

UNIVERSIDAD PARA LA COOPERACION INTERNACIONAL  
(UCI)

CLIMATE ELUCIDATION FOR ADAPTIVE RESILIENCE IN THE WATER SECTOR  
(SVG-CLEAR-WATER) IN SAINT VINCENT AND THE GRENADINES

ALLISON WILLIAMS

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Master in Project Management (MPM) Degree

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Ruben Dario Alzate  
TUTOR

---

Luis Diego Argüello  
REVIEWER No.1

---

Paula Villalta  
REVIEWER No.2



---

Allison Keisha Williams  
STUDENT

## **DEDICATION**

To My Family

May you be inspired to continue to grow and learn. Never believe that learning is for the only for young. I thank you for your unwavering support and patience during late night and long weekends. This achievement will bring us brighter opportunity and a more secure future.

## **ACKNOWLEDGMENTS**

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To UCI, I am grateful for the opportunity to attend your school, and for the opportunities that will come my way upon completion of this degree.

To God, Thanks for all your blessings

## **ABSTRACT**

The Final Graduation Project (FGP) addresses the CLEAR-Water project for St. Vincent and the Grenadines and seeks to build the country's resilience to climate change impacts on the water sector by improving water resources management overall, including supply side and demand side management, the provision of water services and capacity development for managing climate change adaptation.

The project promotes a paradigm shift in the way the country adapts its water infrastructure planning, provision and governance towards climate resilient development to realize security for all, now and in the future.

This FGP measures the project against the SDG Goals, Regenerative Development requirement and P5 sustainability standard and makes recommendations for sectorial, regional and standard best practice compliance for the water sector in SVG.

This FGP includes the following Project Management Plans recommended by the Project Management Institute: A Project Charter and Management Plans which are: Scope Management, Schedule Management, Cost Management, Communication Management, Stakeholder Management, Quality Management, Risk Management, Procurement Management, and Resource Management.

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## ABBREVIATIONS AND ACRONYMS

CARICOM	Caribbean Community
CCCCC	Caribbean Community Climate Change Centre
CCORAL	Caribbean Climate Online Risk and Adaptation tool
CDRRF	Community Disaster Risk Reduction Fund
CWSA	Central Water and Sewage Authority
DRWHS	Domestic Rainwater Harvesting systems
FGP	Final Graduation Project
GCF	Green Climate Fund
IWRM	Integrated Water Resources Management
NRW	Non-revenue water
NESDP	National Economic and Social Development Plan
RNAR & AP RWH	Readiness Needs Assessment Report and Action Plan Rainwater Harvesting
RIE	Accredited Regional Implementing Entity
SCADA	Supervisory Control and Data Acquisition
SDGs	Sustainable Development Goals
SEN	Special Educational Needs
SIDS	Small Island Developing States
SIP	Strategic Implementation Plan
SVG	Saint Vincent & the Grenadines (SVG).
SVG-CLEAR-Water	SVG Climate Elucidation for Adaptive Capacity in the Water Project
PAHO	Pan American Health Organization
PMBOK	Project Management Institutes Book
PMI	Project Management Institute
UNCSD	UN Commission on Sustainable Development

UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNITAR	United Nations Institute for Training and Research

## EXECUTIVE SUMMARY

Officially opened in August 2005, the Caribbean Community Climate Change Centre (CCCCC) is mandated to lead the region's response to managing and adapting to climate change in addition to serving as the main repository for regional and national information on climate change. The Centre is the only regional institution established specifically to address the impacts associated with Climate Change.

The CCCCC has pursued five strategic objectives to support the achievement of the CCCCC's mission and vision over the last five years. The successful completion of these five strategic objectives includes facilitating the implementation of climate actions in CARICOM Member States, strengthening institutional capacity through the provision of technical assistance to countries, undertaking resources mobilization, promoting and catalyzing climate action at all levels produces associated outputs that effectuates and delivers the intended outcomes.

To facilitate the implementation of climate actions through the region efficiently, project management teams and robust project management plans must be developed. The CLEAR-Water project for St. Vincent and the Grenadines is vital to the country as it addresses the country's growing need to improve water health and security. Therefore, the development robust project management plan is imperative to the success of the project. One of the main challenges previously experienced by the CCCCC was a disconnect between the project management team implementing the project in the countries in the region and the mandates of the project management plans. These project management teams include specialists in a particular field such as engineering, water quality specialists, national and sectorial policy developers who are not necessarily project managers or are familiar with the project management plans.

To avoid these issues, it was imperative that the project management plan for the CLEAR-Water project for St. Vincent and the Grenadines clearly articulate the CCCCC project management policy as well provide a clear and robust guide to the development of the project management plan. In addition it is now required that the regional project management teams participate in the development of the plan to enhance and ensure successful project implementation.

The methodology employed utilized a combination of both quantitative and qualitative assessments such as assessment of rain fall data, water usage patterns data, water catchment capacities, regional water sector policies, risk and gender analysis as well as stake holder analysis and needs etc.

The FGP also encompasses the use of agile methodologies to ensure collaboration between the project management development team and the project implementation team to guarantee that the project meets stakeholders' needs and expectations. In addition, this methodology facilitates flexibility and adaptability for any unique event occurring during project implementation as well.

This FGP accomplishes exactly what the CLEAR-Water project requires. It is a document that encompasses the best practices, processes and procedures thereby ensuring

that there is clear and comprehensive guide for the development of the CLEAR-Water project management plan.

Specifically, the FGP will ensure that the CLEAR-Water project will be implemented seamlessly and in accordance with the CCCCC mandates and project donor requirements.

## 1 INTRODUCTION

Officially opened in August 2005, the CCCCC was established to coordinate the region's response to managing and adapting to the impacts of climate change.

As a Small Island Development State (SIDS), SVG is vulnerable to the impacts of climate change, and over time, the county has been consistently affected by extreme weather events such as tropical storms, hurricanes, intense rainfall events and droughts due to the warming conditions which have led to increases in temperature and changes in rainfall patterns.

Saint Vincent and the Grenadines is doing its very best with the institutional capacity and its policies to respond and address the adverse climate change impacts. Key strategic frameworks such as the Climate Change Policy, National Climate Change Strategy and Implementation Plan, National Determined contributions and its National Economic and Social Development Plan (NESDP) have been developed to guide the country's coordinated and strategic response to climate action in alignment with national priorities. With support from the CCCCC, the country went a step forward to complete a Readiness Needs Assessment Report and Action Plan (RNAR & AP) to address its needs by building its national capacity.

The goal of this Project is to strengthen Saint Vincent and the Grenadines' National Capacity and Climate Action by addressing their needs and implementing RNAR & AP to build the Country's Climate Resilience. This goal will be achieved by SVG's implementation of its Long-Term Readiness Action Plan to strengthen its national capacity to effectively respond and address to the impacts of climate change in a strategic, consultative, participatory, and comprehensive manner with national stakeholders to ensure country buy-in and country ownership. With the realization of the goal, it is anticipated that this will trigger a paradigm shift to the current national situation, which is hindered by various barriers, to a renewed enabling environment that will catalyze coordinated and strategic national climate action to advance the country's development and climate resilience efforts.

## **1.1. Background**

For the inhabited islands of SVG, climate variability and climate change-related factors are significantly challenging water supplies. Reductions in stream flows during the drier months are already resulting in water rationing to customers, which increases the public health risks of contamination as well as the use of unsafe sources to supplement supplies. The prolonged dry periods also exacerbate water quality problems. Bush fires during the dry season denude surfaces which when rainfall events occur increase run-off, erosion, and transport of sediments. Similar circumstances of low rainfall have affected the rainfall harvesting dependent Grenadine Islands, forcing the populations to seek alternative sources that are not only more expensive but also less safe. In 2020, SVG experienced the severe effects of a consecutive year of drought conditions. Consequently, water rationing was introduced on the mainland and water tanker services were instituted in the Grenadines as some islands ran out of potable water.

One of the major challenges for Saint Vincent is the turbidity of water. Extreme rainfall events followed by prolonged dry periods reduce the reliability and quality of the source water at systems which historically had no need for extensive treatment systems. The regular occurrence of heavy rainfall in the upstream catchments leads to high turbidity at intakes resulting in poor water quality and regular service disruptions to customers including the economically important tourism areas.

## **1.2. Statement of the problem**

In contrast to the mainland of the SVG the Grenadine Islands do not have any formal government water supply schemes. The islands such as Mustique, which host 'private' developments have their own water supply schemes, usually based on desalination. Outside of these, the residents rely on Domestic Rainwater Harvesting systems (DRWHS). The Grenadine islands are significantly drier than the mainland and do not benefit from orographic rainfall. Whilst on some of the larger islands, such as Bequia and Union, there are some groundwater sources, these are brackish and not fit for human consumption; there are no surface water resources other than ponds formed by occasional run-off. The

Grenadines experience extended dry periods and are more prone to drought conditions than the mainland. Severe drought conditions have affected the Grenadines between 2009-2010, 2014-2017 and 2019-2020, requiring water to be barged to the islands to alleviate shortages.

The capacity to respond and implement climate-resilient water management and infrastructure is being hindered by several barriers: i) a lack of organizational capability and capacity to develop evidenced-based policy, decision-making, and to implement climate change projects to increase climate resilience to climate change and climate variability, ii) a weak integrated water resources management and governance framework, iii) a lack of infrastructure to collect and store data and Inadequate access to consistent and complete hydro-climatic data with which to plan and implement climate resilient water management, iv) the absence of tools to inform climate resilient water resources management, a lack of capacity to implement non-revenue water (NRW) loss reduction and delays in implementing water systems in the Grenadines, v) a high cost of operating and maintaining networks, vi) an inadequate access to finance options to invest in climate resilient infrastructure, a lack of support for cost of service and economic incentives and a high cost of undertaking a NRW loss reduction program and lastly, vii) an inadequate understanding among stakeholders of the impact of climate change on future water resources. Lack of capacity to undertake analyses and modelling.

The project management team's role is to ensure that the team is united and focused, facilitate communication and coordination among clients and team members, and help navigate the project's ups and downs. The PM will provide strategic alignment with business goals and ensure that resources are used wisely, objectives are clear, and plans are realistic. The PM will also ensure that the interests of all stakeholders are considered, which helps ensure the team is working towards a unanimous vision and prevents potential conflicts or misunderstandings.

### **1.3. Purpose**

The Final Graduation Project (FGP) addresses the CLEAR-Water project for St. Vincent and the Grenadines and seeks to build the country's resilience to climate change impacts on the water sector by improving water resources management overall, including supply side and demand side management, the provision of water services and capacity development for managing climate change adaptation.

The project will promote a paradigm shift in the way the country adapts its water infrastructure planning, provision and governance towards climate resilient development to realize security for all, now and in the future. This paradigm shift will be brought about by addressing key challenges in data and capacity and enabling evidenced-based investment decisions that incorporate the additional stresses on water availability into the planning of climate adapted and resilient infrastructure and development.

The specific purpose of this project is to enhance regulatory, legislative and policy framework including greater regulatory or educational policy proposals to support Climate Resilient Water Resources Management. It involves updates to the existing legislative framework regarding Water Resource and Water Supply Management, including water catchment management, constituting the formulation of a plumbing code that includes provisions to support resilience-building measures. Secondly, it involves the development of a national Water Systems Performance Framework, inclusive of protocol for undertaking audits of the system and monitoring and evaluation of system performance. In addition, the Development an Emergency Response Plan for CWSA and a Drought Management Plan, including protocol, responsibilities, and mechanisms for monitoring and early warning will be examined. Lastly, it will implement a water resources stakeholder system to address complex water management problems to inform climate adaptive solutions and interventions to respond to future conditions including climate change and climate variability.

#### **1.4. General objective**

To develop a concise project management development plan to achieve the outcome of the project which is to: Strengthening institutional capacity to support Climate Resilient Water Resources Management by reducing vulnerability to climate change and enhanced awareness of and capacity to contribute to Climate Resilient Water Resources Management.

#### **1.5. Specific objectives**

1. Develop a Project Charter as a reference guide for project planning
2. Develop a Scope Management Plan to ensure that the project includes all the work required and to avoid scop creep.
3. Develop a Schedule Management Plan as guidance to the project manager and project team on how the project schedule will be maintained and controlled.
4. Develop a Cost Management Plan to determine how financial resources will be estimated, managed and allocated to prevent cost overrun.
5. Develop a Stakeholder Management Plan to identify all stakeholders, to determine the role of each stakeholder, ensure stakeholder “buy in” and manage stakeholder expectations.
6. Design a Communications Management Plan to determine how project information will be distributed and managed among all stakeholders.
7. Design a Quality Management Plan to identify and determine how the quality standards will be attained and maintained throughout the project life cycle.
8. Develop a Risk Management Plan to identify risks and opportunities associated with the project and determine risk mitigation efforts.
9. Design a Procurement Management Plan for the timely, transparent and fair acquisition of services and goods for the project.
10. Develop a Resource Management Plan for the accurate assignment and management of the project resources.

## **2 THEORETICAL FRAMEWORK**

The FGP theoretical framework establishes the organization's background, mission, vision, organizational structure, strategy, as well as the products offered by the company. It also demonstrates the theories which are applicable to this project.

### **2.1. Company/Enterprise framework**

The CCCCC business framework is a system of rules that are used to govern our process or decisions. They help ensure that the output of decisions or processes is consistent, of a high standard, and aligned with an organization's principles, values, and goals.

#### **2.1.1 Company/Enterprise Background**

Officially opened in August 2005, the Caribbean Community Climate Change Centre (CCCCC) was established to coordinate the region's response to managing and adapting to the impacts of climate change. At the regional level, the work of the CCCCC's is driven by the Caribbean Community's (CARICOM) Regional Framework for Achieving Development Resilient to Climate Change. Internally, operations are guided by the organization's Strategic Implementation Plan.

Among the objectives the CCCCC seeks to deliver on are: Support the protection of the climate system of Members States for the benefit of present and future generations and their peoples. Enhancing regional institutional capabilities for the coordination of national responses to the negative effects of climate change. Provide comprehensive policy and technical support in climate change and related issues and spearheading regional initiatives in those areas as well as performing the role of executing agency for regional environmental projects relating to climate change. Perform the role of executing agency for regional environmental projects relating to climate change.

In support of this role, the Centre is also host to the largest repository of information and data on climate change specific to the region. The Centre is recognized by the United

Nations Framework Convention on Climate Change (UNFCCC), the United Nations Environment Programme (UNEP), the United Nations Institute for Training and Research (UNITAR) and other international agencies as the focal point for climate change responses in the Caribbean. The Centre plays an essential role in providing climate change-related policy advice and guidelines to CARICOM member States.

In July 2015 the Centre was accredited to the Green Climate Fund (GCF) and became eligible to submit project proposals/programs valued at US\$10 to 50 million per project/program. The CCCCC has since been working with countries to develop concepts and proposals for submission to the GCF and other international sources of financing.

### **2.1.2 Mission and Vision Statements**

**Our Vision:** A resilient and sustainable Caribbean region for all (CCCCC, 2024).

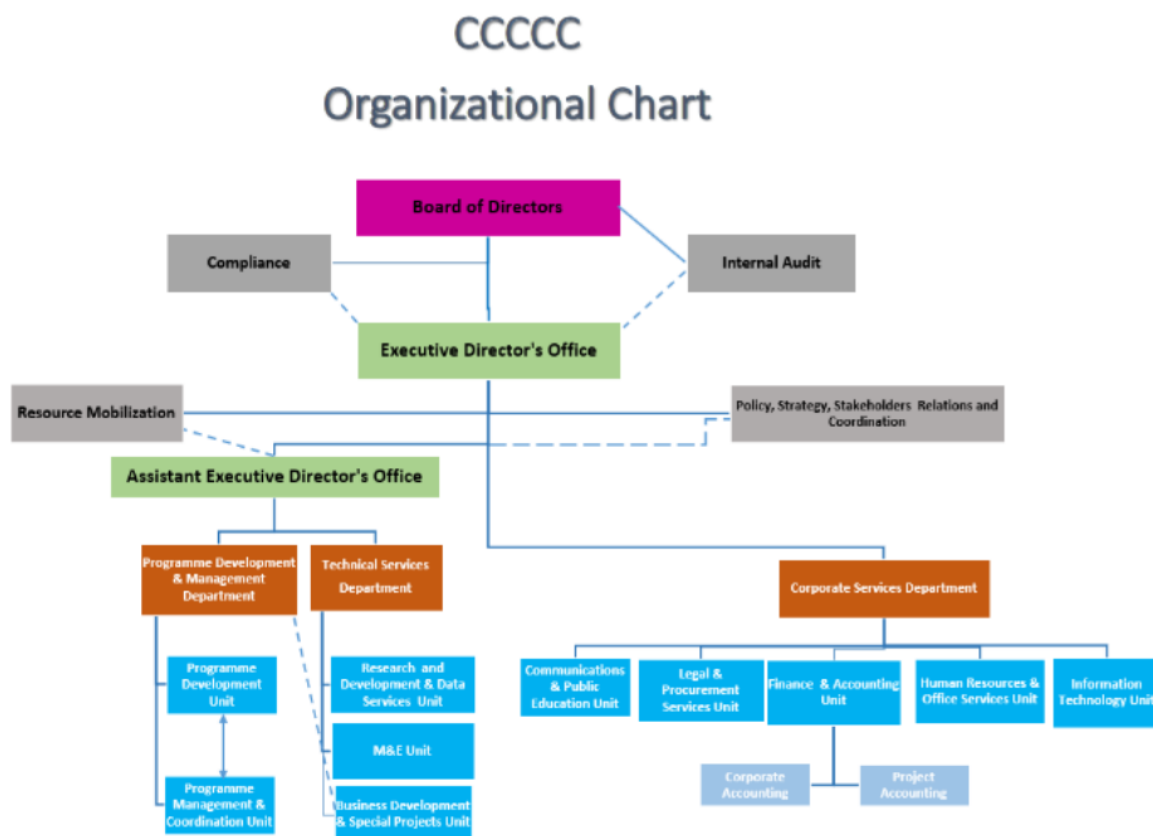
**Our Mission:** The CCCCC will initiate and coordinate the delivery of innovative, transformative and evidence-based climate change solutions to improve the resilience of the Caribbean and its people (CCCCC, 2024).

This FGP demonstrates that the CCCCC is fulfilling its mandates as mentioned in our vision and mission statements as the projects is to address the barriers of inadequate organizational capability and capacity to develop evidenced-based policy, decision-making, and to implement climate change projects to increase climate resilience to climate change and climate variability.

### **2.1.3 Organizational Structure**

The CCCCC is the only regional institution established specifically to address the impacts of Climate Change. The CCCCC operates as a Caribbean Community (CARICOM) agency. It is overseen by a Board of Directors selected by the Council of Ministers designated for this purpose by the CARICOM Heads of Government.

Figure 1 Organizational Structure CCCC



#### 2.1.4 Products Offered

##### Information for decision-making (CCCCC, 2024)

**Regional Clearing House:** The Regional Clearing House is a proactive, information-exchange facility which aids and supports stakeholders in accessing and sharing information. The CCCC has available climate change information from global and regional sources and ensures that the information is available to key national and regional organizations, agencies or individuals.

**Climate Modelling:** The CCCC, in cooperation with international partners such as the Hadley Centre of the United Kingdom, the Cuban Institute of Meteorology and the Climate Studies Group of the University of the West Indies in Jamaica and Barbados including the Japanese Meteorological Agency is downscaling Global Climate Models to

produce regional outputs that are specific and useful to the Caribbean. Scientists and other experts will be able to use the data and information from the regional modelling to plan and advise governments on adaptation to climate change.

**Environmental Scan:** The CCCCC has access to the necessary information and expertise to identify climate-related threats and would be an integral part of any regional early-warning system. At the same time, the CCCCC provides assistance to its stakeholders including regional governments, the private sector, financial institutions and voluntary organizations to develop and implement adaptation strategies based on scenarios developed by the CCCCC.

**LIDAR surveys:** The CCCCC is in the process of developing an Advanced Airborne Research LIDAR system which is expected to provide unique capabilities to conduct surveys on:

- nearshore bathymetry and topography,
- coral reefs,
- benthic habitats
- coastal vegetation, and
- sandy beaches

Operating in the blue-green portion of the electromagnetic spectrum, the CCCCC's LIDAR system is specifically designed to measure submerged topography and adjacent coastal land elevations seamlessly in a single scan of transmitted laser pulses.

Project Development and Support

### **Project Development and Support (CCCCC, 2024)**

**Accredited Regional Implementing Entity:** The CCCCC is an Accredited Regional Implementing Entity (RIE) to the UNFCCC Green Climate Fund (GCF) and the Adaptation Fund. As an RIE the Centre can receive direct financial transfers from these funds in order to carry out adaptation and mitigation projects and programs.

The CCCCC has the capacity to: Support national governments or institutions in the formulation of projects for submission to these funds; or Act as the Implementing Entity for projects on behalf of national governments or institutions

**Project Development:** Since 2006 the CCCCC has functioned as a project executing agency for development partners and National Governments.

The CCCCC develops and conducts appropriate training courses for different organizations and levels of management on climate change related issues. These include technical areas like the use of climate models, capacity building in the assessment and monitoring of climate impacts, use of tools developed by the CCCCC e.g. the Caribbean Climate Online Risk and Adaptation tool (CCORAL), proposal writing and negotiations (CCCCC, 2024).

#### **Consultancy services (CCCCC, 2024)**

The CCCCC can conceptualize, plan, develop, implement, monitor and evaluate projects and programs in areas related to climate change (e.g. biodiversity, alternate energy, appropriate technology transfer).

#### **Joint venture services (CCCCC, 2024)**

The CCCCC provides collaborated joint venture research and development in renewable energy projects both with the public and private sectors.

## **2.2. Project Management Concepts**

Projects and temporary endeavors that have a definitive start and end date. They are unique in the sense that they may be implemented in many ways and will have different desired outcomes. Projects have a dedicated team, budget, and schedule. The project is considered complete once the desired outcomes are achieved.

This FGP includes the system for delivery of value by the CCCCC which utilizes a portfolio for each donor which is then further disaggregated into specific programs such as

renewable energy, food security, waters sector management, drainage and infrastructure etc. Projects are then developed and implemented in conjunction with our delivery partners to ensure that we can fulfil their strategic objectives.

## **2.2.1 Project Management Principles**

According to PMI (2017) there are 12 project management principles:

### **2.2.1.1 Stewardships**

This concept requires project managers to ensure that organization's goals, strategy, mission, and vision are achieved while also creating long term value for the organization. These objectives will only be achieved by ensuring that all members of the organization are treated with respect, and all are given equal treatment. The responsible use of the organization's materials and resources as well as building lasting relationships with partners and stakeholders should be prioritized. Good stewardship also takes into account yeh organizations impact on the external environment by ensuring that projects are environmentally sustainable and impactful for local communities, and the regions where they operate.

### **2.2.1.2 Collaborative Team Environment**

To create collaborative team environments the team objectives and goals must be clearly articulated. All team members should be invited to participate in planning and the process of delivery should be clearly defined. Communication must flow up, down and across all lines of the team structure and each team members roll, and responsibility should be established. The team leader must be trusted by all members of the team when it comes to decision-making, and the team leader should ensure that they maintain that trust by considering all perspectives, data, and risks prior to making a decision.

### **2.2.1.3 Effectively Engage with Stakeholders**

To effectively engage stakeholders a stakeholder analysis must be undertaken to identify who your stakeholders are, their interests, and how the project might affect them. This can be done using surveys, interviews, and stakeholder mapping. Stakeholders should engage very early in the project lifecycle and information about project goals, progress, and challenges should be clearly articulated so as to foster transparency, credibility and confidence in your ability to meet the project objectives.

### **2.2.1.4 Focus on Value**

Value is the measure of how well a project meets its intended goals as well as what the project has contributed to larger programs or portfolios.

### **2.2.1.5 Recognize, Evaluate, and Respond to System Interactions**

Projects are part of larger systems, and understanding these connections is essential for coordinated success. A small change in one area can trigger cascading effects throughout the project. Project teams are diverse and effective systems thinking promotes integration and shared vision among team members.

### **2.2.1.6 Demonstrate Leadership Behaviors**

Accountable leadership fosters trust, engagement, and productivity by emphasizing consistency, ownership, sound decision-making, effective feedback, and clear communication. These behaviors establish a positive workplace culture, improve employee satisfaction, and align leaders' actions with their words.

### **2.2.1.7 Tailor Based on Context**

Customizing the project management methodology to what is most suitable for use in specific types of projects to reflect the size, complexity and duration of the project as appropriate facilitates effective and efficient project implementation.

### **2.2.1.8 Build quality into processes and deliverables**

Understanding and effectively applying the SCRUM framework is key to ensuring quality in every increment of product development. In Scrum, quality is not an afterthought but is built into every step of the process which will ensure that the project meets stakeholder expectations.

### **2.2.1.9 Navigate complexity**

Navigating complexities has been a key factor in implementing projects with large geographic footprints, multiple stakeholders, large budgets, complex environmental factors and high stakeholder expectations. However, as complexity increases, so does the added value to be derived from the project.

### **2.2.1.10 Optimize risk responses**

Choosing to avoid a risk essentially ensures that that risk poses no threat to your project or organization. If the risk is only just above the threshold of your risk appetite then reduction of the risk is a reasonable strategy. Transferring the responsibility of the risk to a third-party is also a good strategy. However, organizations or projects may opt to accept a risk if the impact is low.

### **2.2.1.11 Embrace adaptability and resiliency**

The organization's willingness to embrace change and accept challenges is key to effective project implementation. The capacity to navigate difficult situations with flexibility and grace is crucial for growth and success.

### **2.2.1.12 Enable change to achieve the envisioned future state**

Change is inevitable and embracing it is essential for building resilience. Organizations must embrace uncertainty and take risks as natural byproduct of organizational growth.

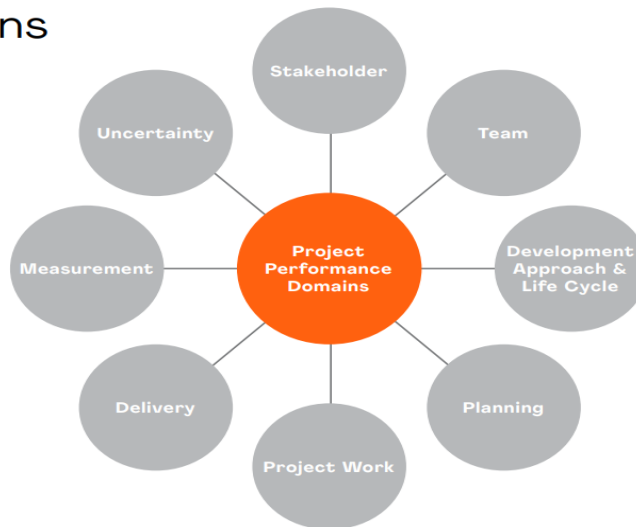
This FGP project, CLEAR-Water, Saint Vincent and the Grenadines demonstrates that is essential to build resilience and capitalize on the opportunities for growth and learning.

This project will create a strengthened institutional and enabling environment to support Climate Resilient Water Resources Management. The intention is have meaningful, effective and informed consultation processes that meet specified criteria, including free of intimidation and external manipulation; inclusive; gender and age responsive; culturally appropriate and tailored to language preferences It will ensure that stakeholder analysis and engagement are conducted in a gender-responsive, culturally sensitive, non-discriminatory and inclusive manner, identifying potentially affected vulnerable and marginalized groups and providing them opportunities to participate. The physical components of the project deal with primarily minor infrastructure developments and improvements of the existing water supply system on the mainland and in the Grenadines. There are no unusual risks. No negative irreversible environmental impacts are expected. The main risks of the SVG-CLEAR-Water program are weather or non-weather-related natural disasters, the timely construction of the infrastructure and supply interruptions. The program implementation duration provides sufficient flexibility for implementation. In addition, the SVG-CLEAR-Water program will work closely with a team of experienced engineers to come up with a realistic schedule and an effective monitoring process for time, cost and quality of the implementation.

## 2.2.2 Project Management Domains

Figure 2 Organizational Structure CCCC

### Project Performance Domains



According to PMI 2017 a Project Performance Domain is a group of related activities that are critical for the effective delivery of project outcomes. There are eight project performance domains.

1. Stakeholder Performance Domain addresses activities and functions associated with stakeholders
2. Team Performance Domain addresses activities and functions such as shared ownership of the project and its deliverables, team performance and interpersonal skills.
3. The Development Approach and Life Cycle Performance Domain is specific to the decisions about the project methodology and pace of project development and delivery made as project manager.
4. Planning Performance Domain address agreed timelines include the ongoing and evolving coordination required to successfully meet the project's goals.

5. Project Work Performance Domain establishes the appropriate project process such as managing resources, procurement, financial management etc.
6. Delivery Performance Domain ensures that the project delivers on the required scope and quality.
7. Measurement Performance Domain includes everything you'll need to do to assess project performance, as well as any actions you might need to take to maintain an acceptable level of performance.
8. Uncertainty Performance Domain seeks out and attempts to identify potential risks.

This FGP project, ClEAR-Water, Saint Vincent and the Grenadines, will undergo extensive stake holder consultation during the project development phase as well as during the implementation phase. It will be managed by two teams, one from the CCCCC consisting of a project manager, accountant and procurement officer and administrative staff support. The second team will be based in Saint Vincent and the Grenadines and will comprise of technical personal such as an engineer, water quality engineer as well as administrative staff support. Members of the Central Water & Sewerage Authority (CWSA) will also provide sector policy guidance and approvals. The project lifecycle will be similar to those adopted by the CCCCC for all projects (*project initiation, planning, execution, monitoring and control and project closure*). Project initiation and planning will be done in collaboration with all stakeholders in this case the Government of Saint Vincents and the Grenadines, CWSA and the people of Saint Vincents and the Grenadines. The actual project work will be outsourced to independent consultants and contractors under the supervision of the 2 project management teams. Project progress will be monitored against key milestones agreed to at the beginning of the project. Project quality will be monitored biannually using an M and E Specialist employed by the center. Financial compliance will be undertaken annually through financial audits by competitively selected auditors. Risk management plans will be formulated during the project initiation phase and monitored and updated on an as needed basis.

### **2.2.2.1 Predictive, adaptive, and hybrid projects**

Predictive project management follows a linear and structured process. It is best suited for projects with well-defined requirements, where changes are minimal, and the scope is clear from the outset (Project Management Academy, 2024). The scope is defined upfront, with minimal changes during the project. The project progresses in a sequential manner through predefined phases such as initiation, planning, execution, monitoring, and closure. A comprehensive project plan is developed at the start, including detailed timelines, budgets, and deliverables. Control, monitoring, and managing are key for effective project execution. Risks are identified and planned for and there is significant stakeholder engagement through all processes.

Also known as Agile or Iterative project management, adaptive project management embraces flexibility, change, and iterative development. It is ideal for projects where the requirements are likely to evolve or where innovation and experimentation are key components (Project Management Academy, 2024). This approach utilizes flexibility to adapt to changing requirements or customer feedback throughout the project. It requires frequent testing and validation of deliverables and encourages collaboration and communication between teams and stakeholders.

Hybrid approaches that combine elements of both predictive and adaptive project management. These hybrid methodologies, such as Agile-Waterfall or Agile at Scale, allow organizations to maintain some structure while incorporating flexibility where needed.

This FGP project, CLEAR-Water, Saint Vincent and the Grenadines will utilize a hybrid approach. Considering that most projects undertaken by the CCCCC must be approved by the project Donor, changes to the scope of the project cannot be conducted only by the CCCCC and the stakeholders. Any major changes required by the project must undergo approval by the donor, particularly changes that have time and cost implications.

### 2.2.2.2 Project Management

Project management is the application of specific knowledge, skills, methodologies, and techniques to achieve specific and measurable project goals, including successful project completion. Project managers direct team efforts, navigate day-to-day challenges, implement project management strategies, and more. Ultimately, they are responsible for the submission of key deliverables and the successful execution of the entire project.

### 2.2.2.3 Project Management Knowledge Areas and Processes

**Figure 3 Project Management Knowledge Areas and Processes**



There are ten knowledge areas according to Project Management Institute, 2017:

- 1) Project Integration Management: Ensuring all project elements work together.  
Example: Developing a project management plan that aligns with the project's goals and objectives.
- 2) Project Scope Management: Defining, verifying, and controlling the project's scope.  
Example: Creating a detailed project scope statement.

- 3) Project Schedule Management: Developing and controlling the project schedule.  
Example: Creating a Gantt chart to display project timelines.
- 4) Project Cost Management: Estimating, budgeting, and controlling project costs.  
Example: Developing a project budget.
- 5) Project Quality Management: Ensuring the project meets quality standards. Example:  
Conducting quality audits.
- 6) Project Resource Management: Managing human and physical resources. Example:  
Assigning team members to project tasks.
- 7) Project Communications Management: Ensuring effective project communication.  
Example: Creating a communication plan.
- 8) Project Risk Management: Identifying and managing project risks. Example:  
Conducting a risk analysis.
- 9) Project Procurement Management: Procuring goods and services from external  
sources. Example: Selecting a vendor through a procurement process.
- 10) Project Stakeholder Management: Managing stakeholder expectations and  
engagement. Example: Holding regular stakeholder meetings.

A project management process group is collection of processes designed to achieve specific outcomes (Project Management Institute, 2017).

1. Initiation: “process carried out to define a new project or new phase of an existing project by obtaining authorization to start the project or phase” (Project Management Institute, 2017)
2. Planning: “processes required to establish the scope of the project, refine the objectives and define the course of action required to achieve the proposed objectives of the project” (Project Management Institute, 2017).
3. Execution: “processes performed to complete the work defined in the project management plan to satisfy the project requirements” (Project Management Institute, 2017)
4. Monitoring and Control: “processes required to track, analyze and regulate the progress and performance of the project, to identify areas in which the plan requires

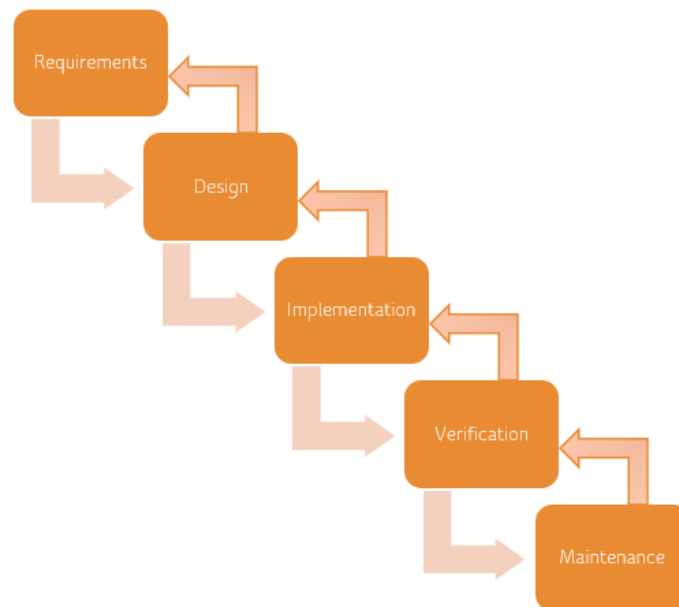
changes and to initiate the corresponding changes” (Project Management Institute, 2017)

5. Closing: “processes carried out to formally complete or close the project, phase or contract” (Project Management Institute, 2017).

#### 2.2.2.4 Project life cycle

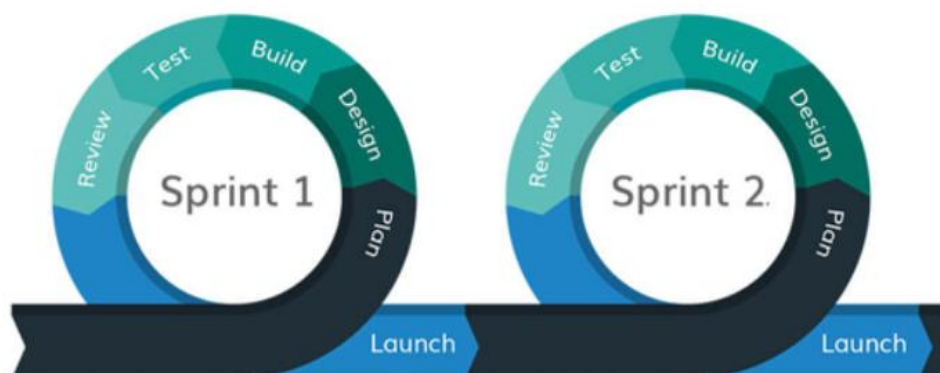
Predictive life cycle is where you are predicting what will happen, preparing the best plan possible accordingly and then following it.

**Figure 4 Predictive Life Cycle**



Adaptive life cycle is repeated several times, and the changes can be easily accommodated in the next iteration without disrupting the work. In addition to providing an opportunity to accommodate changes, each iteration also provides the opportunity to incorporate feedback and even change the scope of the project

**Figure 5 Adaptive Life Cycle**



Iterative life cycle is closer to predictive life cycle. Although iterations are used to accommodate changes in scope, cost or schedule, the project team still tries to plan as much work upfront as possible.

#### **2.2.2.5 Company strategy, portfolios, programs and projects**

The Strategic and Implementation Plan (SIP) 2021-2025 reflects the results of a participatory process involving a wide range of stakeholders. Through the CCCCCs actions at the regional level, the Strategy is also linked to how the region is contributing, through learning from experiences, research and implementation to global climate change discourse (Le Groupe-conseil baastel ltée, 2021). This SIP will transform the regional development landscape and significantly move the climate change agenda forward. This SIP will provide guidance for the development and implementation of the work programs of the CCCCC. Several key elements will contribute to the sustainability of the SIP 2021-2025. The program will build on the existing strategic partnerships and in collaboration with CARICOM Member States. Strengthened governance and management structures at all levels, including in CARICOM Member States and the clarification of the roles and responsibilities for all stakeholders, will enhance coordination and alignment and support coherence in SIP implementation (Le Groupe-conseil baastel ltée, 2021).

Other important elements to ensure sustainability for implementation of SIP 2021-2025 include (Le Groupe-conseil baastel ltée, 2021):

1. Availability of adequate and predictable resources to support implementation of activities especially priority actions.
2. Extensive knowledge sharing and training at the national level will enhance political will and capacity to achieve the desired impact.
3. Enhancement of technical capacity in results-based management (RBM) and monitoring, evaluation and reporting.
4. Ensuring strong, consistent and timely communications and engagement with the relevant stakeholders at international, regional and to the extent possible at national levels.
5. Continuously seek funding support from a variety of sources (domestic and external) to undertake implementation of critical and catalytic program activities.
6. Gaining support from a wide cross-section of stakeholders such as specialized interest groups, academia, civil society, the private sector and those involved in the Regional Coordinating Committee on Climate Change so as to provide the basis for broad based consultations and consensus on relevant issues. Apart from the conglomeration of ideas and perspectives, this will also be useful in facilitating ownership and building capacity for implementation.
7. Increased use of climate change data/information for evidence-based decision making.
8. Ability of the Centre to implement institutional capacity strengthening measures as highlighted under SO5 and detailed in the Capacity Development Plan.

The success of the implementation of SIP 2021-2025 will depend heavily on the CCCCC's ability to monitor and evaluate its work and to make appropriate adjustments to the design and implementation of its initiatives based on results achieved (CCCCC SIP, 2021).

Figure 6 Strategic Objective Snapshot (Le Groupe-conseil baastel ltée, 2021)

Caribbean Community Climate Change Centre Strategic and Implementation Plan 2021-2025

Figure 14: Strategy at a Glance

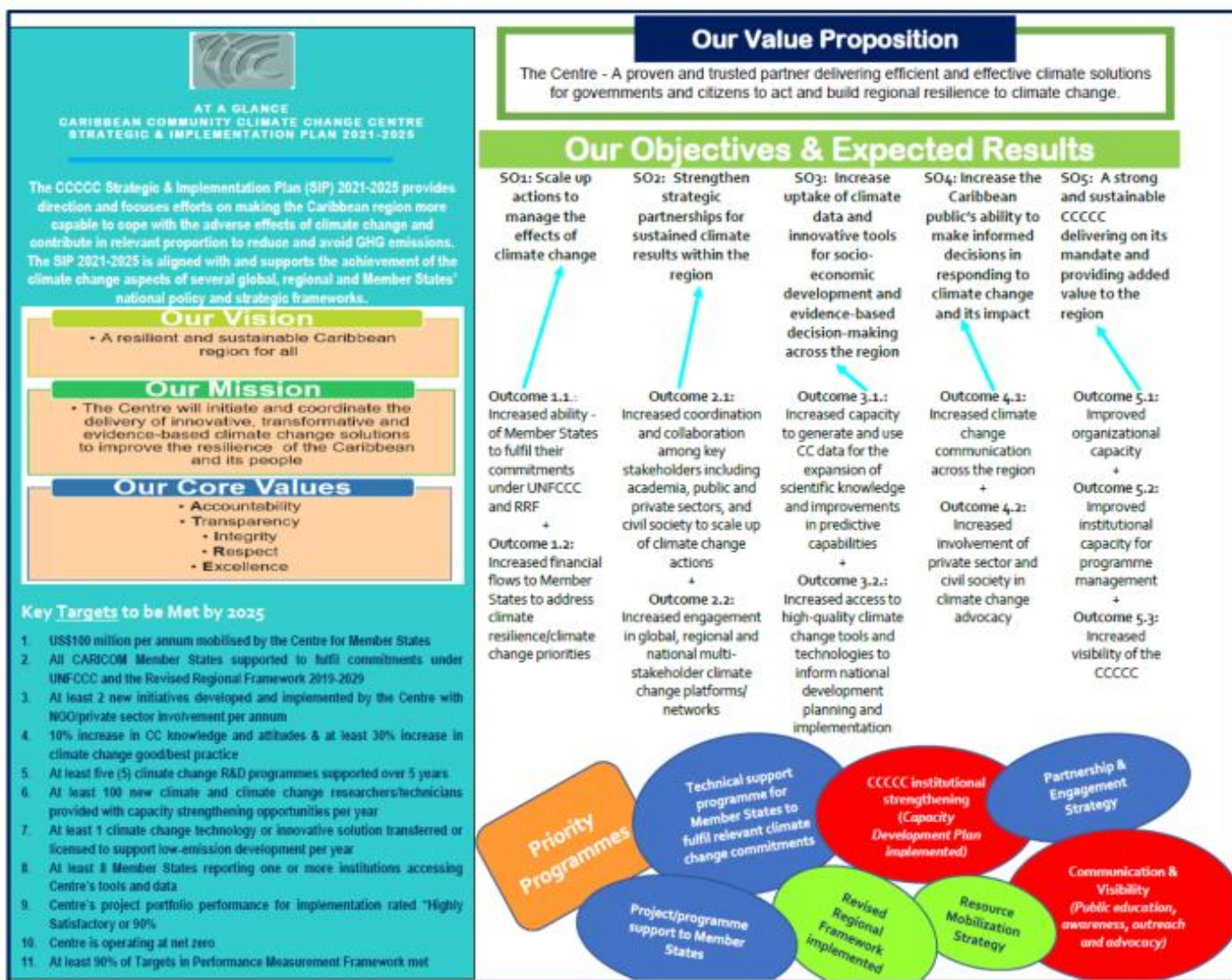


Table 1 Portfolio /Projects (Le Groupe-conseil baastel ltée, 2021)

Outputs	Priority Activities	Timeframe					Budget (Indicative)	Responsibility
		2021	2022	2023	2024	2025		
<b>SO1: Scale up actions to manage the effects of climate change</b>								
<b>Outcome 1.1.:</b> Increased ability of Member States to fulfil their commitments under United Nations Framework Convention on Climate Change (UNFCCC) and the Revised Regional Framework 2019-2029								
<b>Output 1.1.1</b> Revised Regional Framework 2019-2029 adopted in Member States	<b>1.1.1.1</b> Facilitate endorsement of Revised Regional Framework 2019-2029 (H)	X						
	<b>1.1.1.2</b> Complete revision of Implementation Plan for the Revised Regional Framework and facilitate endorsement of Implementation Plan by CARICOM Heads of Government (H)		X					
	<b>1.1.1.3</b> Assist Member States to incorporate goals and strategic elements of the Revised Regional Framework 2021-2029 into sectoral and national development plans (H)	X	X	X	X	X		
	<b>1.1.1.4</b> Improve awareness of Revised Regional Framework and Implementation Plan among CARICOM Member States (H)	X	X	X	X	X		
<b>Output 1.1.2:</b> Technical assistance provided to Member States to implement resilience-building solutions	<b>1.1.2.1</b> Provide technical support to Member States to fulfil UNFCCC commitments including delivering on NDC commitments (H)	X	X	X	X	X		
	<b>1.1.2.2</b> Support Member States to implement transformative initiatives to support resilience-building solutions <sup>1</sup> (H)	X	X	X	X	X		
<b>Output 1.1.3:</b> Member States facilitated to	<b>1.1.3.1</b> Provide sensitization sessions to Member States on the various aspects and processes of the UNFCCC including to formulate NDCs/NAPs <sup>2</sup> (M)	X	X	X	X	X		

<sup>1</sup> Refers to south-south cooperation; exchanges between regions/states.

<sup>2</sup> 1 Regional workshop per year over 5 years @ \$10K per year.

