

UNIVERSIDAD PARA LA COOPERACION INTERNACIONAL  
(UCI)

PROJECT MANAGEMENT PLAN FOR THE REHABILITATION AND  
ECOSYSTEM ADAPTION AT SOUTH COAST, ST. VINCENT AND THE  
GRENADINES

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## **DEDICATION**

I dedicate this project to the Child's family for giving me a reason to continue to strive for excellence. My mother, Sonia, and my father, Julian, have greatly encouraged this educational journey. Additionally, my sisters and brothers were supportive. Undoubtedly, this project will motivate and inspire my nieces and nephews and the younger generation to pursue goals that contribute to achieving a better future.

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## **ABBREVIATIONS AND ACRONYMS**

APM	Association for Project Management
AC	Actual Cost
CBOs	Community Based Organizations
CCI	Caribbean Challenge Initiative
CPI	Cost Performance Index
EVM	Earned Value Management
NESDP	National Economic and Social Development Plan
NPRBA	National Parks, Rivers and Beaches Authority
PA	Protected Areas
PDCA	Plan Do Check Act
PMBOK® Guide	Project Management Book of Knowledge
PMI	Project Management Institute
RFP	Request for Proposal
PV	Planned Value
RACI	Responsible Accountable Consulted Inform
RAM	Responsible Assignment Matrix
SCMCA	South Coast Marine Conservation Area
SPI	Schedule Performance Index
SVG	St. Vincent and the Grenadines
SVGPAS	St Vincent and the Grenadines Protected Areas System
UCI	University for International Cooperation
WBS	Work Breakdown Structure

## EXECUTIVE SUMMARY

The National Parks, Rivers and Beaches Authority (NPRBA) is a statutory body formally established in 2007 to protect and conserve nature and biodiversity. Over the years, the NPRBA has engaged in the execution of several conservation and sustainable tourism-related projects with the intent to meet the demands of the Authority's mandate. St. Vincent and the Grenadines is a multi-Island state, highly vulnerable to adverse climate impacts (Gonsalves, 2017). For this reason, the NPRBA emphasizes the significance of introducing adaptation strategies to improve sustainable management, conservation, and restoration to protect local communities and coastal ecosystems to become more resilient to face anticipated challenges.

At the NPRBA, there is a high demand for improved project performance. An absence of a formal project management framework hinders the implementation of critical activities. The NPRBA recognizes the importance and the need to implement a change effort to optimize and potentiate the quality of conservation projects. To appropriately manage the Rehabilitation and Ecosystem Adaptation at South Coast project, it is necessary to incorporate a plan to ensure its successful completion. Therefore, a comprehensive strategic plan that includes sound project management knowledge, tools, and techniques to support successful project delivery is required.

The general objective was to develop a project management plan framed within the Project Management Institute's standards to manage the implementation of the "Rehabilitation and Ecosystem Adaptation at South Coast, St. Vincent and the Grenadines project." The specific objectives are: to develop an integration management plan to unify and coordinate the processes and project management activities during the project; to create a scope management plan to guide how project work will be defined validated and controlled; to develop a schedule management plan to ensure the timely completion of the project; to create a cost management plan to manage cost throughout the projects' life cycle; to create a quality management plan to manage the quality of the project deliverables in order to meet stakeholders expectations; to develop a resource management plan to ensure that all human and material resources are identified and managed effectively to successfully complete the project, to design a communication management plan to ensure that information generated is of the appropriate quality and breath and that it reaches the various stakeholders at the proper time; to create a risk management plan that identifies risk and risk responses to ensure successful completion of the project; to develop a procurement management plan to guide to acquisition of products, services and results required by the project; and finally to create a stakeholder management plan to identify key stakeholder's and analyze their impact on the project.

The research methods used for the project were analytical, qualitative, and quantitative. Data relevant to this research were collected using primary and secondary sources. First-hand observation, interviews, and publications were interpreted, analyzed, conceptualize, synthesize, and evaluated objectively. The

PMBOK® Guide (2017) was the main publication used to enable the elaboration of the subsidiary plans.

In conclusion, the Project Management Plan developed for the "Rehabilitation and Ecosystem Adaptation at South Coast Project" can positively affect the project team and the NPRBA. The Project Management Plan is an opportunity to create awareness about the importance and benefits of managing projects using formal documented plans. All the required subsidiary plans were realistically planned and well document. The Project Management Plan provides valuable information for the project team to make informed decisions and modifications necessary to manage and control cost, quality, and schedule. The Resource Management Plan provides tools and techniques that help improve time and resource usage. Stakeholder and Communications Management are two key knowledge areas that are crucial for successfully engaging key stakeholders. The implementation of both plans can help develop the capacity of the project team to build positive community relations and minimize conflict by ensuring that the key stakeholders align with project goals. The Procurement Management Plan would increase the competency level of the NPRBA to plan and execute procurement management processes more effectively. The application of the Risk Management Plan can significantly reduce negative impacts and build a robust reputation as an organization that is known for consistently delivering projects successfully.

It is recommended that the Project team adopt the Project Management Plan for the "Rehabilitation and Ecosystem Adaption at South Coast, St. Vincent and the Grenadines project." The Project Manager should integrate regenerative practices in the Project Charter and follow through in other areas such as the Procurement Plan. Also, refrain from adding features not in scope unless suggested by the customer and ensure that quality criteria are met. The Project Team should apply a combination of tools and techniques to execute the project management plans effectively. These tools include fast-tracking, schedule, compression, resource allocation and resource leveling, among others.

Furthermore, the Project Manager should practice proactive communication in addressing stakeholders' needs and expectations. The Project Manager must proactively manage risks associated with the project. Adherence to monitoring and control budget, schedule, quality, and scope is essential for good management.

## 1. INTRODUCTION

### 1.1 Background

The National Parks, Rivers and Beaches Authority (NPRBA) is a statutory government body that protects the rich natural, cultural, and heritage of St. Vincent and the Grenadines (SVG). The main powers and responsibilities of the Authority defined in Sections 7 (1) and (2) of the National Parks Act (2010). This includes amidst other responsibilities to (i) manage all National Parks and Protected Areas, (ii) advocate for and promote conservation and protection of species and habitats, (iii) foster use of natural and historic resources for recreation and tourism and provide and (iv) operate National Park facilities for national enjoyment and tourism.

The NPRBA was established in 2007 and implemented St Vincent and the Grenadines Protected Area System Plan in 2010-2014 (SVGPASP). Eight years later, the NPRBA created a Strategic Management Plan of 2018-2023. It outlines the core functions of the NPRBA and critical institutional building initiatives.

Over the years, emerging issues have affected NPRBA's capacity to manage Protected Areas. (PAs) These issues include climate change, expanded work in PA's management, new policies such as Ocean Governance and Cooperation in the Caribbean Community (e.g., the Caribbean Challenge Initiative), and Approval of the National Economic and Social Development Plan (NESDP) 2013-2025. Goal 4 of the NESDP: improving physical infrastructure, preserving the environment, and building resilience to climate change provides the national overarching policy framework concerning climate change. In accordance with the CCI, the NPRBA SVGPASP has proposed the development new marine parks including the South Coast Marine Conservation Area (SCMCA). SCMCA is considered the center of tourism operations on the mainland St. Vincent. Within the SCMCA, many ecosystem stressors are present. Critical marine habitat suffers from the effects of both climate change and anthropogenic causes. The South Coast Marine Park Zoning Plan (Baldwin, 2015) highlighted that the coastal communities are extremely vulnerable to climatic factors including storm surges, flooding, and high levels of

sedimentation (White 2012). The 2016 SVG National Coral Reef Report Card highlights the issues such as sedimentation that is affecting coral reefs, land base sources of pollution and levels of fish biomass (SVG Coral Reef Report Card, 2016).

The proposed project management plan will provide key benefits to the NPRBA. All stakeholders involved will have a clear expectation of project results. It will clearly define the vision of the project and the scope of activities required. One of the greatest benefits is results orientation: the adoption of a results framework to share results and measure project progress. In addition, the application of proper budgeting and estimating procedures of resources necessary to implement project activities. Additionally, the NPRBA will benefit from the creation of tools that support project report documentation. Thus, enabling storage of important project information for lessons learned.

## **1.2 Statement of the problem**

The amalgamation of climatic hazards and anthropogenic stressors have significantly affected negatively the coastal and marine ecosystem at South Coast. The communities located in South Coast are highly vulnerable and are already experiencing climatic hazards. These climate-related impacts further compound existing stresses of an anthropogenic nature. The increase in commercial, recreational activities and improper disposal of solid and liquid waste has contributed to an increase in land-based pollution that is detrimental to the health of the marine ecosystem. The lack of public awareness about the effects of human activity on the environment is a major contribution land-based source of pollution. The need exists to foster understanding of links between human actions on land and outcomes for coastal and marine ecosystems can be a powerful way of reducing local land-based sources of pollution.

There is an urgent and ongoing need to focus on Ecosystem adaptation and resilience-building measures to combat climate change and anthropogenic stressors. The Rehabilitation and Ecosystem Adaptation at South Coast, St Vincent and the Grenadines project is designed to help to address the aforementioned issues

through the implementation Ecosystem adaptation measures to aid in building a more resilient coastline and sustainable improvement in the health of the marine ecosystem within the SCMCA.

To ensure successful implementation of this project, it will require the elaboration of a project management plan to guide its deployment. At the NPRBA, there is a high demand for improved project performance. An absence of a formal project management framework and gaps in project management knowledge hinder the implementation of critical activities. Knowledge of project management areas, tools and techniques facilitates the development of good management plans such as schedule and budget management and consistent quality integral to successful implementation.

The issues of land-based sources of pollution and the adverse effects of climate change negatively affect the coastal and marine ecosystems in South Coast.

### **1.3 Purpose**

The Rehabilitation and Ecosystem Adaptation at South Coast, St Vincent, and the Grenadines Project aim to build resilience to climate change and anthropogenic impacts and improve the health of the coastal and marine ecosystem.

Considering the challenges outlined above, the creation of the Project Management Plan will introduce a new approach to NPRBA for the management of projects. It will serve as a guide for the successful implementation of the Rehabilitation and Ecosystem Adaptation at South Coast, St Vincent, and the Grenadines Project. The use of PMBOK® Guide would effectively create the proposed project management plan. It will facilitate a structured approach to project delivery, with clearly defined roles, a structured project lifecycle, and supporting processes. This is essential to ensure proper planning of all the work required for execution and fulfilled within the stipulated cost, quality, and time constraints. The project management plan incorporates ten (10) subsidiary plans and the integration of all the management



processes necessary to define how to initiate, plan, execute, monitor, control and close the project.

The proposed project management plan will provide key benefits to the NPRBA. It will clearly define the vision of the project and the scope of activities required. One of the most significant benefits is results orientation: adopting a framework to share results and measure project progress. All stakeholders involved will have a clear expectation of the expected project results-applying proper budgeting procedures and determining adequate resources required for the implementation of project activities. Additionally, the NPRBA will benefit from the creation of tools that support project report documentation. This will enable the documentation and storage of important project information to use as lessons learned for future projects of similar nature.

