3,750.00</i>
<i>Final master plan, legislative review report and knowledge products</i>	<i>Document review</i>	<i>Annually</i>	<i># of roadmaps/action plans, with recommended actions, completed (Disaggregate by type: legislative review, master plan)</i>	<i>1,250.00</i>
<i>consultant reports, final tools - strategy, action plan, incentive programme, interviews with relevant Ministry, Department or Agency (MDA), RAFF documentation, MOUs/Agreement with private sector, marketing and educational materials on the RAFF</i>	<i>Document review</i>	<i>Annually</i>	<i># of stakeholder engagement tools/mechanisms developed. (Disaggregate by type: engagement strategy/action plan, incentive programme, RAFF)</i>	<i>1,250.00</i>
<i>social media analytics, website analytics, registration forms, photos</i>	<i>Document review</i>	<i>Monthly</i>	<i># of persons benefitting from education and training activities (Disaggregated by sex)</i>	<i>1,250.00</i>
<i>website analytics, project webpage review/observation, BWA progress reports to CCCCC</i>	<i>Document review</i>	<i>Monthly</i>	<i># of project updates available on the dedicated 3R-CReWS project webpage</i>	<i>1,250.00</i>
<i>social media account hits, views, likes - Youtube, Instagram, Twitter and Facebook</i>	<i>Document review</i>	<i>Monthly</i>	<i># of project updates available on the dedicated social media accounts</i>	<i>1,250.00</i>

Data/Source	Collection Tool	Frequency	Indicator	Total Indicative Budget USD
Project Co-Benefit Indicators				
BWA consumption data, flow meters measuring reclaimed water produced, BWA reports, site visit and observations. On farm survey/meter readings	Site visit for observation, Database review and BWA report	Annually	% of the total ground water resources extracted and used for agricultural purposes. purposes ² .	3,750.00
BWA Reports and flow meters data, Research, project documents, site visit, survey of plant employees.	Document review	Annually	Amount of wastewater discharged into marine environment	1,250.00
Survey in surrounding communities and plant employees, Environmental Protection Department (EPD) reports, Ministry of Health reports.	Air quality monitoring equipment, Key informant interviews, focus groups, Document review, questionnaire/survey	Annually	Level of H2S emissions Number odour complaints from communities surrounding of the BSTP and lift stations received per year	10,000.00
BWA Human Resource Department, Ministry of Agriculture Database, Project reports, surveys.	Key informant interviews, focus groups, Document review, questionnaire/survey	Annually	Number of persons, especially women, involved in the production and use of reclaimed water	4,000.00

Evaluation Plan			
Type	Timing	Independent/Self-evaluation	Indicative Budget
<i>Formative</i>	Implementation Phase	INDEPENDENT data collection and generation for evaluation reports	
<i>Formative</i>	Mid-term for project	Independent	70,000 USD
<i>Summative</i>	End of project	Independent	90,000 USD

² Approximately 57 Mm³/y is extracted from groundwater resources for domestic potable water distribution and an estimated 11 Mm³/y is extracted for agricultural irrigation (See Feasibility Study).

Monitoring and Reporting Plan			
Type	Timing		Indicative Budget
	Implementation Phase	Monitoring and evaluative data generation and collection activities	160,000 USD

Two types of evaluations will be undertaken during the lifetime of the 3R-CReWS project – a formative and summative evaluation. Notable is that a key requirement of the GCF is that an assessment of the level of achievement of the paradigm shift potential be undertaken during these stages of the project using a three-point scale scorecard template (to be developed by the Secretariat).

Formative Evaluation

Formative evaluation is generally undertaken during a project's implementation for trying to understand why a program works or doesn't, and what other factors (internal and external) are at work during a project's life so as to improve the project's design and chance of successfully achieving the desired outcomes. The formative data collection and evaluation will complement the final summative evaluation.

Specifically, the formative evaluation of the 3R-CReWS will allow the project to:

- i. Improve the project's design (continual improvement) as it is rolled out
- ii. Identify to what degree the project activities are being delivered efficiently and effectively
- iii. Identify recommendations for improving the effectiveness and efficiency during the implementation phase so that the outcomes can be realized by the end of the project and have a greater effect on achieving the paradigm shift towards low-emission and climate-resilient development pathways in the context of sustainable development

Summative Evaluation

Summative evaluation looks at the impact of an intervention on the target group and is most often undertaken at the end of a project and as such, summative evaluation can also be referred to as ex-post evaluation (meaning after the event). The summative evaluation of 3R-CReWS will use a balance of both quantitative and qualitative methods in order to get a better understanding of what the project has achieved, and how or why. There will also be emphasis on unintended consequences, the evaluation drivers of accountability and will be more outcome-focused than process focused. That is, the summative evaluation is not about stating that three workshops were held, with a total of fifty people attending (outputs), but rather the result of these workshops, such as increased knowledge or increased uptake of rainwater tanks (outcomes).

Specifically, the summative evaluation of the 3R-CReWS will allow the project to:

- i. Determine whether the project has reached its goals/objectives/outcomes as well as the GCF's outcomes that the project is aligned to.

- ii. Determine to what extent the project has achieved the paradigm shift towards low-emission and climate-resilient development pathways in the context of sustainable development
- iii. Quantify the changes in resource use attributable to the project so as to track the impact of the project.
- iv. Understand the process of change, and finding out what works, what doesn't, and why. This is important to gather the knowledge to learn and improve future project designs and implementation.