Outputs	Priority Activities	Timeframe					Budget (Indicative)	Responsibility
		2021	2022	2023	2024	2025		
<i>understand the UNFCCC process</i>	<b>1.1.3.2</b> Develop an online, user-friendly and easily updated “How To” Manual and PPT to improve Member States understanding of UNFCCC’s requirements <b>(M)</b>		X	X				
							<b>1,225,000</b>	
<b>Outcome 1.2.:</b> Increased finance flows to Member States to address climate resilience/climate change priorities								
<b>Output 1.2.1:</b> <i>Member States facilitated to access financing</i>	<b>1.2.1.1:</b> Provide technical support to Member States to design and implement CC programs/projects <b>(H)</b>	X	X	X	X	X		
	<b>1.2.1.2:</b> Strengthen capacity of Member States to access finance <b>(M)</b>	X	X	X	X	X		
	<b>1.2.1.3:</b> Develop strategic relations and partnerships with existing and new funding entities <b>(H)</b>	X	X	X				
	<b>1.2.1.4:</b> Support/provide required guidelines for Member States to access the Centre’s strong and responsive project pipeline <b>(H)</b>	X			X			
<b>Output 1.2.2:</b> <i>Financing from non-traditional partners mobilized</i>	<b>1.2.2.1:</b> Engage with non-traditional sources Mobilize funding from innovative financial instruments including debt for climate swaps and green bonds etc. <b>(H)</b>	X	X	X	X	X		
	<b>1.2.2.2:</b> Enable the crowding in of private sector financing at scale <b>(M)</b>	X	X	X	X	X		
							<b>7,912,000</b>	
<b>SO2: Strengthen strategic partnerships for sustained climate change results within the region</b>								
<b>Outcome 2.1.:</b> Increased coordination/collaboration among key stakeholders including private sector and civil society to scale up climate change actions								
<b>Output 2.1.1:</b> <i>Partnership mechanisms expanded to support program implementation/expansion</i>	<b>2.1.1.1:</b> Develop, approve and implement Partnership Engagement Strategy <b>(M)</b>	X	X	X	X	X		
	<b>2.1.1.3:</b> Strengthen strategic engagements/alliances with key partners to support program planning and implementation, advocacy, public awareness, etc. <b>(H)</b>	X	X	X	X	X		
<b>Output 2.1.2:</b> <i>Strategic engagements with non-traditional partners facilitated</i>	<b>2.1.2.1:</b> Engage with new regional and global partners, including non-English speaking entities to support initiatives (including technical assistance/transformational solutions) <b>(H)</b>	X	X	X	X	X		
	<b>2.1.2.2:</b> Engage philanthropic organizations to support the Centre’s initiatives <b>(H)</b>	X	X	X	X	X		

Outputs	Priority Activities	Timeframe					Budget (Indicative)	Responsibility
		2021	2022	2023	2024	2025		
						<b>345,000</b>		
<b>Outcome 2.2.:</b> Increased engagements in global, regional and national multi-stakeholder climate change networks								
<b>Output 2.2.1:</b> <i>Climate change networks/ memberships expanded</i>	<b>2.2.1.1:</b> Plan, host and participate in regional CC conferences and exhibitions <sup>3</sup> (M)	X	X	X	X	X		
<b>Output 2.2.2:</b> <i>Member States supported to participate in global, regional and national climate change networks</i>	<b>2.2.2.1:</b> Strengthen the coordination of Member States and increase participation in regional and global dialogue and to undertake negotiations on CC (M)	X	X	X	X	X		
	<b>2.2.2.2:</b> Engage vulnerable groups (including women and youth) to effectively participate in CC dialogue and action (M)	X	X	X	X	X		
						<b>4,150,000</b>		
<b>SO3: Increase the uptake of climate data and innovative tools for socio-economic development and evidence-based decision-making across the region</b>								
<b>Outcome 3.1.:</b> Increased capacity to generate and use climate change data for the expansion of scientific knowledge and improvements in predictive capabilities								
<b>Output 3.1.1:</b> <i>Integrated, interdisciplinary and targeted climate change research and development programs implemented</i>	<b>3.1.1.1</b> Support targeted institutions to strengthen climate data collection, analysis, information management, sharing and reporting capabilities (H)	X	X	X	X	X		
	<b>3.1.1.2:</b> Conduct a stock taking and data/human capacity gaps analyses of the instrumentation network (H)	X	X					
	<b>3.1.1.3:</b> Encourage and support dissemination of climate change research findings including in easy-to-understand language and via non-traditional media (M)	X	X	X	X	X		
<b>Output 3.1.2:</b> <i>Pool of climate and climate researchers and technicians expanded</i>	<b>3.1.3.1.:</b> Develop new or expand capacity development programs/ initiatives including internship, mentorship, coaching and scholarship programs (M)	X	X	X	X	X		
						<b>750,000</b>		
<b>Outcome 3.2.:</b> Increased access to high-quality climate change tools and technologies to strengthen national development planning and implementation								
<b>Output 3.2.1:</b> <i>Member States provided with tools</i>	<b>3.2.1.1.:</b> Assess Member States needs for tools and technologies to address climate change priorities (M)	X	X					

<sup>3</sup> Similar to the one held in T&T.

Outputs	Priority Activities	Timeframe					Budget (Indicative)	Responsibility
		2021	2022	2023	2024	2025		
<i>and technologies to address climate change challenges</i>	<b>3.2.1.2.:</b> Support Member States to adapt and use CC tools and technologies (M)		X	X	X	X		
<b>Output 3.2.2.:</b> <i>Cooperation initiatives expanded with research institutes and networks to develop new tools/solutions to address climate change challenges</i>	<b>3.2.2.1.:</b> Undertake/support joint research of current, new and innovative technologies (M)		X	X	X	X		
	<b>3.2.2.2.:</b> Advocate for technology transfers and low carbon technology adoption within Member States (M)		X	X	X	X		
							<b>830,000</b>	
<b>SO4: Increase the Caribbean public's ability to make informed decisions in responding to climate change and its impacts</b>								
<b>Outcome 4.1.</b> Increased climate change communication across the region								
<b>Output 4.1.1:</b> <i>Public education, awareness and outreach initiatives on climate change implemented</i>	<b>4.1.1.1:</b> Implement public education, awareness and outreach initiatives in keeping with the Centre's Communication Strategy (M)	X	X	X	X	X		
	<b>4.1.1.2.:</b> Develop, promote and disseminate climate change <i>knowledge products</i> in easily understood language (M)	X	X	X	X	X		
	<b>4.1.1.3.:</b> Support curricula review and the development of learning materials to integrate climate change into education system <sup>45</sup> (M)		X	X	X	X		
	<b>4.1.1.4:</b> Support decision/policy makers (local, regional and national) to advocate for climate change issues including development/revision of relevant policies/laws (M)	X	X	X	X	X		
<b>Output 4.1.2</b> <i>Social marketing and behavior change initiatives implemented</i>	<b>4.1.2.1:</b> Implement activities highlighted in Communication Strategy relevant to <i>social marketing and behavior change</i> (M)		X	X	X	X		
							<b>2,050,000</b>	

<sup>4</sup> Pattern the successful 1.5 Stay Alive initiative for schools in Belize in other Member States.

<sup>5</sup> Ensure consultation/collaboration with the Caribbean Examination Council (CXC).

Outputs	Priority Activities	Timeframe					Budget (Indicative)	Responsibility
		2021	2022	2023	2024	2025		
<b>Outcome 4.2.: Increased involvement of private sector and civil society in climate change advocacy</b>								
<b>Output 4.2.1:</b> Private sector and civil society organizations including faith based, women and youth-led organizations supported to build or improve their climate change literacy and advocacy	<b>4.2.1.1:</b> Design/develop/deliver specific programs/courses for target audience to improve their climate literacy and advocacy (M)	X	X	X	X	X		
	<b>4.2.1.2:</b> Undertake capacity building/strengthening programs for targeted groups on how to conduct policy and regulatory reviews, lobby for changes and get heard (M)	X	X	X	X	X		
	<b>4.2.1.3:</b> Convene sessions with private sector entities, decision-makers, civil society organizations or influencers across the region to support engagement with governments of Member States(H)	X	X	X	X	X		
<b>Output 4.2.2:</b> Partnerships established with Member States' MDAs <sup>6</sup> responsible for women, youth and other vulnerable groups to raise awareness about climate change issues within these groups	<b>4.2.2.1:</b> Identify and engage with responsible entities in Member States (H)	X	X	X	X	X		
	<b>4.2.2.2:</b> Develop MOU for integrated communication and collaboration and facilitate joint awareness programs (M)	X	X	X	X	X		
	<b>4.2.2.3:</b> Convene workshops with MDAs and civil society groups to raise public awareness about CC (M)	X	X	X	X	X		
	<b>4.2.2.4:</b> Coordinate/collaborate to undertake research on burning climate change issues and to disseminate findings (M)		X	X	X	X		
							<b>1,815,000</b>	
<b>SO5: A strong and sustainable Caribbean Community Climate Change Centre delivering on its mandate and providing added value to the region</b>								
<b>Outcome 5.1.: Improved organizational capacity</b>								
<b>Output 5.1.1.:</b> Initiatives to empower and motivate Centre staff implemented	<b>5.1.1.1.:</b> Strengthen human resource capacity of the Centre in keeping with the recommendations of the Capacity Development Plan (H)	X	X					
	<b>5.1.1.2.:</b> Implement staff engagement and motivation initiatives (H)	X	X	X	X	X		

<sup>6</sup> Ministries/Departments/Agencies

Outputs	Priority Activities	Timeframe					Budget (Indicative)	Responsibility
		2021	2022	2023	2024	2025		
	<b>5.1.1.3.:</b> Develop/update (as relevant) HR policies and procedures to support the Centre's operation <b>(H)</b>	X	X					
<b>Output 5.1.2:</b> <i>Organizational sustainability framework implemented</i>	<b>5.1.2.1.:</b> Strengthen Centre's governance and accountability mechanisms <b>(H)</b>		X	X	X	X		
	<b>5.1.2.2.:</b> Implement resource mobilization measures in keeping with Resource Mobilization Strategy <b>(H)</b>	X	X	X	X	X		
	<b>5.1.2.3.:</b> Integrate/incorporate risk management ethos and implement risk management strategies (ERM and staff training) <b>(M)</b>		X	X	X	X		
	<b>5.1.2.4.:</b> Undertake and complete GCF re-accreditation, Adaptation Fund accreditation and EU Pillar assessment <b>(H)</b>	X	X	X				
<b>Output 5.1.3:</b> <i>Framework for monitoring, evaluation, reporting and learning implemented</i>	<b>5.1.3.1:</b> Finalize and start implementation of the results-based MEL Framework <b>(M)</b>	X	X					
	<b>5.1.3.2:</b> Undertake all routine monitoring, evaluation, learning and reporting actions with respect to SIP 2021-2025 <b>(H)</b>	X	X	X	X	X		
<b>Output 5.1.4:</b> <i>A modern Information and Communications Technology (ICT) infrastructure enabling organizational performance</i>	<b>5.1.4.1:</b> Strengthen the human resource capacity of the ICT Unit <b>(H)</b>	X	X	X	X	X		
	<b>5.1.4.2:</b> Strengthen the integration of ICT in all aspects of the Centre's operations <b>(H)</b>	X	X	X	X	X		
	<b>5.1.4.3:</b> Review and upgrade the Centre's software architecture for climate change tools and improve data capture and analysis <b>(H)</b>		X	X	X	X		
							<b>6,725,000</b>	
<b>Outcome 5.2.:</b> Improved institutional capacity for program management								
<b>Output 5.2.1.:</b> <i>Centre's management tools,</i>	<b>5.2.1.1.:</b> Undertake review of the Centre's operations and workflow processes and implement recommendations <sup>7</sup> <b>(H)</b>							

<sup>7</sup> Integration of ICT.

Outputs	Priority Activities	Timeframe					Budget (Indicative)	Responsibility
		2021	2022	2023	2024	2025		
<i>processes and systems enhanced</i>	<b>5.2.1.2.:</b> Revise existing policies/ guidelines and develop new ones as necessary to in alignment with global best practices <b>(H)</b>	X	X					
	<b>5.2.1.3.:</b> Mainstream ESSF and Gender considerations across Centre's operations <b>(H)</b>	X	X	X	X	X		
<b>Output 5.2.2:</b> <i>Centre's project/ program portfolio efficiently executed</i>	<b>5.2.2.1.:</b> Ensure consistent project implementation monitoring and reporting on key project indicators <b>(H)</b>	X	X	X	X	X		
	<b>5.2.2.2.:</b> Strengthen Centre's regional coordinating mechanisms to support program delivery across Member States <b>(H)</b>	X	X	X	X	X		
<b>Output 5.2.3.:</b> <i>Program coordinating mechanism implemented to support Member States</i>	<b>5.2.3.1.:</b> Plan and execute high level coordination meetings with Member States <b>(M)</b>		X	X	X	X		
							<b>815,000</b>	
<b>Outcome 5.3.:</b> Increased visibility of the Centre								
<b>Output 5.3.1:</b> <i>Awareness raising initiatives about the Centre and its services implemented</i>	<b>5.3.1.1:</b> Implement measures relevant to increasing the Centre's visibility in keeping with the Communication Strategy- <b>(M)</b>	X	X	X	X	X		
	<b>5.3.1.2:</b> Promote the Centre's wide range of tools, their utility and the benefits derived by key stakeholders <b>(M)</b>			X	X	X		
	<b>5.3.1.3:</b> Share/exchange best practices, lessons learnt and success stories including from the implementation of climate resilience projects <sup>8</sup> <b>(M)</b>	X	X	X	X	X		
<b>Output 5.3.2:</b> <i>Centre's contribution to improving climate resilience promoted</i>	<b>5.3.2.1:</b> Facilitate, contribute and support peer reviewed publications on climate change <b>(M)</b>	X	X	X	X	X		
	<b>5.3.2.2:</b> <i>Showcase</i> the Centre's operations through energy efficiency and reduced emissions <b>(M)</b>		X	X	X	X		

<sup>8</sup> Include infomercial about the Centre, its work and the SIP over the next 5 years.

Outputs	Priority Activities	Timeframe					Budget (Indicative)	Responsibility
		2021	2022	2023	2024	2025		
	5.3.2.3: Provide training to staff on emission reduction calculations <sup>9</sup> and how to use other available tools including the Resilience Assessment Tool (M)							
<b>Total Estimated Budget for SIP 2020-2025</b>							<b>26,797,000</b>	

<sup>9</sup>This will benefit both the measurement of performance that can be provided to project funders but also can be counted towards national GHG accounting calculations.

## **2.3. Other applicable theory/concepts related to the project topic and context**

### **2.3.1 Current Situation of the Problem or Opportunity in the Study**

SVG has one of the lowest GDPs in the Caribbean with agriculture playing an important role in the economy and in providing employment. The country has a high level of Government debt which has been exacerbated by the impact of a series of extreme climatic events over the last decade. The financial and economic position of the country has limited its ability to maintain investment in its water infrastructure and operations, let alone being able to introduce the necessary climate adaptations to respond to the impacts of climate change. Whilst the mainland of Saint Vincent is endowed with water resources, by contrast, the Grenadine islands are severely water scarce; whilst the mainland is well serviced by a government owned water utility, the inhabitants of the Grenadines have traditionally had to rely on self-supply. However, more recently, the effects of severe hydro-climatic events have had an impact on water supply (UNDP, 2023).

The water infrastructure has suffered extensive damage, and climatic variability in the form of low rainfall and drought conditions are increasingly compromising the ability to supply consumers, particularly during the dry season from surface water sources. It is increasingly common for supplies to the major water consuming areas to have to be restricted during the dry season. The situation in the Grenadines is even more problematic as they rely on the harvesting of rainwater as their sole source of supply. Changes in rainfall patterns are impacting subsistence agriculture and restricting other economic opportunities as households struggle to have adequate supplies for basic needs.

The climate projections for the country are that temperatures will continue to increase and by mid-century will be around 2°C higher than the 1981-2010 baseline (UNDP, 2023). Drying conditions are also set to continue. The expected impact on surface water resources rivers and streams will be a decrease in flows, particularly during the dry months but also extending into the early and late months of the wet season. Tropical storms and hurricanes are predicted to be stronger and with intense activity, bringing with it greater damage potential. Overall, the impact on surface water resources is likely to result in lower flows and a lessened ability to meet even existing levels of water demand. The drying conditions are likely to trigger competition for water resources by agriculture as farmers seek to adapt to the changing conditions, and lower flows will impact hydropower generation.

On April 9th, 2021, the eruption of the La Soufrière volcano left damages and losses in the nation's social, productive and infrastructure sector of around US\$275 million, approximated to be more than 25% of the 2020 GDP, and was estimated to have displaced around 20% of Saint Vincent's population. Furthermore, the event not only contaminated water supply but also resulted in damage to infrastructure and large losses to the CWSA (PAHO 2021).

Currently, to meet the island's drinking water requirements, seawater desalination through reverse osmosis is being utilized. This process, whether used for brackish water or seawater, is currently the most dependable method to subsidize the water shortage. Additionally, nearly all private houses, hotels, and public buildings utilize rainwater collection systems, consisting of roof catchments and storage tanks. However, the projected decrease in rainfall, increase in temperatures and frequency and intensity of severe storms will result in additional water shortfalls that the current interventions will not be able to address.

### **2.3.2 Previous research done on the topic in the study**

The European Commission for Latin America and the Caribbean in 2011 conducted an analysis of the two distinct hydrological regimes of St. Vincent and the Grenadine: mainland St. Vincent is one of the wetter islands of the eastern Caribbean whereas the Grenadines have a drier climate than St Vincent. The economic modelling approach was implemented to estimate sectoral demand and supply between 2011 and 2050. Unfortunately, the cost benefit analysis was stymied by data availability.

The St. Vincent and the Grenadines 2019 National Adaption Plan (NAP) indicates that National Climate Change Country Profile report and models predict that the mean temperature is expected to increase by 0.15 °C per decade over the next century. In addition, the frequency of hot days and nights is also expected to increase by the end of the century. Furthermore, most models point to a reduction in rainfall, with negative median values ranging from 10 % to 22 % annually by the 2090s. They also suggest drying in the wet season from June to November, with the greatest seasonal change seen in the summer months (7.1 % per decade). A reduction in the rainy season and increase in mean temperatures will significantly affect water availability.

PAHO 2021 Situation Report indicates that the general challenges related to the water sector as a result of the eruption of the La Soufrière volcano were inadequate clean and safe water supply and water contamination that will result in outbreak of water-borne illnesses. To combat

this situation PAHO provided water testing kits and supplied tank that could be filled when the water pressure returned to normal. According to PAHO, CWSA was able to bring the water system back online within record time however, broken mains and the high pressure in the water systems resulted in many leaking pipes, connections and faucets. Pressure reducers are installed to avoid the risks of broken plumbing.

The Strengthening Resilient Water Resource Management in the Eastern Caribbean or Water for Resilience (W4R) Project funded by UNDP and the Canadian Government in March of 2024 is designed to support vulnerable communities in the islands of Grenada, Saint Lucia and Saint Vincent and the Grenadines to increase access to secure, nature-friendly water supplies and enhance ecosystem conservation for improved water resources management, both in communities and at the governance level. The project also includes a regional knowledge-sharing component to enhance water management practices. This research documents the increased frequency and intensity of extreme weather patterns as the cause of greater soil erosion, damaged watersheds, damaged pipelines, increased disruption to water collection, and storage and distribution issues, among other challenges. The W4R project focuses mainly on building resilience to water-stressed situations that exist, particularly that of women in agriculture as well as female-headed households

### **2.3.3 Other theories related to the topic in the study**

#### Sustainable Development Goals

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. Goal 6 of the SDG is to ensure availability and sustainable management of water and sanitation for all. None of the SDG' 6 targets are on track to be met. As of 2022, 2.2 billion people were without access to safely managed drinking water and 3.5 billion lacked access to safely managed sanitation. 6.3 of the SDG speaks particularly to both total wastewater generation and total wastewater treatment as of 2022. This FGP also assesses current wastewater collection, treatment and disposal throughout SVG, identifies gaps/areas for system improvement, and determines the need for system modification and expansion, as well as identify climate vulnerable wastewater infrastructure.

### Disaster Risk Management

The UN Commission on Sustainable Development (UNCSD) in its Resolution adopted by the General Assembly on 25 September 2015 addressed risk management and vulnerability in the context of its thematic issues of water, sanitation and human settlements in its 2004-2005 cycle and then in the context of drought and desertification in its 2006-2007 cycle. The 2030 Agenda for Sustainable Development recognizes and reaffirms the urgent need to reduce the risk of disasters. This FGP aims to improve and ensure that SVG's water sector adopts risk management and vulnerability best practices to reduce the impacts of disasters on the SVG water sector.

### Regenerative Development

The theory of regenerative development entails a holistic process to create synergies between physical, natural, economic and social capital that are mutually supportive and can restore equitable, healthy and prosperous relationships among these forms of capital. This FGP will address the issue related to soak-away septic systems that are used in SVG to treat wastewater discharges and grey water that is discharged directly into the environment via drainage canals.

### 3 METHODOLOGICAL FRAMEWORK

The methodological framework provides an outline of the standards and guidelines utilized to conduct this research. It is also an indication of how reliable the information provided is. It details the types of information sources, research methods, tools, assumptions and constraints, and deliverables that are required for successful project completion. According to PMI (2021), a method is a means for achieving an outcome, output, result, or project deliverable. For this reason, the methodological framework is critical as the means to the end, or in other words, the completion of this FGP. Overall, the framework helps to guide the research completed in delivering the Project Management Plan. It includes:

- i. Primary and Secondary Information Sources.
- ii. Qualitative Research method and Descriptive research method
- iii. Tools (listed at 3.3 of the FGP)
- iv. Assumptions
- v. Constraints, and
- vi. Deliverables.

#### 3.1. Information Sources

Information resources are products of data processing and are data that has been given meaning by way of relational connection (Anderson, 2024). Informational resources are essential tools to enhance this FGP as it aids in understanding the various types of resources available and employing effective strategies to utilize them.

##### 3.1.1 Primary sources

Primary sources of information include original research results, raw data, testimony, speeches, original journal research articles, technical reports, interviews or other evidence that provides unique information about a person or an event (LibGuides at University of Wisconsin Stevens Point, (2023)). Primary sources are essential to this research because they are original, provide deeper insight into events, ideas, and discoveries, and they are reliable.

### 3.1.2 Secondary sources

Secondary sources analyze, synthesize, evaluate, and interpret primary sources (or other secondary sources). Secondary sources are created after an event has occurred and are written by persons who did not experience or observe the event firsthand. Some examples of secondary sources include articles that interpret original scholarly research results and critiques of original creative works. Secondary sources are not evidence but rather comment on and discuss previous evidence (LibGuides at University of Wisconsin Stevens Point, 2023). According to UMass Boston, (2024), secondary sources are one step removed from primary sources, though they often quote or otherwise use primary sources. They can cover the same topic but add a layer of interpretation and analysis. Secondary sources can include: Most books about a topic. Analysis or interpretation of data as well as scholarly or other articles about a topic, especially by people not directly involved.

### 3.1.3 Information Sources

**Table 2 Information Sources**

Objectives	Information sources	
	Primary	Secondary
1. To finalize the project charter that formally operationalize the CLEAR-Water project	Stakeholder engagement reports; Project Steering meeting Reports; Project Feasibility Assessment Report	PMBOK Guide 6th Edition. Organizational process assets
2. To finalize the Scope Management Plan to control scope creep	Stakeholder engagement reports; Project Steering meeting Reports; Project Feasibility Assessment Report;	PMBOK Guide 6th Edition. Organizational process assets. Pervious assessments on the scope of the problem.

Objectives	Information sources	
	Primary	Secondary
3. To finalize the Schedule Management Plan that helps to establish and control the implementation deadlines and identify the critical path of the project	Stakeholder engagement reports; Project Steering meeting Reports; Project Feasibility Assessment Report	Reviews of previous projects of similar size and complexity. Expert Judgement
4. To finalize Cost Management Plan that to formalize the budget and guide and monitor project expenditure.	Stakeholder engagement reports; Project Steering meeting Reports; Project Feasibility Assessment Report	Reviews of previous projects of similar size and complexity. Expert Judgement
5. To develop a quality management plan that establishes guidelines, policies, and procedures in accordance with industry and regional water	Stakeholder engagement reports; Project Steering meeting Reports; Project Feasibility Assessment Report	Review of current policies; Review of recommendations to upgrade current policies; Expert judgement

Objectives	Information sources	
	Primary	Secondary
sector policies and guidelines		
6. To develop a resource management plan that establishes and guides the resources required and to accurately allocate and manage these resources.	Stakeholder engagement reports; Project Steering meeting Reports; Project Feasibility Assessment Report	Reviews of previous projects of similar size and complexity. Expert Judgement
7. To develop a communication management plan that establishes, line of communication, mode of communication and frequency of communication	Project Steering meeting Reports; Stakeholder engagement reports	PMBOK Guide 6th Edition. Organizational process assets.
8. To prepare a Risk Management Plan for risks and opportunities identification and management	Project Steering meeting Reports; Stakeholder engagement reports. Interview.	PMBOK Guide 6th Edition. Organizational process assets. CLEAR-Water Project risks assessment report

Objectives	Information sources	
	Primary	Secondary
	Industry standard reports;	
9. To create a procurement management plan to identify contractors, consultants, suppliers, equipment and materials and to manage the acquisition and use of the aforementioned.	Project Steering meeting Reports; Stakeholder engagement reports. Interview. Industry standard reports;	PMBOK Guide 6th Edition. Organizational process assets. CLEAR-Water procurement assessment report
10. To establish a Stakeholder Management plan that clearly identifies the stakeholders, their needs and level of involvement in the project.	Project Steering meeting Reports; Stakeholder engagement reports. Interview.	PMBOK Guide 6th Edition. Organizational process assets. CLEAR-Water stakeholder analysis report
11. To finalize a Sustainability Development Plan that emphasizes	Project Steering meeting Reports; Project Feasibility Assessment Report	PMBOK Guide 6th Edition. Organizational process assets. CLEAR-Water sustainability and regenerative analysis report

Objectives	Information sources	
	Primary	Secondary
sustainability of the project after project is closed and to establish the parameters for regenerative achievements		

### 3.2. RESEARCH METHODS

Research methods are specific procedures for collecting and analyzing data. This is done to uncover new information or create better understanding of a topic (Muhammed 2024). It also aids in ensuring that the FGP is conducted systematically and yields reliable and valid results.

#### 3.2.1 Qualitative Research

Qualitative Research gathers data about lived experiences, emotions or behaviors, and the meanings individuals attach to them. It assists in enabling researchers to gain a better understanding of complex concepts, social interactions or cultural phenomena. This type of research is useful in the exploration of how or why things have occurred, interpreting events and describing actions (Muhammed 2024).

#### 3.2.2 Descriptive research method

Descriptive research method is an appropriate choice when the research aim is to identify characteristics, frequencies, trends, and categories. The Descriptive research method is defined as a type of quantitative research. Descriptive research design is a suitable option when the research objective is to avoid manipulating variables (Muhammed 2024). It is cross sectional by nature and is well suited for adaptation of climate change or to understand water management trends.

### 3.2.3 Research methods (See resource page highlighted grey)

**Table 3 Research Methods**

Objectives	Qualitative Research method 1	Descriptive research method 2
1. To finalize the project charter that formally operationalize the CLEAR-Water project	This will assess stakeholders' expectations, current project setting.	Detailed information on past projects, stakeholder requirements, and industry standards will be undertaken.
2. To finalize the Scope Management Plan to control scope creep	It will be undertaken using interviews and document analysis of similar types of projects to determine the full scope of the project.	Climate Change analysis will be undertaken as well as past water policies and strategies will be evaluated for efficiency and effectiveness
3. To finalize the Schedule Management Plan that helps to establish and control the implementation deadlines and identify the critical path of the project	It will be undertaken using interviews and document analysis of similar types of projects to develop a feasible project schedule plan.	Detailed information on past projects and industry standards will be undertaken.

Objectives	Qualitative Research method 1	Descriptive research method 2
<p>4. To finalize Cost Management Plan that to formalize the budget and guide and monitor project expenditure.</p>	<p>It will be undertaken using interviews and document analysis of similar types of projects; market trends, and value for money analysis to develop a feasible cost management plan.</p>	<p>Detailed information on past projects and industry standards will be undertaken.</p>
<p>5. To develop a quality management plan that establishes guidelines, policies, and procedures in accordance with industry and regional water sector policies and guidelines</p>	<p>It will be undertaken using interviews and document analysis of similar types of projects;</p>	<p>Detailed assessment on past projects, and industry standards will be undertaken.</p>
<p>6. To develop a resource management plan that establishes and guides the resources required and to accurately</p>	<p>It will be undertaken using organizational process assets and document analysis of similar types of projects;</p>	<p>Detailed information on past projects and industry standards will be undertaken.</p>

Objectives	Qualitative Research method 1	Descriptive research method 2
allocate and manage these resources.		
7. To develop a communication management plan that establishes, line of communication, mode of communication and frequency of communication	It will be undertaken using organizational process assets	An analysis of the current communication channels, roles, responsibilities, frequency of communication, and standard best practices will be evaluated as well as lessons learn log will be utilized.
8. To prepare a Risk Management Plan for risks and opportunities identification and management	It will be undertaken using organizational process assets and document analysis of similar types of projects;	Detailed assessment of past projects and industry standards will be undertaken.
9. To create a procurement management plan to identify contractors, consultants, suppliers, equipment and materials and to manage the acquisition and use	It will be undertaken using organizational process assets and document analysis of similar types of projects;	

Objectives	Qualitative Research method 1	Descriptive research method 2
of the aforementioned.		
10. To establish a Stakeholder Management plan that clearly identifies the stakeholders, their needs and level of involvement in the project.	It will be undertaken using organizational process assets and stakeholder analysis reports	Detailed information on past projects, stakeholder requirements and needs from past similar projects will be examined as well as stakeholder lesson learned report.
11. To finalize a Sustainability Development Plan that emphasizes sustainability of the project after project is closed and to establish the parameters for regenerative achievements	It will be undertaken using organizational process assets	Detailed analysis of information on past projects, sustainability and regenerative requirements, and industry standards will be undertaken

### 3.3. Tools

According to Merriam-Webster's collegiate dictionary (1996), a tool is defined as something (as an instrument or apparatus) used in performing an operation or necessary in the practice of a vocation or profession (Merriam-Webster Inc., 1996). The PMI guide 2017 states that Project Management Tools are tangible, such as a template or software program used to

assist project managers and their teams in planning, executing, monitoring, and controlling projects.

The tools to be utilized are:

1. Meeting Reports
2. Expert judgment
3. Past Project assessments
4. WBS
5. Scope Management Plan
6. MS Project
7. Data gathering
8. Estimates
9. Quick Books
10. Budgets
11. Cost Management Plan
12. Organizational Process Tools
13. Quality Management Plan
14. Market assessment report
15. Resource Management Plan
16. Communication Management Plan
17. Sectorial assessment report
18. Probability and impact assessment
19. Risk Register
20. Risk Management Plan
21. Procurement Action Plan
22. Procurement Management Plan
23. Stakeholders register template
24. Stakeholder assessment matrix
25. Stakeholder management plan

Table 4 Tools

Objectives	Tools
1. To finalize the project charter that formally operationalize the CLEAR-Water project.	<ul style="list-style-type: none"> <li>• Meeting Reports</li> <li>• Expert judgment</li> <li>• Past Project assessments</li> </ul>
2. To finalize the Scope Management Plan to control scope creep.	<ul style="list-style-type: none"> <li>• Expert judgment</li> <li>• Meeting Reports</li> <li>• WBS</li> <li>• Scope Management Plan</li> </ul>
3. To finalize the Schedule Management Plan that helps to establish and control the implementation deadlines and identify the critical path of the project.	<ul style="list-style-type: none"> <li>• MS Project</li> <li>• Expert judgment</li> <li>• Data gathering</li> <li>• Meeting Reports</li> <li>• WBS</li> </ul>
4. To finalize a Cost Management Plan that formalizes the budget and guides and monitor project expenditure.	<ul style="list-style-type: none"> <li>• Estimates</li> <li>• Quick Books</li> <li>• Budgets</li> <li>• Cost Management Plan</li> </ul>
5. To develop a quality management plan that establishes guidelines, policies, and procedures in accordance with industry and regional water sector policies and guidelines	<ul style="list-style-type: none"> <li>• Organizational Process Tools</li> <li>• Data gathering</li> <li>• Meeting Reports</li> <li>• Quality Management Plan</li> </ul>

Objectives	Tools
6. To develop a resource management plan that establishes and guides the resources required and to accurately allocate and manage these resources.	<ul style="list-style-type: none"> <li>• Expert judgment</li> <li>• Market assessment report</li> <li>• Meeting Reports</li> <li>• Resource Management Plan</li> </ul>
7. To develop a communication management plan that establishes, line of communication, mode of communication and frequency of communication	<ul style="list-style-type: none"> <li>• Organizational Process Tools</li> <li>• Data gathering</li> <li>• Meeting Reports</li> <li>• Communication Management Plan</li> </ul>
8. To prepare a Risk Management Plan for risks and opportunities identification and management	<ul style="list-style-type: none"> <li>• Sectorial assessment report</li> <li>• Probability and impact assessment</li> <li>• Risk Register</li> <li>• Risk Management Plan</li> </ul>
9. To create a procurement management plan to identify contractors, consultants, suppliers, equipment and materials and to manage the acquisition and use of the aforementioned.	<ul style="list-style-type: none"> <li>• Expert judgment</li> <li>• Market assessment report</li> <li>• Procurement Action Plan</li> <li>• Procurement Management Plan</li> <li>• Meeting Reports</li> </ul>
10. To establish a Stakeholder Management plan that clearly identifies the stakeholders, their needs and level of involvement in the project.	<ul style="list-style-type: none"> <li>• Stakeholders register template</li> <li>• Stakeholder assessment matrix</li> <li>• Stakeholder management plan</li> </ul>

### 3.4. Assumptions and Constraints

Assumptions according to Project Management Institute, (2017) is a factor that is considered to be true, real, or certain, without proof or demonstration. A constraint according to Project Management Institute, (2017) is a limiting factor that affects the execution of a project, program, portfolio, or process. This form of analysis ensures that assumptions and constraints are integrated into the project plans and documents, and that there is consistency among them.

Assumption analysis includes exploring assumptions, documenting, and validating them. Any assumption that is proved invalid can pose a risk to the project (Siegelaub, J. M., 2007). The process for Constraint Analysis involves three steps (Siegelaub, J. M., 2007): (1) Identification: Spot the key constraints that dictate the project's limitations. (2) Determine the impacts of these constraints on the project. Evaluate not just the primary impacts, but also the potential secondary effects and (3) Continuously re-evaluate constraints throughout the project lifecycle, as they may change or evolve.

**Table 5 Assumptions and Constraints**

Objectives	Assumptions	Constraints
1. To finalize the project charter that formally operationalize the CLEAR-Water project	Sufficient project information and details are available to complete the project charter.	Information related to the project may be outdated.  The timeline for the development of the project FGP is only five weeks.
2. To finalize the Scope Management Plan to control scope creep	The project scope is sufficient to satisfy the requirements of the FGP	Information related to the project may be outdated.  The timeline for the development of the project FGP is only five weeks.
3. To finalize the Schedule Management Plan that helps to	Project Managers have the necessary and required tools	Project Managers may have multiple projects to manage

Objectives	Assumptions	Constraints
<p>establish and control the implementation deadlines and identify the critical path of the project</p>	<p>and support to control the project schedule.</p>	<p>and although they have the necessary and required tools and support to control the project schedule they fail due to competing interests.</p>
<p>4. To finalize a Cost Management Plan that formalizes the budget and guides and monitor project expenditure.</p>	<p>Required funding is available to complete the project</p>	<p>Unforeseen or force majeure events may result in inflation of market prices for labor, goods, supplies, equipment and machinery costs.</p>
<p>5. To develop a quality management plan to establish guidelines, policies, and procedures in accordance with industry and regional water sector policies and guidelines</p>	<p>The quality management plan satisfies regional and ISO requirements.</p>	<p>The quality management plan does not satisfy regional and ISO requirements due to unforeseen adjustments/revision/upgrades to the aforementioned standards.</p>
<p>6. To develop a resource management plan that establishes and guides the resources required and to accurately allocate and manage these resources.</p>	<p>All required resources have been identified, are available and affordable and within budget tolerance.</p>	<p>Required resources availability may have changed since project design and project implementation.</p>
<p>7. To develop a communication management plan that establishes, line of communication, mode of</p>	<p>Communication plans are accepted by all stakeholders.</p>	<p>Communication plan may not be acceptable for all stakeholders due to different</p>

Objectives	Assumptions	Constraints
communication and frequency of communication		organizational policies and protocols.
8. Preparing a Risk Management Plan for risks and opportunities identification and management	All viable risks have been identified.	Information related to risk management and sectorial risk policies may be outdated or under review for update in the future outside of the project implementation period.
9. To create a procurement management plan to identify contractors, consultants, suppliers, equipment and materials and to manage the acquisition and use of the aforementioned.	All procurement activity has been clearly defined and budgeted and initiated “just in time”.	Procurement activities have not been clearly defined resulting in mis procurement and lag in implementation and completion deadline
10. To establish a Stakeholder Management plan that clearly identifies the stakeholders, their needs and level of involvement in the project.	All major and minor stakeholders are known and can be contacted.	Stakeholders are not available or may suffer from stakeholder fatigue due to competing interest.
11. To finalize a Sustainability Development Plan that emphasizes sustainability of the project after project is closed and to establish the	Regenerative capacities will be achievements	Validation of regenerative capacities may be an extensive process.

Objectives	Assumptions	Constraints
parameters for regenerative achievements		

### 3.5. Deliverables

Deliverables are the of project activities. According to PMI Guide, “A deliverable is any unique and verifiable product, result, or capability to perform a service that is required to be produced to complete a process, phase, or project. Deliverables are typically the outcomes of the project and can include components of the project management plan” (Project Management Institute, 2017, p. 117). Each deliverable should be quantifiable and measurable, enabling objective progress assessment and issue identification. A well-defined deliverable has several key elements and needs to be: specific, measurable, time bound, client oriented and quality focused.

**Table 6 Deliverables**

Objectives	Deliverables
1. To finalize the project charter that formally operationalize the CLEAR-Water project	1. Project Charter
2. To finalize the Scope Management Plan to control scope creep	1. Project Scope Statement 2. Project Collection Requirements 3. Work Breakdown Structure 4. Scope Validation 5. Scope Control
3. To finalize the Schedule Management Plan that helps to establish and control the implementation deadlines and identify the critical path of the project	1. Plan schedule management 2. Define activities 3. Activities List 4. Estimate activity duration 5. Develop schedule 6. Control schedule
4. To finalize a Cost Management Plan that formalizes the budget and guides and monitor project expenditure.	1. Plan cost management 2. Estimating costs 3. Determine budget

Objectives	Deliverables
	4. Control costs
5. To develop a quality management plan to establish guidelines, policies, and procedures in accordance with industry and regional water sector policies and guidelines	<ol style="list-style-type: none"> <li>1. Quality Management Approach</li> <li>2. Quality Management Plan</li> <li>2. Quality Control</li> </ol>
6. To develop a resource management plan that establishes and guides the resources required and to accurately allocate and manage these resources.	<ol style="list-style-type: none"> <li>1. Resource management plan</li> <li>2. RACI Matrix</li> <li>3. Team Development</li> <li>4. Project Resources</li> </ol>
7. To develop a communication management plan that establishes, line of communication, mode of communication and frequency of communication	<ol style="list-style-type: none"> <li>1. Plan communication management</li> <li>2. Manage Communication</li> <li>3. Communication Matrix</li> <li>4. Monitor Communication</li> </ol>
8. To prepare a Risk Management Plan for risks and opportunities identification and management	<ol style="list-style-type: none"> <li>1. Risk Management Plan</li> <li>2. Risk Breakdown Structure</li> <li>3. Risk Analysis</li> <li>4. Probability and Impact Matrix</li> <li>5. Plan Risk Response</li> <li>6. Risk Register</li> </ol>
9. To create a procurement management plan to identify contractors, consultants, suppliers, equipment and materials and to manage the acquisition and use of the aforementioned.	<ol style="list-style-type: none"> <li>1. Procurement Management Plan</li> <li>2. Procurement Approach</li> <li>3. Procurement Principles</li> <li>4. Procurement Management Action Plan</li> </ol>
10. To establish a Stakeholder Management plan that clearly identifies the stakeholders, their needs and level of involvement in the project.	<ol style="list-style-type: none"> <li>1. Stakeholder Management Plan</li> <li>2. Stakeholder Register,</li> <li>3. Power/Interest Matrix</li> <li>4. Plan Stakeholder Engagement</li> </ol>

## 4 RESULTS

This chapter details the various management plans created to ensure the successful execution and delivery of the project and demonstrates the results of each deliverable

Project Integration Management includes the processes and activities to identify, define, combine, unify, and coordinate the various processes and project management activities within the Project Management Process Groups.”- A Guide to the Project Management Body of Knowledge (PMBOK 6). Project managers are responsible for integration management. They ensure that project tasks and connected workflows are synchronized. Efficient project integration management is crucial for accurate project execution.

Some of the key benefits of Project Integration Management are:

- Increased accountability from team members as they take on more responsibility, communication becomes less cluttered and more focused.
- Increased efficiency as team members judiciously utilizes available resources to improve productivity.
- Clearly defined roles ensure that each team member is aware of the project aims and objectives and understands what portion they are responsible for delivering.

### 4.1. The Project Charter

The Project Charter is a synopsis of the project's objectives, constraints, risks, budget scope, and key stakeholders etc. that are referenced throughout the project lifecycle. The Charter clearly outlines significant project details to ensure alignment and set expectations for all parties involved. The project charter officially initiates a project and empowers project managers to proceed with project implementation. This project charter is essential to the project documentation process, as it provides the formal acceptance to begin project work and utilize business resources.

The C<sub>l</sub>EAR-Water Project was developed at the request of the Government of Saint Vincent and the Grenadines and was approved by the project sponsor, The Green Climate Fund (GCF).

Table 7 Project Charter

PROJECT CHARTER		
<b>Date</b>	<b>Project Name</b>	
17 February 2025	Climate Elucidation for Adaptive Capacity in the Water Sector (CℓEAR-Water) Project, Saint Vincent and the Grenadines	
<b>Project Life Cycle</b>	Hybrid Approach	
<b>Knowledge Areas / Processes</b>	<b>Application Area (Sector / Activity)</b>	
<p><b>Knowledge areas:</b></p> <ol style="list-style-type: none"> <li>1. Project Integration Management</li> <li>2. Project Scope Management</li> <li>3. Project Schedule Management</li> <li>4. Project Cost Management</li> <li>5. Project Stakeholders Management</li> <li>6. Project Communications Management</li> <li>7. Project Quality Management</li> <li>8. Project Risk Management</li> <li>9. Project Procurement Management</li> <li>10. Project Resource Management</li> </ol> <p><b>Process groups:</b></p> <p>Initiating, Planning, Executing, Monitoring &amp; Controlling, Closing</p>	<p><u>Multisectoral:</u></p> <p>Climate Change Mitigation/ Water Sector/Regenerative Development</p>	
<b>Start Date</b>	<b>Finish Date</b>	<b>Duration</b>
January 2026	December 2027	24 months
<b>Project Objectives (General and Specific)</b>		

**General Objectives:**

To Strengthening institutional capacity to support Climate Resilient Water Resources Management in Saint Vincent and the Grenadines.

**Specific Objectives:**

1. Improve institutional environment by 60% to support Climate Resilient Water Resources Management enhance transparency, accountability, and efficiency in water resources management, leading to better decision-making and resource allocation by December 2027.
2. Enhance awareness and capacity by 40% to contribute to Climate Resilient Water Resources Management by December 2027.

**Project Purpose or Justification (Merit and Expected Results)**

This project justification considers:

Decline in rainfall and streamflow severely impact the water supply of rivers and streams in Saint Vincent. Similarly, declining amounts of rainfall raise specific concerns for the Grenadine islands which are heavily dependent on rainwater. Recurring drought conditions such as those occurring in 2009/10, 2016 and 2019/20 have given rise to water shortages (PAHO 2021).

The water infrastructure has suffered extensive damage, and climatic variability in the form of low rainfall and drought conditions are increasingly compromising the ability to supply consumers, particularly during the dry season from surface water sources. As of 2020, the implementation of stringent water rationing for both Saint Vincent and the Grenadine islands is a clear indication that particularly through the dry season, decreases in stream flows result in unconstrained water demand exceeding the available water supply (PAHO 2021).

The Saint Vincent and the Grenadines Central Water and Sewerage Authority (CWSA), projects an increase in water demand of 2,400m<sup>3</sup>/day over the next 10 years, due to growth in the tourism and agricultural industries, further exacerbating water shortage and water quality issues (UNDP, 2023).

**Description of Product or Service to be generated by the Project – Project Final Deliverables**

- (i) An enhanced policy framework on water resource management and reduction in vulnerability associated to water scarcity and improve access to reliable water resources.
- (ii) Development of a National Wastewater Master Plan, addressing a critical gap in wastewater management by designing an effective nationwide strategy.
- (iii) Water Emergency Response Plan and a Drought Management Plan to enhance early warning systems.