#### **1.4 General Objective**

To develop a Project Management Plan framed within the Standards of the Project Management Institute in order to successfully manage the Rehabilitation and Ecosystem Adaptation at South Coast, St Vincent and the Grenadines Project.

#### **1.5 Specific objectives**

1. To develop an Integration Management Plan to unify and coordinate the processes and project management activities during the project.
2. To create a Scope Management Plan to guide how the project work will be defined, validated, and controlled.
3. To develop a Schedule Management Plan to ensure the timely completion of the project.
4. To create a Cost Management Plan to manage cost throughout the life cycle of the project.

5. To create a Quality Management Plan to manage the quality of project deliverables in order to meet stakeholders' expectations.
6. To develop a Resource Management Plan to ensure that all human and material resources are identified and managed effectively to successfully complete the project.
7. To design a Communications Management Plan to ensure that information generated is of the appropriate quality and breadth and that it reaches the various stakeholders at the proper time.
8. To create a Risk Management Plan that identifies risk and risk responses to ensure successful completion of the project.
9. To develop a Procurement Management Plan to guide the process of acquiring products, services, and results required by the project.
10. To create Stakeholder Management Plan to identify key stakeholders and analyze their impact on the project.

## 2. THEORETICAL FRAMEWORK

### 2.1 Company/Enterprise framework

NPRBA is the national agency entrusted with the responsibility to manage, protect, and maintain biological diversity, ecological systems, and natural, cultural, and aesthetic resources. The Authority is a statutory body under the Ministry of Tourism, Civil Aviation, Culture, and Sustainable Development. NPRBA work program comprises two key components Marine and terrestrial Parks and Rivers, Beaches, and Recreation Sites.

To achieve its mandate, the Authority goal to manage a national protected area system that will provide for the sustainability of biodiversity and other ecosystem services and support socio-economic growth and sustainable development. The SVG Protected Areas System (SVGPAS) includes national parks and other protected areas including areas of ecological, historical, cultural, and recreational importance.

The SVGPAS requires effective management at two levels, at the System Level and at the Site Level. At the System Level management, functions involve the design, development, technical support, monitoring, and quality control of the SVG Protected Areas System as a whole. The elements of System management include national parks policy, national parks, and protected areas systems plan, declaration of national parks and protected areas, management plans for national parks and protected areas, management and operations of national parks and protected areas, systems development. There exists a total of seventy (75) proposed sites of this amount; only 35 have officially been declared.

Management at the Site Level is a matter of policy; the daily operations of national parks and protected areas within the System perform through co-management arrangement in collaboration with CBOs. Site management functions comprise two main areas: direct visitor services and operations and maintenance activities. There are currently fourteen (14) recreational sites, and nine (9) are co-managed with CBO's.

## **2.2 Mission and Vision Statements**

### **2.2.1 Mission**

The Mission Statement of the Authority is:

To protect the rich natural, cultural, and historic heritage resources of the country by fully involving all relevant community groups and stakeholders in promoting and managing their use to optimize and sustain social and economic benefits now and in the future. (National Parks, Rivers and Beaches Authority Strategic Management Plan 2018-2023, pg. 2).

The mission statement incorporates values of sustainability in managing the state's resources. The Authority recognizes the importance of safeguarding the natural and cultural resources for the economic well-being of the country for present and future generations. In addition, NPRBA understands the importance of promoting sustainable tourism and utilizes sound environmental practices. It also advocates for the inclusion of all stakeholders in the decision-making process.

### **2.2.2 Vision Statement**

The Vision Statement of the Authority is:

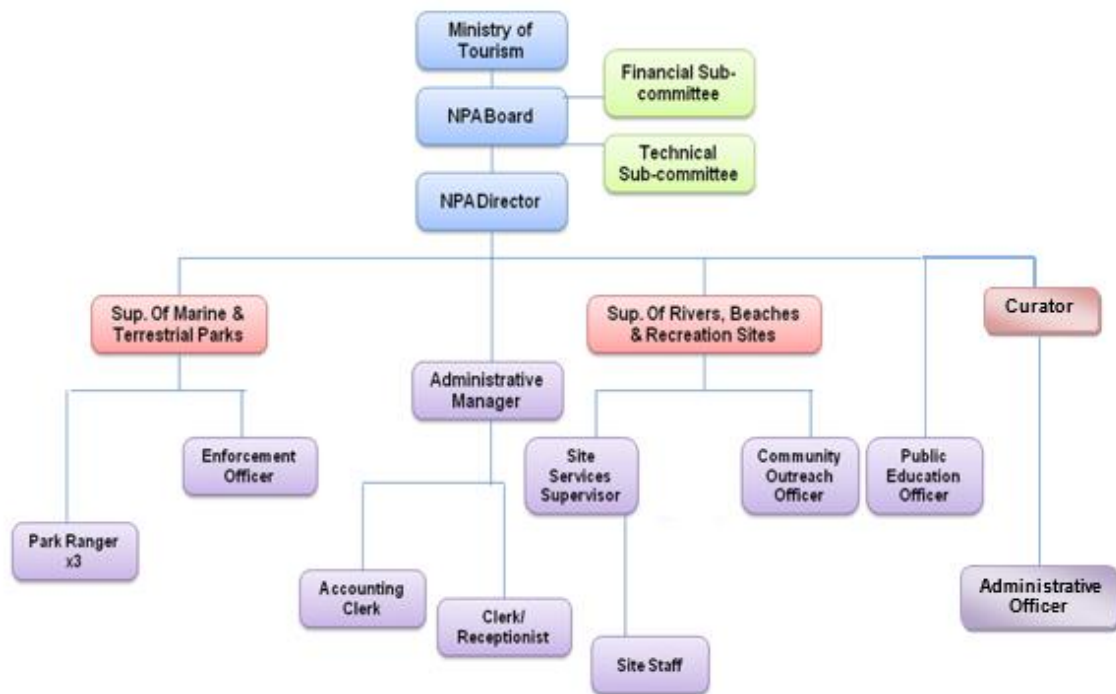
To conserve biodiversity assets and effectively manage National Parks and Protected Areas (National Parks, Rivers and Beaches Authority Strategic Management Plan 2018-2023, pg. 2).

NPRBA's vision incorporates key priorities that support the accomplishment of the mission. It guides the future implementation of actions based on the core functions, specifically conservation that is associated with the management of natural resources.

## **2.3 Organizational Structure**

The Organizational Structure of the NPRBA demonstrates that the first line of authority begins with the highest-rank Ministry of Tourism represented by the Permanent Secretary that guides policy direction. Second, in line is a twelve (12) member Board of Directors with the responsibility to oversee operations and

decomposed into two areas: Financial Sub-committee and Technical committee. The head of the Board of Directors is the Chairperson. The Director is the highest rank post with responsibility for managing a one hundred and twenty-one (121) member staff. Individual responsibility lies with line managers with responsibility for four (4) program areas. The Line Managers comprise of Superintendent of Marine & Terrestrial Parks, Superintendent of Rivers, Beaches & Recreation Sites, Administrative Manager, Curator, and their respective staff. Figure 1 shows the company's organizational structure.



**Figure 1 Organizational Structure (Source: National Parks, Rivers and Beaches Authority Advance Budget Proposal 2020-2022, p.16, 2020)**

At the NPRBA, there is no established functional structure to manage projects. Line Managers or a Steering Committee is responsible for the management of projects. The Authority has executed several projects in the past but lacks proper project management guidelines. The FGP can support the NPRBA in its approach to managing projects.

## **2.4 Products offered.**

The NPRBA offers the following services:

1. Guided tours
2. Water quality monitoring
3. Beach monitoring
4. Research
5. Education awareness
6. Recreation and wellness (use of sites and parks)
7. Community livelihoods

It is worthy to note that projects proposed by the NPRBA are designed to improve the management of SVGNPAS. Likewise, the enhancement of services offered. The proposed management plan will foster better project management practices to promote the successful delivery of projects that will lead to improved services offered by the NPRBA.

## **2.5 Project Management Concepts**

For projects to be executed successfully, it is important to understand the various concepts associated with project management. For the FGP, the following concepts on project management are outline below: project, project management, project management processes, process groups, project life cycle, and knowledge areas.

### **2.5.1 Project**

According to the PMBOK® Guide, “a project is a temporary endeavor undertaken to create a unique product, service, or result” (PMI, 2017, p.4). The Association for Project Management Body of Knowledge (APM, 2019) in the United Kingdom defines a project as “a unique, transient endeavor undertaken to achieve a desired outcome”.

In the case of the Rehabilitation and Ecosystem Adaptation at South Coast, St. Vincent, and the Grenadines Project, it fits into the category of a project. It can be

considered as a temporary endeavor as it has a start date and an end date. Furthermore, it is undertaken to create a unique result that contributes specifically to social and environmental benefits.

### **2.5.2 Project Management**

Project Management is the formulation of processes, methods, skills, and experience to achieve specific project objectives according to the project acceptance criteria within agreed parameters. Project management has the final deliverables that are constraint to a finite timescale and budget (APM Body of Knowledge, 2019).

The Project Management Institute defines Project Management as “the application of knowledge, skills, tools, and techniques to project activities to meet project requirements” (PMI, 2017, p.10). Key elements to consider when managing projects include constraints, such as cost, quality, and time. A negative impact on one can create a domino effect that can affect the achievement of project deliverables.

Furthermore, project management considers the use of all the necessary procedures, tools, and techniques to administer the Rehabilitation and Ecosystem Adaptation South Coast, St Vincent and the Grenadines Project from start to completion. It manages a wide range of aspects concerning risks, budget, stakeholders, and changes in the project and monitors the progress against the plan.

### **2.5.3 Project Life Cycle**

The PMBOK® Guide (2017), describes Project Life Cycle as “the series of phases that a project passes through from its start to its completion” (p.18). The Project life cycle provides a framework for effectively managing projects regardless of the nature, size, or complexity. The generic project life cycle structure consists of typically four phases such as starting the project, organizing, and preparing, carrying out the work and ending the project. The phases comprise of processes, with each process producing project management deliverables. The figure below depicts a

standard project life cycle with all four (4) phases. The following figure 2 depicts a Generic Life Cycle.

