CARICOM DEVELOPMENT FUND

Terms of Reference for the development of an Environmental and Social Management Plan (ESMP) and Gender Action Plan (GAP) for the Rehabilitation of the Theobalds Water Treatment Plant in St. Lucia

Context and Background

Water security is a critical global challenge that encompasses various aspects, including the availability, quality, and management of water resources. As the global population grows, the demand for water increases, putting immense pressure on existing water supplies. By 2030 the United Nations (2023), projects that global freshwater demand will exceed supply by 40%, leaving an estimated 1.6 billion people without access to safely managed drinking water. Additionally, water pollution from untreated wastewater and industrial discharges further exacerbates the scarcity of clean water, threatening both human health and ecosystems.

Climate change significantly impacts water security by disrupting the natural water cycle. Extreme weather events such as droughts and floods are becoming more frequent and severe, leading to water shortages and damaging infrastructure. Melting glaciers and decreasing groundwater levels also contribute to the diminishing availability of freshwater resources. These changes not only affect water supply but also have broader implications for food production, energy generation, and overall economic stability.

While there are 27 water supply systems in St. Lucia, the Theobalds/Roseau System located in the North, comprising the John Compton Dam (JCD), Millet Intake and Theobalds Water Treatment Plant (TWTP), is WASCO's largest water supply system and one of four (4) major water systems in the island. The Roseau watershed supplies potable water to customers in the northwest quadrant of Saint Lucia, constituting 58% of all WASCO's customer accounts. The country's northwest quadrant extends from Anse La Raye to Gros Islet and includes the island's capital, Castries. Castries and Gros Islet account for approximately 52.7% of Saint Lucia's population. Castries and Gros Islet drive much of the island's economic activity with Gros Islet being a major tourism hub, and the airport servicing domestic travel, a cruise ship terminal, main hospital, numerous schools, and most government ministries located within Castries.

The Theobalds Water Treatment Plant (TWTP) which is responsible for treating all the raw water that originates from the aforementioned sources, was originally constructed in 1993 with a design capacity of 6 million gallons per day (6 Mgd). It was expanded in 2007 to provide an additional treatment capacity of four million gallons per day (4.8 Mgd) thus creating a combined total design capacity of 10.8 Mgd. The plant is of a conventional design and comprises horizontal flow flocculators, lamella plate clarification basins, and rapid gravity filters.

Currently, six out of the ten filters which are located at the TWTP have become faulty due to deteriorating nozzles and corroded air scouring lines. This deterioration is due to the use of sub-optimal material (mild steel) use in the original infrastructure development, which led to an increased reliance on water for backwashing, resulting in higher water losses, ineffective filtration cycles, and a significant reduction in the plant's output. The deterioration of the backwashing efficiency has been progressive due to the condition of key components of the plant, to the point where the air scouring mechanism which enhances the backwashing process, is now obsolete and the operational team has had to depend solely on the use of water for the backwashing process. The consequence of this is increased water losses at the plant and

inefficient backwashing cycles. Under optimal conditions, the plant would only be required to backwash after approximately 72 hours of operation but based on the extant conditions, this process must be initiated every 24-48 hours. This mode of operation also further diminishes the operational lifespan of the filters.

The objective of this project is to restore the TWTP to its original design capacity of 10.8 million gallons per day using materials which would allow for a minimum design life of 50 years. The project consists of three main components:

- Rehabilitation of the Theobalds Treatment Plant
- Renewable Energy and Pump Automation of Pump Control (SCADA)
- Rainwater Harvesting and Public Awareness

Project Description and Components

Component 1 - Rehabilitation of the Theobalds Treatment Plant

The objective of this Component is to restore the TWTP to its original design capacity of 10.8 million gallons per day using materials which would allow for a minimum design life of 50 years. The activities that will be required to be executed to meet this project objective are as follows;

- Assessment of the condition of 6 of the filters at the Theobalds Treatment Plant and the implementation of a technical solution that will enable the optimal operation of the filters.
- Replacement of the existing media filter bed with material that complies with AWWA (American Water Works Association) standards
- Replacement of all mild steel piping serving the 6 filters, with a suitable grade of stainless steel
- Demolition and replacement of the current underdrain system (nozzles) with a suitable technical solution which will increase the effectiveness and efficiency of the current design. The proposed solution should not be prone to frequent blockages, and the air/water backwash system should be optimized.