<ul style="list-style-type: none"> <li>(iv) Develop a comprehensive operational manual for CWSA which will define standard operating procedures, processes, and policies for managing expanded data sharing mechanisms and augmented operations</li> <li>(v) Water System Performance KPI's and benchmarking methods, such as: (1) Tracking system downtime frequency and duration. (2) Water loss percentage due to leaks and inefficiencies (3) Regular maintenance, with benchmarks for adherence</li> <li>(vi) Design and Implement climate resilient water management certificate program and Student Lesson Plans and activity guides.</li> <li>(vii) Public Awareness Strategy and Communication Plan</li> </ul>
<b>Assumptions</b>
<ul style="list-style-type: none"> <li>1. These efforts will significantly enhance water security</li> <li>2. These efforts will improve institutional coordination, and build long-term resilience to climate change in Saint Vincent and the Grenadines</li> <li>3. A better and more reliable water supply and resources management will be of economic benefit to tourism, health and agricultural sectors.</li> <li>4. CWSA will improve its institutional capacity to manage large-scale water system performance, assessments and monitoring</li> <li>5. Citizen of Saint Vincent and the Grenadines will adopt better water management techniques and support the wastewater management initiative</li> </ul>
<b>Constraints</b>
<ul style="list-style-type: none"> <li>1. The project must be completed within the fixed budget.</li> <li>2. The project must be completed within the approved 2-year period.</li> <li>3. The project scope cannot be expanded beyond the budget tolerance.</li> <li>4. Regulatory Compliance may be challenging to enforce.</li> <li>5. Stakeholder interest (citizens of SVG) in the project cannot be determined at this time.</li> </ul>
<b>Preliminary Risks</b>
<ul style="list-style-type: none"> <li>1. Resistance to Change: Slow uptake of Regulatory Compliance may result in failure of project outcomes.</li> <li>2. Inadequate Governance: New polices developed are not enforced which may delay achieving the targeted project results.</li> <li>3. Process Inefficiencies: New processes recommended may not adequately address the current constraints.</li> <li>4. Stakeholder Resistance and low interest in the project may result in low project impact results.</li> </ul>
<b>Budget</b>
<ul style="list-style-type: none"> <li>1. Project Implementation, Monitoring, Evaluation and Auditing Costs – <b><u>USD918,012</u></b></li> </ul>
<b><u>Consultancies USD1,963,770</u></b>

1. Update of the existing legislative framework regarding Water Resource and Water Supply Management.
2. Define Key KPI's, benchmarking methods resilient water resource management.
3. Develop a National Policy on climate resilient water resource management
4. Develop an Emergency Response Plan for CWSA and a Drought Management Plan.
5. Develop an Operations and Procedures Manual for CWSA National Wastewater Master Plan inclusive of wastewater strategy and design of system.
6. Develop National Wastewater Master Management Plan.
7. Consultancy for stakeholder engagement and public awareness in climate resilient water resource management.
8. Develop communication plans to improve community knowledge of good water management practices.


**Non-Consulting Services - Public awareness and Training- USD612,550**

1. Provide classroom materials related to water conservation and efficiency.
2. Design a climate resilient water management certificate program targeting building managers, plumbers, hospitality, and agriculture.
3. Expand (students) current water resource focused internship program to embed and train youth on climate resilient water resources management techniques throughout the water stakeholder ecosystem.
4. Conduct awareness program for the public to promote water conservation and water management, inclusive of monitoring, educational programs, training, and outreach in targeted communities.

Budget USD3,494,332 + 10% Management Reserve (91,801) + Contingency USD257,632

**Total Budget: USD3,843,765**

<b>Milestones and Dates</b>		
<b>Milestones</b>	<b>Start Date</b>	<b>End Date</b>
Identify Project Management Resources	January 2026	February 2026
Project Initiation	March 2026	April 2026
Detailed Planning	April 2026	June 2026
Requirements Gathering	April 2026	June 2026
Requirements Documentation	April 2026	June 2026
Consultancies to Develop regulatory and legislative policy for the Government and CWSA	July 2026	September 2027

Public awareness and Training	January 2027	November 2027
Project Closure	November 2027	December 2027
<b>Stakeholders</b>		
<p><b>Direct Stakeholders:</b></p> <ol style="list-style-type: none"> <li>1. Donor- Green Climate Fund</li> <li>2. CCCCC</li> <li>3. Government of Saint Vincent and the Grenadines</li> <li>4. Central Water and Sewerage Authority (CWSA)</li> <li>5. Project Management Team</li> <li>6. Consultants engaged</li> <li>7. Trainers engaged</li> <li>8. Students that are to be trained</li> <li>9. Citizen of Saint Vincent and the Grenadines</li> </ol> <p><b>Indirect Stakeholders:</b></p> <ol style="list-style-type: none"> <li>1. Tourists</li> <li>2. Local Communities, Schools, Hospitals Farms, Hotels and Resorts, of Saint Vincent and the Grenadines</li> </ol>		
<p><b>Project Manager: Allison Williams</b></p>  <p><b>Signature:</b></p>		

Note: Author's Own Work

#### 4.1.1 Project Management Plan

The project management plan is a formal document that defines a project's scope, objectives, schedule, resources, and processes. It includes policies and methods, process maps, including requirements, and tracks the project progress. The ClEAR-Water project management plan will act as a roadmap for the project execution and guide the team and stakeholders from project initiation to project closure while keeping everyone aligned.

### 4.1.2 Integrated Change Control

Integrated change control involves assessing proposed changes, determining their potential impact on the project objectives and making informed decisions about whether to implement the change. Its primary goal is to achieve the desired project state by integrating organizational processes with project change management.

The CLEAR-Water project stakeholder working group, plays a critical role in reviewing, assessing and endorsing any proposed changes to project scope to ensure alignment with national priorities and stakeholder interests. Meanwhile, the Project Management Team, composed of technical staff, is responsible for executing activities within the approved scope and flagging any deviations or emerging issues. All requested scope changes must be documented and submitted through a Change Control Process, which includes technical review by the stakeholder working group and approval by the Project Steering Committee.

The use of tiered governance approach will ensure that all requested changes are thoroughly evaluated, justified, and approved at the appropriate level for both technical and strategic feasibility to ensure project focus and minimize scope creep.

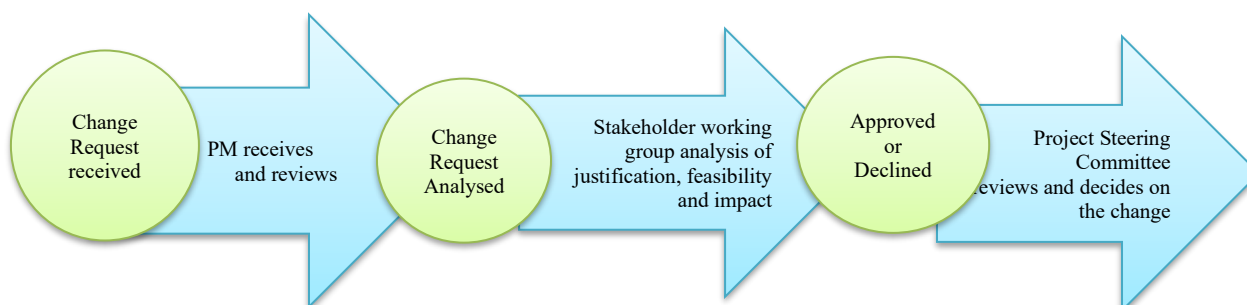
**Table 8 Change Control Form**

<b>Project Title:</b>	
<b>Change Control ID:</b>	
<b>Date Submitted:</b>	
<b>Submitted By:</b>	
<b>Change Title</b>	
<b>Change Request Summary:</b>	
<b>Rationale:</b>	
<b>Potential Impact:</b>	
Scope:	
Schedule:	

Cost:
Quality:
<b>Review Date:</b>
<b>Approved By</b>
<b>Name and Signature of Reviewers</b>

Note: Author's Own Work

**Figure 7 Integrated Change Control Process**



Note: Author's Own Work

### 4.1.3 Lessons Learned

The term lessons learned refers to the both the positive and negative experiences gained when participating in and completing a project. The team will apply past lessons learned at the beginning of project development and compile new findings during and after its completion.

The purpose of documenting and applying the lessons learned is to encourage improvement in best practices for future projects. The goal is to create a team that learns from its missteps and success and improves its successes for future project.

The the CLEAR-Water Project lesson learned register listed at appendix 6 of the FGP will be utilized to identify and document lesson learned during project implementation. At the end of the project a lesson learned report will be produced as demonstrated at 5.1.3.1 Lessons Learned Report of the WBS.

Although not explicitly stated or repeated for each management plan, both the change control process (4.1.2) and the lesson learned process (4.1.3) will be conducted for all project management plans listed in this chapter 4.

## **4.2. Scope Management Plan**

The process of defining, planning, monitoring, and regulating the scope of a project is Project Scope Management. It involves identifying the scope of the project, determining the deliverables, and establishing the parameters within which the project is slated to be completed. Project Scope Management is beneficial as it enhances project planning, yields higher productivity, and supports clearer lines of communication.

The scope management plan for the CℓEAR-Water Project will include the following outputs: Project Scope Statement; Project Collection Requirements; Work Breakdown Structure; Scope Validation; Scope Control

### **4.2.1 Project Scope Statement**

The CℓEAR-Water Project, Saint Vincent and the Grenadines comprises three (3) main components, which respond to the challenges and barriers facing the water sector in Saint Vincent and the Grenadines. (1) Enhance regulatory, legislative and policy framework including greater regulatory or educational policy proposals to support Climate Resilient Water Resources Management; (2) Enhance operational proficiency and improve data management for CWSA; (3) Increase stakeholder engagement and public awareness in Climate Resilient Water Resources Management.

### **4.2.2 Project Collection Requirements**

The collection requirement is a process that determines, as well as documents, and manages the needs and requirements of the stakeholders, to meet the objectives of the Project Management task. The documentation that takes place within the collection requirement process is considered important as it provides the foundation for defining and managing the scope of the project.

The CLEAR-Water Project collection requirements involve gathering multiple existing data sets in the field of hydrology, meteorology, water consumption and water usage patterns from key experts, organizations, the government, CWSA and previous published reports related to water accessibility, usage and lessons learned for SVG and similar neighboring island states. This process aids in accurately assessing stakeholders' needs and accomplishing the objectives of the project.

**Table 9 Requirements Traceability Matrix**

WBS ID #	Description	Requirements	Deliverable	Priority	Acceptance Criteria
2.1	SVG Needs Assessment	Assessment of the environmental and social footprint of the project proposed interventions	Environmental and Social Impact Report	High	1. Assessment report on the short, medium- and long-term risks and impacts, both negative and positive as well as strategies for mitigation
2.2	Needs Assessment - CWSA	Assessment of supply and demand at the utility level as well as review of regulatory framework, policies, plans and organizational assets for knowledge management	Needs Assessment report CWSA	High	1. Assessment report on the impacts of the proposed improvement to water supply and distribution regulatory framework, policies, plans and organization assets
2.3	Needs Assessment - Stakeholders	Needs Assessment other stakeholders - CWSA customers, Government and governmental authorities, Vulnerable Economic sectors, including community-based organisations, NGOs and/or relief agencies and the general public	Needs Assessment Report other stakeholders	Medium	1. Assessment report on the impacts of the proposed improvement to water supply and distribution for other stakeholders
4.1	Propose updates to existing legislative framework regarding	Review current policies and legislation related to water resource management to identify gaps	Legislative Gap Analysis Report with recommended updates	High	1. Enhanced regulatory, legislative and policy framework to support Climate Resilient Water Resources Management

WBS ID #	Description	Requirements	Deliverable	Priority	Acceptance Criteria
	water resource and supply management				
4.2	Propose a national Water System Key Performance Framework	Define Key performance indicators (KPI's) for water system such as reliability, quality, efficiency etc. Develop benchmarking methods; Consult with key stakeholders to validate proposed framework component	Water System Performance KPI's and benchmarking method	High	<ol style="list-style-type: none"> <li>1. A National Water Systems Performance Framework with clear protocols for operation, monitoring and evaluation.</li> <li>2. Guidelines for conducting system audits and optimising water supply networks.</li> <li>3. Recommendations that will support the integration and use of the IWRMT in decision making for water resource utilisation.</li> <li>4. Institutional training materials for all CWSA staff, as well as the 20 Ministry of Health, Wellness and the Environment employees on the operationalization of new policies for the National Water Systems Performance Framework and Emergency Response Plan by December 2027.</li> </ol>
4.3	National Policy on climate resilient water resource management	Strengthen the institutional and legislative environment surrounding climate resilient water resources management to enact an enabling environment that serves as a catalyst for both private and public sector action.	A climate resilient water resource management policy	High	<ol style="list-style-type: none"> <li>1. An updated to the existing legislative framework on Water Resource and Water Supply Management that improves governance and regulatory oversight in water resource management.</li> </ol>
4.4	Develop an Emergency	Conduct Assessment of water supply risks	Risk Assessment and	High	<ol style="list-style-type: none"> <li>1. A functional National Emergency Response</li> </ol>

WBS ID #	Description	Requirements	Deliverable	Priority	Acceptance Criteria
	and Drought Response Plan for CWSA	and disruptions. Review and assess current emergency response protocols and coordination mechanisms	impact Report. New Emergency and Drought Response Plan		<p>Plan for Water Management, detailing procedures for early warning, crisis response, and recovery.</p> <ol style="list-style-type: none"> <li>2. A Drought Management Plan, including monitoring indicators, response strategies, communication guidelines and conservation measures.</li> <li>3. Training and capacity-building programs for emergency response teams within CWSA and the wider water sector ecosystem.</li> </ol>
4.5	Operations and Procedures Manual for CWSA	Identify key operations area that need standardization Develop standard operation procedures (SOP's) for core functions. Review operational monitoring and reporting guidelines	Operational Manual and Training Guidelines	High	<ol style="list-style-type: none"> <li>3. Operational manual inclusive of operating procedures, processes, and policies for CWSA that enhances operational effectiveness, promotes sustainable growth, and supports the organization's mission and objectives</li> </ol>
4.6	National Wastewater Master Plan, addressing a critical gap in wastewater management by designing an effective nationwide strategy.	Review existing Wastewater policy Identify gaps and barriers to climate resilient goals. Conduct stakeholder consultation on policy and planned improvements	Proposed Legislative Updates and Amendments	High	<ol style="list-style-type: none"> <li>4. A National Wastewater Master Plan with both technical and policy recommendations.</li> <li>3. Identification of gaps and needs for system modification and expansion.</li> <li>4. Identification of wastewater infrastructure vulnerability to climate change. Infrastructure design for wastewater treatment and disposal systems.</li> <li>5. A national strategy for sustainable wastewater</li> </ol>

WBS ID #	Description	Requirements	Deliverable	Priority	Acceptance Criteria
					reuse, management and disposal.
4.7	Increase stakeholder engagement and public awareness in climate resilient water resource management	Identify key topics related to water conservation and efficiency. Develop educational materials with digital access that align with existing curricula and Climate resilient water management certification programs	Student Lesson Plans and activity guides. Certificate program curriculum	High	1. A Stakeholder Engagement and Public Awareness Plan targeting CWSA customers, Government and governmental authorities, Vulnerable economic sectors, including community-based organisations, NGOs and/or relief agencies and the public
4.8	Develop communication plan to improve community knowledge of good water management practices	Develop Public awareness strategy with key messages, target audience and outreach methods. Implement media campaigns via radio television and online platforms	Public Awareness Strategy and Communication Plan	High	1. A public awareness program promoting the conservation and management of water and monitoring, educating and training targeted communities on water conservation and management, gender & social inclusion, community action, national planning, and regional learning
4.9	Water resource focused Internship program	Water resource internship that ensures capacity building on the Grenadine islands.	Internship program curriculum and training plan	Low	1. 30 interns certified per month over 6 months
4.10	Classroom materials related to water conservation and efficiency	Climate resilient water resource management awareness in classrooms targeting a total of 600 students in 30 schools	Curriculum lesson plans, interactive activities, visual aids, and digital resources	Low	1. Knowledge management tools that address topics such as the water cycle, climate change impacts on water resources, and best practices for water conservation at home and in communities.
4.11	Climate resilient water management certificate program	A climate-resilient water management certification program that enhances workforce skills and promotes sustainable	Climate resilient water management curriculum and training plan	Medium	2. Completed design of a structured climate resilient water management certificate program targeting actors already involved in the

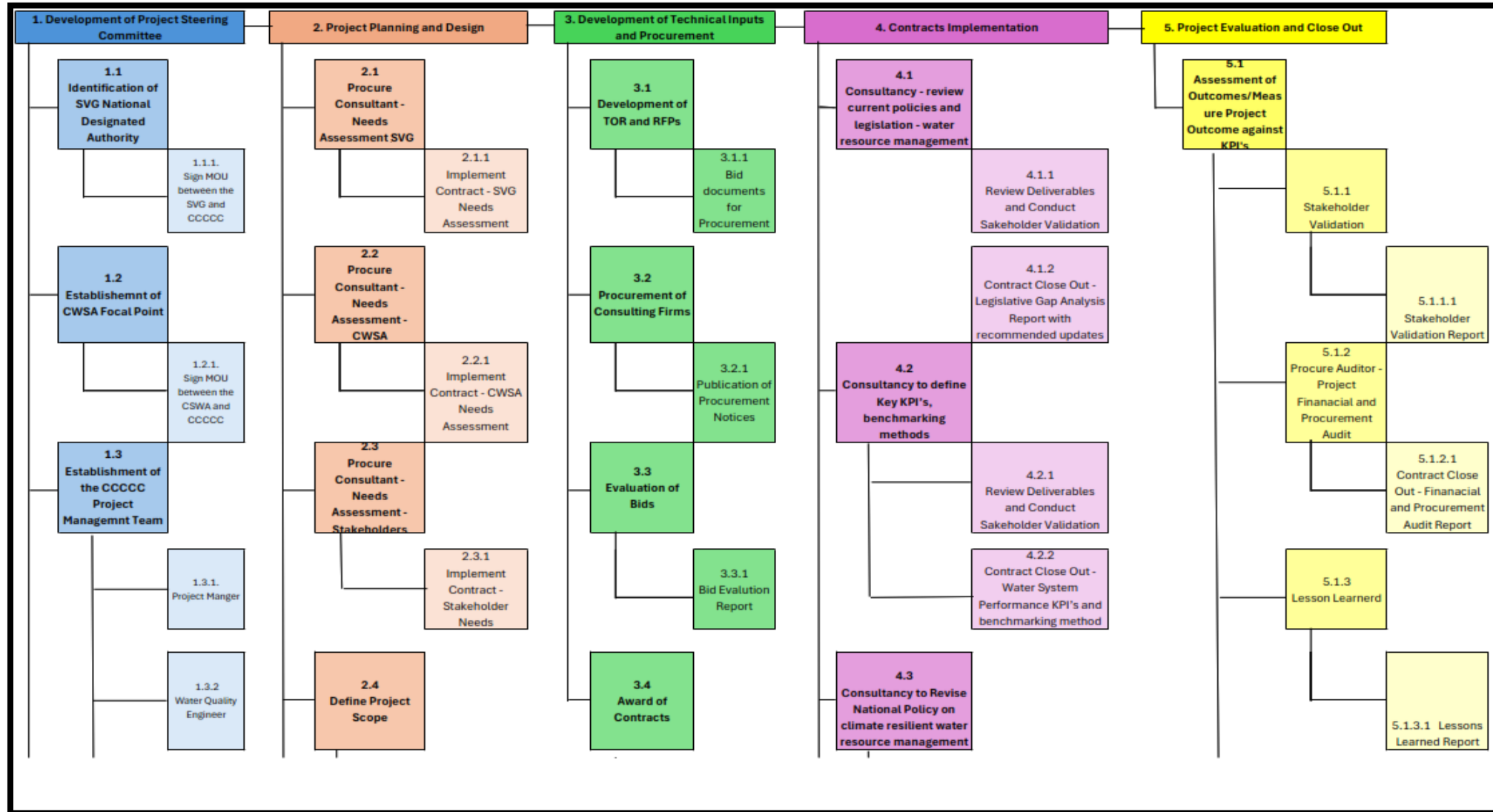
WBS ID #	Description	Requirements	Deliverable	Priority	Acceptance Criteria
		practices across key industries as well as competitive advantage for businesses, encouraging widespread adoption of climate-smart water practices.			water services and management sector building managers, plumbers and workers in the hospitality and agricultural sector.

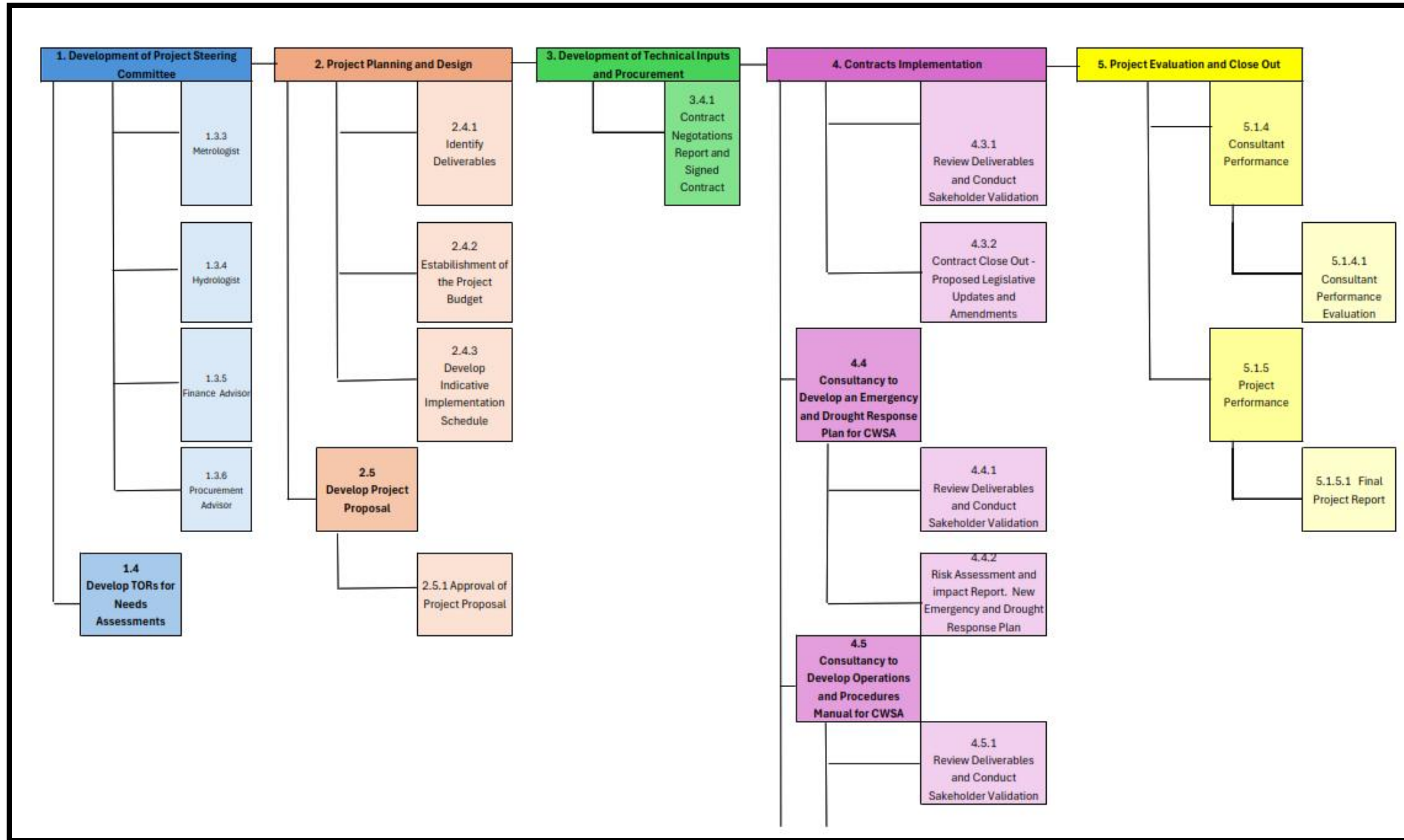
Note: Author's Own Work

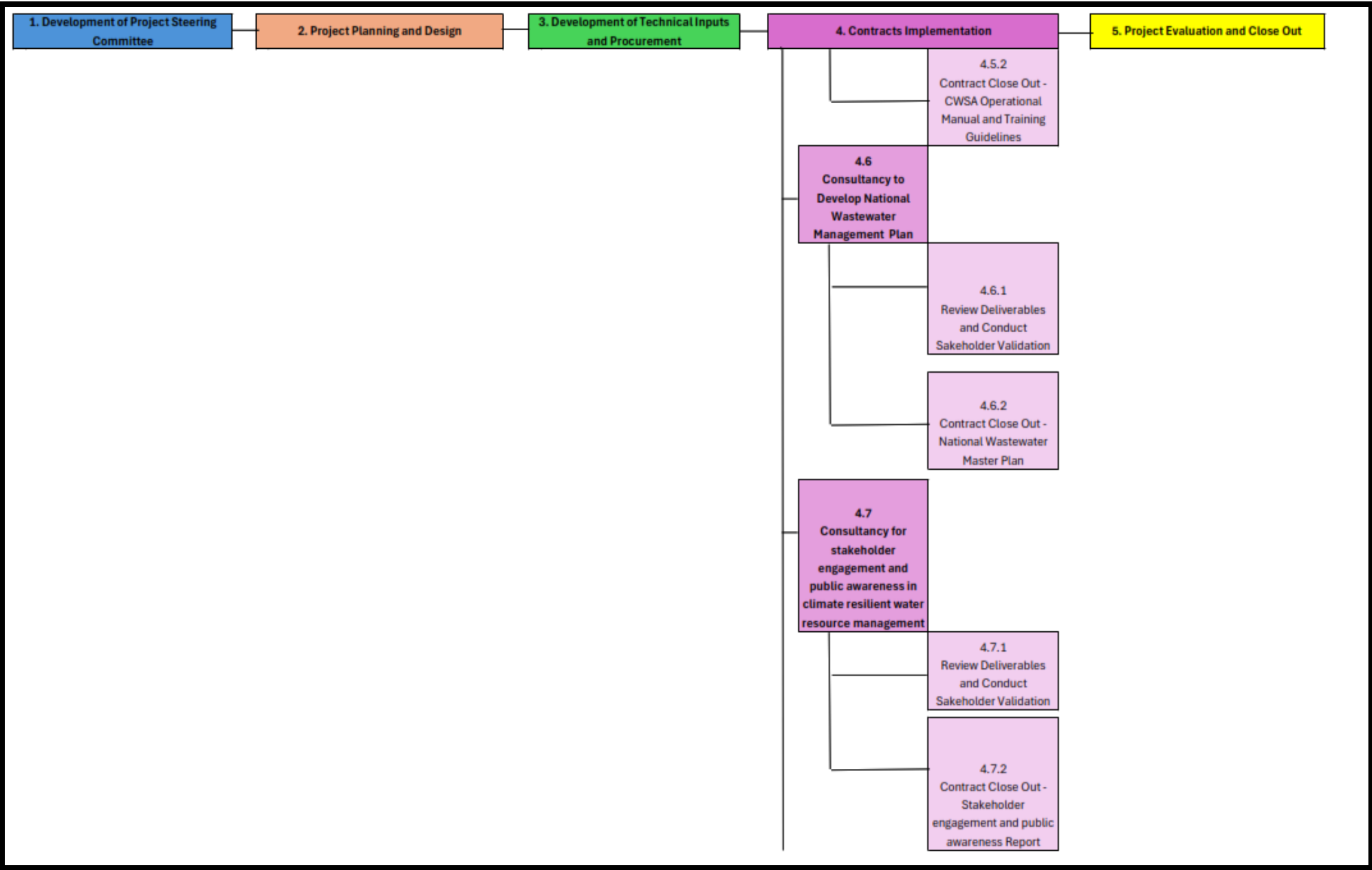
### 4.2.3 Work Breakdown Structure (WBS)

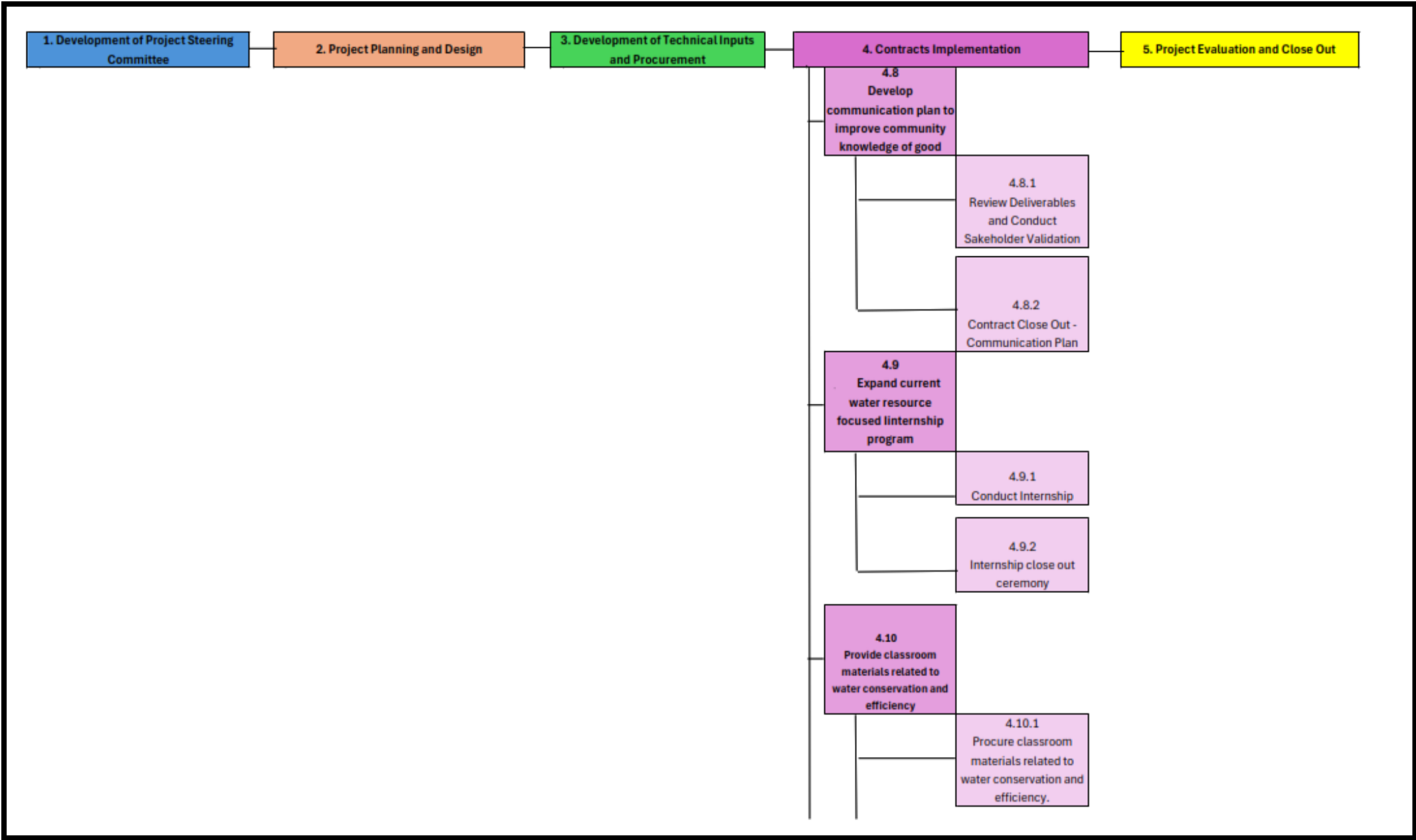
The work breakdown structure (WBS) is a tool that demonstrates the decomposition of the project activities and organizes and defines the overall scope of the project. The WBS is used as a daily work tool as it focuses on results that are SMART. WBS is the first step in planning a project and serves as the foundation for developing the project timeline and budget. One of its most important uses is to support the project scope verification process (PMI 2017).

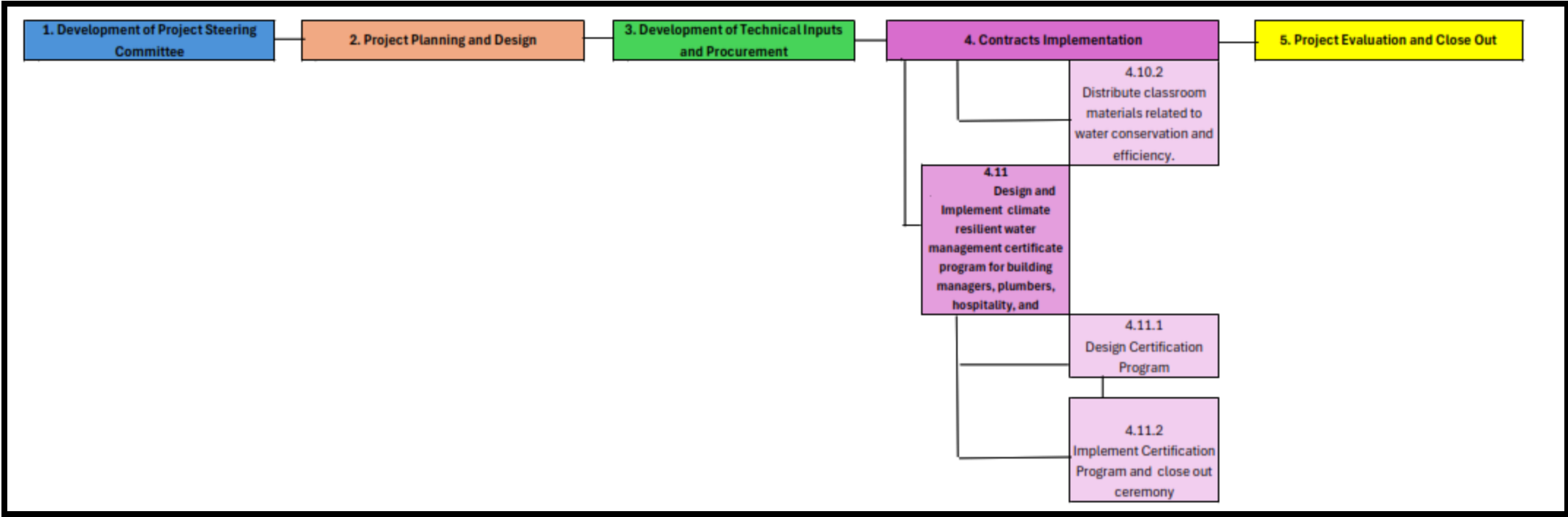
Figure 8 Work Breakdown Structure (WBS)











Note: Author's Own Work

#### 4.2.4 WBS Dictionary

WBS Dictionary acts as a companion to WBS, offering an exhaustive account of the various elements within the work breakdown structure. It serves as a repository of key information essential for understanding and executing the project (PMI 2017). Each element in the WBS is accompanied by a corresponding entry in the WBS Dictionary, providing clarity and context to the project scope.

The CℓEAR-Water Project WBS Dictionary enables clear communication of the project scope to stakeholders and also helps prevent scope creep by delineating precise deliverables and tasks.

**Table 10 WBS Dictionary**

WBS Level	WBS ID	WBS Name	Description/Definition	Resources
0	1	Development of Project Steering Committee		
1	1.1	Identification of Saint Vincent and the Grenadines National Designated Authority	Identification of the relevant Government Ministries for Water Sector Policy and Development and policy development and form a government stakeholder group that will be a part of the Project Steering Committee	CCCCC Senior Management and Government of Saint Vincent
2	1.1.1	Sign MOU between the Government of Saint Vincent and CCCCC	Prepare an MOU that documents the roles, responsibility and obligations of the CCCCC and the Government of Saint Vincent and the Grenadines	CCCCC Senior Management and Government of Saint Vincent
1	1.2	Establishment of CWSA Focal Point	Identification of the relevant personnel from CWSA that will be a part of the Project Steering Committee	CCCCC Senior Management and CWSA
1	1.2.1	Sign MOU between the CSWA and CCCCC	Prepare an MOU that documents the roles, responsibility and obligations of the CCCCC and the CWSA	CCCCC Senior Management and CWSA
1	1.3	Establishment of the CCCCC Project Management Team		
2	1.3.1	Project Manger	Select Project Manager who will manage the project management team - CCCCC	CCCCC Senior Management
2	1.3.2	Water Quality Engineer	Engage Water Quality Engineer from CSWA	CWSA and CCCCC

2	1.3.3	Metrologist	Engage Metrologist for SVG MET Department	CCCCC SVG MET Department
<b>WBS Level</b>	<b>WBS ID</b>	<b>WBS Name</b>	<b>Description/Definition</b>	<b>Resources</b>
2	1.3.4	Hydrologist	Engage Hydrologist	CCCCC SVG Hydrology Department
2	1.3.5	Finance Advisor	Engage Finance Advisor - CCCCC	CCCCC Senior Management
2	1.3.6	Procurement Advisor	Engage Procurement Advisor - CCCCC	CCCCC Senior Management
2	1.4	Develop TORs for Needs Assessments		
0	2	Project Planning and Design		
1	2.1	Needs Assessment Government of Saint Vincent and the Grenadines	Hire Consultant to conduct needs assessment	Consulting Firm
2	2.1.1	Implement Contract Government of Saint Vincent and the Grenadines Needs Assessment Report	Review and approval of consultant deliverable and reports	Project Steering Committee
1	2.2	Needs Assessment - CWSA	Hire Consultant to conduct needs assessment	
2	2.2.1	Implement Contract CWSA Needs Assessment Report	Review and approval of consultant deliverable and reports	Project Steering Committee
1	2.3	Needs Assessment - Stakeholders	Hire Consultant to conduct needs assessment	
2	2.3.1	Implement Contract Stakeholder Needs Assessment Report	Review and approval of consultant deliverable and reports	Project Steering Committee
1	2.4	Define Project Scope		
2	2.4.1	Identify Deliverables	Develop project activities and outputs	Project Steering Committee
2	2.4.2	Establishment of the Project Budget	Determine project budget boundaries	Project Steering Committee
2	2.4.3	Develop Indicative Implementation Schedule	Define goals, deadlines, and project deliverables	Project Steering Committee
1	2.5	Develop Project Proposal	Collate Project Assessment Reports, Implementation Plan, Procurement Plan, Project Budget, itemize activities, define expected inputs, outputs and deliverables	Project Steering Committee
2	2.5.1	Approval of Project Proposal	Seek donor approval for the draft project proposal	Green Climate Fund (GCF)

0	3	Development of Technical Inputs and Procurement		
WBS Level	WBS ID	WBS Name	Description/Definition	Resources
1	3.1	Development of Terms of References and Request for Proposals for Consultancies	Prepare TORs and RFP indicating the scope of the services required, expected duration of the services, list of deliverables, timelines for deliverables, management arrangements for the contract, qualification information for bidders, bidders' evaluation criteria, required documentation to submit, submission protocols and instructions and deadline for submission of proposal	Project Steering Committee
2	3.1.1	Bid documents for Procurement	Prepare TORs and RFP indicating the scope of the services required, expected duration of the services, list of deliverables, timelines for deliverables, management arrangements for the contract, qualification information for bidders, bidders' evaluation criteria, required documentation to submit, submission protocols and instructions and deadline for submission of proposal	Project Management Team
1	3.2	Procurement of Consulting Firms	Issue Procurement Notice and call for shortlisting of firms	Procurement Officer/Project Manager
2	3.2.1	Publication of Procurement Notices	Publication of Bid documents on the CCCCC, Government of Saint Vincent and the Grenadines and CWSA websites as well as all social media platforms used by all three entities	Procurement Officer
1	3.3	Evaluation of Bids	Formulate Evaluation Committee using individuals from the Project Steering Committee	Procurement Officer/ Project Manager
2	3.3.1	Bid Evaluation Report	Collate evaluation scores and prepare evaluation report detailing the procurement process, evaluation committee scores and recommendations for award	Procurement Officer/ Bid Evaluation Committee
1	3.4	Award of Contracts	Notify the selected firm of intent to award	Procurement Officer/ Project Manager

<b>WBS Level</b>	<b>WBS ID</b>	<b>WBS Name</b>	<b>Description/Definition</b>	<b>Resources</b>
2	3.4.1	Contract Negotiations Report and Signed Contract	Meeting with CCCCC project management team and consultant to discuss and agree on start of consultancy, respond to any technical quires and agree on terms of engagement	Procurement Officer/ Project Manager/ NDA Focal Point
0	4	Contracts Implementation		
1	4.1	Consultancy to Review current policies and legislation related to water resource management to identify gaps	Introduction of the Consulting team to the Stakeholders, management of the consultancy	Project Management Team
2	4.1.1	Review Deliverables and Conduct Stakeholder Validation	Members of the project steering committee review deliverables. Stakeholder Validation workshops, provide feedback for improvement, review final deliverable and acceptance of final	Project Steering Committee
2	4.1.2	Legislative Gap Analysis Report with recommended updates	Acceptance of all deliverables under contract and closing out of contract	Project Manager
1	4.2	Consultancy to define Key KPI's, benchmarking methods with stakeholder validation of proposed framework component	Introduction of the Consulting team to the Stakeholders, management of the consultancy	Project Management Team
2	4.2.1	Review Deliverables and Conduct Stakeholder Validation	Members of the project steering committee review deliverables. Stakeholder Validation workshops, provide feedback for improvement, review final deliverable and acceptance of final	Project Steering Committee
2	4.2.2	Water System Performance KPI's and benchmarking method	Acceptance of deliverables under contract and closing out of contract	Project Manager
1	4.3	Consultancy to Revise National Policy on climate resilient water resource management	Introduction of the Consulting team to the Stakeholders, management of the consultancy	Project Management Team

<b>WBS Level</b>	<b>WBS ID</b>	<b>WBS Name</b>	<b>Description/Definition</b>	<b>Resources</b>
2	4.3.1	Review Deliverables and Conduct Stakeholder Validation	Members of the project steering committee review deliverables. Stakeholder Validation workshops, provide feedback for improvement, review final deliverable and acceptance of final	Project Steering Committee
2	4.3.2	Proposed Legislative Updates and Amendments	Acceptance of deliverables under contract and closing out of contract	Project Manager
1	4.4	Consultancy to Develop an Emergency and Drought Response Plan for CWSA	Introduction of the Consulting team to the Stakeholders, management of the consultancy	Project Management Team
2	4.4.1	Review Deliverables and Conduct Stakeholder Validation	Members of the project steering committee review deliverables. Stakeholder Validation workshops, provide feedback for improvement, review final deliverable and acceptance of final	Project Steering Committee
2	4.4.2	Assessment and impact Report. New Emergency and Drought Response Plan	Acceptance of deliverables under contract and closing out of contract	Project Manager
1	4.5	Consultancy to Develop Operations and Procedures Manual for CWSA	Introduction of the Consulting team to the Stakeholders, management of the consultancy	Project Management Team
2	4.5.1	Review Deliverables and Conduct Stakeholder Validation	Members of the project steering committee review deliverables. Stakeholder Validation workshops, provide feedback for improvement, review final deliverable and acceptance of final	Project Steering Committee
2	4.5.2	CWSA Operational Manual and Training Guidelines	Acceptance of deliverables under contract and closing out of contract	Project Manager
1	4.6	Consultancy to Develop National Wastewater Management Plan	Introduction of the Consulting team to the Stakeholders, management of the consultancy	Project Management Team
2	4.6.1	Review Deliverables and Conduct Stakeholder Validation	Members of the project steering committee review deliverables. Stakeholder Validation workshops, provide feedback for improvement, review final deliverable and acceptance of final	Project Steering Committee
2	4.6.2	National Wastewater Management Plan	Acceptance of deliverables under contract and closing out of contract	Project Manager

<b>WBS Level</b>	<b>WBS ID</b>	<b>WBS Name</b>	<b>Description/Definition</b>	<b>Resources</b>
1	4.7	Consultancy for stakeholder engagement and public awareness in climate resilient water resource management	Introduction of the Consulting team to the Stakeholders, management of the consultancy	Project Management Team
2	4.7.1	Review Deliverables and Conduct Stakeholder Validation	Members of the project steering committee review deliverables. Stakeholder Validation workshops, provide feedback for improvement, review final deliverable and acceptance of final	Project Steering Committee
2	4.7.2	Stakeholder engagement and public awareness Report	Acceptance of deliverables under contract and closing out of contract	Project Manager
1	4.8	Develop communication plan to improve community knowledge of good water management practices	Introduction of the Consulting team to the Stakeholders, management of the consultancy	Project Management Team
2	4.8.1	Review Deliverables and Conduct Stakeholder Validation	Members of the project steering committee review deliverables. Stakeholder Validation workshops, provide feedback for improvement, review final deliverable and acceptance of final	Project Steering Committee
2	4.8.2	Communication Plan	Acceptance of deliverables under contract and closing out of contract	Project Manager
1	4.9	Expand current water resource focused Internship program (students)	Update Internship Program	Project Management Team
2	4.9.1	Conduct Internship 24 months for 30 interns	To be conducted through tertiary institutions using outputs from the climate resilient water resources management consultancy	Tertiary institutions/Project Manager
2	4.9.2	Issue Internship Certification	Internship close out ceremony	Tertiary institutions/Project Manager
1	4.1	Provide classroom materials related to water conservation and efficiency	Supplies Contracting	Procurement

<b>WBS Level</b>	<b>WBS ID</b>	<b>WBS Name</b>	<b>Description/Definition</b>	<b>Resources</b>
2	4.10.1	Procure classroom materials related to water conservation and efficiency.	Solicit quotation for design and printing of materials from a minimum of 3 suppliers. Evaluate bids, select least cost bid, issue contract for supply and delivery of goods	Procurement
2	4.10.2	Distribute classroom materials related to water conservation and efficiency.	Consolidate materials per school and distribute to each school at handing over ceremony	Project Management Team
1	4.11	Climate resilient water management certificate program for building managers, plumbers, hospitality, and agriculture.	Design and Implement Certification Program	Project Management Team
2	4.11.1	Implement Certification Program for building managers, plumbers, hospitality, and agriculture	To be conducted through tertiary institutions using outputs from the climate resilient water resources management consultancy	Tertiary institutions/Project Manager
2	4.11.2	Implement Certification Program and close out ceremony	Certification Program close out ceremony	Tertiary institutions/Project Manager
1	5	Project Evaluation and Close Out		
2	5.1	Assessment of Outcomes/Measure Project Outcome against KPI's	Assessment of the strategic, financial, and operational achievements	Project Management Team/Project Steering Committee
2	5.1.1	Stakeholder Validation	Stakeholder feedback, insights and opinions of anyone who had a vested interest in the outcome of a project.	Project Management Team/Project Steering Committee
3	5.1.1.1	Stakeholder Validation Report	Report on the validation mechanism, affirming that the project's trajectory aligns with the stakeholders' vision and requirements.	Project Management Team/Project Steering Committee
2	5.1.2	Procure Auditor - Project Financial and Procurement Audit	Auditor to validate that the procurement and financial transactions were conducted according to the CCCCC polices and standard best practices	Finance and Procurement Units
3	5.1.2.1	Financial and Procurement Audit Report	Auditors Report	Finance and Procurement Units

WBS Level	WBS ID	WBS Name	Description/Definition	Resources
2	5.1.3	Lesson Learned	Key takeaways from the project to inform future similar initiatives	Project Management Team
3	5.1.3.1	Lessons Learned Report	Documenting and applying the lessons learned to improve and learn from missteps and successes	Project Management Team
2	5.1.4	Consultant Performance	Consultant's performance, including questionnaires or online surveys and, where necessary, meetings with project staff, including those on site where Works or General Services are performed	Project Management Team
3	5.1.4.1	Consultant Performance Evaluation	Documenting Consultant's performance using standard KPI's	Project Management Team
2	5.1.5	Project Performance	Project's performance including via questionnaires or online surveys and, where necessary, meetings with project staff, including those on site where Works or General Services are performed	Project Management Team
3	5.1.5.1	Final Project Report	Documenting Projects' performance using standard KPI's	Project Management Team

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#### 4.2.5 Roles and Responsibilities

Managing projects requires that all Stakeholders understand their role in the Project. Defining team roles and responsibilities is critical for success. By understanding and clearly defining these roles, you can create a team dynamic that fosters collaboration, accountability, and efficiency.