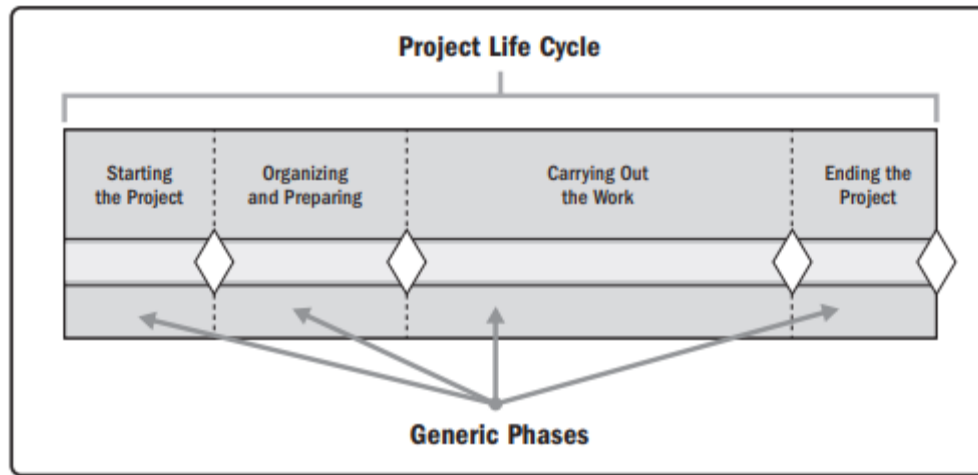


Figure 2 Generic Project Life Cycle (PMI, 2017, p.548)

Project cycle management (PCM) is a methodology that is widely used by international organizations to carry out and manage development projects and programs. The PCM as defined by the European Commission (EC) comprise of five (5) stages, depicted below in figure 3. These stages aim to support good management practices throughout the project management cycle. This cycle highlights three main principles:

1. Decision making criteria and procedures defined at each phase (including key information requirements and quality assessment criteria)
2. The phases in the cycle are progressive – each phase should be completed for the net to be tackled with success' and
3. New programing and project identification draws on the results of monitoring and evaluation as part of a structured process of feedback and institutional learning.

Notably, at the NPRBA, there is no established project lifecycle. However, the organization has gain experience in using the PCM method by working on projects undertaken sponsored by the European Commission. The FGP will enable research on the project life cycle for the development of the proposed project management



plan. It will consider the activities for each phase from start to conclusion as well as constraints such as cost, time, and quality.

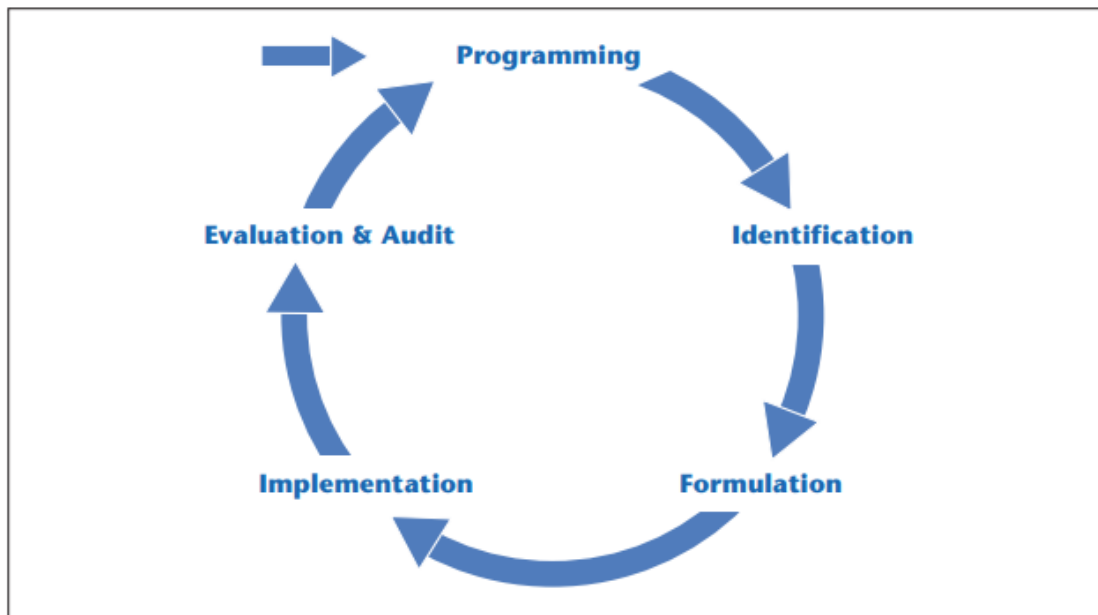


Figure 3 Project Cycle Management (Aid Delivery Methods, 2004, p.16)

## 2.5.4 Project Management Processes

The PMBOK® Guide (2017) defines project management processes as “a systematic series of activities directed toward causing an end result where one or more inputs will be acted upon to create one or more outputs” (p.18). Through proper use of project management tools and techniques, each project management process will produce one or more outputs. The outputs can be termed as an outcome or a deliverable. According to PMBOK® Guide management processes fall into three categories (PMI, 2017, p.554).

**2.5.4.1 Processes used once or predefined points in the project.** Developing the project charter and closing the project or phase are examples.

**2.5.4.2 Processes that are performed periodically as needed.** Acquiring resources is performed when resources are needed. Conducting procurements will be performed prior to needing to procure them.

#### **2.5.4.3 Processes that are performed continuously throughout the project.**

Defining activities may occur throughout the project life cycle, especially when the project uses rolling wave planning or an adaptive development approach. Many of the monitoring and control processes are ongoing from the start of the project, until it is closed out.

Project Management Process Groups are defined as a logical grouping of project management processes to achieve specific objectives. Process groups are independent of project phases. (PMI, 2017, p.23). Project Management processes groups fall into five groups.

1. Initiation Process group
2. Planning Process Group
3. Executing Process Group
4. Monitoring and Control Process Group
5. Closing Process Group

It is worthy to note that the application of project management processes is integral for the development of the FGP. However, only the initiate and plan process groups will be developed within the FGP as the timeframe allocated for completion does not allow for the inclusion of the execution, monitoring and control, and closing processes.

The relationship between the knowledge areas and the project management processes shown in figure 4.

Knowledge Areas	Project Management Process Groups				
	Initiating Process Group	Planning Process Group	Executing Process Group	Monitoring and Controlling Process Group	Closing Process Group
<b>4. Project Integration Management</b>	4.1 Develop Project Charter	4.2 Develop Project Management Plan	4.3 Direct and Manage Project Work	4.4 Monitor and Control Project Work 4.5 Perform Integrated Change Control	4.6 Close Project or Phase
<b>5. Project Scope Management</b>		5.1 Plan Scope Management 5.2 Collect Requirements 5.3 Define Scope 5.4 Create WBS		5.5 Validate Scope 5.6 Control Scope	
<b>6. Project Time Management</b>		6.1 Plan Schedule Management 6.2 Define Activities 6.3 Sequence Activities 6.4 Estimate Activity Resources 6.5 Estimate Activity Durations 6.6 Develop Schedule		6.7 Control Schedule	
<b>7. Project Cost Management</b>		7.1 Plan Cost Management 7.2 Estimate Costs 7.3 Determine Budget		7.4 Control Costs	
<b>8. Project Quality Management</b>		8.1 Plan Quality Management	8.2 Perform Quality Assurance	8.3 Control Quality	
<b>9. Project Human Resource Management</b>		9.1 Plan Human Resource Management	9.2 Acquire Project Team 9.3 Develop Project Team 9.4 Manage Project Team		
<b>10. Project Communications Management</b>		10.1 Plan Communications Management	10.2 Manage Communications	10.3 Control Communications	
<b>11. Project Risk Management</b>		11.1 Plan Risk Management 11.2 Identify Risks 11.3 Perform Qualitative Risk Analysis 11.4 Perform Quantitative Risk Analysis 11.5 Plan Risk Responses		11.6 Control Risks	
<b>12. Project Procurement Management</b>		12.1 Plan Procurement Management	12.2 Conduct Procurements	12.3 Control Procurements	12.4 Close Procurements
<b>13. Project Stakeholder Management</b>	13.1 Identify Stakeholders	13.2 Plan Stakeholder Management	13.3 Manage Stakeholder Engagement	13.4 Control Stakeholder Engagement	

Figure 4 Project Management Processes and Knowledge Areas Mapping. Source: (PMI, 2017, p.556)

### **2.5.5 Project Management Knowledge Areas**

A knowledge area refers to “an area of project management defined by its knowledge requirements and described in terms of its component processes, practices, inputs, outputs, tools and techniques” (PMI, 2017, p.23). The knowledge areas coincide with the chronological phases of project management and are the core technical subject areas. Project management knowledge areas fall into ten areas as depicted above in figure 4.

The project entitled, “The Rehabilitation and Ecosystem Adaptation at South Coast, St Vincent and the Grenadines Project,” will explore the following 10 knowledge areas, and the relevant subsidiary plans will be developed following the PMBOK® Guide. Relevant tools and techniques.

#### **2.5.5.1 Project Integration Management**

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.” (PMI, 2017, p.553).

For the project Rehabilitation and Ecosystem Adaptation at South Coast, St. Vincent and the Grenadines, The NRBA will develop a Project Integration Management Plan to manage all procedures from initiation to closing phase effectively. This will focus on coordinating and monitoring all functions and activities in every phase throughout the project lifecycle to produce desired results. More importantly, sustain the stability in all project areas, including scope, schedule, cost, quality, human resource, communication, risk, procurement, and stakeholder. Figure 5 depicts an overview of the Project Integration Management.