Given the scope of the two types of evaluations selected of this project, they will be undertaken by an independent entity (Consultant or Firm) to ensure that subjectivity, biases or partialities are removed from the analysis of the findings of the evaluation.

3. Reporting

CCCCC-GCF Reporting Arrangement

CCCCC reporting to the GCF fund will be guided by GCF Monitoring and Accountability Framework for Accredited Entities, its Accreditation Master Agreement and terms to be agreed in the funding agreement. Aligned with GCF's Monitoring and Accountability Framework for Accredited Entities, CCCCC will undertake continuous monitoring of the project through site visits and quarterly reports, which will feed into semi-annual performance reports and an annual performance report.

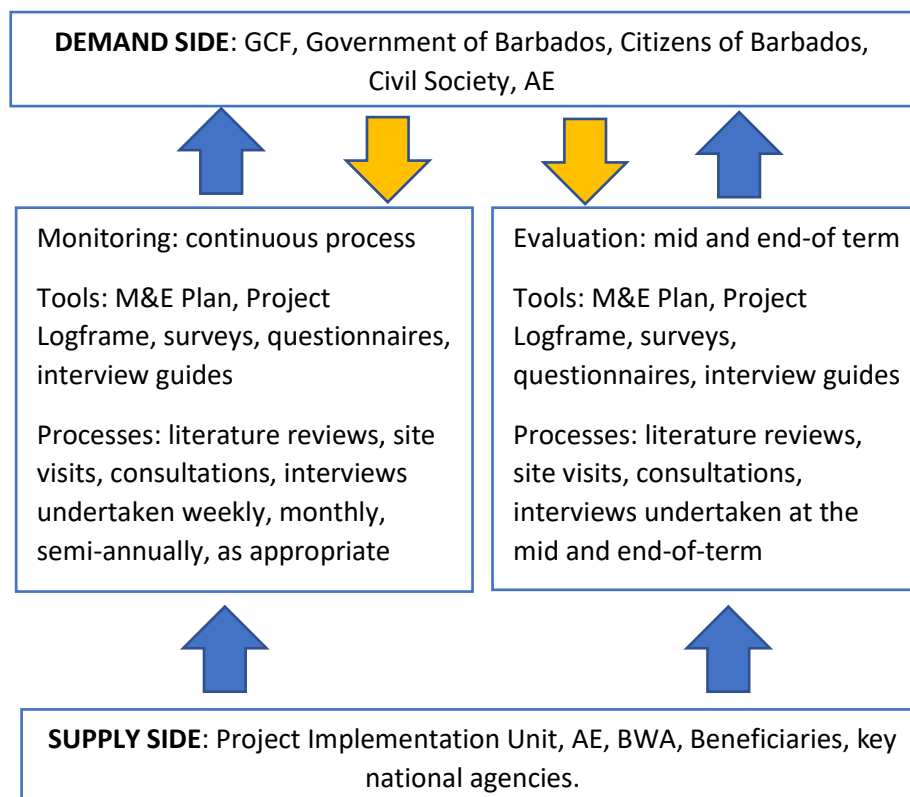
The Annual Performance Reports (APRs) will include the financial management reports and progress report on all activities. It will identify potential risk to project activities and remedial action(s). These reports will also evaluate the activities against the targets set out in the logical framework, which are in accordance with the GCF investment framework criteria. CCCCC monitoring and reporting will consider feedback from direct beneficiaries: communities, farmers, businesses and government agencies. This approach allows for a bi-directional flow of information that is not only important for monitoring their satisfaction with the products and allowing them to continually feedback on design elements but also to ensure that buy-in and ownership for relevant products and services are being built at the national level for sustainability, replicability and scalability purposes.

At the mid-term of the project the formative evaluation report will be submitted to the GCF for review. There will also be a final report at the end of the period of implementation, which will provide a holistic view of the achievements of the project, impact, effectiveness and efficiency (financial and economic), financial records, stakeholder feedback and lessons learnt. This report will also be accompanied by the final project financial audit to be completed by an independent and accredited auditor. All records on this project will be kept for at least five years for review by the GCF or its authorized bodies after project completion. The CCCCC will submit in English the final project report, including the final evaluation report, to the GCF within 6 months of the completion of the project.

BWA-CCCC Reporting Arrangements

To ensure the project continue to be both viable and sustainable, detailed timely reporting, monitoring and evaluation will be carried out. The BWA, through the project implementation unit, will provide CCCCC with (i) quarterly progress reports in a format consistent with CCCCC project management and performance reporting system; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions; (c) updated procurement plan and (d) updated implementation plan for next 12 months; and (iii) a project completion report within 6 months of physical completion of the Project. Financial audits of all accounts will also be conducted on a yearly basis. Within 3 months of physical completion of the Project the BWA will submit a project completion report to Government of Barbados and CCCCC.

The Figure below shows the key M&E elements, processes and relationships at play. The middle of the figure shows that there are 2 monitoring and evaluation processes happening; monitoring will be done continuously, and evaluation is slated for the mid and end-of term. Importantly, the tools and processes will be similar, except for the frequency of occurrence. At the top is the demand side, that is, the key persons or institutions that are demanding transparency and accountability. As can be seen from the Figure, the demand side provides the impetus for the need for M&E (yellow arrows) and are the primary recipients of the M&E information (blue arrows). At the lower end is the supply side, that is persons with information and leadership for the M&E processes.



Appendix A: Budget Notes and Assumptions



Annex 11b M&E
budget calculations_b