The organizations and individuals listed below comprise the CLEAR-Water Project Steering Committee.

**Table 11 Roles and Responsibilities**

No.	Title	Role/ Responsibilities in the Project
1	CCCCC Senior Management	Responsible for the Strategic Planning and Directing of the CCCCC and selection of the CCCCC Project Management Team

No.	Title	Role/ Responsibilities in the Project
2	CCCCC Project Manager	Overall management of the project
3	CCCCC Finance Advisor	Management of the project budget. Facilitation of payments and Audits
4	CCCCC Procurement Advisor	Management of the Procurement Process and facilitation of Audits
5	Government of Saint Vincent and CCCCC	Responsible for the Strategic Planning and Directing of national Water Systems Legislative Performance Framework. Also, the GCF National Designated Authority (NDA) for SVG
6	Government of SVG Key Personnel for the Project ( <u>Hydrologist</u> )	To provide technical guidance on current infrastructure, gaps and needs for the Project Steering Committee
7	CWSA	The Central Water and Sewerage Authority (CWSA), a statutory body that is an arm of the Public Works Department, under the designation of the “Water Works”. Responsible for Water Resource and Water Supply Management.
8	CWSA Key Personnel for the Project - ( <u>Water Quality Engineer</u> )	To represent CWSA and provide technical guidance on current infrastructure, gaps and needs for the Project Steering Committee
9	Metrologist	To provide technical guidance on weather related events data, weather forecasting information gaps and needs for the Project Steering Committee
10	Consultants	Will provided the services in a timely, professional and competent manner, with all due skill and care, and in accordance with applicable professional standards

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#### 4.2.6 Scope Validation and Verification

Scope Validation and Verification are crucial phases in project management to ensure that the project delivers the desired outcomes and meets the needs of stakeholders. To achieve this detailed and objective monitoring and controlling of the progress of the work against the Scope

Statement, WBS and WBS Dictionary must be conducted. This is the is the fifth process in the Knowledge Areas (PMI 2017).

**Table 12 WBS Dictionary**

<b>Stakeholders</b>	<b>Forum</b>	<b>Objective of Scope Validation Meeting</b>	<b>Frequency</b>
<b>Project Management Team</b>	Face to Face interaction Virtual meetings, Site Visits, Validation and Stake holder Engagement Sessions	To confirm that the project scope aligns with Scope Statement, WBS, and WBS Dictionary and stakeholder expectations and requirements	Daily
<b>Project Steering committee</b>	Face to Face interaction Virtual meetings, Site Visits, Validation and Stake holder Engagement Sessions	Gather and review feedback, address concerns, address any new requests from stakeholders. Review and make recommendations on deliverable	Monthly
<b>CWSA</b>	Face to Face interaction, emails, virtual meetings, calls	Gather and review feedback, address concerns, address any new requests from stakeholders. Review and make recommendations on deliverable	Bi - Monthly or as needed
<b>Government of SVG</b>	Face to Face interaction, emails, virtual meetings, calls	Gather and review feedback, address concerns, address any new requests from stakeholders. Review and make recommendations on deliverable	Bi - Monthly or as needed
<b>Consultants</b>	Face to Face interaction, emails, virtual meetings, calls	Discuss the progress, challenges and accomplishments of consultancies and present feedback from stakeholders they engage with	Meetings and Discussion are tailored around the submission of draft reports and stakeholder consultation and validation workshops

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### **4.2.7 Control Scope**

The CLEAR-Water project stakeholder working group, plays a critical role in reviewing, assessing and endorsing any proposed changes to project scope to ensure alignment with national priorities and stakeholder interests. Meanwhile, the Project Management Team, composed of technical staff, is responsible for executing activities within the approved scope and flagging any deviations or emerging issues. All requested scope changes must be documented and submitted through a Change Control Process, which includes technical review by the stakeholder working group and approval by the Project Steering Committee.

The use of tiered governance approach will ensure that all requested changes are thoroughly evaluated, justified, and approved at the appropriate level for both technical and strategic feasibility to ensure project focus and minimize scope creep. See table 6 -Change Control Form.

## **4.3 Schedule Management**

The schedule management plan is the output of the ‘Plan Schedule Management’ process within project schedule management. According to the Project Management Institute (2017). It involves the processes, tasks and other requirements needed for completing a project on time, given the previously established project scope.

### **4.3.1 Plan Schedule Management**

The schedule management plan establishes the criteria and the activities for developing, monitoring and controlling the schedule. Creating a schedule management plan is the first step in the project scheduling process as it sets the rules that’ll be followed to create and manage your project schedule. The WBS is used to develop an activity list which is one of the main outputs of this process. Expert judgment and research conducted on similar projects also help to create an accurate Schedule Management Plan.

### 4.3.2 Sequence activities

Sequential activities are tasks or duties that must be completed, or at least started, in order. According to the PMI Guide 2017, the key benefit of this process is that it defines the logical sequence of work to obtain the greatest efficiency given all project constraints.

### 4.3.3 Estimate activity duration

Activity duration estimates are an important part of the project management process. They allow project managers to estimate task durations and identify dependencies.

**Table 13 Estimate Activity Duration**

	A	B	C	D	E	F	G	H
	WBS ID	Work Package	Activity ID	Activity Name	Start Of Activity	End of Activity	Duration days	Dependencies
1	1.1	Development of Project Steering Committee			02/01/2026	27/02/2026	41	
2								
3			1.1.1	Sign MOU between the Government of Saint Vincent and CCCCC	02/01/2026	12/01/2026	7	
4	1.2	Establishment of CWSA Focal Point						
5			1.2.1	Sign MOU between the CSWA and CCCCC	02/01/2026	12/01/2026	7	
6	1.3	Establishment of the CCCCC Project Management Team						
7			1.3.1	Project Manger	02/01/2026	09/01/2026	6	
8			1.3.2	Water Quality Engineer	02/01/2026	10/02/2026	28	
9			1.3.3	Metrologist	02/01/2026	10/02/2026	28	
10			1.3.4	Hydrologist	02/01/2026	10/02/2026	28	

	A	B	C	D	E	F	G	H
	WBS ID	Work Package	Activity ID	Activity Name	Start Of Activity	End of Activity	Duration days	Dependencies
11			1.3.5	Finance Advisor	02/01/2026	09/01/2026	6	
12			1.3.6	Procurement Advisor	02/01/2026	09/01/2026	6	
13	1.4	TORs for Needs Assessments			11/02/2026	27/02/2026	13	F1
14	2	<b>Project Planning and Design</b>			<b>02/03/2026</b>	<b>08/01/2027</b>	<b>225</b>	
15	2.1	Needs Assessment Government of SVG Consultancy		Procurement of Consultant	19/03/2026	20/04/2026	23	F13
	A	B	C	D	E	F	G	H
	WBS ID	Work Package	Activity ID	Activity Name	Start Of Activity	End of Activity	Duration days	Dependencies
16			2.1.1	Implement Contracts	21/04/2026	20/08/2026	88	F15
17	2.2	Needs Assessment - CWSA		Procurement of Consultant	19/03/2026	20/04/2026	23	F13
18			2.2.1	Implement Contracts	21/04/2026	20/08/2026	88	F17
19	2.3	Needs Assessment - Stakeholders		Procurement of Consultant	19/03/2026	20/04/2026	23	F13
20			2.3.1	Implement Contracts	21/04/2026	20/08/2026	88	F19
21	2.4	Define Project Scope			21/08/2026	08/10/2026	35	F20
22			2.4.1	Identify Deliverables	21/08/2026	08/10/2026	35	
23			2.4.2	Establishment of the Project Budget	21/08/2026	08/10/2026	35	
24			2.4.3	Develop Indicative Implementation Schedule	21/08/2026	08/10/2026	35	
25	2.5	Develop Project Proposal			21/08/2026	04/12/2026	76	F21

	A	B	C	D	E	F	G	H
	WBS ID	Work Package	Activity ID	Activity Name	Start Of Activity	End of Activity	Duration days	Dependencies
26			2.5.1	Approval of Project Proposal	07/12/2026	08/01/2027	25	F25
27	3	<b>Development of Technical Inputs and Procurement</b>			<b>11/01/2027</b>	<b>19/03/2027</b>	<b>55</b>	F26
28	3.1	Development of Terms of References and Request for Proposals for Consultancies						F26
29			3.1.1	Bid documents for Procurement	11/01/2027	10/02/2027	23	F28
30	3.2	Procurement of Consulting Firms						
	A	B	C	D	E	F	G	H
	WBS	Work Package	Activity ID	Activity Name	Start Of Activity	End of Activity	Duration days	Dependencies
31			3.2.1	Publication of Procurement Notices	11/02/2027	11/03/2027	20	F29
32	3.3	Evaluation of Bids						
33			3.3.1	Bid Evaluation and Evaluation Report	12/03/2027	15/03/2027	2	F30
34	3.4	Award of Contracts						
35			3.4.1	Contract Negotiations Report and Signed Contract	16/03/2027	19/03/2027	4	F33
36	3	<b>Contract Implementation</b>			<b>01/04/2027</b>	<b>30/11/2027</b>	<b>174</b>	F35
37	4.1	Implement Consultancy Legislation Review						

	A	B	C	D	E	F	G	H
	WBS ID	Work Package	Activity ID	Activity Name	Start Of Activity	End of Activity	Duration days	Dependencies
38			4.1.1	Review Deliverables and Conduct Stakeholder Validation ed updates	30/03/2027	27/09/2027	130	F35
39			4.1.2	Contract Close Out - Legislative Gap Analysis Report with recommended updates	28/09/2027	28/09/2027	1	F38
40	4.2	Implement Consultancy Define Key KPI's						
41			4.2.1	Review Deliverables and Conduct Stakeholder Validation ed updates	30/03/2027	27/09/2027	130	F35
	A	B	C	D	E	F	G	H
	WBS ID	Work Package	Activity ID	Activity Name	Start Of Activity	End of Activity	Duration days	Dependencies
42			4.2.2	Contract Close Out - Water System Performance KPI's and benchmarking method	28/09/2027	28/09/2027	1	F41
43	4.3	Implement Consultancy Revise National Policy						

	A	B	C	D	E	F	G	H
	WBS ID	Work Package	Activity ID	Activity Name	Start Of Activity	End of Activity	Duration days	Dependencies
44			4.3.1	Review Deliverables and Conduct Stakeholder Validation ed updates	30/03/2027	27/09/2027	130	F35
45			4.3.2	Contract Close Out - Proposed Legislative Updates and Amendments	28/09/2027	28/09/2027	1	F44
46	4.4	Implement Consultancy Emergency and Drought Response Plan for CWSA						
47			4.4.1	Review Deliverables and Conduct Stakeholder Validation ed updates	30/03/2027	27/09/2027	130	F35
48			4.4.2	Contract Close Out - Assessment and impact Report. New Emergency and Drought Response Plan	28/09/2027	28/09/2027	1	F47
	A	B	C	D	E	F	G	H
	WBS ID	Work Package	Activity ID	Activity Name	Start Of Activity	End of Activity	Duration days	Dependencies
49	4.5	Implement Consultancy Operations and Procedures Manual for CWSA						

	A	B	C	D	E	F	G	H
	WBS ID	Work Package	Activity ID	Activity Name	Start Of Activity	End of Activity	Duration days	Dependencies
50			4.5.1	Review Deliverables and Conduct Stakeholder Validation ed updates	30/03/2027	27/09/2027	130	F35
51			4.5.2	Contract Close Out - CWSA Operational Manual and Training Guidelines	28/09/2027	28/09/2027	1	F50
52	4.6	Consultancy to Develop National Wastewater Management Plan						
53			4.6.1	Review Deliverables and Conduct Stakeholder Validation	30/03/2027	27/09/2027	130	F35
54			4.6.2	National Wastewater Management Plan	28/09/2027	28/09/2027	1	F53
55	4.7	Implement Consultancy Stakeholder engagement and public awareness						
	A	B	C	D	E	F	G	H
	WBS	Work Package	Activity ID	Activity Name	Start Of Activity	End of Activity	Duration days	Dependencies

	A	B	C	D	E	F	G	H
	WBS ID	Work Package	Activity ID	Activity Name	Start Of Activity	End of Activity	Duration days	Dependencies
56			4.7.1	Review Deliverables and Conduct Stakeholder Validation ed updates	30/03/2027	27/09/2027	130	F35
57			4.7.2	Contract Close Out -Stakeholder engagement and public awareness Report	28/09/2027	28/09/2027	1	F56
58	4.8	Develop communication plan to improve community knowledge of good water management practices						
59			4.8.1	Review Deliverables and Conduct Stakeholder Validation ed updates	30/03/2027	28/06/2027	65	F35
60			4.8.2	Contract Close Out - Communication Plan	29/06/2027	29/06/2027	1	F59
61	4.9	Expand current water resource focused Internship program (students)						
62			4.9.1	Conduct Internship 6 months for 30 interns per month	30/03/2027	27/09/2027	130	F20
	A	B	C	D	E	F	G	H

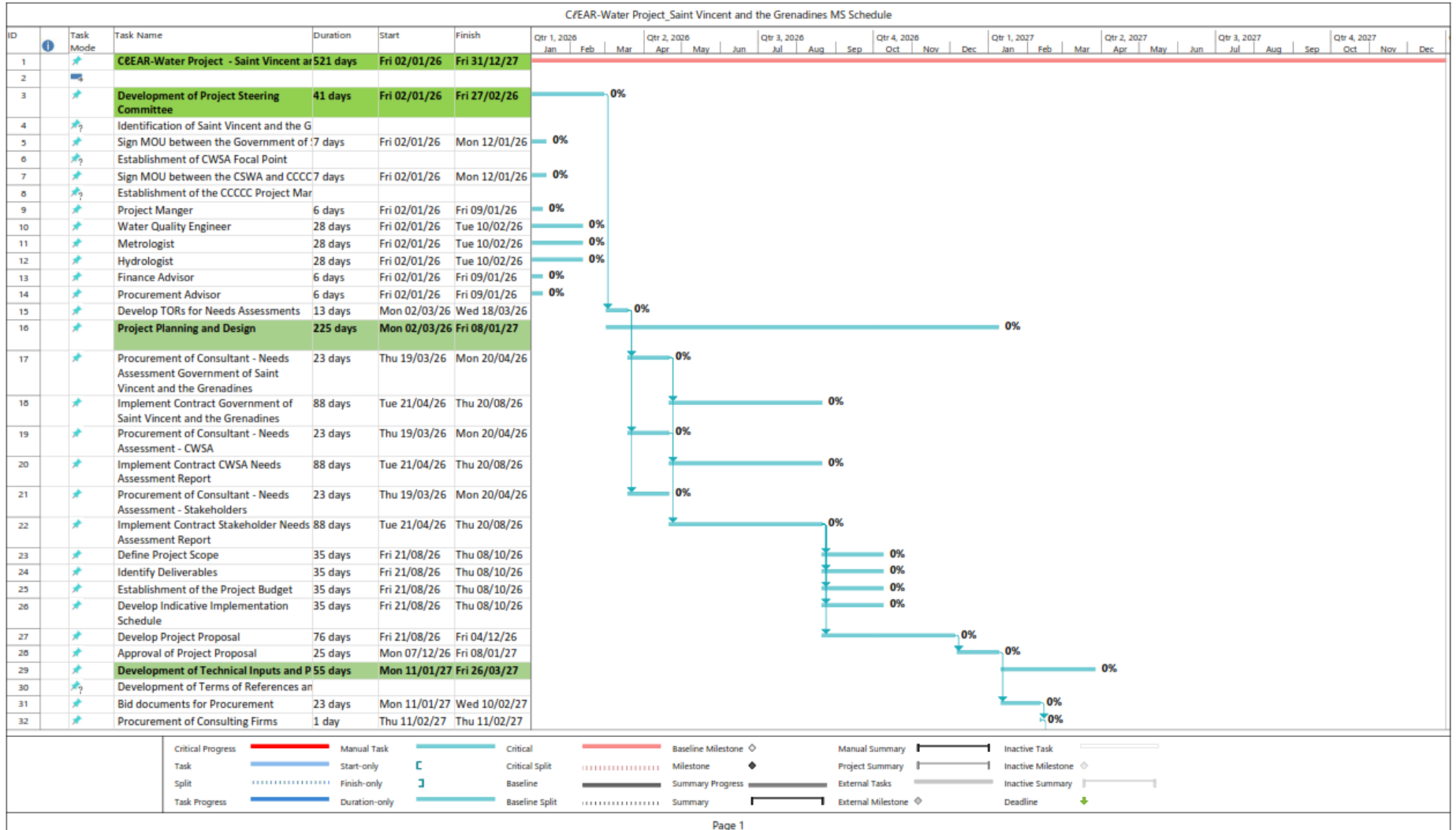
	A	B	C	D	E	F	G	H
	WBS ID	Work Package	Activity ID	Activity Name	Start Of Activity	End of Activity	Duration days	Dependencies
	WBS	Work Package	Activity ID	Activity Name	Start Of Activity	End of Activity	Duration days	Dependencies
63			4.9.2	Issue Internship Certification	28/09/2027	28/09/2027	1	F63
64	4.10	Provide classroom materials related to water conservation and efficiency						
65			4.10.1	Solicit Quotations from local suppliers	01/07/2027	30/08/2027	44	F60
66			4.10.2	Distribution of classroom materials	31/08/2027	31/12/2027	88	F66
67	4.11	Design and Implement - Climate resilient water management certificate program for building managers, plumbers, hospitality, and agriculture.						
68			4.11.1	Design Climate resilient water management certificate program for building managers, plumbers, hospitality, and agriculture.	29/03/2027	25/06/2027	65	F35

	A	B	C	D	E	F	G	H
	WBS ID	Work Package	Activity ID	Activity Name	Start Of Activity	End of Activity	Duration days	Dependencies
69			4.11.2	Implement Certification Program and close out ceremony	28/06/2027	14/12/2027	122	F68
	A	B	C	D	E	F	G	H
	WBS ID	Work Package	Activity ID	Activity Name	Start Of Activity	End of Activity	Duration days	Dependencies
70								
71	5.1	Project Evaluation and Close Out			28/06/2027	31/12/2027	135	
72			5.1.1	Stakeholder Validation	Mon 28/06/27	Mon 28/06/27	1	F69
73			5.1.1.1	Stakeholder Validation Report	Wed 29/09/27	Wed 17/11/27	36	F73
74	5.1.2	Project Financial and Procurement Audit						
75			5.1.2.1	Procure Auditor	01/09/2027	30/09/2027	22	
76			5.1.2.1.1	Implement Audit Contract	01/10/2027	30/11/2027	43	
77	5.1.3	Lessons Learned Report		Lesson Learned				
78			5.1.3.1	Document Lessons Learned	01/12/2027	31/12/2027	23	F76
79	5.1.4	Consultant Performance Assessment						
80			5.1.4.1	Consultant Performance Evaluation	29/09/2027	26/11/2027	43	F68
81	5.1.5	Project Performance Assessment						
82	<b>Total Days</b>			Final Project Report	01/10/2027	31/12/2027	66	F80

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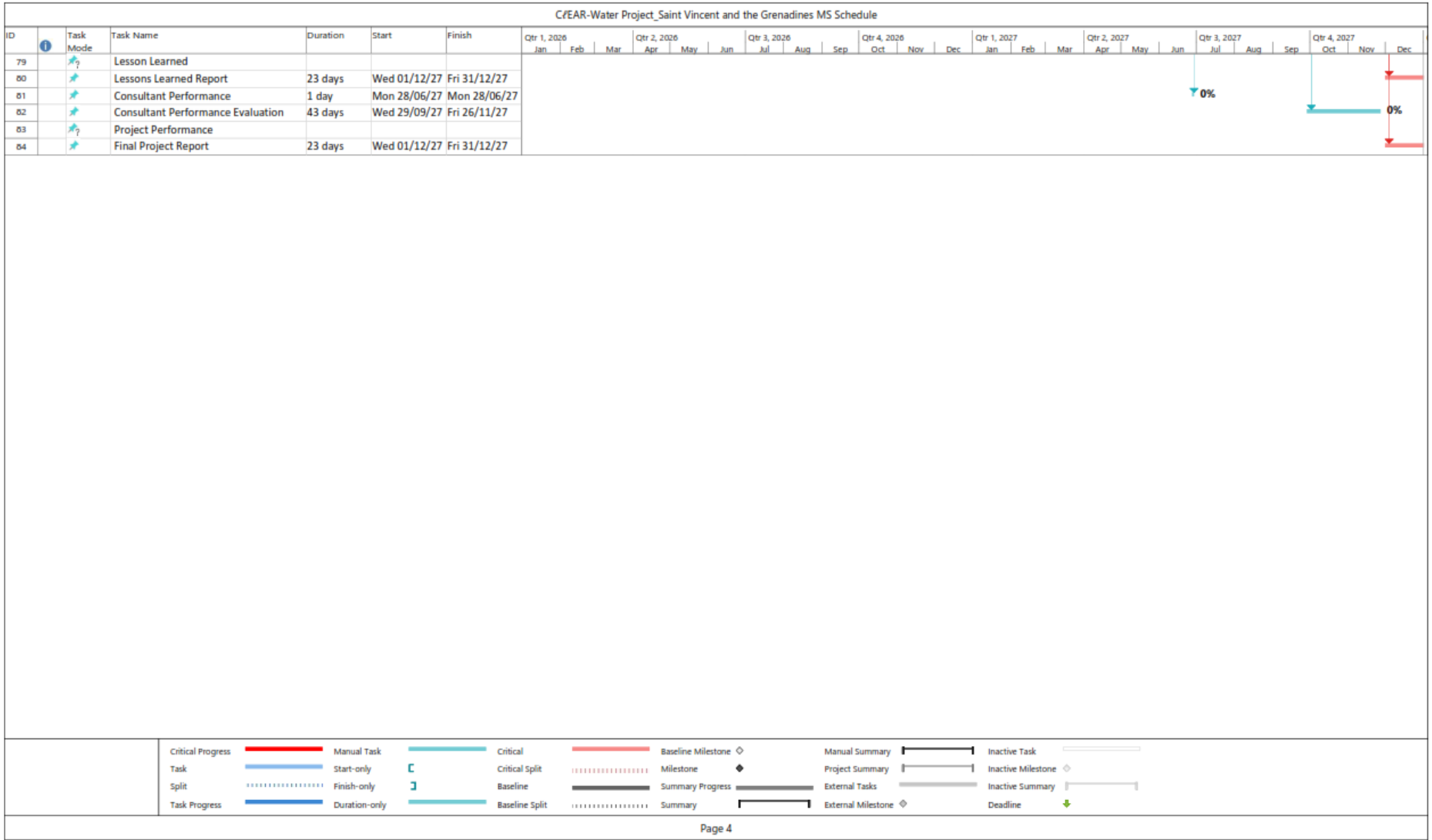
### 4.3.4 Develop schedule

Figure 9 Project Schedule









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### **4.3.5 Control Schedule**

The Control Schedule is the process of monitoring the status of the project to update the project schedule and manage changes to the schedule baseline. Control Schedule is essential to project management because it monitors and controls the project's progress and helps to protect a project from failing to meet milestones and deadlines important to its success. Schedule control is also valuable because it assists project managers with managing the expectations of project stakeholders (PMI 2017). Additionally, it allows project managers to demonstrate and gain buy-in from stakeholders on how the project team will overcome disruptions and keep the project work on schedule.

The CLEAR-Water Project utilizes a Microsoft Project Gantt chart that enables the project manager to visualize project progress plotted over time (e.g., days, weeks, or months). Each activity is shown as a bar, and its length is based on the estimated time required to complete it. These bars may be sequential or run in parallel depending on task dependencies and resource availability. The Gantt chart will also demonstrate the critical activities that must be completed on time. Known as the critical path method, this concept of identifying the longest sequence of dependent tasks, CPM focuses on determining and managing the minimum time required for project completion. Delays or extensions to any of these critical activities result in the project duration being extended.

Weekly progress reports will also form a part of the Control Schedule Process. These reports will be prepared by the consultants for the Project Manager to review and provide feedback on whether the consultant is on target with the agreed implementation schedule.

## **4.4 Cost Management Plan**

The Plan Cost Management process offers guidance and direction on the management of project costs throughout the project (Project Management Institute, 2017). The cost management process maintains its importance at every stage throughout the life cycle of a project. Plan Cost Management process establishes a framework for managing and controlling project costs, ensuring budget adherence, and risk mitigation project resource

allocation, and effective communication among stakeholders. This plan also guides cost estimation, performance measurement, and change management, and ultimately, it facilitates cost-effective project execution and continuous improvements (Project Management Institute, 2017).

There are four main processes associated with the project cost management work area.

1. Plan cost management
2. Estimating costs
3. Determine budget
4. Control costs

#### **4.4.1 Estimating costs**

Estimating cost is the basis for determining and controlling the project budget. Costs are estimated at different points in time throughout the project. The Project Management Institute, 2017 states that the process is performed “periodically throughout the project as needed” The first occurrence of estimate cost is during the initiation phase, or when the project charter is created. If vital new information becomes available, the project manager may be required to update the project estimates. After the project initiation phase, the cost will be re-assessed during the planning phase. Any other subsequent updates to the approved estimation are associated with changes to the scope or implementation schedule.

Cost estimates are often expressed in currency however, other units such as man-days can also be used. The CLEAR-Water Project utilizes two types of estimation: (1) analogous estimation, meaning cost are researched utilizing estimates from recent similar projects and (2) rate determination using the rates of unit costs, such as personnel per hour, services and materials per unit, that correspond to each resource. The project management includes costs for staff, equipment, travel, audits, lessons learned and consultants’ assessments.

**Table 14 Budget**

<b>Costs Estimates</b>	<b>Total Cost by activity category USD</b>
Consulting Services	\$1,963,770
Public awareness and Training	\$612,550
Project Management, Monitoring Evaluation and Auditing	\$918,012
Management Reserve	\$91,801
Contingency	\$257,632
<b>Total</b>	<b>\$3,843,765</b>

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#### **4.4.2 Determining the Budget**

The process of determining budget involves grouping the cost estimates of individual activities, or of WBS packages. The Project Budget is the total amount of monetary resources that are allocated for goals and objectives of the project for a specific period. The purpose of project budget management is to estimate and control project costs within the approved budget and to achieve the stated goals of the project. The budget includes three separate components: estimated cost of consultancies, contingency and management fees. For the CLEAR-Water Project, once the budget has been developed it is included in the draft project proposal for the donor to approve. The budgeting serves as a cost control mechanism that allows comparing actual project costs to the project budget.

Table 15 Budget Breakdown

Budget Code	Description	Budget Notes	Professional Fees	Reimbursable Expenses Travel	Reimbursable DSA	Total
<b>Project Planning and Design</b>						<b>495,060</b>
2.1	Needs Assessment Government of SVG Consultancy	Professional services - Consultancy - review current policies and legislation - water resource management at US\$650 per day, total of 250-man days: Also cost for 3 International trips, estimated at US\$4,000 per trip and DSA @ USD330 for 4 days per trip	162,500	1200	1,320	165,020
2.2	Needs Assessment - CWSA	Professional services - Consultancy - review current policies and legislation - water resource management at US\$650 per day, total of 250-man days: Also cost for 3 International trips, estimated at US\$4,000 per trip and DSA @ USD330 for 4 days per trip	162,500	1200	1,320	165,020
2.3	Needs Assessment - Stakeholders - Other stakeholders	Professional services - Consultancy - review current policies and legislation - water resource management at US\$650 per day, total of 250-man days: Also cost for 3 International trips, estimated at US\$4,000 per trip and DSA @ USD330 for 4 days per trip	162,500	1200	1,320	165,020
<b>Consultancies Project Implementation</b>						<b>2,081,260</b>
4.1	Policies and legislation - water resource management	Professional services - Consultancy - review current policies and legislation - water resource management at US\$650 per day, total of 250-man days: Also cost for 3 International trips, estimated at US\$4,000 per trip and DSA @ USD330 for 4 days per trip	162,500	1200	1,320	165,020
4.1.1	Validation Workshops	3 Stakeholder Validation Workshops @ US\$8000 each. Includes venue, meals for 30 attendees. Also US\$3000 for local travel per workshop.	24000	3000		27,000

Budget Code	Description	Budget Notes	Professional Fees	Reimbursable Expenses Travel	Reimbursable DSA	Total
4.2	Define Key KPI's, benchmarking method	Professional services - Consultancy to define Key KPI's, benchmarking methods @ US\$650 per day, total of 200-man days. Includes cost for 3 International trips, estimated at US\$4,000 per trip and DSA @ USD330 for 4 days per trip	130,000	1,200	1,320	132,520
4.2.1	Validation Workshops	3 Stakeholder Validation Workshops @ US\$8000 each. Includes venue, meals for 30 attendees. Also US\$3000 for local travel per workshop.	24000	3000		27,000
4.3	National Policy on climate resilient water resource management	Professional services - Consultancy to Revise National Policy on climate resilient water resource management @US\$800 per day, total of 300-man days. Includes cost for 3 International trips, estimated at US\$4,000 per trip and DSA @ USD330 for 4 days per trip	240,000	1,200	1,320	242,520
4.3.1	Validation Workshops	3 Stakeholder Validation Workshops @ US\$8000 each. Includes venue, meals for 30 attendees. Also US\$3000 for local travel per workshop.	24000	3000		27,000
4.4	Emergency and Drought Response Plan for CWSA	Professional services - Consultancy to Develop an Emergency and Drought Response Plan for CWSA @ US\$650 per day, total of 220-man days. Includes cost for 3 International trips, estimated at US\$4,000 per trip and DSA @ USD330 for 4 days per trip	143,000	1,200	1,320	145,520
4.4.1	Validation Workshops	3 Stakeholder Validation Workshops @ US\$8000 each. Includes venue, meals for 30 attendees. Also US\$3000 for local travel per workshop.	24000	3000		27,000
4.5	Operations and Procedures Manual for CWSA	Professional services Consultancy to develop an operational manual for CWSA inclusive of standard operating procedures, processes, and policies. estimated @ US\$650 per day, total of 230 man days. Includes cost for 3 International trips, estimated at US\$4,000 per trip and DSA @ USD330 for 4 days per trip	149,500	12,000	1,320	162,820

Budget Code	Description	Budget Notes	Professional Fees	Reimbursable Expenses Travel	Reimbursable DSA	Total
4.5.1	Validation Workshops	3 Stakeholder Validation Workshops @ US\$8000 each. Includes venue, meals for 30 attendees. Also US\$3000 for local travel per workshop.	24000	3000		27,000
4.6	National Wastewater Master Plan and Strategy	Professional services - Consultancy to develop a National Wastewater Master Plan and Strategy estimated @ US\$650 per day, total of 250-man days. Includes cost for 3 International trips, estimated at US\$4,000 per trip and DSA @ USD330 for 4 days per trip	162,500	12,000	1,320	175,820
4.6.1	Validation Workshops	3 Stakeholder Validation Workshops @ US\$8000 each. Includes venue, meals for 30 attendees. Also US\$3000 for local travel per workshop.	24,000	3000		27,000
4.7	Stakeholder engagement and public awareness in climate resilient water resource management	Professional services - Consultancy for stakeholder engagement and public awareness in climate resilient water resource management estimated @ US\$650 per day, total of 230-man days. Includes cost for 3 International trips, estimated at US\$4,000 per trip and DSA @ USD330 for 4 days per trip	149,500	1,200	1,320	152,020
4.7.1	Stakeholder engagement and public awareness sessions	25 stakeholder engagement and public awareness sessions @ US\$6,000 per session. 12 Validation Workshops @ US\$6000 each. Includes venue, meals for 30 attendees. Includes US\$2000 for local travel per awareness session and workshop.	150,000	72,000	74,000	296,000
4.8	Communication plan	Professional services - Consultancy for Develop communication plan to improve community knowledge of good water management practices estimated @ US\$650 per day, total of 115-man days. Includes cost for 3 International trips, estimated at US\$4,000 per trip and DSA @ USD330 for 4 days per trip	74,750	1,200	1,320	77,270
4.8.1	Validation Workshops	2 Stakeholder Validation Workshops @ US\$6000 each. Includes venue, meals for 30 attendees. Includes US\$2000 for local travel per workshop.	12,000	4,000		16,000

Budget Code	Description	Budget Notes	Professional Fees	Reimbursable Expenses Travel	Reimbursable DSA	Total
4.9	Internship program	Professional Services - Tertiary institutions - Expand current water resource focused Internship program. @ US\$250 per intern, 30 interns per month for 6 months. (Local Institution. No travel budget)	45,000			45,000
4.9.1	Validation Workshops	6 Workshops @ US\$6000 each. Includes venue, meals for 30 attendees. Includes US\$2000 for local travel per month.	36,000	1,200		37,200
4.10	Supply of classroom materials	Provide classroom materials related to water conservation and efficiency for Internship Program and climate resilient water management certificate program	150,000			150,000
4.11	Certificate program	Design climate resilient water management certificate program for building managers, plumbers, hospitality, and agriculture. estimated @ US\$650 per day, total of 115-man days. (Local Institution. No travel budget)	74,750			74,750
4.11.1	Implement Program	Implement Certification Program @ US\$250 per person, 30 persons per month for 6 months.	46,800			46,800
<b>Project Implementation Costs</b>			<b>Costs</b>	<b>Airfare</b>	<b>Travel and unexpected travel related expenses</b>	<b>918,012</b>
1.3.1	Project Manager	Project Manager for 48 months. Estimated at USD4,000 per month	192000			192,000
1.3.2	Water Quality Engineer	CWSA Water Quality Engineer for 48 months to provide technical support. Estimated at US\$1,500 per month.	72000			72,000
1.3.3	Metrologist	Metrologist for 48 months provide technical support. Estimated at US\$1,500 per month.	72000			72,000

Budget Code	Description	Budget Notes	Professional Fees	Reimbursable Expenses Travel	Reimbursable DSA	Total
1.3.4	Hydrologist	Hydrologist for 48 months provide technical support. Estimated at US\$1,500 per month.	72000			72,000
1.3.5	Finance Advisor	Finance Advisor for 48 months. Estimated at USD3,000 per month	144000			144,000
1.3.6	Procurement Advisor	Procurement Advisor for 48 months. Estimated at USD2,000 per month	96000			96,000
Clearwater 1	Equipment for Project Management Unit	The cost of communication equipment, computers, office supplies, audio visual are estimated at US\$60,000 (US\$30,000 per year for two (2) years.	60000			60,000
Clearwater 2	Goods/Supplies/Materials	Goods/Supplies/Materials for the Project Management Office including: 2 Printer (Laser jet) -\$3,000.00 each, 2 scanners - 1,500.00 each, data and financial management software 7,000.00, 7 workstations 4,500.00 each, Teams/Zoom, Office 365 and project management license over two (2) years @ 9,000.00 each year and Office Supplies over two (2) years 7,500.00	87500			87,500
Clearwater 3	Travel budget Project Team	Travel budget allocates four trips per year for two (2) years between the St. Vincent and the Grenadines and Belize to allow for auditing, monitoring and reporting. The estimate for each trip includes Airfare - US\$2,000 each, accommodation US\$359 per night for 6 nights per trip, meals US\$210 per day for 6 nights per trip, local travel US\$50 per day for 6 days per trip and other (baggage, COVID and other unexpected expense) US\$500 per trip.		16000	36112	52,112
Clearwater 4	Bank Fees	Estimated cost associated with bank fees for maintaining the account. Estimated at US\$50 per month.				2,400
Clearwater 5	Audit and Monitoring	Budget allocation for the execution of Monitoring and Evaluation				32,000

Budget Code	Description	Budget Notes	Professional Fees	Reimbursable Expenses Travel	Reimbursable DSA	Total
Clearwater 6	Travel for Monitoring	6 travels associated with monitoring and evaluation estimated at US\$6000 per trip.				36,000
	<b>subtotal</b>					<b>3,494,332</b>
Clearwater 7	Management Reserve	10% of management cost subtotal				<b>91,801</b>
Clearwater 8	Contingency					<b>257,632</b>
	<b>Total</b>					<b>3,843,765</b>

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### 4.4.3 Control Costs

Project cost control is undertaken to monitor the actual project costs against the cost baseline and managing changes to the cost baseline. The key benefit of this process is that it allows the Project Manager to detect cost variances early and take corrective actions to bring the project back on budget (Project Management Institute, 2017).

Project Cost Control components include:

- Ensuring timely implementation of change requests.
- Issuing cost-related change requests when necessary.
- Monitoring cost performance and understanding the root causes of variances.
- Monitoring activity costs against project budget.
- Reporting cost performances to key stakeholders.
- Ensuring the project does not exceed funding limits.
- Preventing unapproved changes from using up the budget.
- Bringing cost overruns to within acceptable limits.

The CLEAR-Water Project cost variances will be monitored utilizing Earned Value Management methodology which measure project performance against the scope, schedule, and cost baselines. concept that each project deliverable. Earned Value uses a metric that is fair and accurate because it calculates only completed deliverables and/or products and not efforts or partially completed products. The project manager will be able to anticipate any future variances utilizing project expenditure from a particular date. The Planned Value (PV) will provide information on the work schedule and the approved budget. The Earned Value (EV) will determine the percentage of all contracts completed to date and the approved budget will provide Actual Cost (AC) will provide visibility on the actual amount of money incurred by the project to date. These will be valuable to the project manager and the stakeholders in balancing the project between cost and its schedule to be able to deliver the project within budget and on time.

Earned Value Management (EVM) utilizes the following three matrixes below to calculate and obtain variance values for project costs, schedule, and performance in order to establish whether the activities are being carried out according to plan (Marshall, 2007):

- Planned Value (PV): The budgeted cost of completing each project task.
- Earned Value (EV): The value of the work that has been completed.

- Actual Cost (AC): The actual cost of completing the work.

The formula for calculating cost variance is earned value (EV) minus the actual cost (AC):  
[CV = EV - AC].

The formula for calculating schedule variance is earned value (EV) minus planned value (PV): [SV = EV - PV]. Cost Performance Index (CPI): It measures cost efficiency in terms of completed work.

The formula to calculate this is earned value (EV) divided by the period actual cost (AC):  
[CPI = EV/AC] (Marshall, 2007).

**Table 16 Earned Value Management**

Indicator	Formula	Interpretation
<b>Cost performance index (CPI)</b>	CPI = EV/AC	< 1 The project is over budget
		=1 The project is on budget
		>1 The Project is under budget

#### 4.4.4 Cost Change Process

This process is initiated when the need for a cost change is identified. Cost changes can arise from scope modifications, unforeseen issues, or newly identified requirements. Once a potential change is recognized, it is documented as a Cost Change Control (see Change control form at figure 13). This document includes a background of the issue, new proposed cost/budget, rationale for the change and value earned by the project if the cost change is approved.

The Project Steering Committee (PSC) evaluates and provides feedback on the requested change. the request's impact on project performance and decides whether to approve, reject, or seek modifications.

**Table 17 Cost Change Control Process**

Item	Process	Description	Responsibility
1	Identify Cost Change	Identify the source of the cost change	Project Manager
2	Document Cost Change Request	Prepare a detailed cost change request (CCR)	Project Manager
3	Initial Assessment	Examine the budget tolerance for the cost change	Project Manager and Financial Administrator
4	Submit Change Request	Submit the documented cost change request to the Project Steering Committee (PSC) for review.	Project Manager
5	Review and Analysis	The Project Steering Committee (PSC) reviews, evaluates and provides feedback	PSC
6	Donor Approval	If the Cost change exceeds 20% of the overall budget for that activity, seek donor approval. If the cost change requires reallocation of funds from one component of the project to another, seek donor approval.	Project Manager and Financial Administrator
7	Communicate Decision	Communicate the decision of the PSC to all relevant stakeholders, including details of any approved changes and their impact on the project.	Project Manager
8	Update Project Documents	Update all relevant project documents to reflect the approved cost changes.	Project Manager and Project Team
9	Implement Cost Change	Implement the approved cost changes by updating the budget and amending/ updating existing contracts with scope, time and cost changes (whichever is relevant).	Project Manager, Financial Administrator, Procurement
10	Monitor and Control	Continuously monitor the impact of the cost change on the project to ensure that it stays within the new budget and schedule. Adjust as necessary to control any variances.	Project Manager and Financial Analyst

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#### 4.4.4.1 Cost forecasting

Cost forecasting helps project managers to plan, monitor, and control the project budget, as well as to identify and mitigate potential risks. It is estimated that during the project planning and design phase expenditures will be approximately 5% to 10% per month at the most. During

project implementation expenditure rates will peak at to approximately 20 % per month.  
Project Management expenditure will reflect the same changes as above.