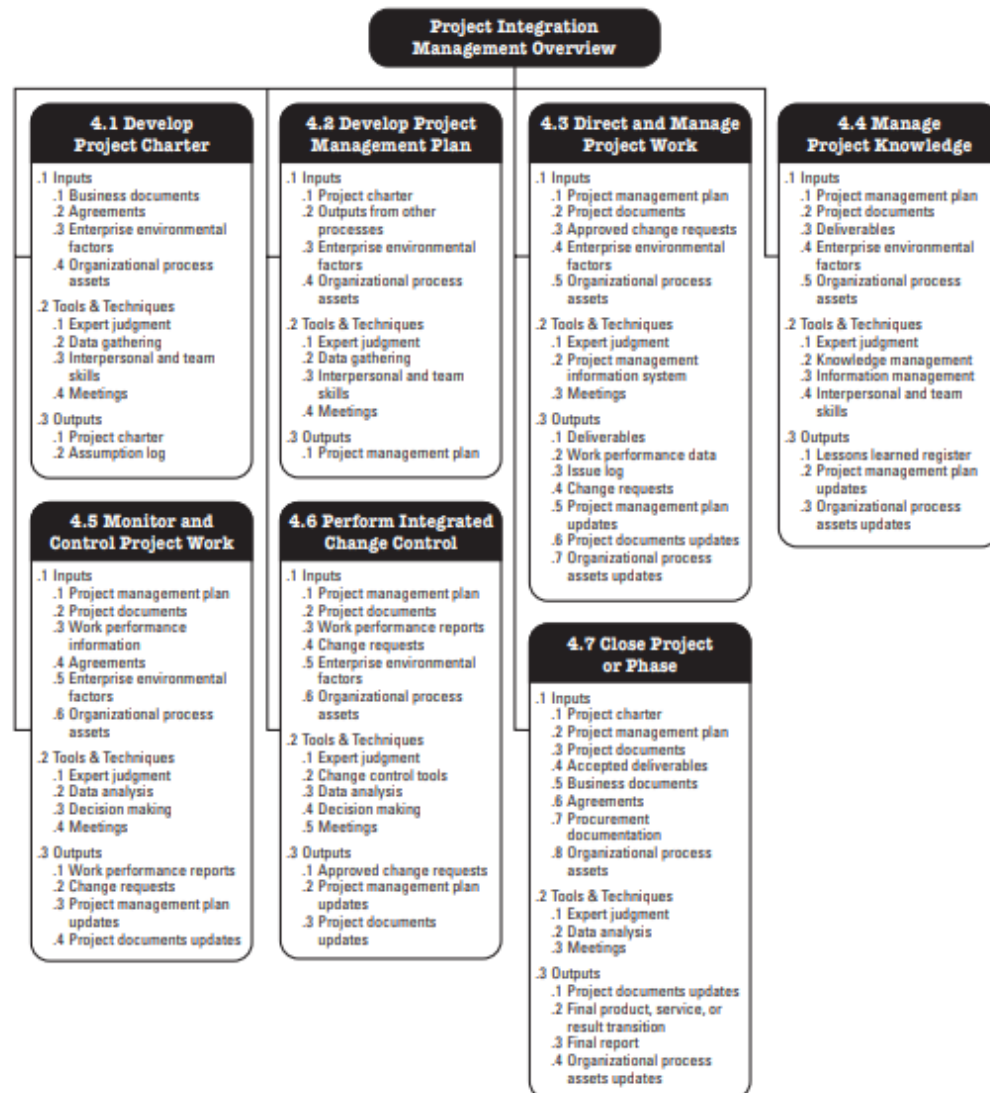


Figure 5 Project Integration Management Overview. Source: (PMI, 2017, p71)

### 2.5.5.2 Project Scope Management

Project Scope Management includes “the processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully” (PMI, 2017, p. 553).

As part of the Scope management Plan for the Rehabilitation and Ecosystem Adaptation at South Coast, St. Vincent and the Grenadines project, the NPRBA will conduct scope planning, scope statement, creation of a work breakdown structure, scope verification and scope change control to ensure that only the necessary work

required is complete. Figure 6 depicts an outline of Project Scope Management Plan overview.

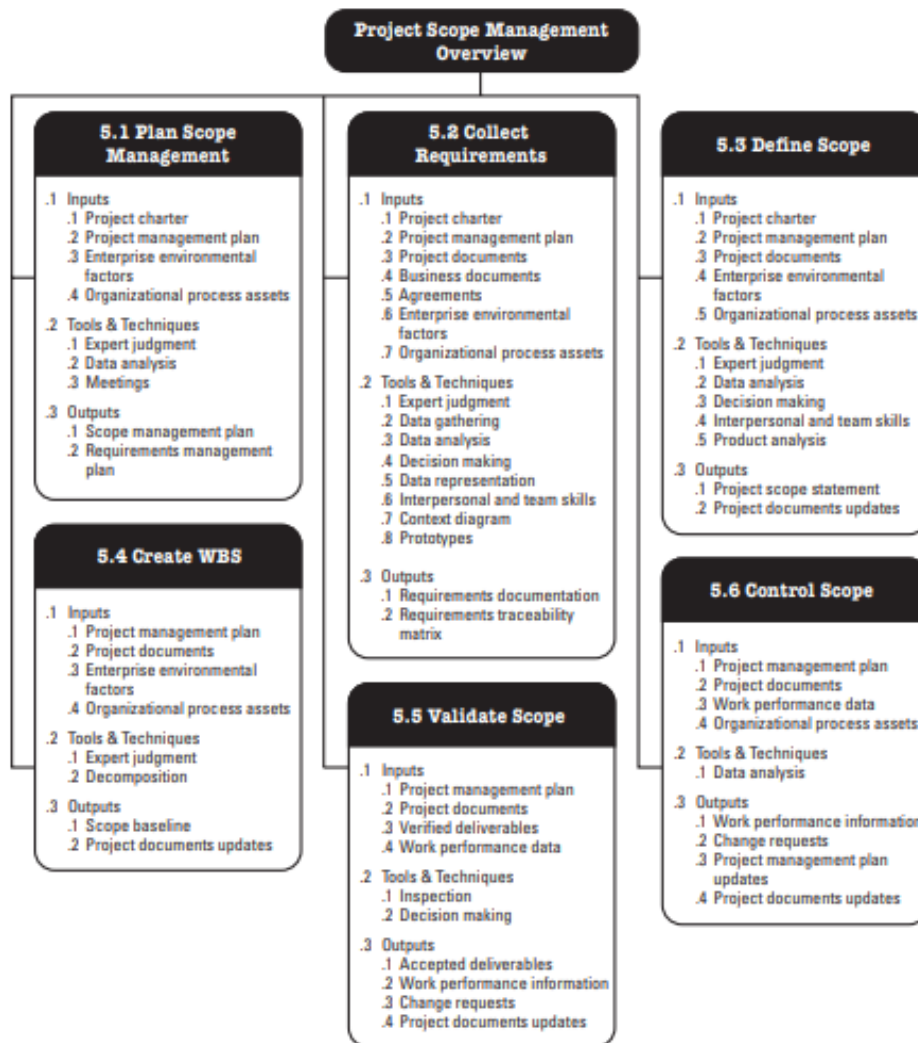


Figure 6 Project Scope Management Overview. Source: (PMI, 2017, p.130)

### 2.5.5.3 Project Schedule Management

According to PMI (2017), Project Schedule Management includes “the processes required to manage the timely completion of the project” (p. 553).

In order to ensure that the Rehabilitation and Ecosystem Adaptation at South Coast, St. Vincent and the Grenadines project, is completed within the scheduled timeframe, the NPRBA will establish the criteria and the activities for developing, monitoring, and controlling the project schedule by creating a Schedule Management

Plan. Specific activities would be identified with the WBS, sequenced, and durations estimated. Once the plan is approved, no changes to the schedule will be permitted unless a change request is processed in accordance with the procedure outlined in the change management plan. The Project Team will be assigned respective tasks to support the project manager to ensure activities are carried out within the estimated duration period to achieve timely completion of project deliverables. Figure 7 presents an overview of Project schedule Management.

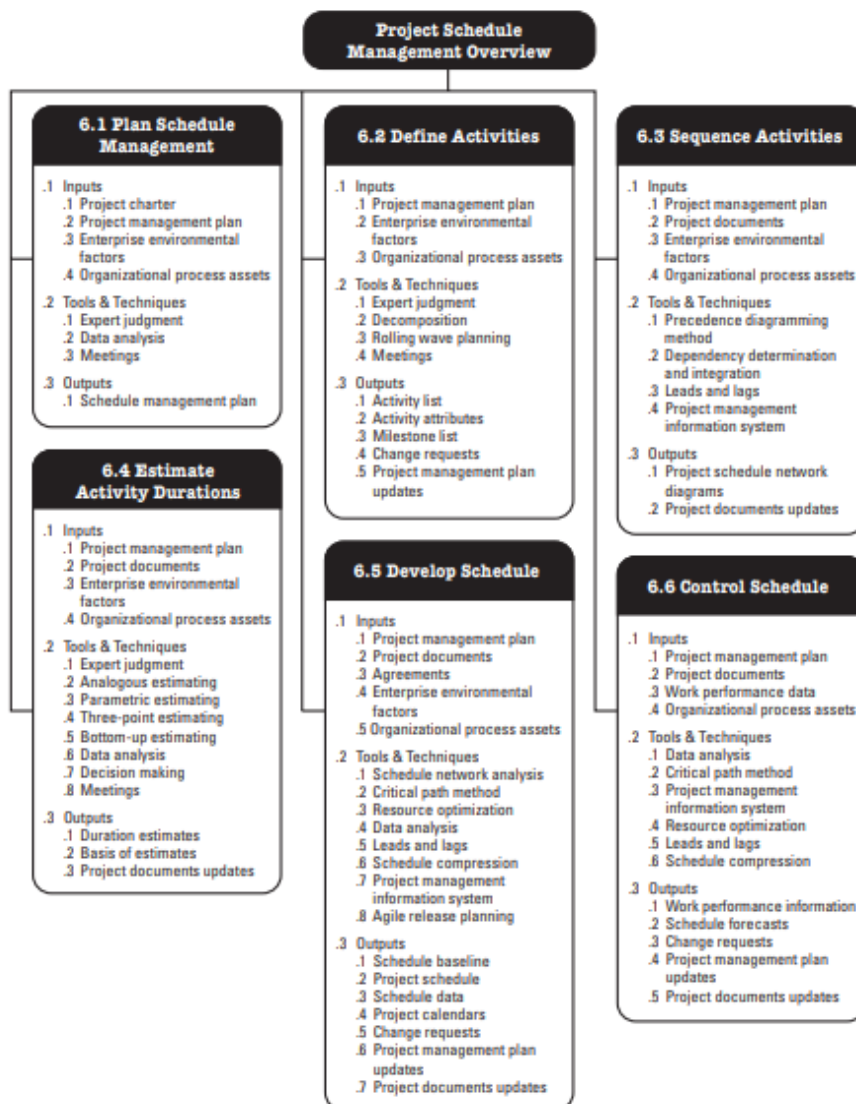


Figure 7 Project Schedule Management Overview. Source: (PMI, 2017, p.174)

### 2.5.5.4 Cost Management

As described by PMI (2017), “Project Cost Management includes the processes involved in planning, estimating, budgeting, financing, funding, managing, and controlling costs so that the project can be completed within the approved budget” (p.231).

For this project, the NPRBA is responsible for establishing the necessary processes to ensure that the deliverables are accomplished within the approved budget. NPRBA will plan the overall cost estimates and determine how costs will be controlled during the project execution. Also, to ascertain how costs and performance will be measured. The project team would be assigned tasks to approve costs, produce reports and receive performance reports. Figure 8 depicts an overview of the ITTOS for the Cost Management Process.