Component 2 - Renewable Energy and Pump Automation of Pump Control (SCADA)

Activities to be undertaken under this component will include:

- Installation of a solar PV system at the Theobalds Water Treatment Plant. This will be a 100KW system. Annually, the system is forecasted to generate 153,300 kWh while reducing CO_2 emissions by 10%.
- Replacement of outdated pumps on the distribution network with new energy-efficient models
- Procurement and installation of hardware (switches, controls, bulk meters) along the water supply network for monitoring and control of network infrastructure. The hardware will be integrated into WASCO's SCADA network.

Component 3 - Rainwater Harvesting and Public Awareness

Activities to be undertaken under this component will include:

- Procurement and installation of Rainwater Harvesting Systems in selected communal facilities and domestic households.

- Implementation of a training programme for the installation and maintenance of rainwater harvesting systems
- Public Education Campaign for the promotion of rainwater harvesting and water conservation methods including the creation of a media kit for the installation and maintenance of rainwater harvesting systems

Objectives of the Consultancy

The general objective of the consultancy is to ensure compliance with national environmental legislation, as well as with the CDF Environment and Social Safeguards (ESS) and Gender Policy in the context of the operation. Further, it serves to identify social and environmental impacts (positive and negative) and risks and to design respective measures to prevent, reduce, mitigate and/or offset/compensate (for) them.

Specific Objectives:

- To prepare an Environmental and Social Management Plan (ESMP) for the operation to ensure the socio-environmental sustainability of its different components. The ESMP should be developed using the findings of a completed ESIA for the facility and any other information that the consultancy may find relevant.
- The consultancy aims to analyze, evaluate and propose measures to prevent, control, mitigate, restore and/or compensate the potential environmental and social impacts of the project so that the project complies with CDF's Social and Environmental Standards (SES) and national legislation.
- The ESMP must include management plans and other instruments detailing environmental and social requirements in particular, to guide the final design of the project and its components, including recommendations for changes to the project design as well as specific actions to be taken by contractors and subcontractors.
- To develop a consultation/stakeholder engagement plan, including an analysis of interested and affected parties, detailing documentation requirements, and dissemination of information about the project.
- To develop a grievance redress mechanism.
- Support the implementing partner (and responsible party) in carrying out meaningful consultations.
- To develop a Gender Action Plan

Principal Activities

Preparation of the Environmental and Social Management Plans (ESMP) for the TWTP project

The ESMP should provide set of mitigation, monitoring and institutional measures, including policies, procedures and practices – as well as the actions needed to implement these measures – to achieve the desired social and environmental sustainability outcomes. The ESMP should include a series of specific plans as required by CDF's ESS policy, including, for example, Resettlement Action Plans/Livelihood Action Plans, Indigenous Peoples Plans, Biodiversity Action Plans, Cultural Heritage Management Plans, Emergency Preparedness and Response Plans. The level of detail and complexity of an ESMP and priority of the identified measures and actions should be commensurate with the proposed project's risks and impacts. All plans should contain specific monitoring measures.

The ESMP should define desired social and environmental management outcomes and specify social and environmental indicators, targets, or acceptance (threshold) criteria to track ESMP

implementation and effectiveness. It should also provide estimates of the human and financial resources required for implementation and monitoring and identify organizational structure and processes for implementation.

Recognizing the dynamic nature of the project development and implementation process, the implementation of an ESMP should be responsive to changes in project circumstances, unforeseen events, and the results of monitoring (adaptive management).