**Table 18 Project Expenditure Forecast for Cost Control**

<b>Project Planning and Design</b>		<b>Indicative Start date - April 2026</b>	<b>Month 1</b>	<b>Month 2</b>	<b>Month 3</b>	<b>Month 4</b>	<b>Month 5</b>	<b>Month 6</b>
<b>WBS ID</b>		<b>495,060</b>	49,506	99,012	99,012	99,012	99,012	49506
2.1	Needs Assessment Government of SVG Consultancy	165,020	16,502	33,004	33,004	33,004	33,004	16502
2.2	Needs Assessment - CWSA	165,020	16,502	33,004	33,004	33,004	33,004	16502
2.3	Needs Assessment - Stakeholders - Other stakeholders	165,020	16,502	33,004	33,004	33,004	33,004	16502
<b>Consultancies Project Implementation</b>		<b>Indicative Start date - 30 March 2027</b>	<b>Month 1</b>	<b>Month 2</b>	<b>Month 3</b>	<b>Month 4</b>	<b>Month 5</b>	<b>Month 6</b>
		<b>1,468,710</b>	146,871	293,742	293,742	293,742	293,742	146871
4.1	Policies and legislation - water resource management	165,020	16,502	33,004	33,004	33,004	33,004	16502
4.1.1	Validation Workshops	27,000	2,700	5,400	5,400	5,400	5,400	2700
4.2	Define Key KPI's, benchmarking method	132,520	13,252	26,504	26,504	26,504	26,504	13252
4.2.1	Validation Workshops	27,000	2,700	5,400	5,400	5,400	5,400	2700

4.3	National Policy on climate resilient water resource management	242,520	24,252	48,504	48,504	48,504	48,504	24252
4.3.1	Validation Workshops	27,000	2,700	5,400	5,400	5,400	5,400	2700
4.4	Emergency and Drought Response Plan for CWSA	145,520	14,552	29,104	29,104	29,104	29,104	14552
4.4.1	Validation Workshops	27,000	2,700	5,400	5,400	5,400	5,400	2700
4.5	Operations and Procedures Manual for CWSA	162,820	16,282	32,564	32,564	32,564	32,564	16282
4.5.1	Validation Workshops	27,000	2,700	5,400	5,400	5,400	5,400	2700
4.6	National Wastewater Master Plan and Strategy	175,820	17,582	35,164	35,164	35,164	35,164	17582
4.6.1	Validation Workshops	27,000	2,700	5,400	5,400	5,400	5,400	2700
4.7	Stakeholder engagement and public awareness in climate resilient water resource management	152,020	15,202	30,404	30,404	30,404	30,404	15202
4.7.1	Stakeholder engagement and public awareness sessions	296,000	29,600	59,200	59,200	59,200	59,200	29600
4.8	Communication plan	77,270	7,727	15,454	15,454	15,454	15,454	7727
4.8.1	Validation Workshops	16,000	1,600	3,200	3,200	3,200	3,200	1600

4.9	Internship program	45,000	4,500	9,000	9,000	9,000	9,000	4500
4.9.1	Validation Workshops	37,200	3,720	7,440	7,440	7,440	7,440	3720
4.10	Supply of classroom materials	150,000	15,000	30,000	30,000	30,000	30,000	15000
4.11	Certificate program	74,750	7,475	14,950	14,950	14,950	14,950	7475
4.11.1	Implement Program	46,800	4,680	9,360	9,360	9,360	9,360	4680
<b>Project Implementation Costs</b>		<b>Indicative Start date - January 2026</b>	<b>Quarter 2 2026</b>	<b>Quarter 4 2026</b>	<b>Quarter 1 2027</b>	<b>Quarter 2 2027</b>	<b>Quarter 3 2027</b>	<b>Quarter 4 2027</b>
		<b>918,012</b>	91,801	91,801	183,602	183,602	183,602	183,602
1.3.1	Project Manager	192,000	19,200	19,200	38,400	38,400	38,400	38,400
1.3.2	Water Quality Engineer	72,000	7,200	7,200	14,400	14,400	14,400	14,400
1.3.3	Metrologist	72,000	7,200	7,200	14,400	14,400	14,400	14,400
1.3.4	Hydrologist	72,000	7,200	7,200	14,400	14,400	14,400	14,400
1.3.5	Finance Advisor	144,000	14,400	14,400	28,800	28,800	28,800	28,800
1.3.6	Procurement Advisor	96,000	9,600	9,600	19,200	19,200	19,200	19,200
Clearwater 1	Equipment for Project Management Unit	60,000	6,000	6,000	12,000	12,000	12,000	12,000
Clearwater 2	Goods/Supplies/Materials	87,500	87,500					
Clearwater 3	Travel budget Project Team	52,112	5,211	5,211	10,422	10,422	10,422	10,422
Clearwater 4	Bank Fees	2,400	240	240	480	480	480	240
Clearwater 5	Audit and Monitoring	32,000	3,200	3,200	6,400	6,400	6,400	3,200
Clearwater 6	Travel for Monitoring	36,000	3,600	3,600	7,200	7,200	7,200	3,600
	<b>subtotal</b>	<b>3,494,332</b>						
Clearwater 7	Management Reserve	<b>91,801</b>						
Clearwater 8	Contingency	<b>257,632</b>						
	<b>Total</b>	<b>3,843,765</b>						

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## **4.5 Quality Management Plan**

The goal of quality management is to ensure that the processes used to produce products or services are efficient and effective, and that they consistently meet customer expectations. Quality management involves various activities such as identifying customer requirements, designing products or services to meet these requirements, setting performance standards, monitoring and analyzing quality data, and taking actions to improve quality (Project Management Institute, 2017).

The inputs to the plan quality management process include all of the project documents and project management plans as well as any other relevant organizational artifacts. The process employs a series of tools and techniques, including multicriteria decision analysis, benchmarking and brainstorming, cost benefit analysis, planning for tests and inspections, and evaluation of the cost of quality.

### **4.5.1 Quality Management Approach**

#### **4.5.1.1 Total Quality Management (TQM)**

Total Quality Management (TQM) is an organizational approach that involves a continuous focus on quality improvement and customer satisfaction. It emphasizes the involvement of all stakeholders in quality efforts and the use of data and analysis to make informed decisions. Communication among all stakeholders ensures seamless project implementation and promotes a culture of quality throughout the organization. It fosters a shared vision, encourages employee engagement, promotes transparency, and enhances collaboration.

### **4.5.2 Plan and Development of Quality Management Plan**

The quality management plan balances customers' needs, cost, schedule and professional standards. From there, you can start to develop a plan and processes to achieve your quality goals within the constraints of your project.

Table 19 Quality Management Plan

Item	Process	Description	Responsibility
Quality Management Plan – Project Development			
1	Develop Quality plan inputs	<ul style="list-style-type: none"> <li>• Develop scope statement</li> <li>• Establish stakeholder requirements a list</li> <li>• Establish the implementation schedule</li> <li>• Develop an accurate budget</li> </ul>	Project Manager and Project Team
2	Establish Quality Objectives	<ul style="list-style-type: none"> <li>• Achieve all project requirements and specifications.</li> <li>• Complete the project within the approved budget and schedule</li> <li>• Receive a successful project audit</li> <li>• Satisfy stakeholders</li> </ul>	Project Manager
3	Establish Quality Standards	<ul style="list-style-type: none"> <li>• The project scope should be clearly defined</li> <li>• The project schedule should be realistic and should be monitored and updated as needed.</li> <li>• The project budget should be realistic and controlled.</li> <li>• Project Staff should be suitably qualified</li> <li>• Project documentation should be concise and circulated among the team for verification</li> <li>• Data analysis should be conducted using sound statistical methods</li> <li>• Decisions should be based</li> </ul>	Project Manager
4	Undertake feasibility studies	Assessment of a proposed project which evaluates all critical factors to assess the likelihood of success	Project Manager and Project Team
Quality Management Plan – Project Implementation			
5	Commitment of funds	Verification of budget codes and commitment of funds for all TOR's prior to publishing for bidding	Financial Administrator
6	Competitive Procurement Process	Fair, transparent and competitive procurement process as establish by the CCCCC procurement manual	Procurement administrator

Item	Process	Description	Responsibility
7	Consultant Eligibility	Verify that the selected Consultant has not sanctioned for fraud, corruption, money laundering, sexual harassment and exploitation	Procurement administrator
8	Review and Analysis	Review draft deliverables, evaluate and provide feedback	PSC
9	Validation	Validation session with community of all key stake holders to verify effectiveness and efficiency of deliverables	Project Manager and Consultant
10	Verify payments	Ensure that all invoices submitted for payment are accurate as per signed contract and update expenditure reports	Financial Administrator
11	Auditing	Conduct audit in accordance with Audit Charter and Audit Plan	Financial Administrator

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### 4.5.3 Quality Control

Control quality is the process of monitoring and recording results of executing quality management activities to assess performance and ensure the project outputs are complete, and correct, and that they meet customer expectations (Project Management Institute, 2017). The following quality control processes and tools will be used to ensure that the project meets the quality objectives:

**Table 20 Quality Control Processes**

Process	Description	Responsibility
<b>Quality Control Processes</b>		
<b>Project reviews</b>	Project reviews will be conducted at regular intervals to assess the project's progress, identify any issues, and take corrective action as needed	Project Manager
<b>Validation</b>	Validation of all deliverables prior to approval and payment	PSC

Process	Description	Responsibility
<b>Change management</b>	A change management process will be used to manage any changes to the project scope, schedule, or budget	Project Manager
<b>Quality Control tools</b>		
<b>Reports</b>	<ul style="list-style-type: none"> <li>Evaluation reports for all procurement activities must be approved by the PM.</li> <li>Evaluation of consultant performance during the implementation of each contract.</li> <li>Monthly financial reports on project expenditure.</li> <li>Monthly Project Status Report</li> </ul>	Project Manager
<b>Surveys</b>	Surveys will be used to determine the level of satisfaction from the beneficiaries	Project Manager
<b>Checklists</b>	Checklists will be used to ensure that activities are undertaken as per the CCCCC approved process flow	Project Manager

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#### 4.5.4 Continuous Improvement

Continuous Improvement is the ongoing process of analyzing performance, identifying opportunities, and making incremental changes to processes, products, and personnel. Plan-Do-Check-Act, or PDCA, will be used in the continuous improvement model. PDCA refers to the following: “Plan” is your opportunity to identify an opportunity and plan for change. “Do” is when you implement the change on a small scale. “Check” is the process of using data to analyze the results of the change and determine whether it made a difference. “Act” is when you implement the change more broadly and continue to assess the results (American Society of Quality 2024).

Plan	Do	Check	Act
Align the approach with the quality objectives Define and document expected	On a small scale, test the plan and approach and document the results.	Validate the results using the quality management plan	Plan and implement the new improvement

outcomes			
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American Society of Quality 2024

#### 4.5.5 Control Quality

The quality control process helps to create a defect-free and high-quality product. The verify scope process helps to get the product accepted by the client. Quality control activities are performed throughout the monitoring and controlling phase and verify scope activities are needed when the deliverable is submitted. The stakeholder working group will be provided with defined clear and measurable validation objectives that align with their needs and establish successful criteria for validation that all stakeholders agree upon. This includes determining what will be validated, the methods to be used, and the schedule. This approach ensures everyone is aligned to what constitutes successful validation. A final validation review with stakeholders ensures that all objectives have been met and that the system performs as expected. Following the review, a formal sign-off from stakeholders will be included in the validation results. This formal agreement is crucial for deliverable closure and moving to the next phase of each contract.

#### 4.6 Resource Management Plan

The most important aspect of human resource management is to identify and assign the best human resources available to carry out all the project objectives set forth within their respective constraints of time, scope, and cost. This can be done by using tools, such as the Responsibility Assignment Matrix (RAM), which illustrates the connections among the work to be done and the members of the project team and other stakeholders.

##### 4.6.1 RACI Matrix

The matrix connects the organizational chart of the project or the individuals/organization(s) responsible for the project with the WBS to ensure that every component of the work packages is assigned to a person on the organizational chart. There are two

common formats for RAM: (1) narrative which describes in detail all aspects of responsibility and authority to avoid duplication of effort and to ensure that all work packages are completed and (2) the RACI matrix which indicates who will be **R**esponsible, **A**ccountable, **C**onsulted, and **I**nformed. The CℓEAR-Water project utilizes the RACI Matrix as it fosters a culture of accountability in project management. It also serves as a communication tool, ensuring that all stakeholders are kept in the loop at the appropriate level of involvement and streamlines the work processes.

**Table 21 RACI Matrix**

WBS ID	WBS Name	Stakeholders			
		R	A	C	I
1	Development of Project Steering Committee				
1.1	Identification of Saint Vincent and the Grenadines National Designated Authority	Government of Saint Vincent and CCCCC	CCCCC	Central Water and Sewerage Authority (CWSA)	Central Water and Sewerage Authority (CWSA)
1.1.1	Sign MOU between the Government of Saint Vincent and CCCCC	CCCCC/ Government of Saint Vincent and CCCCC	CCCCC/ Government of Saint Vincent and CCCCC	N/A	N/A
1.2	Establishment of CWSA Focal Point	Central Water and Sewerage Authority (CWSA)	CCCCC	Government of Saint Vincent and CCCCC	Government of Saint Vincent and CCCCC

WBS ID	WBS Name	Stakeholders			
		R	A	C	I
1.2.1	Sign MOU between the CSWA and CCCCC	CCCCC/ Central Water and Sewerage Authority (CWSA)	CCCCC/ Central Water and Sewerage Authority (CWSA)	Government of Saint Vincent	Government of Saint Vincent
1.3	Establishment of the CCCCC Project Management Team	CCCCC	CCCCC	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)
1.4	Develop TORs for Needs Assessments	Project Manager/Project Steering Committee	CCCCC/ Government of Saint Vincent and CCCCC	Central Water and Sewerage Authority (CWSA)	Central Water and Sewerage Authority (CWSA)
2	Project Planning and Design	Project Manager/Project Steering Committee	CCCCC/ Government of Saint Vincent and CCCCC	Central Water and Sewerage Authority (CWSA)	Central Water and Sewerage Authority (CWSA)
2.1	Needs Assessment Government of Saint Vincent and the Grenadines				

WBS ID	WBS Name	Stakeholders			
		R	A	C	I
2.1.1	Implement Contract Government of Saint Vincent and the Grenadines Needs Assessment Report	Project Management Team	CCCCC/ Government of Saint Vincent/	Central Water and Sewerage Authority (CWSA)	Central Water and Sewerage Authority (CWSA)
2.2	Needs Assessment – CWSA				
2.2.1	Implement Contract CWSA Needs Assessment Report	Project Management Team	CCCCC/ Government of Saint Vincent	Central Water and Sewerage Authority (CWSA)	Central Water and Sewerage Authority (CWSA)
2.3	Needs Assessment – other Stakeholders				
2.3.1	Implement Contract Stakeholder Needs Assessment Report	Project Management Team	CCCCC/ Government of Saint Vincent	Central Water and Sewerage Authority (CWSA)	Central Water and Sewerage Authority (CWSA)
2.4	Define Project Scope				
2.4.1	Identify Deliverables	Project Management Team	Project Manager/Project Steering Committee	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)

WBS ID	WBS Name	Stakeholders			
		R	A	C	I
2.4.2	Establishment of the Project Budget	Project Management Team	Project Manager/Project Steering Committee	Government of Saint Vincent/Central Water and Sewerage Authority (CWSA)	Government of Saint Vincent/Central Water and Sewerage Authority (CWSA)
2.4.3	Develop Indicative Implementation Schedule	Project Management Team	Project Manager/Project Steering Committee	Government of Saint Vincent/Central Water and Sewerage Authority (CWSA)	Government of Saint Vincent/Central Water and Sewerage Authority (CWSA)
2.5	Develop Project Proposal	Project Management Team	Project Manager/Project Steering Committee	Central Water and Sewerage Authority (CWSA)	Central Water and Sewerage Authority (CWSA)/other stakeholders
2.5.1	Approval of Project Proposal	Donor	Donor	CCCCC/Government of Saint Vincent/Central Water and Sewerage Authority	CCCCC/Government of Saint Vincent/Central Water and Sewerage Authority (CWSA)

WBS ID	WBS Name	Stakeholders			
		R	A	C	I
				Authority (CWSA)	
3	Development of Technical Inputs and Procurement				
3.1	Development of Terms of References and Request for Proposals for Consultancies	Project Management Team	Project Manager/Project Steering Committee	Central Water and Sewerage Authority (CWSA)	Central Water and Sewerage Authority (CWSA)
3.1.1	Bid documents for Procurement	Procurement Advisor	Project Management Team	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)
3.2	Procurement of Consulting Firms	Procurement Advisor	Project Management Team	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)
3.2.1	Publication of Procurement Notices	Procurement Advisor	Project Management Team	Government of Saint Vincent/	Government of Saint Vincent/

WBS ID	WBS Name	Stakeholders			
		R	A	C	I
				Central Water and Sewerage Authority (CWSA)	Central Water and Sewerage Authority (CWSA)
3.3	Evaluation of Bids	Procurement Advisor/ Government of Saint Vincent Focal Point/ CWSA Focal Point	Project Management Team/ Government of Saint Vincent/ CWSA Focal Point	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)
3.3.1	Bid Evaluation Report	Procurement Advisor	Procurement Advisor/ Government of Saint Vincent Focal Point/ CWSA Focal Point/ Project Manager	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)
3.4	Award of Contracts				
3.4.1	Contract Negotiations Report and Signed Contract	Procurement Advisor	CCCCC	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)

WBS ID	WBS Name	Stakeholders			
		R	A	C	I
				Authority (CWSA)	
4	Contracts Implementation	Project Management Team	CCCCC/ Government of Saint Vincent	Central Water and Sewerage Authority (CWSA)	Central Water and Sewerage Authority (CWSA)
4.1.1 to 4.11.2	Review Deliverables and Conduct Stakeholder Validation	Project Management Team/ Project Steering Committee	CCCCC/ Government of Saint Vincent	Central Water and Sewerage Authority (CWSA)	Central Water and Sewerage Authority (CWSA)
5	Project Evaluation and Close Out				
5.1	Assessment of Outcomes/Measure Project Outcome against KPI's	Project Management Team/ Project Steering Committee	CCCCC/ Government of Saint Vincent	Central Water and Sewerage Authority (CWSA)	Central Water and Sewerage Authority (CWSA)
5.1.1	Stakeholder Validation				
5.1.1.1	Stakeholder Validation Report	Project Management Team/ Project Steering Committee	CCCCC/ Government of Saint Vincent	Central Water and Sewerage Authority (CWSA)	Central Water and Sewerage Authority (CWSA)

WBS ID	WBS Name	Stakeholders			
		R	A	C	I
5.1.2	Procure Auditor - Project Financial and Procurement Audit	Procurement Advisor	Project Manager	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)
5.1.2.1	Financial and Procurement Audit Report	Financial Advisor	Project Manager/ Project Steering Committee	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)
5.1.3	Lesson Learned				
5.1.3.1	Lessons Learned Report	Project Manager	Project Steering Committee	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)

WBS ID	WBS Name	Stakeholders			
		R	A	C	I
5.1.4	Consultant Performance	Project Manager	Project Steering Committee	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)
5.1.4.1	Consultant Performance Evaluation	Project Manager	Project Steering Committee	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)
5.1.5	Project Performance	Project Manager	Project Steering Committee	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)

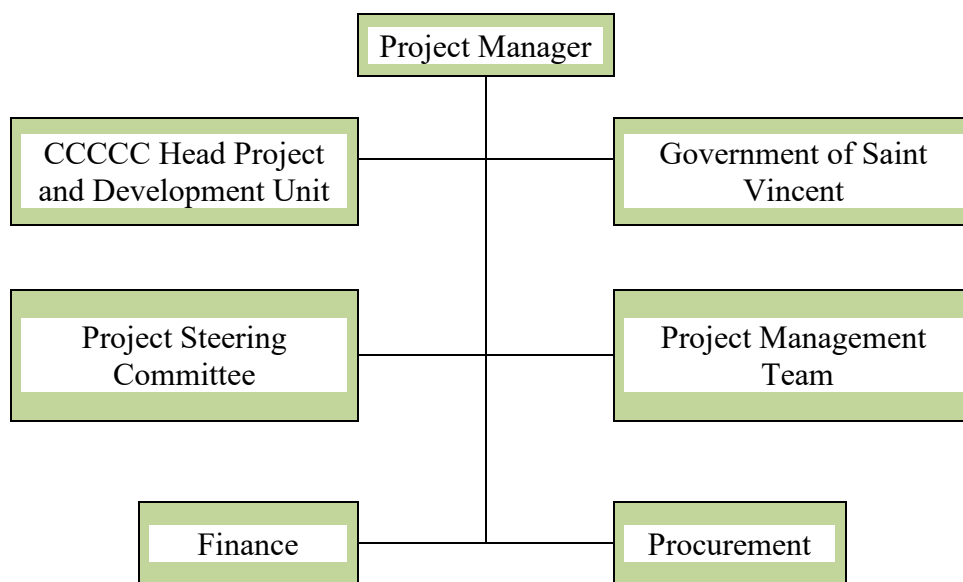
WBS ID	WBS Name	Stakeholders			
		R	A	C	I
5.1.5.1	Final Project Report	Project Manager	Project Steering Committee	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)	Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)

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#### 4.6.2 Team Development

Team development will be an important process to ensure that resources are retained throughout the life of the project. The CLEAR-Water project team includes a combination of permanent staff at the CCCCC and stakeholder focal points. The Project Manager, Financial Administration and Procurement Administrator are permanent staff at the CCCCC. Costs related to these services are charged directly to the project budget. Additional support from the CCCCC includes guidance from the Project Development Team and the Head of the Project Development and Project Management Unit. Costs related to these services are charged directly to the project implementation fees. The stakeholder focal points from the Government of Saint Vincent and CWSA are also members of the project team. Costs related to these services are absorbed by the Government of Saint Vincent and CWSA and are considered in kind contribution from the key stakeholders Government of Saint Vincent and CWS.

**Figure 10 Organizational structure of the project management team**



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#### 4.6.3 Project Resources

The project steering committee is an invaluable resource to the project. Its primary role is to validate deliverables under each consultancy for approval by the CCCCC and the Government of Saint Vincent. This committee includes the CCCCC Project Manager, CCCCC Head of the Project Development and Project Management Unit, the stakeholder focal points from the Government of Saint Vincent and CWSA, key personnel from the National Meteorological Service and key personnel from the National Hydrological Services.

Project resources such as consultants, trainers and auditors will be procured through a competitive procurement process and are contracted in advance to avoid any project implementation delays.

This recruitment process is guided by the terms of references which include required consultant/trainers qualifications, experience and skill, team composition and demonstration of experience with similar services as required by the project.

## **4.7 Communication Plan**

Many of the CCCCC's projects and programs have their own communication activities. The main objective of the communication is to ensure that all the project information meets appropriate standards for quality and that it is received by the stakeholders in time and in accordance with the agreed mode of transmission. The Project Manager has the responsibility and skill to ensure successful and efficient communication.

There are three main processes involved in project communication management, namely:

1. Plan communications management
2. Manage communication
3. Monitor communication

### **4.7.1 Plan Communication Management**

Plan communication management is the process of designing the communication strategy and plan for all project communications based on stakeholder analysis, stakeholder requirements, project requirements and assessment of the requirements of the project environment (PMI 2017). Communication between the CCCCC and key stakeholders is considered internal to the project and is planned accordingly. The process for developing internal project communication includes defining the necessary types of data and formats, frequency, and content of communication, the medium that will be utilized and most important defining who the communication is for.

External communication will be curated to target residence and visitors/tourists in Saint Vincent and the Grenadines. The CLEAR-Water project requires public participation in water resources management as it relates to the reduction of water losses and increasing sense of ownership over water infrastructure. Therefore, advertising, public awareness programs and systemic distribution of the key knowledge and communication products are extremely important to the project's success.

### **4.7.2 Managing communications**

Managing communication is a process that involves ensuring that project communication occurs efficiently and effectively (PMI 2017). It requires collecting, distributing, and storing information for retrieval and further use. This information is gathered from stakeholder

management meetings and plans, as well as project documents like the change and issue logs, the lessons learned register, and any quality and risk reports.

**Table 22 Stakeholder Communication Requirements**

Stakeholders		Role	Communication Requirements
Donor		Funding Agency	<ul style="list-style-type: none"> <li>• Updates on Project Development</li> <li>• Clarifications from the CCCCC regarding the draft proposal</li> <li>• Notice of Approvals</li> <li>• Changes to project scope</li> <li>• Quarterly Progress Reports</li> <li>• Financial and Audit Reports</li> </ul>
CCCCC		Implementing Agency	<ul style="list-style-type: none"> <li>• Presentation of findings from preparatory assessments project status meetings</li> <li>• Quarterly Monthly progress reports form the project team</li> <li>• Communication of issues and/or challenges encountered by consultant's</li> <li>• Quarterly actual expenditure and expenditure forecasts</li> <li>• Feedback from Project Steering Committee</li> </ul>
Project Management Team		Project Implementation	<p>Communication of project requirements, monthly progress and project status reports and change requirements if any with:</p> <ul style="list-style-type: none"> <li>• Government of Saint Vincent</li> </ul>

			<ul style="list-style-type: none"> <li>• Central Water and Sewerage Authority (CWSA)</li> <li>• Project Steering Committee</li> <li>• CCCCC Head of the Project Development and Project Management Unit</li> <li>• CCCCC Finance and Procurement</li> <li>• Consultants and Trainers</li> <li>• The general public</li> <li>• The Donor</li> </ul>
Key Stake Holders: Government of Saint Vincent/ Central Water and Sewerage Authority (CWSA)		Project Implementation	<ul style="list-style-type: none"> <li>• Communication of project requirements, monthly progress and project status reports and change requirements if any with the CCCCC</li> <li>• Communication with general public</li> </ul>
General Public		Project Deliverables Recipients	<ul style="list-style-type: none"> <li>• Information project status and benefits</li> </ul>

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### 4.7.3 Communications matrix

The project manager uses a communications matrix, which contains a detailed description of all the information requirements of the project participants and stakeholders. Identifying those who will be responsible for collecting, editing, and distributing the information is one of the most vital aspects of the communication process and is guided by a communication matrix.

The communications matrix is a guide for satisfying the communication needs of the various stakeholders. Therefore, it presents, in a simple and easy-to-use manner, the requirements concerning who needs, what information and when, how it will be provided, and by whom. Correctly identifying the stakeholders' information needs and determining the appropriate way to satisfy those needs is an important factor for project success.

**Table 23 Communications Matrix**

<b>Requirement</b>	<b>Audience</b>	<b>Method of Delivery</b>	<b>Frequency</b>	<b>Purpose</b>	<b>Responsibility</b>
Project Inception Meeting	<ul style="list-style-type: none"> <li>• Government of Saint Vincent</li> <li>• Central Water and Sewerage Authority (CWSA)</li> <li>• Project Steering Committee</li> </ul>	Face to Face	Once	Detailed review of the project's objectives, budget, resources and schedule	Project Manager
Project Team Progress Meetings	Project Team	Face to Face and virtual meetings	Weekly or as needed	Detailed review of the project's objectives, budget, resources and schedule	Project Manager

<b>Requirement</b>	<b>Audience</b>	<b>Method of Delivery</b>	<b>Frequency</b>	<b>Purpose</b>	<b>Responsibility</b>
Procurement Contracting Reports	Project Manager	Soft Copy/ Hard Copy/Email / Face to Face and virtual meetings	Pre and Post Contracting	Update on Contracting Process. Addendum to Contracts if needed	Procurement advisor
Financial Reports	Project Manager	Soft Copy/ Hard Copy/Email / Face to Face and virtual meetings	Quarterly	Financial expenditure and forecasting	Financial Advisor
Steering Committee Meetings	Project Steering Committee	Face to Face and virtual meetings	Monthly	Detailed review of the project's objectives, budget, resources and schedule	Project Manager
Project Status Reports	Key Stakeholders	Soft Copy/ Hard Copy/Email	Monthly	Detailed update of project progress and status	Project Manager
Consultant Consultations Update	Project Manager	Face to Face and virtual meetings	Monthly	Update on challenges, accomplishments, stakeholder	Consultants /Project Manager

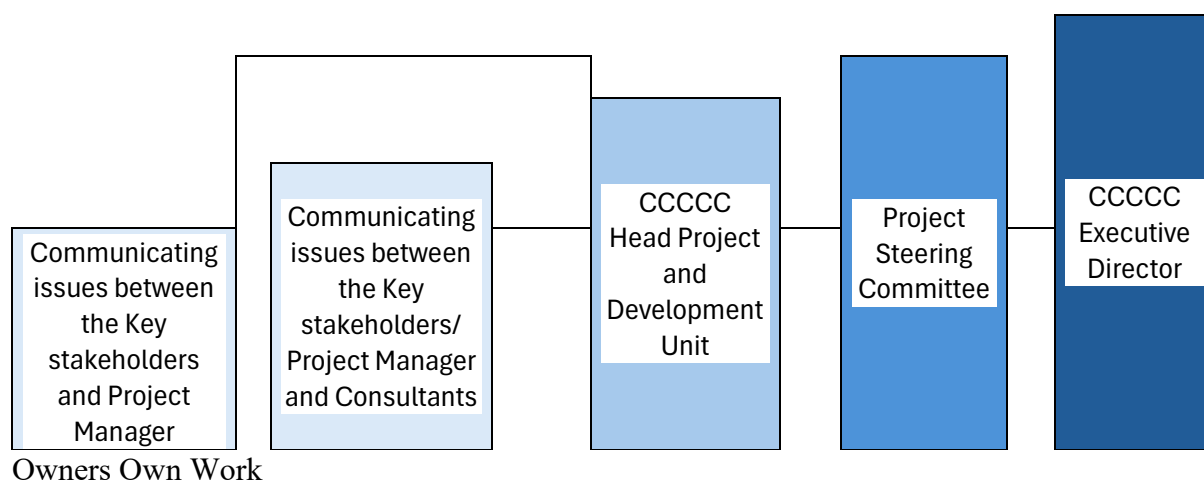
Requirement	Audience	Method of Delivery	Frequency	Purpose	Responsibility
				participation and feedback	
Validation Sessions for Deliverables	Steering Committee Meetings	Soft Copy/ Hard Copy/Email	Monthly	Review and validate deliverables. Report on other expected deliverables, challenges and lessons learned	Consultants /Project Manager
Training Reports	Project Manager	Soft Copy/ Hard Copy/Email	Monthly	Review and validate deliverables. Report on other expected deliverables, challenges and lessons learned	Trainers /Project Manager
Public awareness programs	General Public	TV, Radio, Social Media, key knowledge and communication products	Systematic through the project life cycle	Awareness Coordination	Consultants /Project Manager

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#### 4.7.4 Monitoring & Reporting Communications

The status of the communications management plan will be included in all monthly project status reports. The project manager will be responsible for ensuring that the communications management plan is updated as needed. If communication between any party involved, key stakeholder, consultant etc. becomes infrequent, does not occur as scheduled, is nonproductive or becomes contentious, an escalation process is required. The primary objective of the escalation process is to seek a resolution to the communication issues in a timely and efficient manner to avoid any undesired impacts to the project. This usually takes a hierarchical pattern, where each level in the escalation process necessitates the involvement of a higher level of authority or responsibility. Escalating issue affecting the project is accomplished using a Communications Escalation Chart.

**Figure 11 Communications Escalation Chart**



#### 4.8 Risk Management Plan

Risks are foreseen or unforeseen events that could affect the achievement of the project objectives and expected results. It is generally expressed in terms of the consequences of the events (impact) and the probability of their occurrence (PMI 2017). A risk in a project is an event or condition which may have a negative or positive effect on one or more project objectives, such as time, cost, and quality. The risk management plan is the key output of the ‘Plan Risk Management’

process within project risk management and it provides a description of how risk management activities will be structured and conducted (PMI 2017).

#### 4.8.1 Risk identification

Risk identification determines which risks may affect the project positively or negatively. This process is conducted by the project management team, with the aid of any other required experts or other stakeholders utilizing brainstorming, SWOT Analysis, Data gathering, risk probability and impact assessment or the Delphi technique (PMI 2017). Risk Identification for the CLEAR-Water project are as follows:

1. Project Management Risks
2. Inadequate Governance
3. Process Inefficiencies
4. Resistance to Change

**Table 24 Risk Breakdown Structure**

Level 0	Level 1	Level 2
<b>Project Management Risks</b>	1. Management	1.1 Human resources 1.2 Inexperienced Project Team 1.3 Procurement 1.3 Communication 1.4 Project Scope 1.5 Project Budget 1.6 Schedule delays
<b>Inadequate Governance</b>	2. Policy Development	2.1 Inaccurate or Incomplete Data 2.2 Poor knowledge transfer 2.3 Outdated methodologies used for training and capacity development
<b>Process Flow</b>	Process Inefficiencies	3.1 No or outdated of Organizational Artifacts 3.2 Poorly-managed project information system
<b>Stakeholder Buy In</b>	Stakeholder Resistance and low interest in the project	4.1. Misaligned Expectations 4.2 Resistance to adopt best practices

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#### 4.8.2 Qualitative Risk Analysis

Qualitative Risk Analysis is practiced by the project manager and key team members who develop rating scales to determine the probability and impacts of risks. The first step in the qualitative analysis was to identify the potential risk on the project. Next, the likelihood of occurrence was categorized as low, moderate or high based on expert judgement. Thirdly, the impact of the risk, if it were to occur, is evaluated based on the potential consequences for cost, schedule and quality.

Impacts are the effect of, positive or negative, risks on the project objectives, and are measured as a factor of its importance to the project. The objectives are related to three project constraints:

- Cost: A risk that involves an increase in project costs or savings.
- Time: A risk that entails an increase in the project duration
- Scope: A risk that affects the project scope.
- Quality: Failure to meet the stakeholders' requirements.

Management Institute (PMI) recommends employing a risk-scoring technique that considers probability (P) and impact (I) for risk analysis. This method involves specific formulas and rankings outlined in the provided key. The criteria for defining the probability and impact for any particular risk are defined below.

**Figure 12 Probability Impact Scale**

Parameter	Probability (P)				
Probability description	5 = High probability	4 = Medium-High	3 = Medium-low probability	2 = Low probability	1 = Very Low probability
Probability % range	(80% ≤ p ≤ 100%)	(60% ≤ p < 80%)	(40% ≤ p ≤ 60%)	(20% < p < 40%)	(0% < p < 20%)
	Impact (I)				
Impact description	Catastrophic	Major	Moderate	Minor	Negligible
Impact value	5	4	3	2	1

### 4.8.3 Probability & Impact matrix

The probability and impact matrix is used to visually analyze risks in the project. It allows for the assessment of the likelihood of each identified risk occurring along with the impact it would have on the project if it did occur.

Figure 13 Probability & Impact Matrix

		Threats					Opportunities				
		Very High 0.90	High 0.75	Medium 0.50	Low 0.25	Very Low 0.10	Very High 0.90	High 0.75	Medium 0.50	Low 0.25	Very Low 0.10
Probability	Very High 0.90	0.05	0.09	0.18	0.36	0.72	0.72	0.36	0.18	0.09	0.05
	High 0.75	0.04	0.07	0.14	0.28	0.56	0.56	0.28	0.14	0.07	0.04
	Medium 0.50	0.03	0.05	0.10	0.20	0.40	0.40	0.20	0.10	0.05	0.03
	Low 0.25	0.02	0.03	0.06	1.12	0.24	0.24	1.12	0.06	0.03	0.02
	Very Low 0.10	0.01	0.01	0.02	0.04	0.08	0.08	0.04	0.02	0.01	0.01
	Very Low 0.05	Low 0.10	Medium 0.20	High 0.40	Very High 0.80	Very High 0.80	High 0.40	Medium 0.20	Low 0.10	Very Low 0.05	
Negative Impact						Positive Impact					

### 4.8.4 Risk Response

Controlling risk, having a risk response plan and implementing risk response strategies are methods to better manage the project. The risk response planning involves determining ways to reduce or eliminate any threats to the project. The following Risk responses will be utilized in the Project.

**Table 25 Risk Response Strategies**

<b>Strategy</b>	<b>Description</b>	<b>Context</b>
<b>Avoid</b>	Avoid the impact by eliminating the cause	Where the threat is identified early and is within the Project team's preview.
<b>Mitigate</b>	Reduce the probability or the impact of the risk.	For risks that cannot be eliminated, however, the impact can be reduced.
<b>Accept</b>	The threat is acknowledged and accepted	The risk has minimal impact on the project. These are low priority risks
<b>Transfer</b>	Transfer the risk to some other party.	Risk is transferred to insurance companies or banks for protection of project funds.
<b>Escalate</b>	Escalate the risk to a higher authority	The decision required is out of the purview of the Project Manager

#### **4.8.5 Control Risk**

The risk register helps to systematically identify and document potential risks. This includes internal and external factors that may affect project objectives, such as uncertainties in human resources, external dependencies, or changes in project scope. A risk score will be calculated by multiplying the risk probability by the risk impact. Each risk in the register is assigned to a risk owner, responsible for monitoring and managing that specific risk. This promotes accountability and ensures that a designated person or team takes proactive measures to address potential issues.

Table 26 Risk Register

RBS Code	RBS Name	Risk Description	Consequence	Probability Score	Impact Score	PXI Score	Risk Trigger	Potential Risk Response	Owner
1.1	Human resources	Difficulty in recruiting and Retaining qualified personnel with necessary skills and experience to implement the project	Delays in the projects schedule	2	4	8	Low interest in published employee opportunities. High staff turnover rate.	Mitigate Develop proactive recruitment strategies by engaging and attracting key personnel ahead of hiring demand. Provide incentives for early project delivery or provide excellent benefits packages.	CCCCC
1.2	Inexperienced Project Team	Poor project planning and implementation	Delays in the projects schedule and cost overruns due to poor planning and implementation	2	4	8	High staff turnover rate and delayed project schedule	Mitigate Capacity Building and Training	CCCCC

RBS Code	RBS Name	Risk Description	Consequence	Probability Score	Impact Score	PXI Score	Risk Trigger	Potential Risk Response	Owner
1.3	Procurement	Delays in the contracting process. Non enforceable Contracts	Project delays, cost overruns.	2	4	8	Little to no interest in procurement activities requiring a re-launch of the procurement process. In addition, cost proposals that exceed the approved budget. Poorly written contracts	Mitigate Increase visibility of publications for bids and proposals. Engage a legal practitioner to review contract templates. Conduct a market analysis prior to finalizing budgets	Procurement and Project Manager
1.3	Communication	Ineffective communication plan	Scope, time and budget creep. Resource shortages,	2	2	4	Lack of stakeholder engagement.	Avoid Elimination of the threat by updating communication plans and developing	Project Management Team

RBS Code	RBS Name	Risk Description	Consequence	Probability Score	Impact Score	PXI Score	Risk Trigger	Potential Risk Response	Owner
								communication strategies that suits the stakeholder demographic	
1.4	Project Scope and Project Budget	Unforeseen changes to scope	Scope Creep, Budget overrun	2	5	10	Frequent requests from key stakeholders for changes to the project	Escalate Addressed these issues at the management level of both CCCCC and the Beneficiary.	CCCCC Management and Government of SVG
1.5	Schedule delays	Activities not completed within agreed duration	Extension to project implementation period	2	5	10	Delays in feedback from Consultants, PSC and our Project Manager	Mitigate Monitor project progress against the schedule and budget baseline and implement project acceleration measures	Project Manager

RBS Code	RBS Name	Risk Description	Consequence	Probability Score	Impact Score	PXI Score	Risk Trigger	Potential Risk Response	Owner
2.1	Inaccurate or Incomplete Data	Baseline data is outdated or inaccurate	Project Scope will not address key needs and requirements	2	5	10	Quality of deliverables will be poor	Mitigate Ensure that all information/documentation provided to consultants are primary sources of information are firsthand accounts of research or an event including original scholarly research results, raw data, testimony, speeches, historic objects	Project Manager
2.2	Poor Knowledge Transfer	Community is indifferent to the project outcomes.	Little to no application of recommended efficient water	2	5	10	No Change in community effort to apply water management techniques	Share Engage Communications to tailor and delivery information to target at risk demographic	Project Manager

RBS Code	RBS Name	Risk Description	Consequence	Probability Score	Impact Score	PXI Score	Risk Trigger	Potential Risk Response	Owner
			management practices						
2.3	Outdated methodologies used for training and capacity development	Long lectures and outdated monotonous training modules	Trainees overwhelmed while others feel under-challenged, leading to poor outcomes	2	2	4	Trainees overwhelmed while others feel under-challenged, leading to poor project outcomes	Mitigate Curate training modules that support an interactive, engaging experience	Project Manager
3.1	Process Inefficiencies	Project activities undertaken outside of the project process flow	Activities cannot be validated or paid for due to gaps in process flows	2	2	4	Activities completed without required justifications and approvals	Mitigate Training to ensure that the Project Team is aware and versed with the CCCCC process flow and Organizational Artifacts	CCCCC Management
3.2	Lack of Standardization of	Inconsistent or Unreliable results and feedback	Information silos that impact	2	2	4	High turnover rate for project staff do to	Increase engagement from management and ensure that everyone is	CCCCC Management

RBS Code	RBS Name	Risk Description	Consequence	Probability Score	Impact Score	PXI Score	Risk Trigger	Potential Risk Response	Owner
	required Documentation		project implementation				inefficient procedures	using the same tools and organizational artifacts	
4.1	Misaligned Stakeholder Expectations	Diverse interests, motivations, and expectations of Stakeholders	Power and influence of high-power stakeholders may marginalize low-power stakeholders	2	5	10	Lack of engagement from low-power stakeholders	Mitigate Establish robust feedback channels, proactive communication, transparent decision-making, and collaborative planning	Project Manager
4.2	Resistance to Change	Stakeholder Resistance and low interest in the project	Resistance to adopt best practices	2	2	4	Stakeholder turnout at sensitization session is low.	Mitigate Cultivate stakeholder awareness by encouraging regular dialog and feedback. Promote the benefits to be achieved by the project emphasizing the	Project Manager

RBS Code	RBS Name	Risk Description	Consequence	Probability Score	Impact Score	PXI Score	Risk Trigger	Potential Risk Response	Owner
								positive benefits to be derived from the project	

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## 4.9 Plan Procurement Management

### 4.9.1 Procurement Management Plan

The procurement management plan is one of the outputs of the Plan Procurement Management process. The objective of the procurement management plan is to establish a framework for the strategic procurement of goods, works and services required by the project. The Plan Procurement Management process includes documenting project procurement decisions, specifying the approach, and identifying potential sellers. The key benefit of this is that it serves as a guide to increase efficiency, minimize risks and attain value for money. There are three main processes that form part of the procurement management plan:

1. Plan procurement management
2. Conduct procurements
3. Control procurements

The CCCCC is committed to promoting the highest possible standards of competence, efficiency, accountability, openness and integrity in all its affairs, with zero tolerance for fraud and corruption and while the procurement approach will depend on the circumstances of the project, the CCCCC and its implementing partners will be guided by:

1. **Value for Money (VfM):** VfM means the effective, efficient, and economic use of resources, which requires the evaluation of relevant costs and benefits, along with an assessment of risks and of non-price attributes. Where applicable, the bidding documents will prioritize non-price attributes such as quality, sustainability, innovation, emergency situations and life-cycle costs.
2. **Economy:** Economy refers to buying inputs of the appropriate quality at the right price. The principle of economy takes into consideration price, and non-price factors, including quality, sustainability and life cycle costs, as appropriate, that support VfM. Economy may consider sustainability with specific criteria in support of policies such as Green Procurement and Sustainable Procurement Policy. Maximizing competition supports the achievement of economy.
3. **Efficiency:** Efficiency requires that procurement processes are proportional to the value and risks of the underlying project activities. Efficient procurement and subsequent contract management are crucial to the timely completion of projects.
4. **Equality and Fairness:** Equality and fairness require that all bidders be treated in an equal and fair manner and be provided with equal opportunities. Therefore, open competitive procurement is the preferred procurement approach, whenever possible. The GRM Policy outlines the mechanisms for addressing procurement-related complaints and providing recourse.
5. **Transparency:** Transparency requires that relevant procurement information is made publicly available to all interested parties, in a manner that is consistent and timely, using readily accessible and widely available sources at reasonable or no cost, and appropriate reporting of procurement activities, including contract awards.

6. **Integrity:** Integrity refers to the project financing being used for its intended purposes. It also requires good governance practices and that all parties involved in the procurement process observe the highest standard of ethics during the procurement process. In the execution of the project, Centre staff and implementation partners must adhere to the Centre's Procurement Code of Conduct and refrain from Prohibited Practices.

#### 4.9.2 Plan Procurement Management

The CCCCC Procurement Management process comprises 6 modules.

1. Module 1: Procurement Policy Framework.
2. Module 2: Internal Operating Procedures for Procurement
3. Module 3: Consulting Survives Modules
4. Module 4: Goods and Non-Consulting Services
5. Module 5 Works
6. Module 6: Grant Awards

Modules 3 and 4, as well as the CCCCC Standard Procurement Documents (SPD), will be utilized for the CLEAR-Water procurement activities. This approach is based on the fact the project expenditures are primarily related to materials/supplies and consultancies.

#### 4.9.3 Conduct Procurement Management

The following methods for consulting services will guide the project procurement processes.

**Table 27 Procurement Methods and Financial Thresholds Consultancy**

Method of Procurement	Price Levels	Scope of Competition	Consulting Services USD
<b>Direct Selection</b>	1	<u>Single Source</u> Written solicitation to one Bidder only for a written Bid. Reasonableness of price to be assessed.	< \$7,500
	2	<u>Sole Source</u> Written solicitation to the only bidder that can supply the service.	>\$7,500
<b>National/Regional &amp; Limited Bidding (REOI)</b>	3	<u>National/Regional &amp; Limited</u> Request for Expression of Interest (REOI) Firm/Individual issued to a minimum of 3 bidders. In specific cases, requests can be advertised if a short-list cannot be compiled from the CCCCC database or other sources.	>\$7,500 - \$100,000
<b>National/Regional bidding (RFP)</b>	4	<u>National/Regional</u> Request for Proposal (RFP) Invitation to Tender issued to a minimum of 3-5 bidders. <sup>3</sup>	>\$100,000 - \$300,000
<b>International Competitive Bidding</b>	5	<u>Open - International</u> EOI launched. Short-list firms invited though RFP. The EOI must be	>\$300,000

Method of Procurement	Price Levels	Scope of Competition	Consulting Services USD
<b>(RFP)</b>		advertised on an international platform.	

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**Table 28 Procurement Methods and Financial Thresholds Goods and Non- Consulting Services**

Method of Procurement	Price Levels	Scope of Competition	Goods and Non-Consulting Services USD
<b>Direct Selection</b>	1	Single Source. Written solicitation to one Bidder for a written Bid. Reasonableness of price to be assessed. If the reasonableness of price cannot be assessed on the basis of one quote, a comparison quote may be solicited.	< \$7,500 A Payment Order will be issued for any offer below USD7,500
	2	Written solicitation to the only bidder that can supply the good (sole source). For goods over USD7,500. Based on the value of the good the relevant bidding documents are to be utilized.	>\$7,500 A contract will be issued for goods valued over USD7,500
<b>National/Regional (Limited or Open Bidding)</b>	3	National/Regional Request For Quotation (RFQ) issued to a minimum of 3 bidders for price comparison.  In specific cases, requests can be advertised if a short-list cannot be compiled from the CCCCC database or other sources. Simplified form of contract will be utilized No public opening is required.	>\$7,500 - \$100,000
<b>National/Regional (Limited or Open Bidding)</b>	4	National/Regional Invitation to Bid (ITB) issued to a minimum of 3-5 bidders.  In cases where a short-list cannot be defined, an Expression of Interest may be utilized for the short-listing of companies (pre-qualification) or a Request without pre-qualification can be published on the Centre webpage and other relevant media. In this case the Request must be advertised on national and regional media	>\$100,000-\$300,000

Method of Procurement	Price Levels	Scope of Competition	Goods and Non-Consulting Services USD
<b>International Competitive Bidding</b>	5	Open International Invitation to Bid (ITB) advertised on an international platform with pre or post qualification requirements.	>\$300,000

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Procurement Process Flow and Timelines: The following process flow and timelines will be used to complete the procurement and selection process.