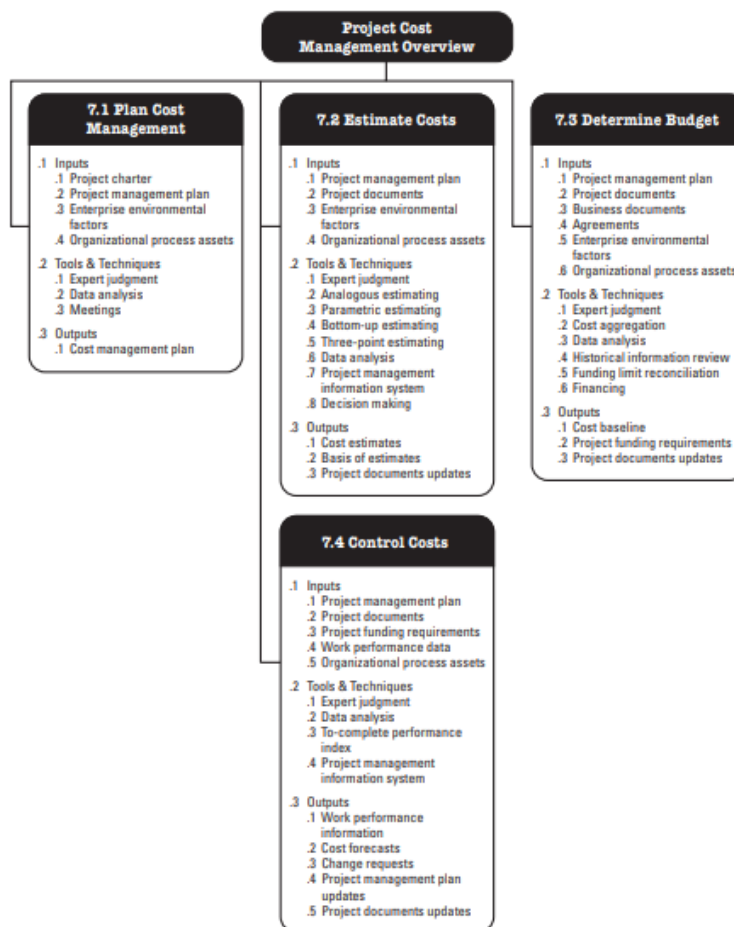


Figure 8 Project Cost Management Overview. Source: (PMI, 2017, p.232)



### 2.5.5.5 Project Quality Management

Project Quality Management includes "the processes for incorporating the quality policies of the organization with regard to planning, managing and controlling the project and the product quality requirements in order to meet stakeholder's expectations." (Project Management Institute, 2017, p. 553). Figure 9 below represents an overview of Quality Management Plan.

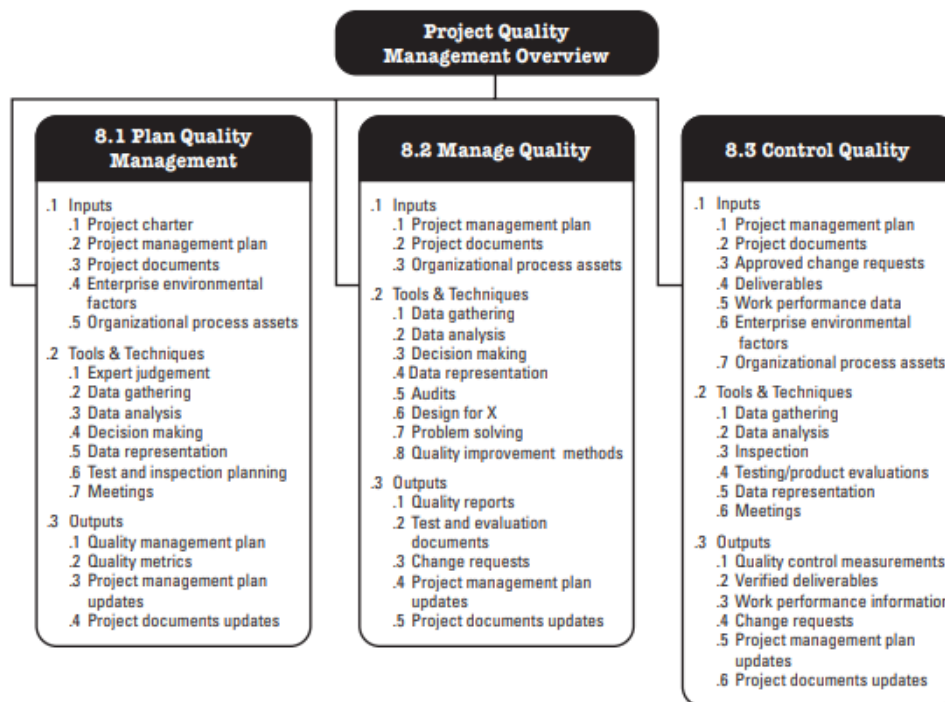


Figure 9 Project Quality Management Overview. Source: (PMI, 2017, p.272)

NPRBA would create and follow policies and procedures necessary through which quality will be managed and maintained. Set quality targets for the project team to achieve, defining how to measure those quality targets, and reporting. The project will emphasize compliance with applicable and ensure that the monitoring and control of quality.

### 2.5.5.6 Project Resource Management

PMI (2017) defines Project Resource management as “the process to identify, acquire and manage the resources needed for the successful completion of the project” (p.553). The inputs, tools, techniques, and output for the processes involved in Project Resource Management are represented in figure 10.

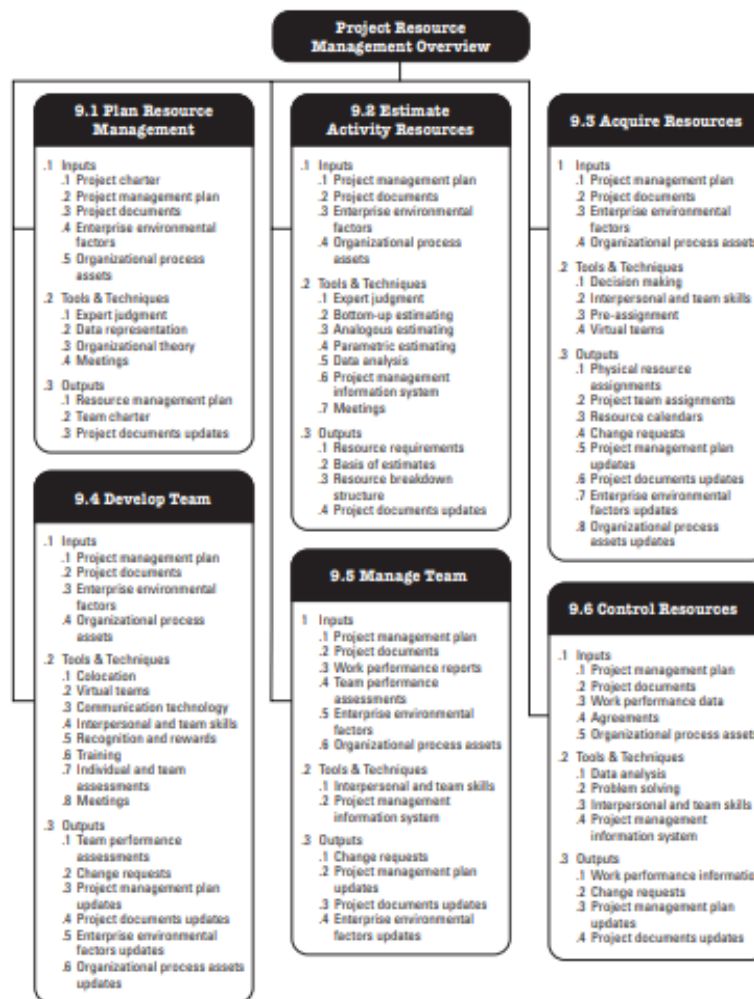


Figure 10 Project Resource Management Overview. Source: (PMI, 2017, p.308)

For this project, NPRBA will perform all necessary processes to identify, allocate and manage resource requirements in the most efficient manner. These resources include humans, materials, equipment, and facility. The NPRBA will monitor the

resources during project execution to ensure that the achievement of expected project results.

### 2.5.5.7 Communications Management

Project communications management includes the process required to ensure timely and appropriate planning, collection, creation, distribution, storage, retrieval, control, monitoring, and ultimate disposition of project information” (PMI, 2017, p. 553).

Figure 11 below represents and overview of Communications Management.

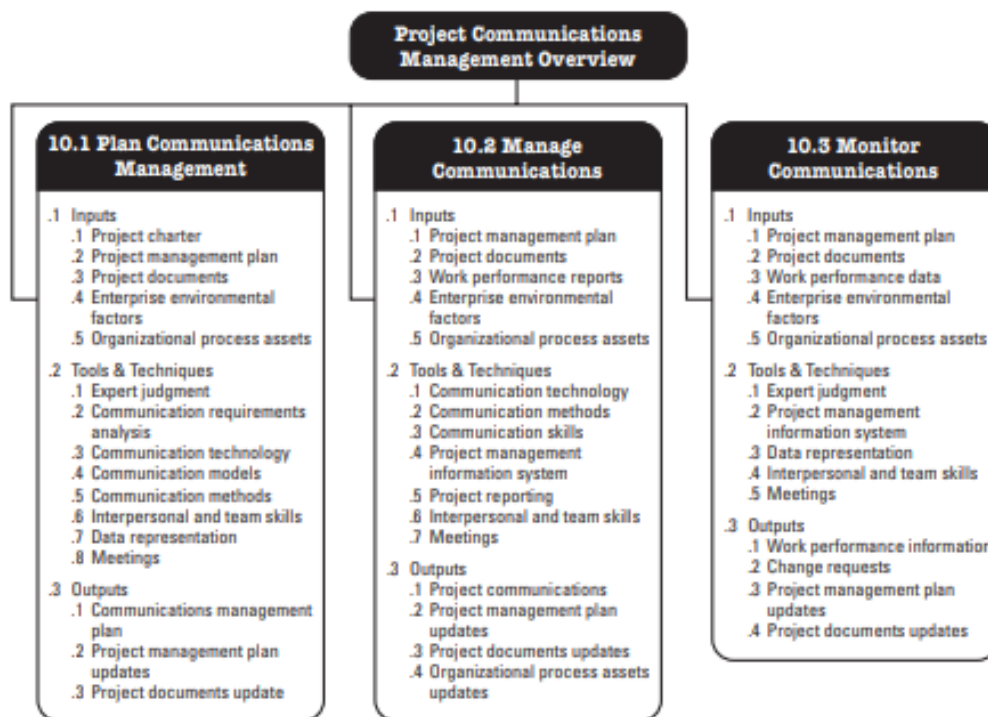


Figure 11 Project Communication Management Overview. Source: (PMI, 2017, p.360)

For this project, NPRBA will ensure that the necessary processes are incorporated to ensure timely and effective dissemination of information. NPRBA would create a plan for communication strategy, implement it and monitor to see if the desired effect of increasing or maintaining stakeholder’s support for the project.

### 2.5.5.8 Risk Management

PMI (2017) establishes Project Risk Management as the “processes of conducting risk management planning, identification, analysis, response planning, response implementation and monitoring risk on a project” (2017, p. 553).

For this project, NPRBA would develop a Risk Management Plan to reduce the likelihood of a risk occurring during the project. Risk Management is a continuous process to be performed by the project team from the start to the end of the project. The process involves identification, analysis, planning a response, monitoring, and control would follow. Figure 12 is a represents an overview of Project Risk Management.