Essential ESMP components:

- Measures to mitigate negative impacts during operations, and evaluation of their effectiveness. Mitigation measures must be identified for each impact/risk that was identified in the ESIA report or that should be considered for the execution of such a project;
- Flow chart of the project's actions, identifying the stages and times of execution of the environmental and social management actions;
- Description of the environmental monitoring plan in the construction and operation stages of the project, identifying the parameters to be measured, the places of measurement, the methods used and the periods/frequencies in which the measurements will be made, the costs, and the institutions responsible;
- Identification of a set of sensible, readily measurable quantitative and qualitative indicators of the mitigation measures proposed for the main impacts and risks that accompany the implementation of the project (see separate section);
- Contingency and Emergency Response Plan, such as for accidents, fires, floods, earthquakes (among those that apply);
- Reporting template for the implementing partner (and/or responsible party) that includes said indicators and provides clear guidance on how to measure them.

(1) Social and environmental impact mitigation. The ESMP should include environmental and social impact mitigation actions, in accordance with the following, listed in descending order of preference (i.e. the mitigation hierarchy):

- Avoid, prevent or eliminate environmental and social risks and adverse impacts, wherever technically and financially feasible; for proposed projects involving existing facilities, remediation may need to be undertaken instead of, or in addition to, mitigation;
- Where it is not technically or financially feasible to avoid, prevent or eliminate risks and impacts, identify measures and actions to minimize and mitigate impacts so that the project operates in compliance with applicable international, national and local environmental and social laws and regulations and CDF's requirements, or achieves acceptable levels of impacts otherwise defined and agreed;
- Where it is not technically or financially feasible to minimize and mitigate risks and impacts, identify measures to offset them by enhancing the proposed project's positive environmental and social impacts;
- Where avoidance, mitigation and offset measures are not technically or financially feasible, identify compensatory measures to balance the residual adverse impacts.

The ESMP should describe each mitigation measure, including the type of impact and social and environmental parameter(s) to which it relates, the location and frequency, timing or conditions under which the measure is required (e.g., continuously or in the event of contingencies), and provide technical details on the mitigation technology, process, equipment, design and operating

procedures, as appropriate. Potential social and environmental impacts of these measures will be estimated. Linkages with other mitigation plans (e.g., for displacement, indigenous peoples, or cultural heritage) required for the proposed project will be identified.

(2) Social and environmental risk monitoring and reporting. The ESMP should detail the social and environmental monitoring to be conducted during project implementation to:

- Provide information about actual versus predicted social and environmental impacts;
- Measure the effectiveness and evaluate the success of mitigation, remediation and enhancement measures;
- Evaluate compliance with applicable international, national, and local policies, laws, regulations, CDF ESS policy, other relevant performance standards, policies and procedures;
- Allow corrective action to be taken when needed.

Specifically, the ESMP should detail the:

- Mitigation measures being monitored;
- Parameters to be measured; introduction of sensible indicators to measure the implementation of mitigation measures.
- Sampling and analytical or other monitoring methods to be used, including staff, procedures and detection limits (where appropriate);
- Sampling or monitoring locations;
- Frequency or timing of measurements;
- Definition of thresholds that will signal the need for corrective actions.
- Define responsibilities for monitoring and reporting during the life cycle of the project.

In addition to recording information to track performance and establishing relevant operational controls, the monitoring plan should include the use of dynamic mechanisms, such as inspections and audits, where relevant, to verify compliance and progress toward the desired outcomes. Monitoring activities should involve direct participation of affected stakeholders, where possible. Stakeholder complaints or grievances are to be tracked and monitored and any corrective actions are also tracked and monitored.

Monitoring and reporting should include data disaggregated by categories of potential beneficiary and/or affected groups and include specific gender indicators. The monitoring plan should require the retaining of qualified and experienced external experts to verify monitoring information.

Evaluation, reporting and management of monitoring measures should also be specified in the ESMP. This will include required documentation and reporting of monitoring results and provisions for adjusting and amending the ESMP (e.g. incorporating corrective actions) in accordance with monitoring experience and feedback. A monitoring plan, detailing responsibilities for its implementation and required site visits should be developed as part of the ESMP.

Periodic reports are to be provided to the affected communities that describe progress with implementation of the ESMP and related action plans and on issues that the consultation process or grievance process has identified as a concern. Any material changes or additions to the mitigation measures or actions plans should be communicated to affected communities. Reports should be provided quarterly regarding the concerns of affected communities. This reporting line

should be part of a broader communication and continuous stakeholder outreach plan, which clearly states responsibilities for execution.