**Table 29 Procurement Process Flow and Timelines**

<i>Preparation of Invitation to Bid (ITB)</i>	<i>Publication of ITB</i>	<i>Evaluation of ITB</i>	<i>Negotiation and contracting</i>
<i>1 week</i>	<i>2 weeks</i>	<i>1 week</i>	<i>1 week</i>
<----- min time of 5 weeks----->			
<i>Preparation of Request for Quotes (RFQ)</i>	<i>Publication of RFQ</i>	<i>Evaluation of RFQ</i>	<i>Negotiation and contracting</i>
<i>1 week</i>	<i>2 weeks</i>	<i>1 week</i>	<i>1 week</i>
<----- min time of 5 weeks----->			
<i>Preparation of Expression of Interest (EOI)</i>	<i>Publication of EOI</i>	<i>Evaluate Proposal</i>	<i>Negotiation and contracting</i>
<i>1 week</i>	<i>3 weeks</i>	<i>1 week</i>	<i>1 week</i>
<----- min time of 6 weeks----->			
<i>Preparation of RFP</i>	<i>RFP deadline to submit.</i>	<i>Evaluate Proposal</i>	<i>Negotiation and contracting</i>
<i>2 weeks</i>	<i>4 weeks</i>	<i>2 weeks</i>	<i>2 weeks</i>
<----- min time of 8 weeks----->			

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#### 4.9.4 Control Procurement

The Procurement Action Plan outlines how the project will acquire the materials or services needed for success. It includes strategies, timelines, and budgets to guide procurement activities. To be effective the plan will rely on data and analytics to ensure efficiency, cost control, and

alignment with project goals. The project procurement action plan will be updated on a quarterly basis.



Budget Code	Description	Budget Notes	Total	Type of Supply (Goods, Services, Works)	Issue Date	Deadline for Receipt	Duration for procurement (days)	EOI	RFQ	RFP	ITB
4.1	Policies and legislation - water resource management	Professional services - Consultancy - review current policies and legislation - water resource management at US\$650 per day, total of 250-man days: Also cost for 3 International trips, estimated at US\$4,000 per trip and DSA @ USD330 for 4 days per trip	165,020	Professional Services-Firm	11/02/2027	11/03/2027	20			X	
4.1.1	Validation Workshops	3 Stakeholder Validation Workshops @ US\$8000 each. Includes venue, meals for 30 attendees. Also US\$3000 for local travel per workshop.	27,000	No Consulting Services	30/03/2027	27/09/2027	130				X
4.2	Define Key KPI's, benchmarking method	Professional services - Consultancy to define Key KPI's, benchmarking methods @ US\$650 per day, total of 200-man days. Includes cost for 3 International trips, estimated at US\$4,000 per trip and DSA @ USD330 for 4 days per trip	132,520	Professional Services-Firm	11/02/2027	11/03/2027	20			X	
4.2.1	Validation Workshops	3 Stakeholder Validation Workshops @ US\$8000 each. Includes venue, meals for 30 attendees. Also US\$3000 for local travel per workshop.	27,000	No Consulting Services	30/03/2027	27/09/2027	130				X

Budget Code	Description	Budget Notes	Total	Type of Supply (Goods, Services, Works)	Issue Date	Deadline for Receipt	Duration for procurement (days)	EOI	RFQ	RFP	ITB
4.3	National Policy on climate resilient water resource management	Professional services - Consultancy to Revise National Policy on climate resilient water resource management @US\$800 per day, total of 300-man days. Includes cost for 3 International trips, estimated at US\$4,000 per trip and DSA @ USD330 for 4 days per trip	242,520	Professional Services-Firm	11/02/2027	11/03/2027	20			X	
4.3.1	Validation Workshops	3 Stakeholder Validation Workshops @ US\$8000 each. Includes venue, meals for 30 attendees. Also US\$3000 for local travel per workshop.	27,000	No Consulting Services	30/03/2027	27/09/2027	130				X
4.4	Emergency and Drought Response Plan for CWSA	Professional services - Consultancy to Develop an Emergency and Drought Response Plan for CWSA @ US\$650 per day, total of 220-man days. Includes cost for 3 International trips, estimated at US\$4,000 per trip and DSA @ USD330 for 4 days per trip	145,520	Professional Services-Firm	11/02/2027	11/03/2027	20			X	
4.4.1	Validation Workshops	3 Stakeholder Validation Workshops @ US\$8000 each. Includes venue, meals for 30 attendees. Also US\$3000 for local travel per workshop.	27,000	No Consulting Services	30/03/2027	27/09/2027	130				X
4.5	Operations and Procedures Manual for CWSA	Professional services Consultancy to develop an operational manual for CWSA inclusive of standard operating procedures, processes, and policies. estimated @ US\$650 per day, total of 230-man days. Includes	162,820	Professional Services-Firm	11/02/2027	11/03/2027	20			X	

Budget Code	Description	Budget Notes	Total	Type of Supply (Goods, Services, Works)	Issue Date	Deadline for Receipt	Duration for procurement (days)	EOI	RFQ	RFP	ITB
		cost for 3 International trips, estimated at US\$4,000 per trip and DSA @ USD330 for 4 days per trip									
4.5.1	Validation Workshops	3 Stakeholder Validation Workshops @ US\$8000 each. Includes venue, meals for 30 attendees. Also US\$3000 for local travel per workshop.	27,000	No Consulting Services	30/03/2027	27/09/2027	130				X
4.6	National Wastewater Master Plan and Strategy	Professional services - Consultancy to develop a National Wastewater Master Plan and Strategy estimated @ US\$650 per day, total of 250-man days. Includes cost for 3 International trips, estimated at US\$4,000 per trip and DSA @ USD330 for 4 days per trip	175,820	Professional Services-Firm	11/02/2027	11/03/2027	20			X	
4.6.1	Validation Workshops	3 Stakeholder Validation Workshops @ US\$8000 each. Includes venue, meals for 30 attendees. Also US\$3000 for local travel per workshop.	27,000	No Consulting Services	30/03/2027	27/09/2027	130				X

Budget Code	Description	Budget Notes	Total	Type of Supply (Goods, Services, Works)	Issue Date	Deadline for Receipt	Duration for procurement (days)	EOI	RFQ	RFP	ITB
4.7	Stakeholder engagement and public awareness in climate resilient water resource management	Professional services - Consultancy for stakeholder engagement and public awareness in climate resilient water resource management estimated @ US\$650 per day, total of 230-man days. Includes cost for 3 International trips, estimated at US\$4,000 per trip and DSA @ USD330 for 4 days per trip	152,020	Professional Services-Firm	11/02/2027	11/03/2027	20			X	
4.7.1	Stakeholder engagement and public awareness sessions	25 stakeholder engagement and public awareness sessions @ US\$6,000 per session. 12 Validation Workshops @ US\$6000 each. Includes venue, meals for 30 attendees. Includes US\$2000 for local travel per awareness session and workshop.	296,000	No Consulting Services	30/03/2027	27/09/2027	130				X
4.8	Communication plan	Professional services - Consultancy for Develop communication plan to improve community knowledge of good water management practices estimated @ US\$650 per day, total of 115-man days. Includes cost for 3 International trips, estimated at US\$4,000 per trip and DSA @ USD330 for 4 days per trip	77,270	Professional Services-Firm	11/02/2027	11/03/2027	20			X	
4.8.1	Validation Workshops	2 Stakeholder Validation Workshops @ US\$6000 each. Includes venue, meals for 30 attendees. Includes US\$2000 for local travel per workshop.	16,000	No Consulting Services	30/03/2027	27/09/2027	130				X

Budget Code	Description	Budget Notes	Total	Type of Supply (Goods, Services, Works)	Issue Date	Deadline for Receipt	Duration for procurement (days)	EOI	RFQ	RFP	ITB
4.9	Internship program	Professional Services - Tertiary institutions - Expand current water resource focused Internship program. @ US\$250 per intern, 30 interns per month for 6 months. (Local Institution. No travel budget)	45,000	No Consulting Services	11/02/2027	11/03/2027	20	X			
4.9.1	Validation Workshops	6 Workshops @ US\$6000 each. Includes venue, meals for 30 attendees. Includes US\$2000 for local travel per month.	37,200	No Consulting Services	30/03/2027	27/09/2027	130				X
4.10	Supply of classroom materials	Provide classroom materials related to water conservation and efficiency for Internship Program and climate resilient water management certificate program	150,000	Goods	01/07/2027	30/08/2027	44		X		
4.11	Certificate program	Design climate resilient water management certificate program for building managers, plumbers, hospitality, and agriculture. estimated @ US\$650 per day, total of 115-man days. (Local Institution. No travel budget)	74,750	No Consulting Services-Local Tertiary Institution	29/03/2027	25/06/2027	65	X			
<b>Project Implementation Costs</b>											
Clearwater 1	Equipment for Project Management Unit	The cost of communication equipment, computers, office supplies, audio visual are estimated at US\$60,000 (US\$30,000 per year for two (2) years.	192,000	Equipment	19/03/2026	20/04/2026	23		X		

Budget Code	Description	Budget Notes	Total	Type of Supply (Goods, Services, Works)	Issue Date	Deadline for Receipt	Duration for procurement (days)	EOI	RFQ	RFP	ITB
Clearwater 2	Goods/Supplies/Materials	Goods/Supplies/Materials for the Project Management Office including: 2 Printer (Laser jet) - \$3,000.00 each, 2 scanners - 1,500.00 each, data and financial management software 7,000.00, 7 workstations 4,500.00 each, Teams/Zoom, Office 365 and project management license over two (2) years @ 9,000.00 each year and Office Supplies over two (2) years 7,500.00	72,000	Equipment	19/03/2026	20/04/2026	23		X		
Clearwater 5	Audit and Monitoring	Budget allocation for the execution of Monitoring and Evaluation	72,000	Professional Services-Firm	01/09/2027	30/09/2027	22	X			

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#### **4.9.5 Conduct Procurement Management**

The ITB, RFQ, EOI, or RFP shall include a Letter of Invitation, Instructions to Consultants, Terms of References and the proposed draft contract will be published the CCCCC procurement portal. The letter of invitation will state at a minimum the intention of the CCCCC to enter a contract for the provision of consulting services, scope of the assignment, donor/ the source of funds, and the date, time and address for submission of proposals.

The time for the preparation of proposals should be determined based on the particular conditions and complexity of the services. However, for the combined RFP procedure the deadline for submission should not be less than 4 weeks from the dissemination of the LOI. Where a REOI was utilized to prepare the short-list, the deadline can be shortened to a minimum of 2 weeks.

The evaluation of bids will be carried out in one or two stages, depending on which procurement process is used. Proposals shall be assessed for administrative responsiveness, i.e., a check shall be completed by the Procurement Unit to determine whether all requested documentation was submitted

The Evaluators shall evaluate each proposal based on its responsiveness to the TOR. The evaluation grid criteria and weightings as stated in the ITB, RFQ, EOI, or RFP will be strictly utilized. These criteria can be further broken down into sub criteria, but these should be kept to a minimum to avoid having scores that do not allow for a professional opinion by the evaluators. Upon completion of the technical evaluation, the financial proposal will be examined.

The proposal obtaining the highest total score shall be informed of the award of contract pending the successful outcome of the negotiation and invited for contract negotiations.

Negotiations shall include discussions of the TOR, the methodology, CCCCC inputs, and special conditions of the contract. Negotiations shall not result in substantially altering the original scope of work or terms of contract. The final TOR and the agreed methodology shall be incorporated in the “Description of Services” which shall form a part of the contract.

#### **4.9.6 Control Procurement**

The process of monitoring contract performance, managing procurement relationships, making changes and corrections as appropriate, and closing out contracts is conducted throughout the project, as needed. The inputs to control the procurement process include all project management plans and subplans previously defined, including the requirements, assumptions and risks. The benefit of control procurements is that it ensures that the performance of the service provider meets the procurement requirements according to the terms set by a particular legal agreement.

#### **4.10 Stakeholder Management plan**

The objective of the stakeholder management plan is to identify the key stakeholders of the project to determine roles and expectations and impact/power/influence dynamics. The plan ensures that effective communication, collaboration, and support are provided to all stakeholders, who have an interest in the project's success.

##### **4.10.1 Stakeholder Working Group**

Establishing the protocols and framework for coordination of The CLEAR-Water Project stakeholder working group involves identify and classify stakeholder requirements/ needs in order to plan the time required to generate and distribute information. The list below serves not only for this purpose but also as an input for the creation of the project communications plan:

- Stakeholder name.
- Type of information required.
- Date or period in which the information is required.
- Information presentation format.
- Information approval.
- Sending or presenting information
- Stakeholders need information

##### **4.10.2 Stakeholder Working Group Register**

The stakeholder Working Group Register provides details of each stakeholder of the project. This register will aid the project manager to analyse the influence and interest of each stakeholder as they relate to the project throughout its life cycle. It includes their names, roles, interests, influence levels, communication preferences and potential impact on the project.

**Table 31 Stakeholder Working Group Register**

<b>ID</b>	<b>Stakeholder</b>	<b>Responsibilities</b>	<b>Category</b>	<b>Communication Method</b>	<b>Expectations</b>	<b>Requirements/ Needs</b>
<b>1</b>	Donor-Green Climate Fund	Project Sponsor - provision of funds, approval of change request	External	Virtual meetings, phone calls, emails	Project Implementation on time and within budget, Achievement of Project Objectives	Provide the required funds
<b>2</b>	CCCCC	Project Implementing Agency	Internal	Face to Face and Virtual meetings, phone calls, emails	Project Implementation on time and within budget, Achievement of Project Objectives	Efficient Resource allocation, effective management of the project
<b>3</b>	Government of Saint Vincent and the Grenadines	Project Beneficiary, Provision of access and information on current status of the water sector, timely participation in review and acceptance of all deliverables	External	Face to Face and Virtual meetings, phone calls, emails	Project Implementation time and within budget, Achievement of Project Objectives	Efficient Resource allocation, effective management of the project

ID	Stakeholder	Responsibilities	Category	Communication Method	Expectations	Requirements/ Needs
4	Central Water and Sewerage Authority (CWSA)	Project Beneficiary, Provision of access and information on current status of the water sector, timely participation in review and acceptance of all deliverables	External	Face to Face and Virtual meetings, phone calls, emails	Project Implementation time and within budget, Achievement of Project Objectives	Efficient Resource allocation, effective management of the project
5	Project Management Team	Responsible for the Project Implementation and daily contracts management	Internal	Face to Face and Virtual meetings, phone calls, emails	Project Implementation time and within budget, Achievement of Project Objectives	Efficient Resource allocation, effective management of the project
6	Consultants	Successful contract performance	External	Face to Face and Virtual meetings, phone calls, emails	Contract Implementation timely, professional and competent manner, with all due skill and care, and in accordance with applicable professional standards	Consultant's competence to perform the service
7	Trainers	Successful contract performance	External	Face to Face and Virtual meetings, phone calls, emails	Training implemented timely, professional and competent manner, with all due skill and care, and in accordance with applicable	Trainer's competence to perform the service

ID	Stakeholder	Responsibilities	Category	Communication Method	Expectations	Requirements/ Needs
					professional standards	
8	Residents of Government of Saint Vincent and the Grenadines	Efficient water usage	External	Community meeting, Press coverage, flyers, posters and other like communication materials	Clean, potable, reliable water services	N/A
9	Tourists/visitor	Efficient water usage	External	N/A	Clean, potable, reliable water services	N/A

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#### 4.10.3 Power Interest Classification

The stakeholder power/interest or power/ influence grid is a visualization tool utilized to group stakeholders according to their potential to influence project outcomes (PMI 2017). Before using the technique, you should identify stakeholders and categorize their requirements. You can identify stakeholders by looking at existing documentation, workshops, and generally talking to people within the business. To conduct the Power Interest Classification first identify stakeholders who, in this case are: Green Climate Fund, CCCCC, Government of Saint Vincent and the Grenadines, Central Water and Sewerage Authority (CWSA), CCCCC Project Management Team, Consultants, Trainers, Residents of Government of Saint Vincent and the Grenadines and tourists who visit the island state. Once the stake holders have been identified, an assessment of power and interest will be undertaken considering factors such as their authority, impact on the project, and how much they care about its outcomes.

**Table 32 Power Interest Classification**

<b>ID</b>	<b>Stakeholder</b>	<b>Power</b>	<b>Interest</b>	<b>Why</b>
1	Donor- Green Climate Fund	High	High	The Donor has made a significant investment in the project and expects that the CCCCC will fulfil its obligations as an implementing entity. If the project is not a success the Donor's corporate reputation can be negatively impacted.
2	CCCCC	High	High	The CCCCC must fulfil its obligations as an implementing entity to maintain accreditation status with the Donor. The CCCCC must also ensure that it fulfils its obligation to the countries where projects are being implemented in order to maintain its status as the preferred implementer considering that there are other agencies such as CDB, IDB, UNDP etc. that compete for Project Implementation.
3	Government of Saint Vincent and the Grenadines	High	High	Government of Saint Vincent and the Grenadines must ensure that they address pressing concerns and secure the basic needs of the SVG electorate as it relates to water quality and security.
4	Central Water and Sewerage Authority (CWSA)	Low	High	The CWSA does not have the power to create or enforce water policies. However, as the agency mandated to provide clean, reliable water supply they have high interest in ensuring that the policies and plans are effective and sustainable.
5	Project Management Team	High	High	The Project Management Team has direct influence over the implementation of the project and therefore has a high power. Their interest is also high because failure to manage the project effectively will have a direct impact on their professional reputation.

6	Consultants	Low	High	Consultants are hired to undertake contracts based on the requirements of a developed TOR. Therefore, they are working with a predestined desired outcome and have little power over the direction of the project. Their interest is also high because failure to manage the consultancy effectively will have a direct impact on their professional reputation.
7	Trainers	Low	High	Trainers are hired to undertake contracts based on the requirements of a developed curriculum. Therefore, they are working with a predestined desired outcome and have little power over the direction of the project. Their interest is also high because failure to implement the training effectively may result in low certification rates and loss of interest by trainees.
8	Residents of Government of Saint Vincent and the Grenadines	Low	High	Residents require Clean, potable, reliable water services
9	Tourists/visitors	Low	Low	Tourists/visitors expect clean, potable, reliable water services as part of the amenities

Owners own work

#### 4.10.4 Power Interest Matrix

The project's stakeholders have been classified using a power interest matrix. This tool is one of the most common techniques utilized to group stakeholders according to their level of authority (power) and their level of concern about the project's activities and outcomes (interest). High power – High interest stakeholders are decision-makers and have the biggest impact on the project's success and hence we must closely manage their expectations. High power – Low Interest stakeholders need to be kept satisfied even though they aren't interested

because they yield power. Low power – High interest stakeholders should be adequately informed and engaged to them to ensure that no major issues are arising. Low power – Low interest stakeholders should be monitored, but do not require excessive communication.

**Figure 14 Power Interest Stakeholder Matrix**

High	<b>Keep Satisfied</b>	<b>Closely manage their expectations</b>	<ul style="list-style-type: none"> <li>○ Donor- Green Climate Fund</li> <li>○ CCCCC</li> <li>○ Government of Saint Vincent and the Grenadines</li> <li>○ Project Management Team</li> </ul>
<b>Power</b>			
Low	<b>Monitor</b>	<b>Keep Informed</b>	<ul style="list-style-type: none"> <li>○ Tourists/visitors</li> <li>○ Central Water and Sewerage Authority (CWSA)</li> <li>○ Trainers</li> <li>○ Consultants</li> <li>○ Residents of Government of Saint Vincent and the Grenadines</li> </ul>
	Low	<b>Interest</b>	High

Owners own work

#### 4.10.5 Plan Stakeholder Engagement

Plan stakeholder engagement is the process of utilizing the identified stakeholder information to strategize approaches to effectively plan means of including them in the project (PMI 2017).

The stakeholder engagement assessment matrix is a data representation technique that will be used to **assess** and document the current and desired levels of the stakeholder engagement for the project.

Stakeholder Engagement will include the following five classifications for the level of stakeholder engagement required to be adapted for the project:

1. (U) Unaware - The stakeholder is unaware of the project and its potential impacts.
2. (R) Resistant - The stakeholder is aware of the project and its potential impact but is opposed to it.
3. (N) Neutral - The stakeholder is aware of the project and its potential impacts, but is neither supportive nor unsupportive.
4. (S) Supportive - The stakeholder is aware of the project and its potential impact and is supportive of it.
5. (L) Leading - The stakeholder is aware of the project and its potential impacts and is actively involved in ensuring the project's success.

The current state of engagement for each stakeholder is defined by the letter “C” in the applicable table column, and the desired state of engagement for stakeholders is defined by the letter “D” in the corresponding table column.

**Table 33 Stakeholder Engagement Assessment Matrix**

<b>ID</b>	<b>Stakeholder</b>	<b>Unaware</b>	<b>Resistant</b>	<b>Neutral</b>	<b>Supportive</b>	<b>Leading</b>
<b>1</b>	Donor- Green Climate Fund				C, D	
<b>2</b>	CCCCC					C, D
<b>3</b>	Government of Saint Vincent and the Grenadines					C, D
<b>4</b>	Central Water and Sewerage Authority (CWSA)				C	
<b>5</b>	Project Management Team					C, D

ID	Stakeholder	Unaware	Resistant	Neutral	Supportive	Leading
6	Consultants	C			D	
7	Trainers	C			D	
8	Residents of Government of Saint Vincent and the Grenadines					
9	Tourists/visitors	C			D	

#### 4.10.6 Manage Stakeholder Engagement

The aim of managing stakeholder engagement process is to align the current and desired states of stakeholder engagement as defined in the stakeholder engagement matrix. This is to ensure that all stakeholders understand their roles and responsibilities and to meet their expectations. In addition, it aids in the tracking and mitigation of potential issues or conflicts before they arise. Lastly it allows stakeholders to be accountable for the outcome of the project. Some of the strategies utilized to manage stakeholder engagement are as follows:

- i. Provide regular updates on project progress and key milestones to stakeholder
- ii. Schedule in advance and convene meetings and works sessions where stakeholders can express concerns and or provide feedback.
- iii. Provide clear and timely information regarding any potential change to the scope that may impact on the progress or success of the project
- iv. Manage any conflict that arises between stakeholders
- v. Demonstrate transparency and accountability through data-driven decision-making processes

#### 4.10.7 Control Stakeholder Engagement

Control stakeholder engagement includes the analysis of feedback from stakeholders and modifies engagement strategies and plans during the project when needed. Stakeholders' interests and power levels may change during the project therefore and this may also require

a change in the engagement strategy. In addition, the project management team will regularly assess the environment to ensure that all stakeholders are accounted for, and that their needs and requirements are identified. Some of the strategies utilized to monitor stakeholder engagement are as follows:

- i. Be aware of the political landscape as changes in governments can impact project objectives
- ii. Be aware of and sensitive to social practices and norms
- iii. Continue to assess the relevant sectors and environment to identify any changes that may impact the project outcomes
- iv. Monitor communication between stakeholders regularly to ensure that issues are addressed in a timely fashion.

## 5 CONCLUSIONS

The project management plan provides a comprehensive roadmap for operationalizing the general objectives of the CℓEAR-Water Project. This project addresses the barriers of inadequate organizational capability and capacity to develop evidence-based policy and decision-making tools. This project management plan will successfully guide the process for the implementation of climate resilient integrated water resources management and governance framework. An enhanced policy framework with water resource management integrated into it will reduce vulnerability associated with water scarcity and improve access to reliable water. This will be achieved by undertaking comprehensive reviews and proposed updates to existing water-related laws, plans and policies. In addition to reducing vulnerability associated with water scarcity, the health sector will benefit as this enhanced policy framework addresses health-related issues related to water contamination vector borne diseases.

The other significant objective of the CℓEAR-Water Project is to enhance awareness of and build capacity to contribute to Climate Resilient Water Resources Management. This will be accomplished by increasing stakeholder engagement and public awareness of the program's objectives and achievements in relation to the adaptation of sustainable water usage practices and interventions. Knowledge and capacity development needs will be addressed with the use of learning materials, awareness programs for the general public, monitoring, educational programs, training and outreach activities targeted to both the mainland and the Grenadines. Methods identified to achieve this objective include the development of a climate resilient water management certificate program targeting building managers, plumbers, and the hospitality and agricultural sectors. , as well as an expansion of the existing water resource internship program to embed and train youth on Climate Resilient Water Resources Management throughout the water stakeholder ecosystem. In addition, there will be collaboration with the Ministry of Education to provide classroom materials on water conservation. This fosters early awareness and instils a culture of responsible water use among young learners. Educating students about the importance of water efficiency can

create long-term behavioral changes that benefit communities and ecosystems. To extend the impact on the project to the public, proposed storylines for awareness programs will focus on climate and water, gender & social inclusion, community action, national planning, and regional learning. These awareness program will include town-hall style meetings on all islands in country and will utilize advertising on social media, national television, and newspapers to reach members of the Vincentian public on the most popular channels.

The following listed below is a synopsis of the values and benefits derived from the utilization of the PMI recommend management plans.

1. The Project Charter is one of the most important tools of project integration management plan. It provides high-level information and a roadmap of all key areas developed in the Project. The Project Charter enhances project clarity and reduces the risk of scope related distortion and summarizes all aspects of the project. It clearly outlines the project's objectives, benefits, and potential impact.
2. The Scope Management Plan facilitates efficient management of project time, money, and resources. By defining the scope baseline and boundaries, the projects monitoring and controlling changes system can be developed. This plan includes the Work Breakdown Structure (WBS) that defines the project's work packages and provides the baseline for all the activities the project intends to accomplish. The Scope Management Plan facilitates the creation of a strategy for managing the project's scope throughout the project lifecycle.
3. The Schedule Management Plan is the roadmap for how the project will be executed. This plan also includes how the team will monitor the project schedule and manage changes after the baseline schedule has been approved. The project schedule is developed in the form of a Gantt chart, with the critical path identified. It demonstrates the relationship between the project's activities, their dependencies, and

their estimated durations. When used in conjunction with the other plans it ensures that resources are available when needed.

4. The Cost Management Plan strategizing the planning and execution of a project's budget. estimation techniques that are determined by conceptual goals, historical knowledge and expert judgement. The plan is a control mechanism that provides estimates all project expenses including staff salaries, training, travel expenses, and supply/equipment procurement. Cost performance is monitored through cost variance analysis and expenditure reports. This approach ensures financial viability by preventing cost overruns, thereby contributing to the project's financial health, and enabling the timely allocation of funds for various project activities.
5. Quality Management Plan is a crucial part of the project lifecycle. It is guide for delivering high-quality results that meet or exceed stakeholders' expectations. It ensures that quality is not an afterthought but an integral part of every phase of the project lifecycle. This plan encompassed systematic quality assurance and control activities. These benchmarks, developed from internal company practices or external industry regulations, provide a clear framework to measure and assess the project's outcomes.
6. The Resource Management Plan defines the requirements for a diverse team with complementary skills. It also includes how and where resources will be allocated and managed. The plan empowers the project manager to allocate resources efficiently, maximize the use of people, materials, supplies etc. It also facilitates collaboration and transparency by defining project teams roles and dependencies.
7. The Communication Management Plan facilitates better coordination, informed decision-making, and the prompt resolution of issues, thereby enhancing overall project transparency and stakeholder engagement. It details the responsibilities,

requirements and methods of communication for the project by establishing a framework for updates, feedback and collaboration.

8. The Risk Management Plan includes the risk register developed to identify potential project risks. The risk matrix assesses the risks and determines the likelihood of occurrence and the potential impact if they were to occur. This strategy minimizes disruptions and enhances the likelihood of project success by addressing issues before they escalate, thereby maintaining project stability and stakeholder confidence.
9. The Procurement Management Plan is a strategic document that serves as a roadmap for an acquisition of services and goods for the project. It ensures the timely acquisition of essential resources and is essential in supporting the project's schedule and cost management plans. It governs the entire procurement process including identifying needs, selecting vendors, negotiating contracts, and managing deliveries. Most importantly, it guides the questions of resources in a fair, transparent and efficient manner.
10. Stakeholder Management plan and serves as a vital link between the project team and stakeholders. It identifies stakeholders and their needs and requirements and categorizes them based on their level of influence and power over the project's implementation. It establishes the mode, method and frequency of communication between the project team and stakeholders. It fosters a collaborative spirit within the context of the project and aids in the development of stakeholder buy-in and ownership.

## 6 RECOMMENDATIONS

The following recommendations will ensure the project is successful and is aligned with stakeholders' expectations.

1. The Project Charter should map and define the CłEAR-Water Project phases, deliverables, key milestones and sufficiency criteria for each group involved in the project. These project requirements should be identified, assessed and established in the project development phase. Any existing organization policies, artifacts and procedures should be utilized to ensure that the project is in congruity with the CCCCC goals and mandates.
2. The project team should closely manage the project scope to ensure that the project objectives are clearly defined. This will also ensure that all stakeholders have a common understanding of the project's boundaries and desired outcomes. This should include regular scope reviews and updates based on stakeholder feedback and project performance metrics. Considering that this first phase of project, policy and procedure development, will govern other project phases it is imperative that the project scope considers standard and regional best practices and is scalable.
3. A structured schedule management strategy should be utilized enabling the project team to efficiently address the complexities and interdependencies of all the project components. The project schedule must undergo regular progress updates and include mitigation plans to address slippages. Agile methodologies as well as project scheduling software will ensure and allow for flexibility when planning or re-evaluating tasks and project progress.
4. Strict guidelines for budget allocation, tracking, and control will ensure that there are no cost overruns and ensuring financial viability. The project manager must also ensure that appropriate reserves are available to address known and

unexpected risks that may occur. CCCCC Financial manual should be utilized to guide all financial expenditure under the project to ensure transparency and accountability in the utilization of the project funds.

5. An effective quality management plan is recommended to enhance stakeholder confidence in proposed project strategies. The plan should define clear roles and responsibilities for monitoring quality and include protocols for corrective actions. This will require regular quality checks, such as technical reviews, stakeholder validation sessions and constant management oversight. The CCCCC grievance redress mechanism is key tool that is recommended for the identification and redress of quality issues,
6. It is recommended that the resource management plan optimizes resource usage which is essential for preventing wastage and maintaining cost-effectiveness. Optimization can be achieved by tracking the performance and availability of resources in real-time, ensuring that any issues are addressed promptly. The plan should also include strategies for resource utilization, and monitoring, as well as contingency plans for resource shortages.
7. A comprehensive communication plan that includes regular updates, stakeholder meetings, and the use of collaborative tools is recommended to ensure accurate and timely dissemination of information among all project stakeholders. The plan should support the fostering transparency and ensuring effective stakeholder engagement. This project is implemented in Saint Vincent and the Grenadines therefore the CCCCC project management team in Belize must surpass mainstream communication strategies and polices and ensure that the communication plan also considers cultural norms and practices of the Saint Vincent and the Grenadines.

8. It is recommended that the Risk Management Plan includes operational, financial, and regulatory risks. The use of the risk breakdown structure and qualitative analysis will aid in identifying, assessing, and prioritizing potential risks, as well as risk mitigation strategies. Regular risk assessments and a clearly defined risk response plan will help in maximizing project's resilience to unforeseen challenges
9. The utilization of the CCCCC Procurement Policy and Procedures, which provides a blueprint for fair and transparent procurement practices will ensure regulatory compliance, ensuring that all project expenditure is acceptable to the Donor. This will also foster bidders' confidence in the procurement system and minimize schedule slippages due to mis procurements.
10. The Stakeholder Management Plan must identify all key stakeholders, including their roles, interests, influence levels, and communication needs. Strategies for stakeholder engagement should be reviewed and updated on a regular basis particularly if there has been some change in the political landscape of Saint Vincent and the Grenadines. The plan should identify opportunities for collaboration to avoid stakeholder fatigue.

## **7 VALIDATION OF THE FGP IN THE FIELD OF REGENERATIVE AND SUSTAINABLE DEVELOPMENT**

Regenerative development seeks to increase the efficiency and capacity of our industrial and technological metabolism while providing life-support services and products for the world's population. Like zero emissions sustainability, it seeks to close all the open loops associated with inputting waste into the environment and direct these valuable resources to places in the industrial system where they can become valued inputs. The goal is to reduce waste and allow valuable chemistries to flow out of the industrial systems (Benites, 2022).

A regenerative society maintains its life support systems in such a way that its actions of drawing from the environment serve to help create more production, more health, more resilience, and more longevity in its ecosystems than otherwise would have been created without the participation of that society as a feature of the ecosystem (Benites, 2022).

The concept of sustainable development lies in modern natural resource management, conservation and environmentalism movements, as well as progressive views of economic development. The 17 Sustainable Development Goals (SDGs) are the world's best plan to build a better world for people and our planet by 2030. Adopted by all United Nations Member States in 2015, the SDGs are a call for action by all countries poor, rich and middle-income to promote prosperity while protecting the environment. They recognize that ending poverty must go together with strategies that build economic growth and address a range of social needs including education, health, equality and job opportunities while tackling climate change and working to preserve our ocean and forests (United Nations Development Program, 2023).

A sustainable society maintains its life support systems in such a way that draws from the environment over time only as much as the environment can produce in that amount of time, and no more.

This FGP includes many elements of regenerative development as it aims to address better water sourcing and usage as well as promote and create an environment where the efficient use of grey water becomes the norm.

The limitations associated with the concepts of regenerative development being programmed into project development are shrouded into the fact that the SDGs are enshrined in most if not all basis for policy development within small island developing states (SIDS) where Saint Vincent is also located. SIDS also have the smallest populations and least square footage as well as the slowest growing economies, however they are most susceptible to the impacts of climate change. All these factors make SIDS heavily dependent on donor agencies for grants and loans that propel their development. These same donor agencies utilize and require the demonstrated use and achievement of the SDGs as a primary benchmark for successful projects.

### **7.1 Regenerative Principles and its Alignment to the Project**

Principle 1 - Regeneration of a functional landscape, where we produce and conserve, maximizing ecosystem function (Muller 2017).

To increase climate resilience of Saint Vincent and the Grenadines' water sector, effective management of its water resources must be ensured. Outcome 1 of the project addresses how institutional capacity ought to be strengthened to support Climate Resilient Water Resources Management. This comprehensive review and proposed updates to existing water-related laws, will ensure that they align with contemporary climate risks and water management needs. In addition, the project will create an Emergency Response Plan and a Drought Management Plan to enhance early warning systems and proactive water resource management during crises. Policy revisions will also be undertaken to reinforce governance, regulatory oversight, disaster preparedness, and cross-sectoral collaboration, ensuring a more cohesive approach to climate-resilient water management.

Principle 2- Social strengthening by community organization and development, to cope with adaptation to climate change and reduce sumptuous consumption patterns (Muller 2017).

The primary aim of outcome 2 of the project is to enhance local or social capacity in Saint Vincent and the Grenadines to aid in Climate Resilient Water Resources Management. This outcome addresses gender & social inclusion by highlighting how women, people with disabilities, and people living in poverty face extra challenges such as access to clean and affordable water. It also promotes community action by emphasising the need to promote water conservation and responsible water usage.

Principle 3 a new paradigm for economic development where people matter more than markets and money, measured according to the well-being of humans and all life forms (Muller 2017).

Outcome 4 of the project addresses the lack of economic development in the islands of Bequia, Canouan, Mayreau and Union Island which are part of the Grenadine Island chain. There is no formal public provision of water services to these islands which impacts the economy of the Grenadines because it is dependent on the tourism sector. The project addresses this issue with the development of a sustainable and climate resilient water system and administrative policy for Resilient Water Resources Management.

Principle 4 - Conservation and valuation of living culture which is the necessary bond for community life, where local knowledge, values and traditions are shared within family, friends and the community, giving meaning to these terms (Muller 2017).

The project also aims to develop a culture for climate resilient water resource management by bringing awareness in classrooms throughout the country to educate the youth on the importance of water conservation. Water use is informed by cultural practices and expectations therefor this component of the project will have a positive impact on the culture of water consumption, with the aim of offsetting water consumption increases which may occur due misuse and the perception of increased availability due to the implementation of the project. In addition, by training professionals in efficient water use, the program contributes to reducing water waste, improving resilience to climate change, and lowering operational costs. The certification program also serves as a competitive advantage for businesses, encouraging widespread adoption of climate-smart water practices

Principle 5 - Rethinking and redesigning current political structures so they reflect true participatory democracy without the influence of money and power and especially fostering long term vision and actions that seek increased livelihoods and happiness and not only gross income (Muller 2017).

Outcome 3 of the project, strengthen the institutional and legislative environment surrounding climate resilient water resources management will enable an environment that serves as a catalyst for both private and public sector action. This will be accomplished through the review and update of existing legislation such as the Central Water and Sewerage Authority Act as amended (2007), Environmental Health Services Act (1996), National Solid Waste Management Act (2005) and Ship Generated Solid Waste Act (2002) which address potable and wastewater resources management. These updates and recommendations will enhance regulatory oversight, efficiency, conservation and climate resilience as it relates to water consumption in both the private and public sector.

Principle 6 fostering deep spiritual and value structures based on ethics, transparency and global well-being to allow humanity to live in peace with itself and Mother Earth.

The Project does not address spiritual and value structures however the concept of climate resilient water resource management emphasis the careful usage and conservation of water which is a natural resource.

## **7.2 Relationship of the project to the Sustainable Development Goals.**

The 17 Sustainable Development Goals (SDGs) are the world's best plan to build a better world for people and our planet by 2030. Adopted by all United Nations Member States in 2015, the SDGs are a call for action by all countries poor, rich and middle-income – to promote prosperity while protecting the environment. They recognize that ending poverty must go hand-in-hand with strategies that build economic growth and address a range of social needs including education, health, equality and job opportunities while tackling climate change and working to preserve our ocean and forests (United Nations Development Program, 2023). The 17 SDGs are as follows:

**Table 34 SDG Reference List: (United Nations Development Program, 2023).**

<b>Goals</b>	<b>Objective</b>	<b>Description</b>
Goal -1	No Poverty	By 2030, eradicate extreme poverty for all people everywhere.
Goal -2	Zero Hunger	End hunger, achieve food security and improved nutrition by 2030.
Goal -3	Good Health and Well-being	Ensure healthy lives and promote well-being for all at all ages by 2030.
Goal -4	Quality Education	Ensure that all girls and boys complete free, equitable and quality primary and secondary education by 2030.
Goal -5	Gender Equality	To achieve gender equality and empower all women and girls.
Goal -6	Clean Water and Sanitation	Ensure availability and sustainable management of water and sanitation for all by 2030.
Goal -7	Affordable and Clean Energy	Ensure access to affordable, reliable, sustainable and modern energy for all by 2030.
Goal -8	Decent Work and Economic Growth	Promote sustained, inclusive and sustainable economic growth.
Goal -9	Industry, Innovation and Infrastructure	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation by 2030.
Goal -10	Reduced Inequality	Reduce inequality between and among countries by 2030.
Goal -11	Sustainable Cities and Communities	Make cities and human settlements inclusive, safe, resilient and sustainable.
Goal -12	Responsible Consumption and Production	Ensure sustainable consumption and production patterns.
Goal -13	Climate Action	Take urgent action to combat climate change and its impacts.
Goal -14	Life Below Water	Conserve and sustainably use the oceans, seas and marine resources for sustainable development.

Goals	Objective	Description
Goal -15	Life on Land	Protect, restore and promote sustainable use of terrestrial ecosystems, combat desertification and halt biodiversity loss.
Goal -16	Peace and Justice Strong Institutions	Promote peaceful and inclusive societies for sustainable development; provide access to justice for all.
Goal -17	Partnerships to achieve the Goal	Strengthen the means of implementation and revitalize the global partnership for sustainable development.

The SVG-CLEAR-Water project will bring about a paradigm shift in the way the Government of SVG and more particularly the CWSA implement the proposed activities for the improvement of climate resilience in the water sector.

The CLEAR-Water Project supports the realization of 16 of the 17 SDGs including SDG1 (No Poverty), by supporting economic opportunities on both the mainland and the Grenadines; SDG2 (Zero Hunger), by contributing to sustainable water access for sustainable agriculture; SDG3 (Good Health and Well-being) through access to safe water; and SDG4 (Quality Education) by ensuring schools have adequate water supplies.

In addition, the program aims to embed fundamentals of SDG5 (Principles of Gender Equality & Social Inclusion) into the opportunities provided by the program and addresses SDG6 (Clean Water and Sanitation) directly. By using electricity generated by solar PV modules in water systems, the program will contribute to the expansion of SDG7 (Affordable and Clean Energy), and SDG8 (Decent Work and Economic Growth) through the provision of safe water as a productive input. SDG9 (Industry, Innovation and Infrastructure) is underpinned by the provision of water and resilient infrastructure. The implementation of this program will promote SDG10 (Reduced Inequalities) by improving access to water and reducing the current disadvantage faced by the Grenadine islands in this regard. To meet the objectives of SDG11 (Sustainable Cities and Communities), it is essential to have access to reliable, affordable, and sustainable water supplies that are resilient. Additionally, monitoring

of resource use and consumption patterns will contribute to the aims of SDG12 (Responsible Consumption and Production).

Overall, the CℓEAR-Water Project contributes to SDG13 (Climate Action) by seeking to adapt to impacts of climate change on the water sector while mitigating the effects of climate change using climate resilient water strategies. SDG 15 (Life on Land) is protected by the sustainable use of terrestrial resources and SDG16 (Peace, Justice and Strong Institutions) is promoted by institutions and customers being more responsible and accountable in their management of water resources and by the inclusion of Collaborative Modelling. Finally, SDG17 (Partnerships for the Goals) is promoted through the inclusion of partners to provide specific inputs to the achievement of the goals of the program.

SDG 14 Life Below Water is not included in the list because water sources for SVG are groundwater sources, which are brackish and not fit for human consumption. There are surface water resources including ponds formed by occasional run-off, rainwater harvesting, water from rivers and the most dependable source, water abstraction from existing wells.

The SVG-CℓEAR-Water project will bring about a paradigm shift in the way the Government of SVG and more particularly the CWSA implement the proposed activities for the improvement of climate resilience in the water sector.

The CℓEAR-Water Project supports the realization of 16 of the 17 SDGs. As it relates to regenerative development the component associated with the grey water usage component satisfies the tenants' regenerative development

### **7.3 Analysis of the project according to Standard P5**

The P5 provides key decision makers across the organizational change delivery disciplines the information and insight they need to lead the change initiative. This will significantly improve the project's value, mitigate risks, improve benefits and maximize the positive impact to the environment, society and economy P5 Analysis (2023). To use P5 the project stakeholder's understanding of the business case, project charter, project requirements and organizational sustainability goals, as well as reviewing lessons learned from previous projects are critical. The questions are organized by an overall categorization

of People / Planet / Prosperity, which are sub-organized by sub-category. The sub-categories have specific elements that the team asks questions about to see if there are any sustainability threats or opportunities that should be raised to management and / or the executive for action. Several perspectives are being taken, including the product impacts from the project outcomes and the process impacts from the approaches taken (P5 Analysis, 2023).

The average summation of scores will establish a baseline during initiation for each P5 bottom line People, Planet, Profit, Process and Product, and items that have a negative score (negative) are a risk to the sustainability score of the project and will need to be managed and mitigated. Or at least discussed and prioritized with management and leadership to decide how best to proceed. Processes are measured in the same manner. The P5 Standard for Business Practice goes beyond traditional management practices by incorporating the triple bottom line of People, Planet, and Prosperity, while also enhancing it with considerations for Product and Process. This comprehensive approach ensures that every aspect of business management is evaluated and optimized for sustainability (P5 Analysis, 2023).

The implementation is performed at the project initiation stage following the PRiSM methodology. Implementation consists of analyzing the impact of project assumptions on the environment, society, and economy. At the same time, compliance with the organization's strategy should be checked. The analysis is also aimed at identifying threats and opportunities resulting from applying the principles of sustainable development. The result of the analysis allows for identifying problem areas from the perspective of sustainable development. As a result, it provides practical information as the basis for justifying changes to the project. Conclusions from the analysis are essential for Project Managers to assess whether the implemented scope of the project meets the principles of sustainable development. The last stage is to change the scope and method of carrying out the project to take into account the principles of sustainable development (P5 Analysis, 2023).

By mapping its guidelines to the UN SDGs, the P5 Standard empowers projects to contribute meaningfully to global efforts, including addressing climate change, promoting

ethical behavior, and advancing social responsibility. It provides project managers with a structured approach to create shared value and address the urgent challenges of our time.