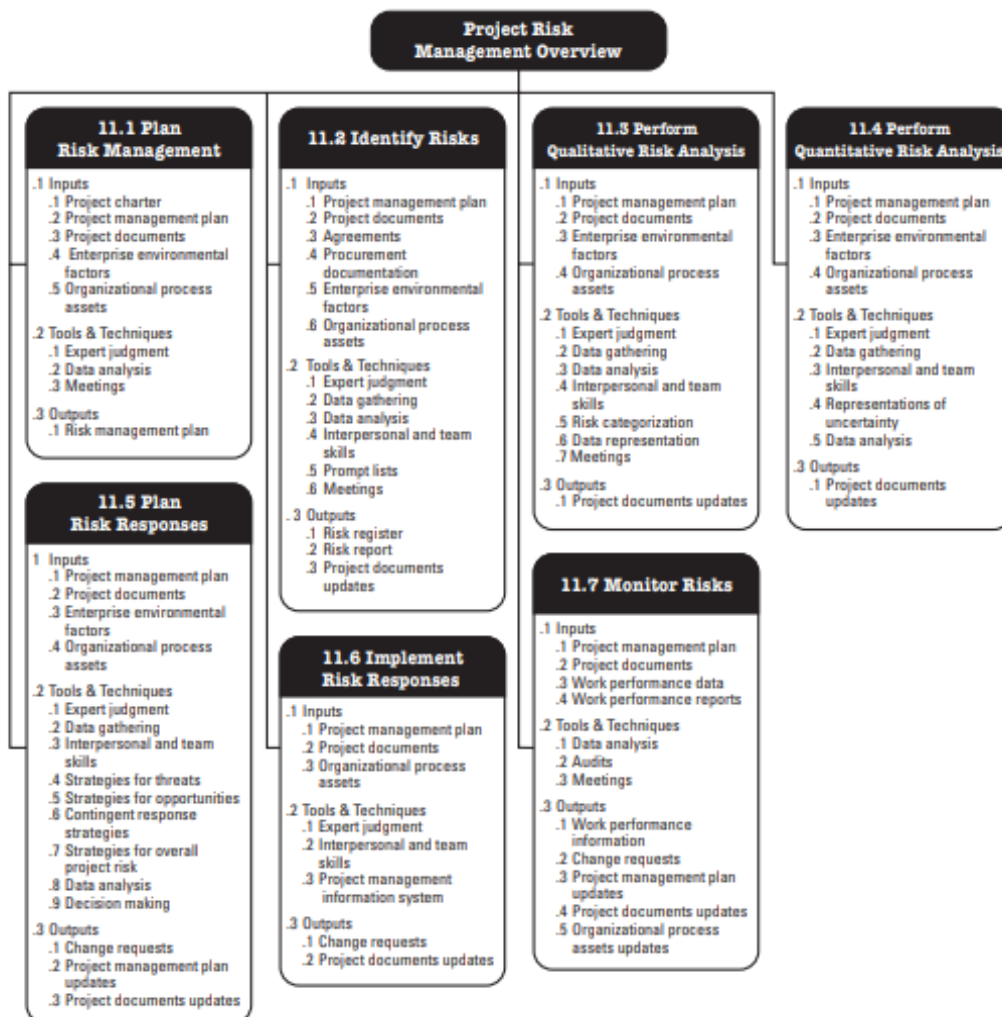


Figure 12 Project Risk Management Overview. Source: (PMI, 2017, p.396)

### 2.5.5.9 Procurement Management

PMI (2017) establishes Project Procurement Management as the “processes necessary to purchase or acquire products, services, or results needed from outside the project team” (p. 553).

For the Rehabilitation and Ecosystem Adaptation at South Coast, St. Vincent and the Grenadines project, NPRBA will be responsible for procuring goods and services required external to the project. The establishment of a procurement plan would be useful to determine types of contracts, how vendors are chosen and managed. This plan is to be approved by the relevant authorities before the actual plan is implemented. Taking into account procurement policies for both NPRBA and the relevant funding agencies. Figure 13 represent Procurement Management Plan Overview.

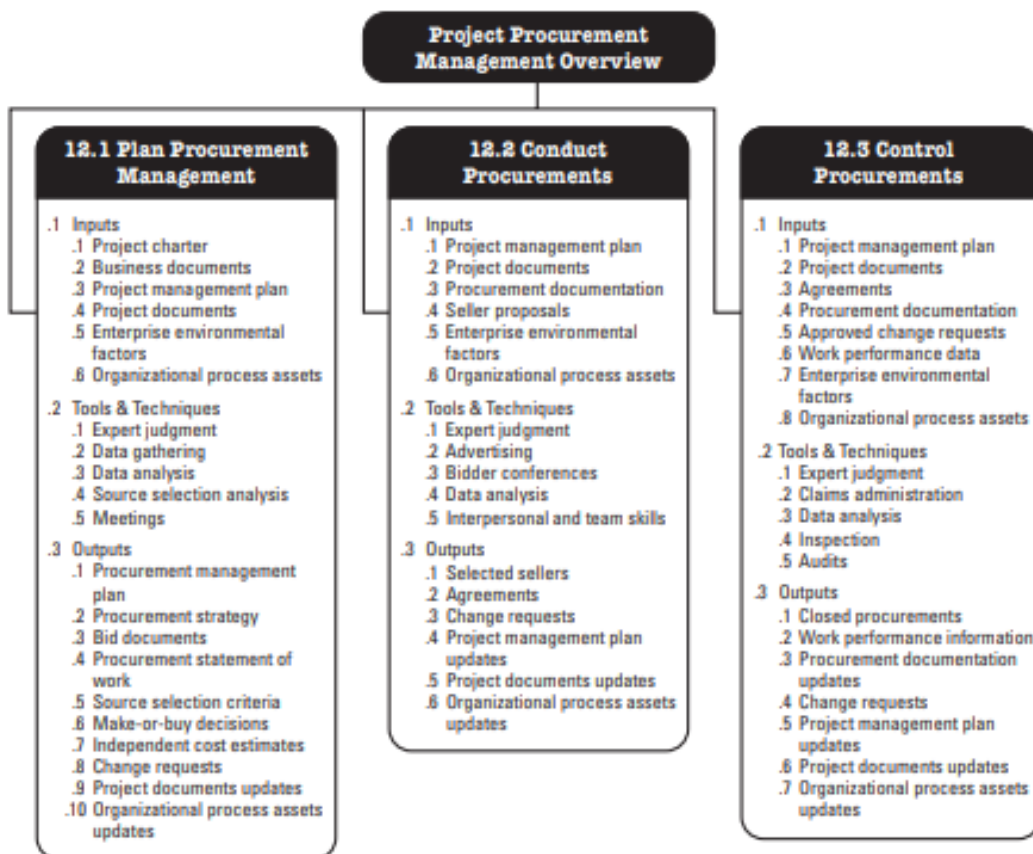


Figure 13 Project Procurement Management Overview. Source: (PMI, 2017, p.460)

### 2.5.5.10 Stakeholder Management

Project Stakeholder Management includes the “processes required to identify people, groups, or organizations that could impact or be impacted by the project, to analyze stakeholder expectations and their impact the project as well as to develop appropriate management strategies for effectively engaging stakeholders in project execution and decisions” (PMI, 2017, p. 553). Figure 14 below depicts the Project Stakeholder Management Overview.

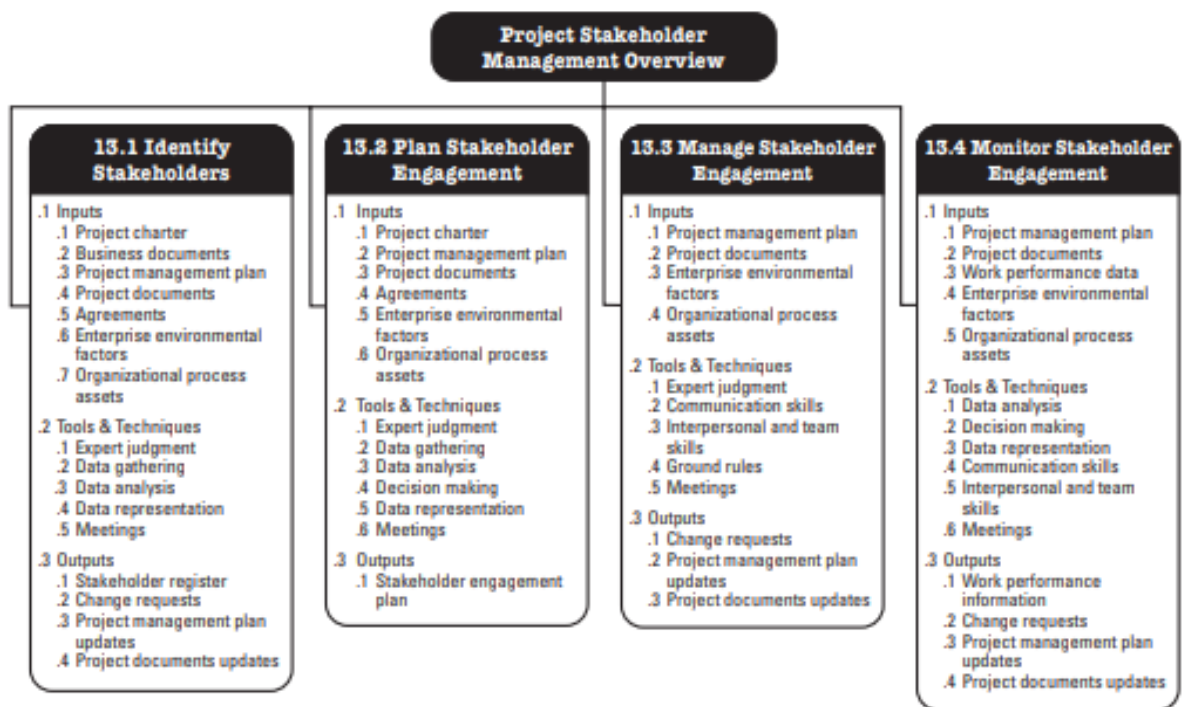


Figure 14 Project Stakeholder Management Overview. Source: (PMI, 2017, p.504)

The NPRBA will seek to make Stakeholder Management plan an integral part in the title project. For this project, maintaining good relations with stakeholders is vital for a successful outcome. Regular reviews of the Stakeholder Management Plan will be carried out to ensure continued communication with influential stakeholders, in the most effective way throughout the lifecycle project.

## **2.6 Other applicable theory/concepts**

### **2.6.1 Adaptation to Climate Change**

The inclusion of relevant concepts such as climate change adaptation can add value to the development of the proposed Plan for the Ecosystem and adaptation: South Coast Marine Conservation Area, St. Vincent and the Grenadines project. These concepts embody the very essence of what the project “Ecosystem and adaptation at South Coast, St. Vincent and the Grenadines” seek to address.