(3) Capacity development. The ESMP should assess and detail a plan to develop implementation capacity, where needed. This will involve a capacity assessment of the implementing partner itself and any affiliated organizations or institutions for implementing the ESMP. If not, a determination should be made as to whether it will be possible to develop the appropriate capacity and, if so, at what cost and in what timeframe.

The capacity development section of the ESMP will:

- Recommend management arrangements for the project, including structure, roles, responsibilities, and authorities;
- Designate specific personnel, including management representative(s), with well-defined and clearly communicated lines of responsibility and authority;
- Require sufficient oversight and human and financial resources be provided on an ongoing basis to achieve effective and continuous environmental and social management throughout the life of the proposed project.

If needed, the capacity development section of the ESMP should outline a plan for strengthening capacities of CDF staff, Implementing Partner staff, and contractors with direct responsibility for activities relevant to the social and environmental sustainability of the proposed project so that they have the knowledge and skills necessary to perform their work, including current knowledge of the host country's regulatory requirements and the applicable requirements of CDF's ESS policies and procedures. Capacity development should also address the methods required to perform the specific actions and measures of the ESMP in a competent and efficient manner. The capacity development plan should have the following components:

- Identification of capacity needs;
- Development of a capacity development plan to address defined needs;
- Monitoring and Evaluation of capacity development plan.

(4) Implementation action plan (schedule and cost estimates). For the above aspects (mitigation, monitoring, capacity development, and stakeholder engagement), the ESMP should provide:

(a) an implementation schedule for measures that must be carried out as part of the project, showing phasing and coordination with overall project implementation plans; and

(b) the capital and recurrent cost estimates and sources of funds for implementing the ESMP. These figures are also integrated into the total project cost tables.

Public Consultation and Disclosure Procedures

The ESMP should be developed in close consultation with project stakeholders and disclosed in draft and final form. The ESMP is to include a section that either (a) provides an overview and link to the project's Stakeholder Engagement Plan or (b) outlines a Stakeholder Engagement Plan to promote meaningful, effective consultations during project implementation, including identification of milestones for consultations, information disclosure, and periodic reporting on progress on project implementation and issues of concern to project stakeholders. The plan should also include a description of effective processes for receiving and addressing stakeholder concerns and grievances regarding the project's social and environmental performance.

Actions:

- Conduct a stakeholder analysis that outlines the affected and interested parties, explains the methodology for their identification (ideally with a rating system/matrix for how strongly they are impacted or how strong their interest in the project is).
- In many cases, national or regional legislation also requires some kind of consultative process. It is required to verify these regulations and, if possible, align them with what is required under CDF's ESS.
- Provide a consultation plan, informing about:
    - planned consultation events,
    - information material,
    - attendance recording
    - measures for encouraging the participation of women and the elderly.

- After the consultation event(s), document and update the consultation section with:
    - Description of the event.
    - General atmosphere of the event.
    - Questions asked and which answers were provided.
    - Any suggestions for project improvement that were taken into consideration.
    - Include scanned attendance lists.
    - Photos/Videos of the event(s).

- Support the implementing partner in conducting the consultations/stakeholder engagement process
- The Consultant will coordinate with the institution in charge of implementing the operation and with the corresponding local institutions the most appropriate consultation mechanism, taking into account national regulations, the local context and existing social standards for these cases.
- This consultation will create the opportunity to have a dialogue that will help to improve the design, promote a better understanding of the operation and increase the chances of success and sustainability of the project.
- In addition, the consultation must promote the participation of women, indigenous communities, marginalized and disadvantaged groups during the consultation process, and comply with national rules and regulations that apply to the consultation process.
- If ESMP review and evaluation result in material changes in, or additions to, the mitigation, monitoring or capacity development measures or actions described in the ESMP on issues of concern to the stakeholders, the updated measures or actions will also be developed in close consultation with stakeholders and disclosed.
- Periodic reports should be provided to potentially affected communities describing progress with implementation of the ESMP and on issues that the consultation process or grievance mechanism has identified as a concern. The frequency of these reports should be quarterly.