## 7.4 P5 Analysis

	<b>Table 35- P5</b>			
	<b>P5™ Impact Analysis</b>			
	<i>Approvals</i>			
	<b>Organization Name</b>		Caribbean Community Climate Change Centre (CCCCC)	
	<b>Project Name</b>		Climate Elucidation for Adaptive Capacity in the Water Sector (CLEAR-Water) Project, Saint Vincent and the Grenadines	
	<b>Version</b>	<b>Role</b>	<b>Name</b> ( <i>electronic signature</i> )	<b>Date</b>
	1.0	Project Sponsor	Green Climate Fund (GCF)	2024-03-31
		Project Manager	Allison Williams	2024-03-31

<b>Organization:</b>	<i>Caribbean Community Climate Change Centre (CCCC)</i>									
<b>Project:</b>	<i>Climate Elucidation for Adaptive Capacity in the Water Sector (CLEAR-Water) Project, Saint Vincent and the Grenadines</i>									
<b>People Impacts</b>		<b>Lens</b>	<b>Scored?</b>	<b>Description (Cause)</b>	<b>Potential Sustainability Impact</b>	<b>Initial Impact Score</b>	<b>Proposed Response</b>	<b>New Impact Score</b>	<b>Change</b>	<b>Comments (optional)</b>
<b>Subcategory</b>	<b>Labor Practices and Decent Work</b>									
<b>Element</b>	<b>Definition</b>									
Employment and Staffing	Employment and staffing is the process of obtaining the personnel needed to carry out the project. It includes identifying the skills required for successful completion of the project, recruiting potential individuals (internally or externally), managing their time and performance, training them when needed, and compensating them accordingly.	Lifespan	Yes	Employees will be hired for the main activities to carry on the project.	Project lifecycle will determine the longevity of the employment opportunity	2	The Project may only retain as small number of people to ensure project sustainability	3	1	

		Servicing	No							
		Effectiveness	Yes	Terms of Reference demonstrating required qualifications and experience should benchmark the required key experts required	Sourcing qualified and suitably experienced individuals may be challenging due to brain drain within the Caribbean	1	Provide incentives such as tax-free salaries which will encourage local key experts to become involved in the project	4	3	
		Efficiency	No							
		Fairness	Yes	Candidates will go through the same process as any other. The interviewers will ask same questions to all candidates to demonstrate equity and fairness	The process must meet industry standards for fairness and transparency	2	Procurement guidelines must be adhered to.	4	2	

Labor Management Relations	Labor/management relations in the project context means building trust, understanding, and cooperation among project and other managers, organizational staff, and project team members. It involves respecting each other's opinions, resolving conflicts proactively, communicating clearly, and ensuring that everyone is aware of their roles and responsibilities.	Lifespan	Yes	Scrum managers will need to build an environment of trust and clear communication throughout the lifespan of the project	If a great communication plan is not developed this may impact project expectations and success	2	A communication plan will help to achieve the project goals	5	3	
		Servicing	No							
		Effectiveness	Yes	Effective communication must be prioritized	Ineffective communication can impact on the progress and outcomes of the project	2	A communication plan will help to achieve the project goals	4	2	
		Efficiency	Yes	Roles and responsibilities must be clearly identified and adhered to avoid confusion.	Unclear roles and responsibilities will severely impact project outcomes.	3	Reporting and approval strategy should be developed	4	1	

		Fairness	No							
Project Health and Safety	Project health and safety is the practice of creating safe working conditions for personnel involved in the project. It involves implementing measures such as hazard assessment, risk management, training, enforcement, and investigation. Its main goal is to ensure that workers are not exposed to any unnecessary risks while performing their work.	Lifespan	No							
		Servicing	No							
		Effectiveness	No							
		Efficiency	No							
		Fairness	No							

Training and Qualifications	Training and qualifications is the process of ensuring that project team members have the necessary skills to effectively complete their work. It involves providing instruction, assessing proficiency, monitoring performance, and offering guidance.	Lifespan	Yes	Needs assessment must be conducted at the onset of the project	If needs assessment is not conducted the project may be inadequately staffed	2	Continuous training for beneficiaries of the project would be recommended	4	2	
		Servicing	No							
		Effectiveness	Yes	Measure effectiveness through employee annual assessments	Not utilizing employee annual assessments may result in a reduction in the projects efficiency	2	Create assessment geared to identify KPIs and gaps to recommend required training.	5	3	
		Efficiency	No							
		Fairness	No							
Organizational Learning	Organizational learning is a form of knowledge management in which organizational components and individual employees are encouraged to capture, share, and apply their knowledge. This enables the	Lifespan	Yes	Organizational improvement process should be ongoing at all times.	Organizational process tools will aid in the uptake of organization processes and procedures	2	Organizational process tools and procedures should be updated regularly or as required.	5	3	

	organization to adapt and improve its processes, products, and services over time.									
		Servicing	No							
		Effectiveness	No							
		Efficiency	No							
		Fairness	No							

Equal Opportunity	Equal opportunity is the practice of providing individuals with access to jobs, opportunities, and responsibilities based on their qualifications regardless of gender, race, age, or other characteristics. It seeks to eliminate any type of discrimination in the workplace and to ensure that all team members are treated fairly and given an equal chance to participate in an appropriate way.	Lifespan	Yes	Procurement policy should be entrenched in the tenants of equal opportunity for access to jobs, opportunities, and responsibilities based on their qualifications regardless of gender, race, age, or other characteristics.	By disqualifying a certain population, it could be missed the interest or the self-marketing to other people	2	Job opportunities should be marketed and promoted in public spaces where anyone can access	5	3	
		Servicing	No							
		Effectiveness	Yes	Terms of Reference demonstrating required qualifications and experience should benchmark the required key experts required	Sourcing qualified and suitably experienced individuals may be challenging due to brain drain within the Caribbean	1	Provide incentives such as tax-free salaries which will encourage to local key experts to become involved in the project	4	3	
		Efficiency	No							

		Fairness	yes	Procurement policy should be entrenched in the tenants of equal opportunity for access to jobs, opportunities, and responsibilities based on their qualifications regardless of gender, race, age, or other characteristics.	Transparent and equitable procurement process should be standard best practices	2	Job opportunities should be marketed and promoted in public spaces where anyone can access	5	3	
Local Competence Development	Local competence development is the process of fostering and expanding skills, knowledge, and expertise in the localities in which the project operates. It can involve providing training or education to local individuals, as well as encouraging collaboration and the sharing of resources between the project organization and local organizations or local individuals.	Lifespan	Yes	Leverage local expertise by partnering with institutions or skilled individuals to accelerate the project deployment	Improving speed and cost effectiveness of installation and maintenance while empowering locals with employment opportunities	4	Partner with regional schools or workshops, providing resources and tools to scale local involvement .	5	1	

		Servicing	No							
		Effectiveness	No							
		Efficiency	Yes	Leverage local expertise by partnering with institutions or skilled individuals to accelerate the project deployment	Improving speed and cost effectiveness of installation and maintenance while empowering locals with employment opportunities	4	Partner with regional schools or workshops, providing resources and tools to scale local involvement .	5	1	
		Fairness	No							
Work-Life Harmony and Mental Health	Work-life harmony and mental health refers to the ability of individuals to strike a balance between their professional goals and commitments within their personal lives. This involves taking regular breaks from work, developing healthy work habits, and engaging in activities that bring a sense of joy and contentment.	Lifespan	No							
		Servicing	No							

		Effectiveness	No							
		Efficiency	No							
		Fairness	No							
<b>Subcategory</b>	<b>Society and Customers</b>	<b>Lens</b>	<b>Scored?</b>	<b>Description (Cause)</b>	<b>Potential Sustainability Impact</b>	<b>Impact Score Before</b>	<b>Proposed Response</b>	<b>Impact Score After</b>	<b>Change</b>	<b>Comments (optional)</b>
<b>Element</b>	<b>Description</b>									
Community Engagement	Community engagement is the practice of treating local residents as stakeholders in the project. This is essential as it ensures that local needs and perspectives are taken into consideration when taking any action that affects the community. It also requires a two-way exchange of information and ideas between the project team and the community to make the project more effective, efficient, and beneficial for all involved.	Lifespan	Yes	Engage communities and provide education on best practices.	A lack of community awareness may impact project success.	2	Conduct community workshops, create user manuals in local languages, and establish a community-led maintenance team.	4	2	

		Servicing	No							
		Effectiveness	No							
		Efficiency	No							
		Fairness	No							
Public Policy and Compliance	Public policy and compliance include the steps taken by the project team to ensure that the project complies with all relevant laws and regulations. This involves researching relevant laws and regulations, understanding their implications for the project, and taking necessary steps to make sure these laws and regulations are respected throughout the project's duration.	Lifespan	Yes	Ensure compliance with sector and environmental regulations throughout the project lifecycle.	Prevents legal challenges, enhances long-term project viability, and aligns with national sustainability goals.	2	Conduct regular compliance audits and update policies to align with evolving regulations.	5	3	
		Servicing	No							
		Effectiveness	No							

		Efficiency	No							
		Fairness	No							
Protection for Indigenous and Tribal Peoples	Protection for indigenous and tribal peoples includes the measures taken to ensure the rights and wellbeing of affected populations over the course of the project. This includes protection of their culture, land use rights, language, religion, and other forms of recognition.	Lifespan	No							
		Servicing	No							
		Effectiveness	No							
		Efficiency	No							
		Fairness	No							

Customer Health and Safety	Customer health and safety includes the measures taken to ensure the physical and mental wellbeing of the end users of the project's results. This includes providing information about risks and hazards, proper customer handling during the project, and adherence to relevant safety standards, protocols, laws, and regulations.	Lifespan	Yes	Ensure compliance with sector and environmental regulations throughout the project lifecycle.	Prevents legal challenges, enhances long-term project viability, and aligns with national sustainability goals.	2	Conduct regular compliance audits and update policies to align with evolving regulations.	5	3	
		Servicing	No							
		Effectiveness	No							
		Efficiency	Yes	Ensure compliance with sector and environmental regulations throughout the project lifecycle.	Prevents legal challenges, enhances long-term project viability, and aligns with national sustainability goals.	2	Conduct regular compliance audits and update policies to align with evolving regulations.	5	3	
		Fairness	No							
Product and Service Labeling	Product and service labelling includes	Lifespan	No							

	procedures used to ensure that goods and services are accurately labelled according to legal and ethical standards. This includes properly disclosing potential risks, hazards, and side effects associated with the use of products and services as well as providing appropriate information about the origins of these products and services.									
		Servicing	No							
		Effectiveness	No							
		Efficiency	No							
		Fairness	No							
Customer Privacy and Data Protection	Customer privacy and data protection encompasses the measures taken to safeguard customer data such as personal information or financial details. It includes	Lifespan	No							

	providing secure storage facilities and encryption technologies, implementing appropriate access controls and authentication procedures, and ensuring compliance with relevant laws and regulations.									
		Servicing	No							
		Effectiveness	No							
		Efficiency	No							
		Fairness	No							
<b>Subcategory</b>	<b>Human Rights</b>	<b>Lens</b>	<b>Scored?</b>	<b>Description (Cause)</b>	<b>Potential Sustainability Impact</b>	<b>Impact Score Before</b>	<b>Proposed Response</b>	<b>Impact Score After</b>	<b>Change</b>	<b>Comments (optional)</b>

Element	Description									
Harassment and Discrimination	Harassment and discrimination involve the measures adopted to ensure a safe, respectful, and non-discriminatory workplace environment. This includes developing policies that protect employees from unjust treatment, creating an inclusive environment, implementing effective reporting procedures for instances of inappropriate behaviors, and providing sufficient training for management on how to handle such issues.	Lifespan	Yes	Organizational improvement process should be ongoing at all times.	Organizational process tools will aid in the uptake of organization processes and procedures	2	Organizational process tools and procedures should be updated regularly or as required.	5	3	
		Servicing	Yes	Organizational improvement process should be ongoing at all times.	Organizational process tools will aid in the uptake of organization processes and procedures	2	Organizational process tools and procedures should be updated regularly or as required.	5	3	

		Effectiveness	Yes	Organizational improvement process should be ongoing at all times.	Organizational process tools will aid in the uptake of organization processes and procedures	2	Organizational process tools and procedures should be updated regularly or as required.	5	3	
		Efficiency	Yes	Organizational improvement process should be ongoing at all times.	Organizational process tools will aid in the uptake of organization processes and procedures	2	Organizational process tools and procedures should be updated regularly or as required.	5	3	
		Fairness	Yes	Organizational improvement process should be ongoing at all times.	Organizational process tools will aid in the uptake of organization processes and procedures	2	Organizational process tools and procedures should be updated regularly or as required.	5	3	
Age-Appropriate Labor	Age-appropriate labor means ensuring that children are not put in dangerous or exploitative situations while still allowing them to develop essential job skills. It is used to describe work suitable for a person's skill level and maturity.	Lifespan	No							
		Servicing	No							

		Effectiveness	No							
		Efficiency	No							
		Fairness	No							
Force and Involuntary Labor	Forced and involuntary labor means any work or service that is extracted from a person under the menace of punitive action against themselves or their families. It includes work where the payment is below subsistence levels, or where the payment is in goods which are not desirable. Forced and involuntary labor can take many forms including human trafficking, debt bondage, enslavement, and unjustly long working hours.	Lifespan	No							
		Servicing	No							
		Effectiveness	No							
		Efficiency	No							
		Fairness	No							

Dignity, Diversity, Equity and Inclusion	Dignity, diversity, equity, and inclusion (DDEI) is a set of values, principles, and practices that create an environment where everyone involved in the project feels respected, safe, and valued. It also involves providing opportunities for everyone to take part in relevant decision-making processes without facing discrimination or being subject to unfair treatment.	Lifespan	Yes	Integrate DDEI principles into all stages of the project, from planning to implementation and maintenance.	Ensures long-term inclusivity and fairness, fostering an environment where all community members feel valued and involved.	3	Develop a project-wide DEI policy and ensure its application through regular monitoring and evaluations.	5	2	
		Servicing	Yes	Provide equitable access to training, employment, and leadership opportunities within the project.	Promotes workforce diversity and ensures underrepresented groups benefit equally from the project's economic and social opportunities.	2	Establish mentorship and capacity-building programs for marginalized groups, including women and indigenous communities.	4	2	



Sustainable Procurement and Contracts	Sustainable procurement and contracts include practices for obtaining goods, raw materials, and services that take into account environmental, economic, and social impacts. It means contracting for resources in an ethical manner. It requires establishing agreements which adhere to environmental, social, and human rights standards.	Lifespan	Yes	Ensure procurement practices support long-term sustainability goals, including ethical sourcing and minimal environmental impact.	Reduces ecological harm, promotes responsible consumption, and strengthens ethical supply chains.	4	Establish supplier sustainability criteria, prioritizing vendors with strong environmental and social responsibility policies.	5	1	
		Servicing	Yes	Source materials and services that align with fair labor practices and low-carbon logistics.	Promotes fair wages, improves working conditions, and lowers emissions associated with procurement.	3	Partner with certified fair-trade and eco-friendly suppliers for biodigester components.	5	2	

		Effectiveness	Yes	Contract with vendors that meet sustainability standards for raw materials and energy-efficient components.	Enhances the durability and efficiency of biodigesters while ensuring compliance with environmental regulations.	3	Require third-party environmental and social audits for all major suppliers.	4	1	
		Efficiency	Yes	Optimize procurement and contract processes to minimize waste, transport emissions, and costs.	Improves project cost-effectiveness while reducing its environmental footprint.	2	Consolidate orders, use local suppliers, and implement just-in-time inventory management to lower emissions and costs.	4	2	
		Fairness	No							

Anti-Corruption	Anti-corruption is the practice of rejecting both offers of and requests for gifts, payments, or other forms of benefits in order to influence the activities, results, or outcomes of the project. It involves making sure that the project is free of unethical practices such as bribery, money laundering, fraud, and embezzlement.	Lifespan	Yes	Ensure transparency and integrity in all project transactions, contracts, and procurement processes.	Prevents financial mismanagement , safeguards project funds, and enhances long-term trust in the initiative.	1	Establish a strict anti-corruption policy with zero tolerance for bribery, fraud, or embezzlement.	5	4	
		Servicing	Yes	Regularly monitor financial activities and conduct independent audits to detect and prevent corruption.	Ensures accountability and reduces financial risks associated with mismanagement .	2	Partner with third-party auditors and require full disclosure of financial reports.	5	3	

		Effectiveness	Yes	Implement clear anti-corruption guidelines for all stakeholders, including employees, suppliers, and community partners.	Reduces risk of unethical practices, ensuring project outcomes remain aligned with ethical standards.	2	Provide ethics training for all team members and require suppliers to sign anti-corruption agreements.	5	3	
		Efficiency	Yes	Streamline reporting and whistleblowing mechanisms to encourage transparency without causing delays.	Encourages a culture of ethical behaviors while minimizing administrative inefficiencies.	4	Create an anonymous reporting system for corruption concerns and establish a response team to investigate complaints.	5	1	
		Fairness	Yes	Ensure equal access to project opportunities, preventing favoritism or preferential treatment.		2	Enforce strict procurement and hiring policies based on merit, not personal connections.	4	2	

Fair Competition	Fair competition is the practice of ensuring that all parties wanting to provide products or services to the project have an equal opportunity to compete and win. It requires taking measures to ensure that no individual party has an unfair advantage due to size, wealth, influence, or any other factor. This includes enforcing laws and regulations against anticompetitive behaviors such as price-fixing and market manipulation. Additionally, fair competition calls for creating transparent processes for bidding and contract awards to ensure fair opportunities for businesses of all sizes and types.	Lifespan	Yes	Maintain fair procurement and contracting practices throughout the entire project lifecycle.	Encourages long-term trust and credibility while fostering a competitive, innovative marketplace.	4	Establish and enforce fair bidding procedures with open and transparent evaluation criteria.	5	1	
		Servicing	No							
		Effectiveness	Yes	Ensure that all suppliers and service providers are evaluated based on merit, quality,	Reduces risk of corruption, ensures quality work, and enhances project credibility.	3	Develop standardized criteria for vendor selection, focusing on sustainability	4	1	

				and compliance with sustainability standards.			y, cost-effectiveness, and compliance.			
		Efficiency	Yes	Streamline the procurement process to prevent delays while ensuring fairness.	Reduces unnecessary bureaucratic obstacles, allowing for faster and more effective project implementation.	3	Implement a digital procurement platform that tracks all bids, awards, and transactions for full transparency.	4	1	
		Fairness	No							
Responsible Technology	Responsible technology is the practice of taking into account ethical, legal, and social implications when running projects that involve new or emerging technologies. This includes developing and adhering to frameworks and policies related to data privacy, intellectual property rights, environmental impact, diversity, and inclusion. Responsible technology also	Lifespan	No							

	requires ensuring that technology is used in a safe and responsible manner.									
		Servicing	No							
		Effectiveness	No							
		Efficiency	No							
		Fairness	No							
Green Claims and Greenwashing	<p>Green claims are statements made by an organization to indicate that a product or service has been designed and produced in a manner that is considered environmentally responsible. These claims typically relate to the organization's efforts to reduce its environmental impact such as using recycled materials, renewable energy sources, and efficient production processes.</p> <p>Greenwashing is the practice of making false or misleading claims in order to mislead consumers into believing that a product or service is more environmentally</p>	Lifespan	Yes	Ensure that all environmental claims related to the biodigester project are accurate, verifiable, and transparent.	Prevents misinformation and builds long-term trust in the project's environmental benefits.	1	Implement third-party environmental certifications and publish annual sustainability impact reports.	5	4	

	friendly than it actually is. This can be done through deceptive language, exaggerations, or omitting relevant information about an organization's true environmental practices.									
		Servicing	No							
		Effectiveness	Yes	Differentiate between genuine sustainability efforts and marketing claims to prevent greenwashing .	Ensures that the project's benefits are truly impactful and not exaggerated for promotional purposes.	1	Require independent environmental audits and ensure all claims align with internationally recognized sustainability standards.	5	4	



Local Procurement	Local procurement is the practice of purchasing products and services from local suppliers.	Lifespan	Yes	Equipment to be used and locally sourced supplies and materials	Local suppliers: lack of warranties from local supplies and equipment may be limited to the completion of installation of the project.	3	Ensure that quality and warrantee standards are a part of the procurement selection process.	4	1	Develop cohesive parameters for contractor supplier performance and monitoring
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		Servicing	Yes	Every month you should: Regularly monitor the effluent quality, implement appropriate filtration and separation mechanisms to remove solids and ensure the effluent meets the required quality standards before discharge, consider recycling or reusing the treated effluent for non-potable purposes such as irrigation or flushing, if regulations permit; follow local regulations and guidelines related to the disposal of the effluent. Some regions may require additional treatment or disinfection before releasing the effluent into the environment.	Lack of systematic monitoring may impact the efficiency of the entire system	3	Maintaining efficiency and longevity of your system requires regular inspections, proper feedstock management , routine cleaning and maintenance , regular system upgrades and optimizations, regular effluent management .	4	1	Develop cohesive management and upkeep plans through long term contracts with servicing agents.
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		Effectiveness	Yes	Local supplies reduce lag time for project completion allowing the project to be completed with the project life cycle	Local suppliers may not be able to provide quantities required when the project is scaled up	3	Provide vendors with supplies schedules in advance of actual need thereby giving them sufficient time to plan for supply and delivery.	5	2	Advance notice for supply will allow supplier to improve planning and reduce delays in receipt of materials
		Efficiency	Yes	Sourcing locally improves delivery periods and cuts costs on transportation	Community development and trickle-down economic benefits	4	Develop procurement policies and strategies that provide preferential frameworks for bidders from the community	5	1	Maintain local supplier database and keep them informed of procurement opportunities for better local participation

		Fairness	Yes	All procurement activity should be conducted through a competitive and transparent process	This will aid in the retention of good suppliers	4	Develop procurement policies that are standard best practice and train the suppliers in the community how to respond to request for quotations	5	1	Regular training for new potential suppliers should be carried out biannually.
Digital Communication	Digital communication is the use of digital tools and platforms to communicate about the project. These tools can include websites, email newsletters, social media accounts, messaging applications, and other digital communication channels.	Lifespan	Yes	Project website activated, community updates via WhatsApp, Facebook and other social media platforms	Process and practices of standards for green procurement	3	Also ensures that procurement documents and project documents and updates are available in e-format	5	2	Regular updates to e-documents and platforms
		Servicing	Yes	Software updating as needed to ensure functional ability of platforms	Community and stakeholders will receive relevant updated information on the project	4	Ensure that regular schedule updates for project updates are built into the implementation cycle	5	1	A community informed is a community that is prepared for any changes foreseen in the project

		Effectiveness	Yes	Project receives wider visibility and interest through digital distribution	Wider visibility may attract additional donors to the project as well as increase other community participation in this project or similar project	5				
		Efficiency	Yes	Used for the duration of the project: distribution of digital information thereby reducing cost related to replicating documents and improving overall sustainability of the project	Information can be delivered in real time thereby increasing the rate and timeliness of response from project stakeholders	3	Ensure that the sustainable aspects of the project are articulated in detail to improve and increase interest in the project	5	2	Ensure that communication regularly enforces the concept of regenerative development
		Fairness	No							

Traveling and Commuting	Traveling and commuting is the movement of project-related personnel between different locations. Traveling and commuting may include getting to the project site, attending off-site meetings, conducting off-site presentations, collecting data, and providing off-site support.	Lifespan	Yes	Hybrid or electric vehicles to service project sites	Project personnel should utilize hybrid or electric vehicles to service project sites to reduce carbon footprint	3	Project design must include the supply of hybrid technologies for transportation	5	2	Sound reliable hybrid technology contributes to sustainability efforts
		Servicing	Yes	Locally available maintenance center/service provider and frequent maintenance schedules are required to ensure sustainability of vehicles purchased for the project	Reduced financial cost associated with repairs due to lack of maintenance	3	Only transportation suppliers that can survive the project area should be considered for the supply of transportation	4	1	Sound reliable hybrid technology contributes to sustainability efforts
		Effectiveness	Yes	Most hybrid technology can now adapt to all terrains	Provide transportation that can be used in rugged terrains in the project area	2	Project design must specific all state requirements of vehicles that are sustainable	3	1	Sound reliable hybrid technology contributes to sustainability efforts



Energy Consumption	Energy consumption is the amount of energy used by the project throughout its duration. It encompasses all aspects of energy use from office lighting to the energy required for transportation.	Lifespan	No							
		Servicing	No							
		Effectiveness	No							
		Efficiency	No							
		Fairness	No							
GHG Emissions	GHG emissions are gases (mostly carbon dioxide and methane) released into the atmosphere as a direct result of activities associated with the project. This includes emissions as a direct result of project energy consumption as well as emissions from transport of procured goods, raw materials, and services. It also includes GHG emissions caused by the distribution, operation, and disposal of the project product.	Lifespan	No							
		Servicing	No							



Biological Diversity	Biological diversity, also known as biodiversity, refers to the variety of life forms on Earth. It includes all ecosystems and all species of plants, animals, bacteria, fungi, and microorganisms that make up a particular environment or habitat. It also includes all genetic variations of those species.	Lifespan	No							
		Servicing	No							
		Effectiveness	No							
		Efficiency	No							
		Fairness	No							

Air and Water Quality	Air and water quality involves measures of contamination in air and water sources.	Lifespan	Yes	The regular occurrence of heavy rainfall in the upstream catchments leads to high turbidity at intakes resulting in poor water quality and regular service disruptions to customers including the economically important tourism areas	It is expected that water supplies may require greater treatment and the introduction of measures to otherwise improve source water quality, such as sediment trapping before offtake and treatment.	2	Having a strengthened institutional and enabling environment to support Climate Resilient Water Resource Management co-benefits water scarcity, access to water and water quality. Reduced vulnerability associated with water scarcity will be improved, as will access to reliable water and health-related issues such as contamination will also be minimized.	5	3	
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		Servicing	Yes	The regular occurrence of heavy rainfall in the upstream catchments leads to high turbidity at intakes resulting in poor water quality and regular service disruptions to customers including the economically important tourism areas	It is expected that water supplies may require greater treatment and the introduction of measures to otherwise improve source water quality, such as sediment trapping before offtake and treatment.	2	Having a strengthened institutional and enabling environment to support Climate Resilient Water Resource Management co-benefits water scarcity, access to water and water quality. Reduced vulnerability associated with water scarcity will be improved, as will access to reliable water and health-related issues such as contamination will also be minimized.	5	3	
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		Efficiency	Yes	The regular occurrence of heavy rainfall in the upstream catchments leads to high turbidity at intakes resulting in poor water quality and regular service disruptions to customers including the economically important tourism areas	It is expected that water supplies may require greater treatment and the introduction of measures to otherwise improve source water quality, such as sediment trapping before offtake and treatment.	2	Having a strengthened institutional and enabling environment to support Climate Resilient Water Resource Management co-benefits water scarcity, access to water and water quality. Reduced vulnerability associated with water scarcity will be improved, as will access to reliable water and health-related issues such as contamination will also be minimized.	5	3	
		Fairness	No							

Water Consumption	Water consumption is the usage of water during project activities. Although construction, manufacturing, and agricultural projects are probably the major users of water, all projects use water to some extent.	Lifespan	Yes	Water is essential for the functioning of the system. Primary wastewater will be used	During the dry season availability of water may impact the system	2	Stakeholders should be encouraged to collect and store water during the rainy season	5	3	Regular monitoring of water usage and availability of rainwater harvesting will improve project sustainability
		Servicing	Yes	Grey water is available but may reduce during dry season	Communities may require assistance with the provision of water	2	Communities may depend on municipality governance for the provision of water during the dry season	5	3	Regular monitoring of water usage and availability of rainwater harvesting will improve project sustainability
		Effectiveness	Yes	Grey water is as effective as fresh water.	Grey water's multiple usage and advantages must be promoted and entrenched in the project outcomes	2	Efficient water conservation practices should be encouraged	5	3	Regular monitoring of water usage and availability of rainwater harvesting will improve project sustainability

		Efficiency	Yes	Grey water is just as effective as fresh water	Grey water's multiple usage and advantages must be promoted and entrenched in the project outcomes	2	Efficient water conservation practices should be encouraged	5	3	Regular monitoring of water usage and availability of rainwater harvesting will improve project sustainability
		Fairness	No							
Water Displacement	Water displacement is the practice of diverting water sources that have been disrupted by the project away from areas that are prone to flooding and contamination. Methods include dam construction, rerouting flowing water, building artificial wetlands, landscaping with rain gardens, and installing flood barriers. Water displacement is mostly an issue with construction, manufacturing, and agricultural projects.	Lifespan								
		Servicing								
		Effectiveness								
		Efficiency								

		Fairness								
Soil Erosion and Regeneration	<p><b>Soil erosion</b> is the loss of topsoil due to human activities such as construction, road building, or agricultural practices. It can be exacerbated by changes in the natural land cover and can have significant negative effects on local ecosystems. As with water displacement, soil erosion is mostly an issue with construction, manufacturing, and agricultural projects.</p> <p><b>Regenerative design</b> is a practice that draws on an understanding of how ecosystems function so that the project will regenerate resources rather than depleting them.</p>	Lifespan								
		Servicing								
		Effectiveness								
		Efficiency								
		Fairness								



Recycling and Reuse	<p>Recycling involves transforming a waste item into a useful one. Items that can be recycled run the gamut from plastic water bottles to computers to electrical generators.</p> <p>Reuse involves using the same item again and again or finding a new purpose for it.</p>	Lifespan	Yes	Grey water is just as effective as fresh water	Grey water's multiple usage and advantages must be promoted and entrenched in the project outcomes	2	Efficient water conservation practices should be encouraged	5	3	Regular monitoring of water usage and availability of rainwater harvesting will improve project sustainability
		Servicing	Yes	Grey water is just as effective as fresh water	Grey water's multiple usage and advantages must be promoted and entrenched in the project outcomes	2	Efficient water conservation practices should be encouraged	5	3	Regular monitoring of water usage and availability of rainwater harvesting will improve project sustainability

		Effectiveness	Yes	Grey water is just as effective as fresh water	Grey water's multiple usage and advantages must be promoted and entrenched in the project outcomes	2	Efficient water conservation practices should be encouraged	5	3	Regular monitoring of water usage and availability of rainwater harvesting will improve project sustainability
		Efficiency	Yes	Grey water is just as effective as fresh water	Grey water's multiple usage and advantages must be promoted and entrenched in the project outcomes	2	Efficient water conservation practices should be encouraged	5	3	Regular monitoring of water usage and availability of rainwater harvesting will improve project sustainability
		Fairness	No							
Disposal	Disposal of assets is the process of getting rid of an item which has reached the end of its useful life. This includes everything from consumer electronics to public infrastructure such as roads and bridges. Generally, assets should not be disposed of until	Lifespan	No							

	<p>they are no longer fit for use.</p> <p>Disposal of goods and materials is the practice of getting rid of items that are no longer needed or wanted for the project. This includes disposing of both hazardous and non-hazardous waste in accordance with relevant laws and regulations.</p>									
		Servicing	No							
		Effectiveness	No							
		Efficiency	No							
		Fairness	No							
Contamination and Pollution	<p>Contamination and pollution is the release of waste materials or hazardous substances into the environment. It will almost always have a negative impact on ecosystems and human health. Contamination and pollution most often occurs due to neglectful practices in manufacturing, construction, agriculture, and related</p>	Lifespan	No							

	industries that generate waste materials or hazardous chemicals, but it can also occur in other projects that do a poor job of disposal.									
		Servicing	No							
		Effectiveness	No							
		Efficiency	No							
		Fairness	No							
Waste Generation	is the creation of any excess or unneeded materials or byproducts during the project. This includes everything from leftover supplies and materials to wasted energy.	Lifespan	Yes	Grey water is just as effective as fresh water	Grey water's multiple usage and advantages must be promoted and entrenched in the project outcomes	2	Efficient water conservation practices should be encouraged	5	3	Regular monitoring of water usage and availability of rainwater harvesting will improve project sustainability

		Servicing	Yes	Grey water is just as effective as fresh water	Grey water's multiple usage and advantages must be promoted and entrenched in the project outcomes	2	Efficient water conservation practices should be encouraged	5	3	Regular monitoring of water usage and availability of rainwater harvesting will improve project sustainability
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		Efficiency	Yes	Grey water is just as effective as fresh water	Grey water's multiple usage and advantages must be promoted and entrenched in the project outcomes	2	Efficient water conservation practices should be encouraged	5	3	Regular monitoring of water usage and availability of rainwater harvesting will improve project sustainability
		Fairness	No							
Organization:	Caribbean Community Climate Change Centre (CCCCC)									
Project:	Climate Elucidation for Adaptive Capacity in the Water Sector (CLEAR-Water) Project, Saint Vincent and the Grenadines									
Prosperity Impacts										
Subcategory	Project Feasibility	Lens	Scored ?	Description (Cause)	Potential Sustainability Impact	Impact Score Before	Proposed Response	Impact Score After	Change	Comments (optional)
Element	Description									
Business Case Analysis	Business case analysis is the process of developing a business case that provides justification for the	Lifespan	Yes	A well developed and sound business case is imperative so that the project can be impactful	A well-developed business plan well ensure that	3	Develop a well thought out Business Case to be	4	1	

	initiation or continuation of the project. It involves analyzing the underpinning logic of funding the project. This requires identifying the expected benefits and dis-benefits, likely costs and revenues, staffing requirements, major risks, schedule alternatives, and stakeholder impacts associated with a proposed project.			and run its course/duration	the project is continuous by avoiding overruns and poor management of resources.		implemente d			
		Servicing	No							
		Effectiveness	Yes	The business plan must capture pertinent data and information that will aid the project in achieving its goals	With a lack of accurate data, the plan will abound with inaccuracies and reduce the likelihood of buy in	2	Conduct a comparative study of alternative energy solutions and position the project as the best-value option.	5	3	
		Efficiency	Yes	Without the proper identification, selection and assignment of resources, along with taking risks into consideration, a project's efficiency can be	Underbudgeting, time delays, etc.	1	Utilize financial modelling techniques to project different scenarios and adjust	5	4	

				negatively impacted.			the strategy accordingly.			
		Fairness	No							
Financial Analysis	Financial analysis is the process of evaluating the project from a monetary perspective. Typically, it is used to analyze whether the project warrants initial or additional funding.	Lifespan	Yes	The project is not a 'for profit' venture and hence its financial viability over its duration is critical. Most important day-day tracking is key.	Performing a wrong assumption would implicate in looking at an impact financially in the horizon	2	Conduct periodic financial reviews, scenario planning, and multi-year budgeting to adapt to changing economic conditions.	4	2	
		Servicing	No							
		Effectiveness	Yes	In order for the project to be successful, its finance team must prepare proper and accurate financial analysis	Identifies potential financial risks and allows for efficient allocation of resources.	2		4	2	
		Efficiency	Yes	By ensuring proper financial analysis, the proper is guaranteed to have an advantage as it pertains to increasing its efficiency - taking into consideration	Ensures project funding stability while maximizing economic impact.	3	Diversify financial sources, including carbon credits, green financing, and public-	5	2	

				cash flow and resource allocation			private partnerships.			
		Fairness	No							
Social Return on Investment	Social return on investment (SROI) is a framework for measuring and accounting for project results and outcomes by including social and environmental costs and benefits along with the traditional economic ones. It is based on the idea that projects create value in ways other than just financial returns. For example, a community development project may create value by improving the health and well-being of residents, reducing crime, and increasing social cohesion.	Lifespan	Yes	A strong SROI is key to ensuring the project is a success	Ensures project sustainability by demonstrating value in multiple dimensions, including social well-being and environmental health.	3	Develop an SROI assessment framework that tracks community benefits, health improvements, and environmental gains over time.	5	2	
		Servicing	No							
		Effectiveness	Yes	A strong SROI will indicate that the project made a meaningful impact on the lives of the end users	Strengthens environmental conservation efforts and contributes to broader sustainability goals.	3	Use carbon offset calculations and environmental footprint assessments to quantify the project's	5	2	

							positive impact.			
		Efficiency	No							
		Fairness	No							
Modelling and Simulation	Modelling is the creation of a physical, mathematical, or logical representation of the project using representative characteristics of the project.	Lifespan	No							
		Servicing	No							
		Effectiveness	Yes	Modelling to determine the effectiveness and usefulness of proposed interventions	Improves decision-making, reduces risks, and enhances adaptability.	3		5	2	
		Efficiency	No							
		Fairness	No							
Subcategory	Business Agility	Lens	Scored ?	Description (Cause)	Potential Sustainability Impact	Impact Score Before	Proposed Response	Impact Score After	Change	Comments (optional)
Element	Description									
Flexibility/Optionality	Flexibility is the ability to adjust to changing circumstances or situations. It requires the capacity to modify plans or approaches when faced with unexpected challenges.	Lifespan	No							

	Optionality means having multiple solutions or choices available. It means the project is not constrained by a single approach. Optionality means that the project is capable of supporting different outcomes with different results without having to start over.									
		Servicing	No							
		Effectiveness	No							
		Efficiency	No							
		Fairness	No							
Resiliency	Resiliency is the ability of the project to recover from or adjust easily to adverse conditions such as extreme market fluctuations, political or economic instability, natural disasters, or health emergencies. Resiliency does not make problems go away: it means having the ability to cope with them despite the unexpected stress.	Lifespan	No							
		Servicing	No							
		Effectiveness	No							

		Efficiency	Yes	Develop financial and operational contingency plans to handle economic downturns or funding gaps.	Ensures financial sustainability and prevents project disruptions during economic instability.	3	Diversify funding sources, establish emergency reserve funds, and seek long-term partnerships.	5	2	
		Fairness	No							
Subcategory	Market and Economic Stimulation	Lens	Scored ?	Description (Cause)	Potential Sustainability Impact	Impact Score Before	Proposed Response	Impact Score After	Change	Comments (optional)
Element	Description									
Local Economic Impact	Local economic impact includes the direct and indirect effects the project has on the economy of its local area. This can include job creation, increased spending in the local economy, or increased regional development.	Lifespan	Yes	The project must generate benefits and spinoffs that exist beyond the life of the project	Ensures continued economic benefits beyond the project's initial implementation.	3	Develop local supply chains and ensure ongoing financial support for maintenance and expansion.	4	1	
		Servicing	No							
		Effectiveness	Yes	The number of families impacted along with the savings they will enjoy + environmental benefits are critical	Strengthens the water infrastructure and promotes sustainable economic activity.	3	Prioritize updating National and Sectorial Standards	4	1	
		Efficiency	Yes	The rate at which the project enhances the	Ensures that financial resources	2		5	3	

				quality of life of beneficiaries	are reinvested into the local economy, improving overall prosperity.					
		Fairness	No							
Indirect Benefits	Indirect benefits are the positive impacts that go beyond the immediate outcomes of the project and may not always be immediately visible. These benefits can include improved quality of life, increased economic activity in the local area, and environmental improvements such as cleaner air or water.	Lifespan	Yes	The project should result in an improved quality of life, better environment and increased economic power for the beneficiaries and communities in the long run	Enhances sustainability and community well-being over time.	2	Conduct long-term impact assessments to measure indirect benefits and adjust strategies accordingly.	4	2	
		Servicing	No							
		Effectiveness	Yes	The project's ability to improve the quality of life, generate positive economic impacts, and protect the environment is key to its success	Increased water security and improve grew water treatment	4	Provide awareness campaigns	5	1	
		Efficiency	Yes	The rate at which the project is able to improve the quality of life,	Quicker turnaround in helping alleviate	3		5	2	

				generate positive economic impacts, and protect the environment is key to its success	water restrictions and reducing grey water pollution					
		Fairness	No							
ESG Disclosures and Sustainability Reporting	<p>ESG disclosures are information about an organization's performance and practices related to environmental, social, and governance issues. Information from the project is used as input to the ESG disclosures of the sponsoring organization(s).</p> <p>Sustainability reporting provides information about an organization's policies, practices, and performance related to sustainability. It covers a wide range of topics such as energy efficiency, carbon emissions, resource conservation, human rights, labor practices, and community engagement. Information from the project is used as input to the sustainability reporting of the</p>	Lifespan	Yes	ESG disclosures and sustainability reporting should be carried out during the lifespan of the project. It will serve as best practice for all projects as it pertains to performance and practices re: environmental, social and governance issues.		3	Generation and preparation of reports in a timely and accurate manner	5	2	



Element	Description									
Business Case Analysis	Business case analysis is the process of developing a business case that provides justification for the initiation or continuation of the project. It involves analyzing the underpinning logic of funding the project. This requires identifying the expected benefits and dis-benefits, likely costs and revenues, staffing requirements, major risks, schedule alternatives, and stakeholder impacts associated with a	Lifespan	Yes	A well developed and sound business case is imperative so that the project can be impactful and run its course/duration	A well-developed business plan well ensure that the project is continuous by avoiding overruns and poor management of resources.	3	Develop a well thought out Business Case to be implemented	4	1	

	proposed project.									
		Servicing	No							
		Effectiveness	Yes	The business plan must capture pertinent data and information that will aid the project in achieving its goals	With a lack of accurate data, the plan will be abounded with inaccuracies and reduce the likelihood of buy in	2	Conduct a comparative study of alternative energy solutions and position the project as the best-value option.	5	3	

		Efficiency	Yes	Without the proper identification, selection and assignment of resources, along with taking risks into consideration, a project's efficiency can be negatively impacted.	Underbudgeting, time delays, etc.	1	Utilize financial modelling techniques to project different scenarios and adjust the strategy accordingly.	5	4	
		Fairness	No							
Financial Analysis	Financial analysis is the process of evaluating the project from a monetary perspective. Typically, it is used to analyze whether the project warrants initial or additional funding.	Lifespan	Yes	The project is not a 'for profit' venture and hence its financial viability over its duration is critical. Most important day-day tracking is key.	Performing a wrong assumption would imply in looking at an impact financially in the horizon	2	Conduct periodic financial reviews, scenario planning, and multi-year budgeting to adapt to changing economic conditions.	4	2	

		Servicing	No							
		Effectiveness	Yes	In order for the project to be successful, its finance team must prepare proper and accurate financial analysis	Identifies potential financial risks and allows for efficient allocation of resources.	2		4	2	

		Efficiency	Yes	By ensuring proper financial analysis, the proper is guaranteed to have an advantage as it pertains to increasing its efficiency - taking into consideration cash flow and resource allocation	Ensures project funding stability while maximizing economic impact.	3	Diversify financial sources, including carbon credits, green financing, and public-private partnerships.	5	2	
		Fairness	No							
Social Return on Investment	Social return on investment (SROI) is a framework for measuring and accounting for project results and outcomes by including social and environmental costs and benefits along	Lifespan	Yes	A strong SROI is key to ensuring the project is a success	Ensures project sustainability by demonstrating value in multiple dimensions, including social well-being and environmental health.	3	Develop an SROI assessment framework that tracks community benefits, health improvements,	5	2	

	<p>with the traditional economic ones. It is based on the idea that projects create value in ways other than just financial returns. For example, a community development project may create value by improving the health and well-being of residents, reducing crime, and increasing social cohesion.</p>						<p>and environmental gains over time.</p>			
		<p>Servicing</p>	<p>No</p>							

		Effectiveness	Yes	A strong SROI will indicate that the project made a meaningful impact on the lives of the end users	Strengthens environmental conservation efforts and contributes to broader sustainability goals.	3	Use carbon offset calculations and environmental footprint assessments to quantify the project's positive impact.	5	2	
		Efficiency	No							
		Fairness	No							
Modelling and Simulation	Modelling is the creation of a physical, mathematical, or logical representation of the project using representative characteristics of the project.	Lifespan	No							
		Servicing	No							

		Effectiveness	Yes	Modelling to determine the effectiveness and usefulness of proposed interventions	Improves decision-making, reduces risks, and enhances adaptability	3		5	2	
		Efficiency	No							
		Fairness	No							
<b>Subcategory</b>	<b>Business Agility</b>	<b>Lens</b>	<b>Scored?</b>	<b>Description (Cause)</b>	<b>Potential Sustainability Impact</b>	<b>Impact Score Before</b>	<b>Proposed Response</b>	<b>Impact Score After</b>	<b>Change</b>	<b>Comments (optional)</b>
<b>Element</b>	<b>Description</b>									
Flexibility/ Optionality	Flexibility is the ability to adjust to changing circumstances or situations. It requires the capacity to modify plans or approaches	Lifespan	No							

	<p>when faced with unexpected challenges.</p> <p>Optionality means having multiple solutions or choices available. It means the project is not constrained by a single approach. Optionality means that the project is capable of supporting different outcomes with different results without having to start over.</p>									
		Servicing	No							
		Effectiveness	No							

		Efficiency	No							
		Fairness	No							
Resiliency	Resiliency is the ability of the project to recover from or adjust easily to adverse conditions such as extreme market fluctuations, political or economic instability, natural disasters, or health emergencies. Resiliency does not make problems go away: it means having the ability to cope with them despite the	Lifespan	No							



Local Economic Impact	Local economic impact includes the direct and indirect effects the project has on the economy of its local area. This can include job creation, increased spending in the local economy, or increased regional development.	Lifespan	Yes	The project must generate benefits and spinoffs that exist beyond the life of the project	Ensures continued economic benefits beyond the project's initial implementation.	3	Develop local supply chains and ensure ongoing financial support for maintenance and expansion.	4	1	
		Servicing	No							
		Effectiveness	Yes	The number of families impacted along with the savings they will enjoy + environmental benefits are critical	Strengthens the water infrastructure promotes sustainable economic activity.	3	Prioritize updating National and Sectorial Standards	4	1	

		Efficiency	Yes	The rate at which the project enhances the quality of life of beneficiaries	Ensures that financial resources are reinvested into the local economy, improving overall prosperity.	2		5	3	
		Fairness	No							
Indirect Benefits	Indirect benefits are the positive impacts that go beyond the immediate outcomes of the project and may not always be immediately visible. These benefits can include improved quality of life, increased economic activity in the local area, and environmental	Lifespan	Yes	The project should result in an improved quality of life, better environment and increased economic power for the beneficiaries and communities in the long run	Enhance sustainability and community well-being over time.	2	Conduct long-term impact assessments to measure indirect benefits and adjust strategies accordingly.	4	2	

	improvements such as cleaner air or water.									
		Servicing	No							
		Effectiveness	Yes	The project's ability to improve the quality of life, generate positive economic impacts, and protect the environment is key to its success	Increased water security and improve grey water treatment	4	Provide awareness campaigns	5	1	