Adaptation refers to a process by which strategies to moderate, cope with and take advantage of the consequences of climatic events are enhanced, developed, and implemented. (UNDP, 2005). In addition, it refers to an adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. Various types of adaptation can be distinguished, including anticipatory and reactive adaptation, private and public adaptation, and autonomous and planned adaptation (IPCC TAR, 2001 a)

Climate Change refers to “the climate of a place or region is changed if over an extended period (typically decades or longer) there is a statistically significant change in measurements of either the mean state or variability of the climate for that place or region. Climate change is also described as a change of climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable periods. (UNFCCC Article 1).

Changes in climate may be due to natural processes or to persistent anthropogenic changes in atmosphere or in land use. Note that the definition of climate change used in the United Nations Framework Convention on Climate Change is more restricted, as it includes only those changes which are attributable directly or indirectly to human activity.” (UN/ISDR, 2004).

### **3. METHODOLOGICAL FRAMEWORK**

#### **3.1 Information Sources**

##### **3.1.1 Primary Sources**

A primary data source is an original data source, that is, one in which the data are collected firsthand by the researcher for a specific research purpose or project. Primary data can be collected in several ways. However, the most common techniques are self-administered surveys, interviews, field observation, and experiments. Primary data collection is quite expensive and time consuming compared to secondary data collection. Notwithstanding, primary data collection may be the only suitable method for some types of research (Salkind, 2010).

For this project, the following Primary Sources identified are:

- Interviews with key staff and subject matter experts to gather information firsthand information developing the FGP.
- Use of internal reports and other original documentation that provide valuable information about the organization's background.
- Revision of MPM course notes to strengthen the researchers' input on topics relevant to the FGP.
- Personal observation will be useful to reflect information from the participants' point of view.

##### **3.1.2 Secondary Sources**

Secondary Sources describe, summarize, or discuss information or details originally presented in another source; meaning the author, in most cases, did not participate in the event. This type of source is written for a broad audience and will include definitions of discipline specific terms, history relating to the topic, significant theories and principles, and summaries of major studies/events as related to the topic. Examples of secondary sources include dictionaries, encyclopedias, textbooks, articles, and editorials that interpret, or review research works. (North Central University, 2020).



The Secondary Sources identified for use in the FGP are:

- The use of textbook such as “A Guide to Project Management Body of Knowledge Sixth Edition” and PMI database to relate project management theory and practice.
- The use of documentation on previously completed projects of a similar nature.
- Research published articles of relevance to the FGP via the internet. Documentation obtained during the UCI master’s in project management course.

For this project, all the necessary documentation in the FGP will be analyzed, with emphasis on information related to primary and secondary sources. These sources will be used for the achievement of each objective. Chart 1 provides a summary of both primary and secondary sources that will be used in the FGP.

**Chart 1 Information Sources (Source: Child. N, Author, 2020)**

Objectives	Information sources	
	Primary	Secondary
1. To develop an Integration Management Plan to unify and coordinate the processes and project management activities during the project.	<ul style="list-style-type: none"> <li>• Interviews with key staff and subject matter experts,</li> <li>• Use of internal reports and other original documentation,</li> <li>• Revision of MPM course notes,</li> <li>• Personal observations</li> </ul>	<ul style="list-style-type: none"> <li>• PMBOK® Guide 6th Edition</li> <li>• Documentation on previously completed projects of a similar nature.</li> <li>• Published articles obtained via web research.</li> <li>• Documentation obtained during the UCI master’s in project management course</li> </ul>
2. To create a Scope Management Plan to guide how the project work will be defined, validated, and controlled.	<ul style="list-style-type: none"> <li>• Interviews with key staff and subject matter experts</li> <li>• Use of internal reports of previous projects.</li> <li>• Revision of MPM course notes</li> <li>• Personal Observation</li> </ul>	<ul style="list-style-type: none"> <li>• PMBOK® Guide 6th Edition</li> <li>• Documentation on previously completed projects of a similar nature.</li> <li>• Published articles obtained via NPRBA website.</li> <li>• Documentation obtained during the UCI master’s in project management course</li> </ul>
3. To develop a Schedule Management	<ul style="list-style-type: none"> <li>• Interviews with key staff and subject matter experts</li> </ul>	<ul style="list-style-type: none"> <li>• PMBOK® Guide 6th Edition</li> </ul>

Objectives	Information sources	
	Primary	Secondary
Plan to ensure the timely completion of the project	<ul style="list-style-type: none"> <li>• Use of internal reports on historical project data.</li> <li>• Revision of MPM Course Notes.</li> </ul>	<ul style="list-style-type: none"> <li>• Documentation on previously completed projects of a similar nature.</li> <li>• Published articles obtained via web research.</li> <li>• Documentation obtained during the UCI master's in project management course.</li> </ul>
4. To create a Cost Management Plan to manage cost throughout the life cycle of the project.	<ul style="list-style-type: none"> <li>• Interviews with subject matter experts to acquire quotations.</li> <li>• Revision of MPM course notes</li> </ul>	<ul style="list-style-type: none"> <li>• PMBOK® Guide 6th Edition, Documentation on previously completed projects of a similar nature.</li> <li>• Published articles obtained via web research.</li> <li>• Documentation obtained during the UCI master's in project management course.</li> </ul>
5. To create a Quality Management Plan to manage the quality of project deliverables in order to meet stakeholders' expectations.	<ul style="list-style-type: none"> <li>• Interviews with key staff and subject matter experts</li> <li>• Use of internal reports and other original documentation.</li> <li>• Revision of MPM course notes</li> </ul>	<ul style="list-style-type: none"> <li>• PMBOK® Guide 6th Edition</li> <li>• Documentation on previously completed projects of a similar nature.</li> <li>• Published articles obtained via web research.</li> <li>• Documentation obtained during the UCI master's in project management course</li> </ul>
6. To develop a Resource Management Plan to ensure that all human and material resources are identified and managed effectively to successfully complete the project.	<ul style="list-style-type: none"> <li>• Interviews with key staff and subject matter experts</li> <li>• Use of internal reports and other original documentation.</li> <li>• Revision of MPM course notes.</li> </ul>	<ul style="list-style-type: none"> <li>• PMBOK® Guide 6th Edition</li> <li>• Documentation on previously completed projects of a similar nature.</li> <li>• Published articles obtained via web research.</li> <li>• Documentation obtained during the UCI master's in project management course</li> </ul>

Objectives	Information sources	
	Primary	Secondary
7. To design a Communications Management Plan to ensure that information generated is of the appropriate quality and breadth and that it reaches the various stakeholders at the proper time.	<ul style="list-style-type: none"> <li>• Interviews with key staff and subject matter experts</li> <li>• Use of internal reports and other original documentation.</li> <li>• Revision of MPM course notes</li> <li>• Personal observation</li> </ul>	<ul style="list-style-type: none"> <li>• PMBOK® Guide 6th Edition</li> <li>• Documentation on previously completed projects of a similar nature.</li> <li>• Published articles obtained via web research.</li> <li>• Documentation obtained during the UCI master's in project management course</li> </ul>
8. To create a Risk Management Plan that identifies risk and risk responses to ensure successful completion of the project.	<ul style="list-style-type: none"> <li>• Interviews with key staff and subject matter experts</li> <li>• Use of internal reports and other original documentation.</li> <li>• Revision of MPM course notes</li> <li>• Personal observation</li> </ul>	<ul style="list-style-type: none"> <li>• PMBOK® Guide 6th Edition</li> <li>• Documentation on previously completed projects of a similar nature.</li> <li>• Published articles obtained via web research,</li> <li>• Documentation obtained during the UCI master's in project management course</li> </ul>
9. To develop a Procurement Management Plan to guide the process of acquiring products, services, and results required by the project	<ul style="list-style-type: none"> <li>• Interviews with experts for quotes</li> <li>• Use of internal reports and other original documentation.</li> <li>• Revision of MPM course notes</li> <li>• Personal observation</li> </ul>	<ul style="list-style-type: none"> <li>• PMBOK® Guide 6th Edition</li> <li>• Documentation on previously completed projects of a similar nature.</li> <li>• Published articles obtained via web research.</li> <li>• Documentation obtained during the UCI master's in project management course</li> </ul>
10. To create Stakeholder Management Plan to identify key stakeholders and analyze their impact on the project.	<ul style="list-style-type: none"> <li>• Interviews with key project stakeholders</li> <li>• Use of internal reports and other original documentation.</li> <li>• Revision of MPM course notes</li> <li>• Personal observation</li> </ul>	<ul style="list-style-type: none"> <li>• PMBOK® Guide 6th Edition</li> <li>• Documentation on previously completed projects of a similar nature.</li> <li>• Published articles obtained via web research.</li> <li>• Documentation obtained during the UCI master's in project management course</li> </ul>

## **3.2 Research Methods**

Research methods involves form of data collection, analysis, and interpretation that researchers propose for their studies (Creswell, 2014). Research methods are the various procedures, schemes, algorithms, etc. used in research. All the methods used by a researcher during a research study are termed as research methods. They are essentially planned, scientific and value neutral. They include theoretical procedures, experimental studies, numerical schemes, statistical approaches, etc. Research methods help us collect samples, data and find a solution to a problem (Goundar, 2012).

### **3.2.1 Analytical Method**

In Analytical Research, the researcher has to use facts or information already available, and analyze these to make a critical evaluation of the material (Kothari, 2004, p.3).

### **3.2.2 Qualitative Method**

Qualitative research methods were developed in the social sciences to enable researchers to study social and cultural phenomena. Examples of qualitative research methods are action research, case study research and ethnography. Qualitative data sources include observation and participant observation (fieldwork), interviews and questionnaires, documents and texts, and the researcher's impressions and reactions (Myers, 2009). Moreover, qualitative research is an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. The process of research involves emerging questions and procedures, data typically collected in the participant's setting, data analysis inductively building from particulars to general themes, and the researcher making interpretations of the meaning of the data (Creswell, 2014).

### **3.2.3 Quantitative Method**

Quantitative research is a process of collecting and analyzing numerical data. It can be used to find patterns and average, make predictions, test casual relationships, and generalize results to wider populations. (Bandhari, 2020) Quantitative research

refers also to an approach for testing objective theories by examining the relationship among variables. These variables, in turn, can be measured, typically on instruments, so that numbered data can be analyzed using statistical procedures (Creswell, 2014).

Based on the definitions described above, the methods used by the researcher can be termed as research methods. The research methods used for the FGP include analytical, qualitative, and quantitative. A summary of the research methods applicable to the FGP are shown below in chart 2.

**Chart 2 Research Methods (Source: Child. N, Author, 2020)**

Objectives	Research methods		
	Analytical	Qualitative	Quantitative
1. To develop an Integration Management Plan to unify and coordinate the processes and project management activities during the project.	The application of critical thinking skills to analyze theories in the PMBOK® Guide relevant for developing the project charter.	To interpret data provided through interview questions and review of internal documentation to create the project charter	
2. To create a Scope Management Plan to guide how the project work will be defined, validated, and controlled.	The application of critical thinking skills to analyze theories in the PMBOK® Guide relevant for developing the project scope.	To interpret data provided through interview questions, and review of internal documentation to ensure identification of all activity related.	