Preparation of a Gender Action Plan (GAP) for the TWTP project

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- Carry out a robust gender analysis on the two target groups: 1) the direct beneficiaries of the project - the stakeholders/institutions of the TWTP; and 2) indirect beneficiaries of the project.

In addition, the consultant will look at the socio-economic and gender issues beyond these two target groups. Understanding the gender dynamics at the national level is critical as they may

influence the direct and indirect beneficiaries of the project in the long run depending on political, economic, environmental changes and other factors.

- Design and conduct a GAP in the context of the TWTP, after conducting a Gender Analysis.
- Consult National Gender Mechanisms e.g. women's ministries, national women's council, women's civil society organizations, or women/girls in the target region of the project been involved in the design of the project
- Define concrete measures aiming at reducing gender disparities and inequalities included in the project :

    1. Identify gender disparities and inequalities at the local and national level

    2. Undertake technical consultations with stakeholders at the local and national level to collect inputs and to define concrete measures aiming at eliminating gender inequalities in the areas of implementation of the project

- Estimate the cost for these measures as well as for monitoring adequately considered within the project budget
- Define measures to ensure the highest priority to promote equal participation and benefits to all gender groups.
- Assess the risk that the project potentially limits women's ability to access, use, develop and protect (natural) resources, land and services taking into account different roles and positions of women and men in accessing land, (environmental) goods and services.

Reports / Deliverables

The following deliverables must be submitted by the contractual party and received to the satisfaction of CDF:

- First Deliverable: Inception report with updated work plan 5 days after signature of contract.
- Second Deliverable: Draft ESMP and GAP that include the results of the public consultation and disclosure process 25 business days after signature of contract.
- Third Deliverable (final report): Final ESMP and GAP, updated 35 business days after signature of contract.

All reports must be submitted to CDF in an electronic file. The report must include a cover page, main document, and all annexes.

Approval of reports: Reports will be approved by the CDF's ESS focal point; the period for approval of reports will be 10 business days.

Payment Schedule

The following payments will be made according to the schedule below:

25% after the contract is signed and inception report with updated work plan approved.

50 % after the delivery and approval of the second report.

25 % after the delivery and approval of the third report.

Qualifications

Degree/Academic Level & Years of Professional Experience: Professional with a master's degree in social and/or environmental sciences with at least 10 years' experience in socio-environmental impact management/social environmental impact assessment and gender assessment.

Areas of Expertise: Socio-environmental management, evaluation of socio-environmental impact in the infrastructure sector, knowledge of the Social and Environmental Standards (SES), experience in working with local, regional or international organizations in the sector.

Skills: ability to work with little supervision

Evaluation Criteria

Candidates applying for this consultancy shall meet a minimum score of 80 points on the evaluation scale below:

Description	Points
Methodology	
• Proposed Methodology and Work Plan demonstrating understanding of the assignment, proposed implementation schedule, timelines, and milestones for the activities.	40
Work Plan	
• Proposed Work Plan demonstrating understanding of the assignment, proposed implementation schedule, timelines, and milestones for the activities.	12
General Experience	
• Demonstrated experience within the region	8
Academic Qualifications	
• Master's degree in social and/or environmental sciences	20
General Experience	
• At least 10 years' experience in socio-environmental impact management/social environmental impact assessment • Experience in Socio-environmental management, evaluation of socio-environmental impact in the infrastructure sector, knowledge of the Social and Environmental Standards (SES) • Experience working with local, regional or international organizations in the sector.	20
Total	**100**

Characteristics of the Consultancy

- Contract Duration: 3 months.

- Estimated Effort: 30 days.

- Place of work: External Consultancy.

- Travel: Consultant will be required to travel to St. Lucia (if not based on island) for a period of 3 nights to conduct assessments and participate in the public consultation. The lump-sum amount must be clearly itemized in the financial proposal and justified with standard rates.

- Manager or Coordinator: The coordination of the consultancy will be CDF's ESS focal point.

Financial Provisions

The estimated budget for this consultancy is US$30,000.