		Efficiency	Yes	The rate at which the project is able to improve the quality of life, generate positive economic impacts, and protect the environment is key to its success	Quicker turnaround in helping alleviate water restrictions and reducing grey water pollution	3		5	2	
		Fairness	No							
ESG Disclosures and Sustainability Reporting	ESG disclosures are information about an organization's performance and practices related to environmental, social, and governance issues. Information from the project is used as input to the ESG disclosures of	Lifespan	Yes	ESG disclosures and sustainability reporting should be carried out during the lifespan of the project. It will serve as a best practice for all projects as it pertains to performance and practices re: environmental, social and governance issues.		3	Generation and preparation of reports in a timely and accurate manner	5	2	

	<p>the sponsoring organization(s).</p> <p>Sustainability reporting provides information about an organization's policies, practices, and performance related to sustainability. It covers a wide range of topics such as energy efficiency, carbon emissions, resource conservation, human rights, labor practices, and community engagement. Information from the project is used as input to the sustainability</p>							
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	reporting of the sponsoring organization(s).									
		Servicing	No							
		Effectiveness	Yes	Reporting is critical to ensure that project remains on the right track as it relates to sustainability.	Unable to determine and quantify the impact of the project if no monitoring and reporting are carried out	3	Generation and preparation of reports in a timely and accurate manner	5	2	
		Efficiency	No							
		Fairness	No							

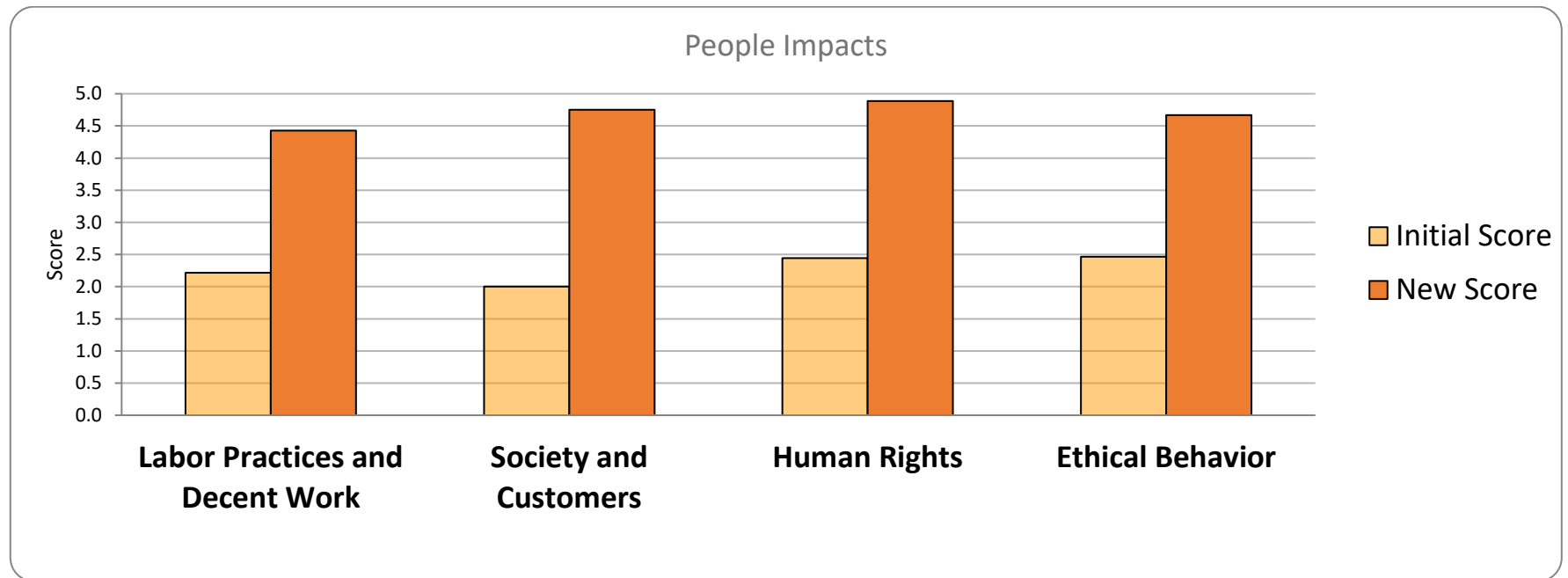
Table 36 - P5™ Impact Analysis

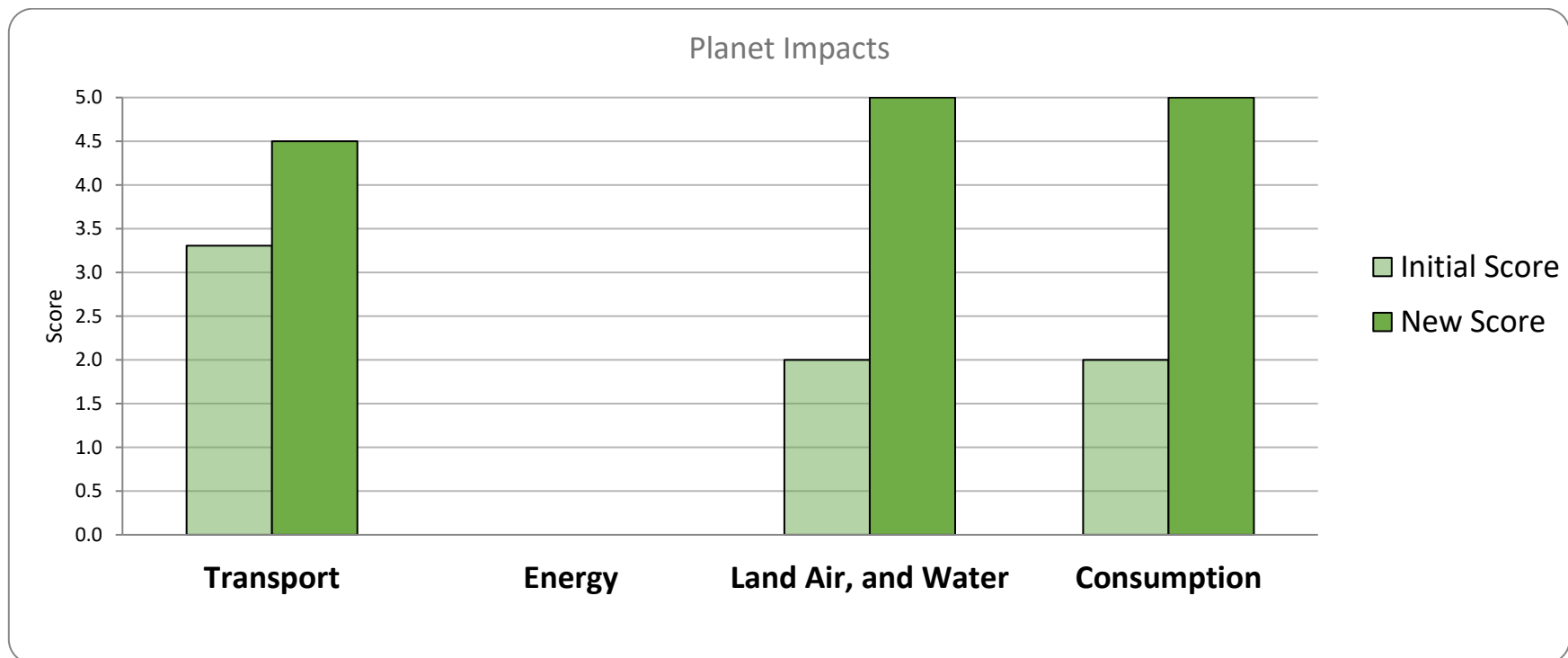
**Organization:** *Caribbean Community Climate Change Centre (CCCCC)*

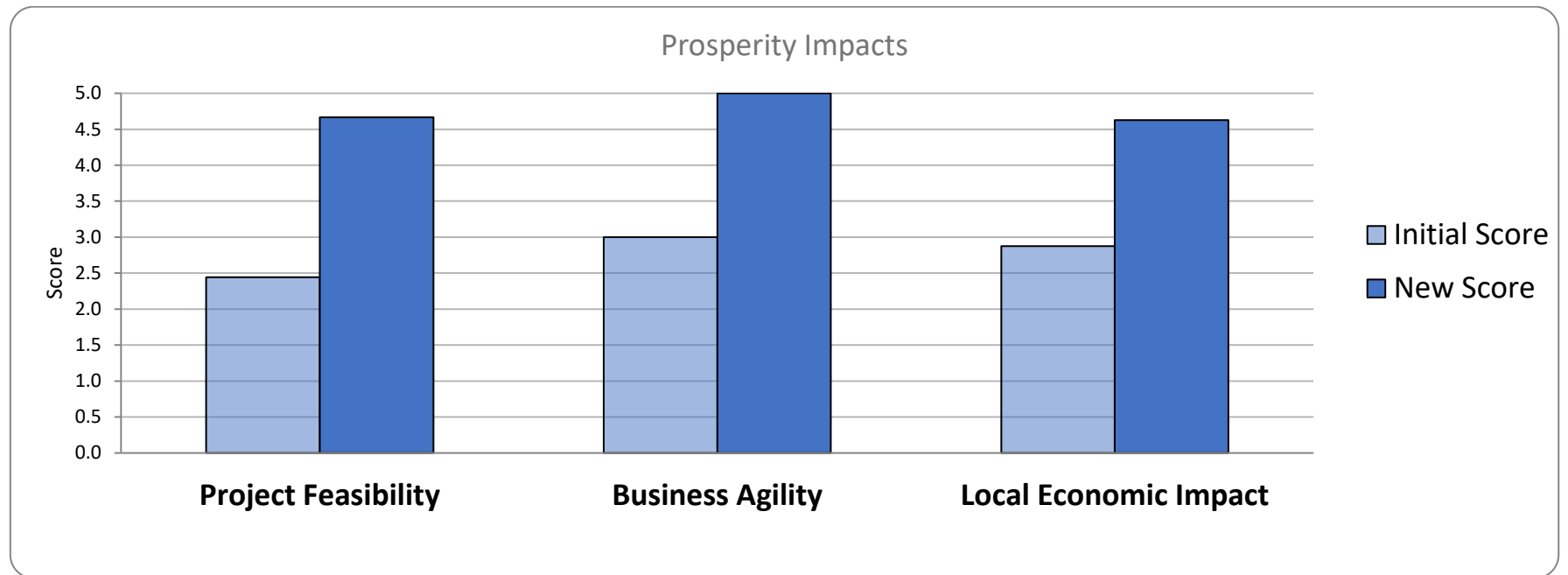
**Project:** *Climate Elucidation for Adaptive Capacity in the Water Sector (CLEAR-Water) Project, Saint Vincent and the Grenadines*

People Impacts	Initial Impact Score	New Impact Score	Change
Labor Practices and Decent Work	2.2	4.4	2.2
Society and Customers	2.0	4.8	2.8
Human Rights	2.4	4.9	2.4
Ethical Behavior	2.5	4.7	2.2
<b>Overall People Score</b>	<b>4.2</b>		
Planet Impacts	Initial Impact Score	New Impact Score	Change
Transport	3.3	4.5	1.2
Energy			
Land Air, and Water	2.0	5.0	3.0
Consumption	2.0	5.0	3.0
<b>Overall Planet Score</b>	<b>4.8</b>		

<b>Prosperity Impacts</b>	<b>Initial Impact Score</b>	<b>New Impact Score</b>	<b>Change</b>
Project Feasibility	2.4	4.7	2.2
Business Agility	3.0	5.0	2.0
Local Economic Impact	2.9	4.6	1.8
<b>Overall Prosperity Score</b>	4.7		
<b>Overall Project Score</b>	4.7		







The P5 Analysis (People, Planet, Prosperity, Processes and Products) Model allows for a facilitated exercise initiated during the initiation phase of a project and throughout the project at key milestones. It maps the UN SDGs, the P5 Standard empowers projects to contribute meaningfully to global efforts, including addressing climate change, promoting ethical behaviors, and advancing social responsibility.

The increase in the People score from 2.7 to 4.6 indicates that the project interventions will improve ethical labor practices which are aligning with the goals of the SDG. Although there are no energy impacts for Planet Score, the impacts to improved water access, water quality and conservation are significant. This is demonstrated in the improvement from 3.3 to 5.0. The Prosperity score increased from 3.0 to 5.0 meaning that the project will result in positive changes toward sustainable development.

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## 9 APPENDICES

### Appendix 1 FGP Charter

#### CHARTER OF THE PROPOSED FINAL GRADUATION PROJECT (FGP)

1. Student name

**Allison Williams**

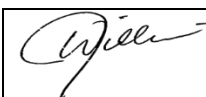
2. FGP name

**Climate Elucidation for Adaptive Capacity in the Water Sector (CLEAR-Water) Project, Saint Vincent and the Grenadines**

3. Application Area (Sector or activity)

**Climate Change Mitigation/ Water Sector/Regenerative Development**

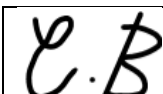
4. Student signature



5. Name of the Graduation Seminar facilitator

**Carlos Brenes Mena**

6. Signature of the facilitator



7. Date of charter approval

8. Project start and finish date

21 February 2025

## 9. Research question

What consideration and elements should be included in the project management plan help to achieve the objectives of the CLEAR-Water project?

## 10. Research hypothesis

How can this project management plan help to achieve the objectives of the CLEAR-Water project, considering the exiting water and water policy constraints in Saint Vincent and the Grenadines?

## 11. General objective

To develop a concise project management development plan to achieve the outcome of the project which is to:

Strengthening institutional capacity to support Climate Resilient Water Resources Management in Saint Vincent and the Grenadines

## 12. Specific objectives

- i.** Develop a Project Charter as a reference guide for project planning
- ii.** Develop a Scope Management Plan to ensure that the project includes all the work required and to avoid scop creep.
- iii.** Develop a Schedule Management Plan as guidance to the project manager and project team on how the project schedule will be maintained and controlled.
- iv.** Develop a Cost Management Plan to determine how financial resources will be estimated, managed and allocated to prevent cost overrun.
- v.** Develop a Stakeholder Management Plan to identify all stakeholders, to determine the role of each stakeholder, ensure stakeholder “buy in” and manage stakeholder expectations.
- vi.** Design a Communications Management Plan to determine how project information will be distributed and managed among all stakeholders.
- vii.** Design a Quality Management Plan to identify and determine the how the quality standards will be attained and maintained throughout the project life cycle.

- viii. Develop a Risk Management Plan to identify risks and opportunities associated with the project and determine risk mitigation efforts.
- ix. Design a Procurement Management Plan for the timely, transparent and fair acquisition of services and goods for the project.
- x. Develop a Resource Management Plan for the accurate assignment and management of the project resources.

### 13. FGP purpose or justification

The purpose of this Final Graduation Project (FGP) is to respond water shortage issues and implement climate-resilient water management and infrastructure which is hindered by several barriers. The Central Water and Sewerage Authority (CWSA), projects an increase in water demand of 2,400m<sup>3</sup>/day over the next 10 years, due to growth in the tourism and agricultural industries, further exacerbating water shortage and water quality issues.

This project justification considers: (i) An enhanced policy framework on water resource management and reduction in vulnerability associated to water scarcity and improve access to reliable water resources. (ii) Upgrade and extension of existing capabilities and minimise the impact of extreme events on service provision to ensure resilient water supply services to at-risk communities. (iii) Enhanced awareness of and capacity to contribute to Climate Resilient Water Resources Management.

Lastly the FGP demonstrates my ability to utilize the theories, skills, concepts, approaches and methodologies learned throughout this course.

### 14. Work Breakdown Structure (WBS). In table form, describing the main deliverable as well as secondary, products or services to be created by the FGP.

- 1. FGP
  - 1.1 FGP profile
    - 1.1.1 Introduction
    - 1.1.2 Theoretical framework

- 1.1.3 Methodological framework
- 1.1.4 Preliminary bibliographical research
- 1.1.5 Annexes
  - 1.1.5.1 FGP Charter
  - 1.1.5.2 FGP schedule
  - 1.1.5.3 FGP WBS

## 1.2 Tutoring Process

### 1.2.1 Tutor

- 1.2.1.1 Tutor Assignment
- 1.2.1.2 Communication
- 1.2.1.3 Tutor Review

### 1.2.2 FGP development

- 1.2.2.1. Project Integration Plan- to integrate and coordinate the various process of the FGP development
- 1.2.2.2 Scope Management Plan - to aid in the implementation of all project deliverables within time and scope
- 1.2.2.3. Schedule and Cost Management Plan– sets key milestones established timelines and manage costs and budgets
- 1.2.2.4 Quality Management Plan – ensures that all aspects of the project adhere to sector specific quality management and national required standards and to maintain highest quality outputs from the project management team
- 1.2.2.5 Resource Management Plan – to ensure that all required resources are available when required in order to avoid project delays
- 1.2.2.6 Communication Management Plan –create a cohesive and comprehensive transfer of accurate and relevant project information as well as ensure that stakeholders are included and stakeholder inputs are documented.
- 1.2.2.7. Risk Management Plan – to identify technical and operational risk as well as climate change-related risks.
- 1.2.2.8. Procurement Management Plan – for efficient and transparent procurement.

- 1.2.2.9 Stakeholder Management Plan – to manage stakeholder objectives, expectations and needs.
- 1.2.2.10 Change Management Plan – to track, monitor all change request and documents approved changes.

- 1.2.3 Conclusions
- 1.2.4 Recommendations

### 1.2.3 Tutor approval

### 1.3 Reviewers

#### 1.3.1 Reviewers Assignment Request

##### 1.3.1.1 Assignment of two reviewers

##### 1.3.1.2 Communication

##### 1.3.1.3 FGP Submission to reviewers

#### 1.3.2 Reviewers Work

##### 1.3.3 Reviewer 1 (FGP Reading and report)

##### 1.3.4 Reviewer 2 (FGP Reading and report)

### 1.4 Adjustments

#### 1.4.1 Report for reviewers

#### 1.4.2 FGP Update

#### 1.4.3 Second review by reviewers

### 1.5 Board of examiners evaluation.

#### 1.5.1 Final review of the board

#### 1.5.2 FGP grade report

## 15. FGP budget

**The budget for the FGP development process is USD \$1,315.**

<b>Activity</b>	<b>Item Estimated Cost (USD)</b>
Stakeholder engagement costs (transportation and food)	400
Communication Costs	200
Software Costs	165
Printing	150

Shipping	300
Contingency	100
<b>Total</b>	<b>1,315</b>

#### 16. FGP planning and development assumptions

1. Information about national and sectorial policy is accessible.
2. The researchers will not suffer from any unexpected illness or will not be required to travel extensively for work which may impact ability to submit the required weekly updates.
3. The FGP advisor will be available to provide timely feedback.
4. The FGP will be completed within a 3-month period.
5. The budget will not exceed the estimated cost

#### 17. FGP constraints

1. As a full-time employee, time allotted for the FGP is limited.
2. Information about national and sectorial policy are old and outdated.
3. Stakeholders' availability may cause delays in information acquisition.
4. No additional personnel assigned to research for available information.
5. The project is based on climate change mitigation efforts which is a fairly new to sectorial development.

#### 18. FGP development risks

1. The researcher may misinterpret what is required to be submitted if all available information is not reviewed, thereby failing to attain full points for FGP.
2. The scope of the FGP may be too broad due to an inability to prioritize desired project outcomes resulting in a complicated FGP.
3. The time allotted to complete the FGP can be compromised due to frequent power loss during the summer months causing just in time or late submissions.
4. The budget may be compromised if the ability to undertake stakeholder consultations is impacted by fluctuating cost of fuel for travel.
5. The Tutor may require significant changes to the FGP due to missing or incorrect information which will make it challenging to complete the subsequent units of the FGP.

#### 19. FGP main milestones

	<b>Deliverable</b>	<b>Start</b>	<b>Finish</b>
1. FGP			
	1.1 FGP profile		
	1.1.1 Introduction	Tue 18/02/25	Tue 25/02/25
	1.1.2 Theoretical framework	Mon 10/03/25	Mon 17/03/25
	1.1.3 Methodological framework	Mon 17/03/25	Mon 24/03/25
	1.1.4 Preliminary bibliographical research	Tue 18/02/25	Tue 25/02/25
	1.1.5 Annexes		
	1.1.5.1 FGP Charter	Tue 18/02/25	Mon 07/04/25
	1.1.5.2 FGP schedule	Tue 25/02/25	Mon 03/03/25
	1.1.5.3 FGP WBS	Tue 25/02/25	Mon 03/03/25
	1.2 Tutoring Process	Tue 22/04/25	Thu 28/08/25
	1.2.1 Tutor	Tue 22/04/25	Wed 23/04/25
	1.2.1.1 Tutor Assignment	Tue 22/04/25	Wed 23/04/25
	1.2.1.2 Communication	Tue 22/04/25	Mon 02/06/25
	1.2.1.3 Tutor Review	Mon 28/04/25	Mon 02/06/25
	1.2.2 FGP development	Tue 22/04/25	Mon 02/06/25

	<b>Deliverable</b>	<b>Start</b>	<b>Finish</b>
	1.2.2.1. Scope Management Plan	Tue 22/04/25	Mon 05/05/25
	1.2.2.2. Schedule and Cost	Tue 22/04/25	Mon 05/05/25
	1.2.2.3. Quality Management Plan	Tue 06/05/25	Tue 20/05/25
	1.2.2.4. Resource Management Plan	Tue 06/05/25	Tue 20/05/25
	1.2.2.5 Communication Management Plan	Wed 21/05/25	Wed 04/06/25
	1.2.2.6. Risk Management Plan	Wed 21/05/25	Wed 04/06/25
	1.2.2.7 Stakeholder Management Plan	Thu 05/06/25	Thu 19/06/25
	1.2.2.8 Change Management Plan	Thu 05/06/25	Thu 19/06/25
	1.2.2.9 Procurement Management Plan	Fri 20/06/25	Fri 04/07/25
	1.2.3 Tutor approval	Mon 07/07/25	Mon 21/07/25
	1.3 Reviewers		
	1.3.1 Reviewers Assignment Request	Tue 22/07/25	Tue 22/07/25
	1.3.1.1 Assignment of two reviewers	Wed 23/07/25	Wed 23/07/25
	1.3.1.2 Communication	Wed 23/07/25	Mon 25/08/25
	1.3.1.3 FGP Submission to reviewers	Thu 24/07/25	Thu 24/07/25
	1.3.2 Reviewers Work	Fri 25/07/25	Fri 15/08/25
	1.3.3 Reviewer 1 (FGP Reading and report)	Fri 25/07/25	Fri 08/08/25
	1.3.4 Reviewer 2 (FGP Reading and report)	Fri 25/07/25	Fri 08/08/25
	1.4 Adjustments	Mon 11/08/25	Mon 18/08/25
	1.4.1 Report for reviewers	Mon 11/08/25	Mon 11/08/25
	1.4.2 FGP Update	Mon 11/08/25	Mon 18/08/25
	1.4.3 Second review by reviewers	Mon 18/08/25	Mon 25/08/25
	1.5 Board of examiners evaluation	Mon 25/08/25	Thu 28/08/25
	1.5.1 Final review of the board	Mon 25/08/25	Thu 28/08/25

## 20. Theoretical framework

### 20.1 Estate of the “matter”

In Saint Vincent and the Grenadines, the regular occurrence of heavy rainfall in the upstream catchments leads to high turbidity at water intakes resulting in poor water quality and regular service disruptions to customers including the economically important tourism areas. More recently, the onset of drought conditions on the mainland has warranted the introduction, by the Central Water and Sewerage Authority (CWSA), water restriction which includes the rationing of water in some locations. Reduction in rainfall resulted in extreme drought conditions in April-May 2024, resulting in water rationing in the Dalaway, Mamoon, Majorca, Montreal, and Jennings Systems for over 60% of the population for up to 16 hours a day. Significant reduction in rainfall during the first four months of 2020 of about 40% below the 10-year normal has corresponded to an estimated reduction of 35 percent of water supply capacity. Consequently, around 50 percent of the population has been affected to the extent that customers are without water for up to 18 hours during a 24-hour period.

A better and more reliable water supply and resources management would be of economic benefit to the tourism, health and agricultural sector. Water shortages can negatively impact tourism facilities and lead to decreased agricultural yields, resulting in reduced income for farmers and declining food security. Improved water supply and management will support economic growth in both sectors, create jobs, and increase purchasing power. Adopting climate-smart agriculture practices and reducing physical water losses will further enhance the economic benefits of these sectors. Improved access to reliable water will decrease health-related issues in the health sector.

Moreover, increased water storage and infrastructure development will benefit these sectors and the wider economy, while reducing water demand through improved consumer behaviour and reduction of physical water losses will make more water available for further economic ventures.

## 21. Basic conceptual framework

Project Management Process Groups Project Management Knowledge Areas Project Management Domains Project Life Cycle Regulatory Compliance Sustainable Practices Renewable Energy Regenerative Development
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## 22. Methodological framework

Objective	Name of deliverable	Information sources	Research method	Tools	Restrictions
Clearly define and manage the scope of the software development project to meet stakeholder expectations while avoiding scope creep	Scope Management Plan and Statement	Secondary: The Practical Guide to Project Management by Peterson, Effective Project Management by Ward, PMBOK (PMI, 2017) Sixth Edition, PMBOK (PMI, 2021) Seventh Edition  Primary: Terms of Reference Development of an Environmental Information System	Analytical method, Descriptive method, and action method.	Bibliographical files  Semi-structured interviews  Document analysis  .	Time constrains
Develop and maintain a realistic project schedule, ensuring timely completion of software development milestones and the overall project.	Project Schedule, Gantt Chart, Resource Allocation Plan	Secondary: The Practical Guide to Project Management by Peterson, PMBOK (PMI, 2021) Seventh Edition  Primary: Terms of Reference Development of an Environmental Information System	Analytical method, Descriptive method, and action method	Document analysis  Process analysis  Comparative analysis  Checklist  Data representation	Unclear or changing project requirements, budget constraints may limit the allocation of resources
Effectively estimate, budget, and control costs associated with the software development project to ensure financial viability and prevent cost overruns.	Project Budget, Cost Management Plan	Secondary: Effective Project Management by Ward, PMBOK (PMI, 2021) Seventh Edition  Primary: Procedural Manual for the National Environmental	Analytical method, Descriptive method, and action method	Document analysis  Process analysis  Comparative analysis  Checklist  Gantt chart  Project schedule	Dependencies on third-party vendors or external stakeholders may introduce delays or disruptions in the project schedule if deliverables or approvals are not obtained in a timely manner; geographic or logistical constraints, such as distributed team

Objective	Name of deliverable	Information sources	Research method	Tools	Restrictions
		Appraisal Committee, Terms of Reference Development of an Environmental Information System			locations or remote work arrangements, may pose challenges in coordinating efforts and adhering to the project schedule.
Implement a robust quality management plan to meet and exceed the software development project's quality requirements and deliver a high-quality product.	Quality Management Plan	Secondary: Strategic project management made simple by Schmidt, PMBOK (PMI, 2017) Sixth Edition  Primary: TOR, User Manual of "old" Environment Information System	Analytical method, Descriptive method, and action method	Process analysis Document analysis Comparative studies Checklist	Human resource constraints, such as a shortage of skilled quality assurance professionals or insufficient training for team members, may impede the effective execution of the quality management plan; budget constraints may limit the resources available for implementing quality management practices, such as investing in quality assurance tools or training programs for team members.
Build and manage a skilled and motivated project team for the software development project, fostering effective communication, collaboration, and continuous improvement.	Team Skills Assessment	Secondary: PMBOK (PMI, 2021) Seventh Edition, Strategic project management made simple by Schmidt  Primary: Stakeholders, Information Management System Analysis and Design for the Department of the Environment	Analytical method, Descriptive method, and action method	Process analysis Document analysis Stakeholder analysis Checklist	Organizational constraints, such as rigid hierarchical structures or bureaucratic processes, may hinder the empowerment of team members and their ability to actively contribute to decision-making processes and continuous improvement initiatives; competency constraints, such as gaps in knowledge or expertise within the existing team, may require additional training or recruitment efforts to address, potentially delaying progress and impacting team performance.
Establish clear communication channels and protocols to ensure accurate and timely dissemination of information among project stakeholders throughout the software development life cycle.	Communication Plan	Secondary: The Practical Guide to Project Management by Peterson, PMBOK (PMI, 2017) Sixth Edition, PMBOK (PMI, 2021) Seventh Edition, Effective Project Management by Ward, Strategic project management made simple by Schmidt  Primary:	Analytical method  Descriptive method  Action method	Process analysis Document analysis Stakeholder analysis Checklist	Cultural constraints: Differences in communication norms, languages, or work styles among project stakeholders may create barriers to effective communication, requiring cultural sensitivity and adaptation to ensure clarity and understanding; security constraints: Concerns about data privacy or confidentiality may impose restrictions on the transmission of

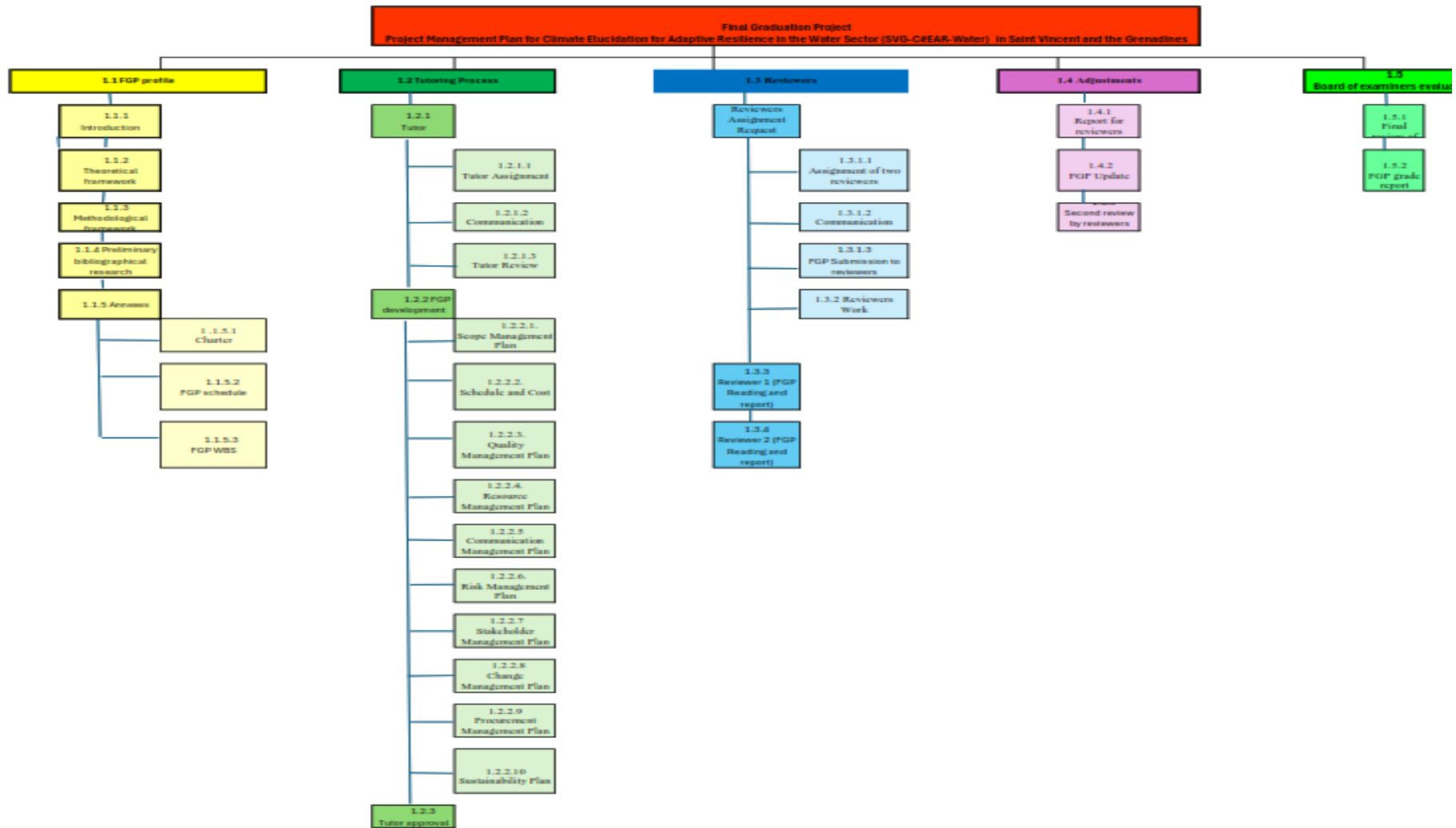
Objective	Name of deliverable	Information sources	Research method	Tools	Restrictions
		Stakeholders, Terms of Reference Development of an Environmental Information System			sensitive information, requiring encryption or secure communication protocols to protect against unauthorized access or breaches.
Identify, analyze, and manage risks associated with the software development project to minimize potential disruptions and enhance the likelihood of project success.	Risk Management Plan, Risk Register	<p>Secondary: PMBOK (PMI, 2017) Sixth Edition, PMBOK (PMI, 2021) Seventh Edition, The Practical Guide to Project Management by Peterson</p> <p>Primary: Terms of Reference Development of an Environmental Information System, Stakeholders</p>	Analytical method, Descriptive method, and action method	Document analysis Comparative analysis Checklist	<p>Technical constraints: Complexity or technical limitations of the software development process may pose challenges in accurately identifying and assessing risks, particularly in highly specialized or cutting-edge technology domains where risks may be more difficult to anticipate or mitigate; regulatory constraints: Compliance requirements or legal constraints may impose restrictions on certain risk management strategies or mitigation measures, necessitating alignment with regulatory guidelines while managing project risks.</p>
Identify and engage stakeholders throughout the software development project, ensuring their needs and expectations are understood, managed, and met.	Stakeholder Engagement Plan, Stakeholder Identification Matrix	<p>Secondary: PMBOK (PMI, 2017) Sixth Edition, Strategic project management made simple by Schmidt</p> <p>Primary: Stakeholders, Terms of Reference Development of an Environmental Information System</p>	Analytical method, Descriptive method, and action method	Document analysis Stakeholder analysis	<p>Limited timeframes for stakeholder identification and engagement activities due to project deadlines or milestones. This constraint may restrict the amount of time available for conducting stakeholder analysis, communication, and relationship-building efforts. Limited resources, such as budget, personnel, or tools, available for stakeholder engagement activities. This constraint may impact the ability to conduct comprehensive stakeholder analysis, reach all relevant stakeholders, or implement effective communication strategies.</p>

Objective	Name of deliverable	Information sources	Research method	Tools	Restrictions
Develop and implement a structured change management process to assess, approve, and communicate changes to the software development project, minimizing disruptions and maintaining project integrity.	Change Management Plan	<p>Secondary: PMBOK (PMI, 2021) Seventh Edition, Effective Project Management by Ward</p> <p>Primary: Procedural Manual for the National Environmental Appraisal Committee, Terms of Reference Development of an Environmental Information System, Stakeholders</p>	Analytical method, Descriptive method, and action method	Document analysis Comparative analysis Checklist	Power dynamics constraints: Power imbalances or hierarchies within stakeholder groups may influence the extent to which certain stakeholders' needs and expectations are prioritized or addressed, potentially marginalizing the voices of less influential stakeholders; trust constraints: Lack of trust or credibility between project team members and stakeholders may hinder open and honest communication, making it challenging to accurately identify and address stakeholder needs and expectations.
To establish a Stakeholder Management plan that clearly identifies the stakeholders, their needs and level of involvement in the project.	<ul style="list-style-type: none"> <li>• Stakeholder register template</li> <li>• Stakeholder assessment matrix</li> <li>• Stakeholder management plan</li> </ul>	Project Steering meeting Reports; Stakeholder engagement reports. Interview.	Analytical method, Descriptive method, and action method	<ol style="list-style-type: none"> <li>1. Stakeholder Management Plan,</li> <li>2. Stakeholder Register,</li> <li>3. Power/Interest Matrix</li> </ol>	Time constrains

23. Validation of the work in the field of regenerative and sustainable development.

The SVG-CLEAR-Water project will bring about a paradigm shift in the way the Government of SVG and more particularly the CWSA implement the proposed activities for the improvement of climate resilience in the water sector. The CLEAR-Water Project supports the realisation of 16 of the 17 SDGs. As it relates to regenerative development the component associated with the grey water usage component satisfies the tenants regenerative development.

## Appendix 2: FGP WBS



### Appendix 3: FGP SCHEDULE



ID	Task Mode	Task Name	Duration	Start	Finish	Feb	Mar	Qtr 2, 2025 Apr	May	Jun	Qtr 3, 2025 Jul	Aug	Sep	Qtr 4, 2025 Oct
32	🚀	1.3.1.1 Assignment of two reviewers	1 day	Wed 23/07/25	Wed 23/07/25						■			
33	🚀	1.3.1.2 Communication	24 days	Wed 23/07/25	Mon 25/08/25						■	■		
34	🚀	1.3.1.3 FGP Submission to reviewers	1 day	Thu 24/07/25	Thu 24/07/25						■			
35	🚀	1.3.2 Reviewers Work	16 days	Fri 25/07/25	Fri 15/08/25						■	■		
36	🚀	1.3.3 Reviewer 1 (FGP Reading and report)	11 days	Fri 25/07/25	Fri 08/08/25						■	■		
37	🚀	1.3.4 Reviewer 2 (FGP Reading and report)	11 days	Fri 25/07/25	Fri 08/08/25						■	■		
38	🚫													
39	🚀	1.4 Adjustments	6 days	Mon 11/08/25	Mon 18/08/25							■		
40	🚀	1.4.1 Report for reviewers	1 day	Mon 11/08/25	Mon 11/08/25							■		
41	🚀	1.4.2 FGP Update	6 days	Mon 11/08/25	Mon 18/08/25							■		
42	🚀	1.4.3 Second review by reviewers	6 days	Mon 18/08/25	Mon 25/08/25							■		
43	🚫													
44	🚀	1.5 Board of examiners evaluation	4 days	Mon 25/08/25	Thu 28/08/25								■	
45	🚀	1.5.1 Final review of the board	4 days	Mon 25/08/25	Thu 28/08/25								■	
46	🚀	1.5.2 FGP grade report	1 day	Thu 28/08/25	Thu 28/08/25								■	

Project: Project1 Date: Mon 03/03/25	Task	Task	Inactive Task	Manual Summary Rollup	External Milestone	Path Successor Milestone Task
	Split	Inactive Milestone	Inactive Summary	Manual Summary	Deadline	Path Successor Summary Task
	Milestone	Milestone	Inactive Summary	Start-only	Path Predecessor Milestone Task	Path Successor Normal Task
	Summary	Manual Task	Finish-only	Path Predecessor Summary Task	Progress	Manual Progress
	Project Summary	Duration-only	External Tasks	Path Predecessor Normal Task	Manual Progress	Manual Progress

## Appendix 4 Preliminary Bibliographical Research

1. Anderson, Claire (2024). *What is informational resources*. Edtech Educational Aids. EdTech & Educational Aids – Focuskeeper Glossary

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2. Bhaskar, S. (2024). Cost Control and Project Scheduling Strategies for Successful Project Management. [Cost Control And Project Scheduling Strategies For Successful Project Management](#)

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4. Burke, R. (2013). Project management: Planning and control techniques (5th ed.). Project Management: Planning and Control Techniques - Rory Burke - Google Books.

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**This reference sets the context for the current policies in place for Climate Change Mitigation Efforts and is important considering that the impacts of water availability and security are directly tied to the impacts of climate change.**

6. European Commission for Latin America and the Caribbean. (2011). “*An assessment of the economic impact of climate change on the water sector in Saint Vincent and the Grenadines.*”

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**This reference provides a general overview of expected increase in water consumption in Saint Vincent and the Grenadines.**

7. Fletcher, James (2018) White Paper on Governance and Climate Resilience in the Water Sector in the Caribbean.

[Final\\_Draft\\_of\\_White\\_Paper\\_on\\_Water\\_Governance\\_and\\_Climate\\_Resilience\\_in\\_the\\_Caribbean.pdf](#) Download February 2025

**This reference sets the context for the current existing water governance arrangements within Caribbean countries.**

8. Kholi, R. and Pissano M. (2019) *National Adaptation Plans in focus: Lessons from St Vincent and the Grenadines*. Downloaded February 2025 [nap-gsp\\_saint-vincent\\_countrybrief.pdf](#)

**This reference sets the context for lessons learned during the implementation of SVG National Adaption Plan (2019)**

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**This reference provides a general overview of all the relevant techniques required to complete a Project Management Plan.**

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**This reference helps to guide the decision on the research techniques to be used to complete this FGP.**

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**This reference aids in ensuring that the Regenerative Development concept and tools are included as a part of the FGP.**

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**[Predictive vs Adaptive Project Management – Project Management Academy](#)**

**This reference sets the context for analysis of Predictive vs Adaptive Project Management.**

15. P5 Analysis (2023). The GPM P5 Standard for Sustainability in Project

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**This reference sets the context for analysis of Sustainable Development in projects.**

16. United Nations Development Programme (2023). *Transforming our world: the 2030 Agenda for Sustainable Development*. [Document Viewer](#)

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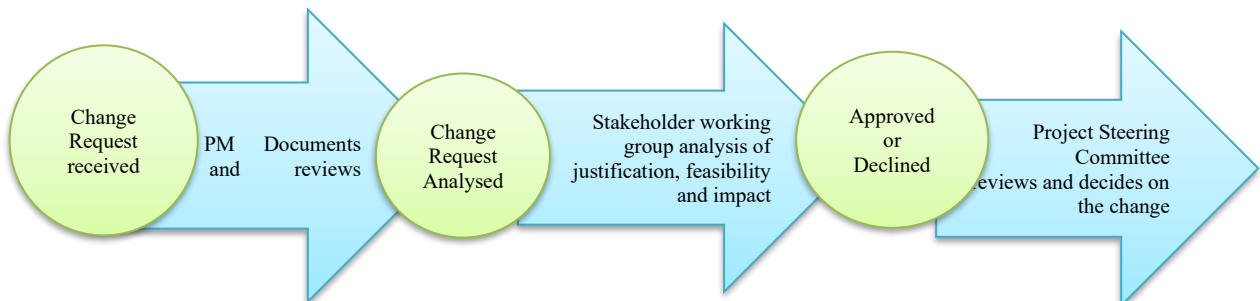
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**This reference sets the context for analysis of how to control project outcomes.**

## Appendix 5: Change Control Form

<b>Project Title:</b>	
<b>Change Control ID:</b>	
<b>Date Submitted:</b>	
<b>Submitted By:</b>	
<b>Change Title</b>	
<b>Change Request Summary:</b>	
<b>Rationale:</b>	
<b>Potential Impact:</b>	
Scope:	
Schedule:	
Cost:	
Quality:	
<b>Review Date:</b>	
<b>Approved By</b>	
<b>Name and Signature of Reviewers</b>	

## Change Control Process



## Appendix 6 Lessons Learned Register

Project Name:							
Project Number:							
Project Sponsor:							
Lesson Learned ID	Date Raised	Description of the Event	Lesson category	Action to Be Taken	Owner	WBS ID	Status
			Positive/Negative				Open/Close

Adapted from Stakeholder Maps

## Appendix 7 Philologist Verification and Certification

### Stephanie Flores Bradshaw

Lot 18 Castillo Estate  
13.5 Miles Philip Goldson Highway  
Belize District, Belize  
+501-605-7888 | sdfloresbradshaw@gmail.com

Academic Tutor  
Master's Degree in Project Management  
Universidad para la Cooperación Internacional  
C. 35, Barrio Escalante  
San José 10101  
Costa Rica

August 21, 2025

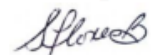
**Re: Philological Review of Final Graduation Project submitted by Allison Williams in partial fulfilment of requirements for a Master's Degree in Project Management (MPM)**

Dear Academic Tutor,

With this letter, I confirm that I have reviewed the Final Graduation Project (FGP) submitted by MPM candidate Allison Williams entitled "Climate Elucidation for Adaptive Resilience in the Water Sector (SVG-Clear-Water) in Saint Vincent and the Grenadines."

I hereby confirm that Allison Williams has made all the corrections to the FGP as I have advised as philologist. It is my professional opinion that the document meets the literary and linguistic standards in written English as required for the MPM by the Universidad para la Cooperación Internacional.

Warm Regards,



**Stephanie Flores Bradshaw**

Philologist

# Valdosta State University

This Certifies That  
 The Board of Regents of the University System of Georgia Upon Recommendation of the  
 Faculty of Valdosta State University  
 Has Conferred on

**Stephanie Denise Flores-Bradshaw**

the Degree of  
**Master of Arts**  
 English

with all the Rights, Privileges, and Honors thereunto appertaining.  
 Whereof the seal of the University and the signatures of its duly authorized  
 officers are hereto affixed.

Given this thirtieth day of July, in the year of our Lord  
 two thousand and eleven

*Henry M. Huebner*  
 Chancellor of the University System of Georgia

*Al Mulford*  
 Dean, Division of Graduate Studies



*Joseph R. Sluy*  
 President of the University

*Stanley Jones*  
 Registrar