Objectives	Research methods		
	Analytical	Qualitative	Quantitative
3. To develop a Schedule Management Plan to ensure the timely completion of the project.	It provides for the application of critical thinking skills in literature review using the PMBOK® Guide to acquire theories relevant for the developing of the project schedule.	The interpretation of schedule data in the form of network, chart, or graphs. This will be useful to show project milestones and even critical path.	
4. To create a Cost Management Plan to manage cost throughout the life cycle of the project.	This method provides for the analysis and evaluation of concepts in the PMBOK® Guide relevant to developing the project cost.	To collect, document, interpret and display data for project cost using charts and graphs.	The use of numerical type data to determine cost estimations. EV analysis, reserve's, and trend's analysis.
5. To create a Quality Management Plan to manage the quality of project deliverables in order to meet stakeholders'	This method provides for the application of critical thinking skills in literature review using the PMBOK® Guide to acquire theories for developing this plan.	To interpret Data provided through interview questions, observation, and review of internal documentation on quality standards	
6. To develop a Resource Management Plan to ensure that all human and material resources are identified and managed effectively to	This method provides for the application of critical thinking to analyze and reevaluate relevant concepts in the PMBOK® Guide to develop the management plan.	The interpretation of data provided through interview questions; review of internal documentation based on the	

Objectives	Research methods		
	Analytical	Qualitative	Quantitative
successfully complete the project.		organizations' resource policy.	
7. To design a Communications Management Plan to ensure that information generated is of the appropriate quality and breadth and that it reaches the various stakeholders at the proper time.	This method allows for the application of critical thinking for literature review using the PMBOK® Guide to acquire theories relevant to developing the plan.	The interpretation data provided through interview questions, observation, and review of internal documentation on communication channels.	
8. To create a Risk Management Plan that identifies risk and risk responses to ensure successful completion of the project.	The application of critical thinking for literature review using the PMBOK® Guide to acquire theories relevant to develop this plan.	To draw conclusion on risks associated with the project based on information collected from interviews and personal observation. Also, to display data in matrices.	Use of numerical analysis techniques that will aid in developing this plan.
9. To develop a Procurement Management Plan to guide the process of acquiring products, services, and results required by the project.	The application of critical thinking skills to analyze relevant topics on procurement found in the PMBOK® Guide.	To interpret data provided through interview questions to contractors and companies that will work on the project. Also, review of internal	

Objectives	Research methods		
	Analytical	Qualitative	Quantitative
		procurement policy.	
10.To create Stakeholder Management Plan to identify key stakeholders and analyze their impact on the project.	The application of critical thinking skills to analyze theories in the PMBOK® Guide relevant for developing the project stakeholder management plan	To interpret data provided through interview questions to stakeholders.	This systematic investigation method will be used to gather information through survey research to ask questions to a sample of respondents.

### 3.3 Tools

According to PMI (2017), tools are defined as “something tangible, such as a template or software program, used in performing an activity or produce a product or result” (p. 725). The tools used for the elaboration of this FGP are based on the framework within the standards and guidelines of the Project Management Institute. The practical tools to this project are categorized as follows:

- PMI (2017) defines templates as “a partially complete document in a predefined format used for collecting, organizing and presenting information and data” (p. 724). The templates used in the FGP include work breakdown structure, project charter, milestone list, stakeholder register, responsibility assignment matrix, communication plan, procurement plan, risk management plan, project budget, check sheets, and project schedule.
- Communication Technology refers to “specific tools, systems, and computer programs to transfer information among project stakeholders” (Project



Management Institute, 2017, p.701). This includes Microsoft excel 2013 to create the project budget. In addition, Microsoft projects 2019 which to create a project schedule.

- PMI (2017) states that Communication Methods are defined as “a systematic technique, procedure use to transfer information among project stakeholders” (p. 701). These methods include active listening feedback and nonverbal communication.
- Data Gathering Techniques is defined as “Techniques used to collect data and information from a variety of sources.” (Project Management Institute, 2017, p.704) These techniques are useful to acquire information such as brainstorming, and interview used in the FGP.
- Data Analysis Techniques is defined as “Techniques used to organize, assess and evaluate data and information” (Project Management Institute, 2017, p.704) The data analysis techniques used in the FGP include reserve analysis, risk probability and assignment matrix, make or buy analysis, and stakeholder analysis.

A summary of tools that will be used in the FGP are depicted in chart 3.

**Chart 3 Tools (Source: Child. N, Author, 2020)**

Objectives	Tools
1. To develop an Integration Management Plan to unify and coordinate the processes and project management activities during the project.	<ul style="list-style-type: none"> <li>• Brainstorming</li> <li>• Interviews</li> <li>• Project charter template</li> <li>• Lessons learnt template.</li> <li>• Change request form.</li> <li>• Change request log.</li> </ul>
2. To create a Scope Management Plan to guide how the project work will be defined, validated, and controlled.	<ul style="list-style-type: none"> <li>• Microsoft Project 2019</li> <li>• Requirement’s documentation template</li> </ul>

Objectives	Tools
	<ul style="list-style-type: none"> <li>• Work breakdown structure template</li> <li>• Scope Management Plan template.</li> </ul>
3. To develop a Schedule Management Plan to ensure the timely completion of the project	<ul style="list-style-type: none"> <li>• Microsoft Project 2019</li> <li>• Analogous estimating,</li> <li>• Milestone list</li> <li>• Activity list template</li> <li>• Duration Estimates</li> </ul>
4. To create a Cost Management Plan to manage cost throughout the life cycle of the project.	<ul style="list-style-type: none"> <li>• Cost aggregation</li> <li>• Reserve analysis</li> <li>• Parametric estimation</li> <li>• Microsoft excel 2016,</li> <li>• Budget template</li> </ul>
5. To create a Quality Management Plan to manage the quality of project deliverables in order to meet stakeholders' expectations.	<ul style="list-style-type: none"> <li>• Quality management template</li> <li>• Check sheets.</li> </ul>
6. To develop a Resource Management Plan to ensure that all human and material resources are identified and managed effectively to successfully complete the project.	<ul style="list-style-type: none"> <li>• Responsibility assignment Matrix template</li> <li>• Resource calendar</li> </ul>
7. To design a Communications Management Plan to ensure that information generated is of the appropriate quality and breadth and that it reaches the various stakeholders at the proper time.	<ul style="list-style-type: none"> <li>• Stakeholder engagement assessment matrix template,</li> <li>• Communication methods</li> <li>• Number of Communication channels</li> </ul>
8. To create a Risk Management Plan that identifies risk and risk responses to ensure successful completion of the project.	<ul style="list-style-type: none"> <li>• Brainstorming, assumptions and constraints</li> <li>• Reserve analysis</li> <li>• Checklist analysis</li> <li>• Risk probability</li> <li>• Impact matrix template</li> </ul>

Objectives	Tools
	<ul style="list-style-type: none"> <li>• Stakeholder analysis,</li> <li>• Risk Breakdown Structure</li> </ul>
9. To develop a Procurement Management Plan to guide the process of acquiring products, services, and results required by the project	<ul style="list-style-type: none"> <li>• Source selection analysis</li> <li>• Bid Request template</li> <li>• Procurement management template</li> <li>• Make or buy analysis.</li> </ul>
10. To create Stakeholder Management Plan to identify key stakeholders and analyze their impact on the project.	<ul style="list-style-type: none"> <li>• Assumption and Constraints analysis</li> <li>• Stakeholder management plan template</li> <li>• Communication methods</li> </ul>

### 3.4 Assumptions and Constraints

Project Management Institute (2017) defines Assumptions as “a factor in the planning process that is considered to be true, real, or certain without proof or demonstration” (p. 699). In other words, assumptions refer to what the researcher assumes to be true for the project to be successful. Even though you do not have proof, you would expect that they would occur for your project to move forward as planned. In addition, assumptions are “educated guesses on opinions on which further work in the project and decisions are based on” (Wanner, 2013, p.54). Project planning involves making assumptions about certain aspects, but it must be accurate and realistic to avoid compromising the integrity of the entire project. For this reason, it is important to identify assumptions for the FGP. Assumptions are defined and identified at the start of the FGP. Afterward, they are refined and re-analyzed during the project life cycle.

A Constraint refers to “a limiting factor that affects the execution of a project, program or portfolio, or process” (PMI, 2017, p. 701). Constraints are often associated with

quality, scope, time, and cost. However, it is important when making decisions to consider other factors in relation to quality, risk, organization, sustainability, among others. A Constraint can be described as “things that should be considered as fixed or that must happen. Restrictions that will affect the project” (APM, 2019). For the development of the FGP, identifying constraints is a key part of the planning process, which ultimately informs how to proceed. It is vital to identify, understand and control constraints as they can ultimately affect project success. The FGP must be design in such a way that fits within those constraints.

The following are assumptions and constraints are applicable to the FGP:

**Chart 4 Assumptions and Constraints (Source: Child. N, Author, 2020)**

Objectives	Assumptions	Constraints
1. To develop an Integration Management Plan to unify and coordinate the processes and project management activities during the project.	It is believed that project charter will be created before the other subsidiary documents.	Limited access to vital information to develop the project charter.
2. To create a Scope Management Plan to guide how the project work will be defined, validated, and controlled.	The necessary information required will be provided. to develop the scope.	Scope may change as project progresses.
3. To develop a Schedule Management Plan to ensure the timely completion of the project.	The appropriate software will be used to establish the project schedule and a realistic timeline will be established.	As the project advances, initial forecast may not apply.
4. To create a Cost Management Plan to manage cost throughout the life cycle of the project.	The budget created during the planning process will cover all expenses used during the project.	Available budget may restrict the use and acquisition of additional resources.
5. To create a Quality Management Plan to manage	The Standard of quality requirements	Any errors or small divergence from

Objectives	Assumptions	Constraints
the quality of project deliverables in order to meet stakeholders' expectations.	are strictly adhered to throughout the FGP.	specifications set by the UCI may impede success FGP completion.
6. To develop a Resource Management Plan to ensure that all human and material resources are identified and managed effectively to successfully complete the project.	All required resources will be made available as needed.	Unavailability of resources at any point in the development of the project may hinder project progress.
7. To design a Communications Management Plan to ensure that information generated is of the appropriate quality and breadth and that it reaches the various stakeholders at the proper time.	Reliability of all communications will meet required project goals.	Slow flow of communications could result in unpredictable decelerations.
8. To create a Risk Management Plan that identifies risk and risk responses to ensure successful completion of the project.	Risk will be managed successfully throughout the project.	Lack of provisional budget to cover unforeseen risk, which may occur.
9. To develop a Procurement Management Plan to guide the process of acquiring products, services, and results required by the project.	All resources required for the project will be procured in a timely manner.	Items required may not readily be available.
10. To create Stakeholder Management Plan to identify key stakeholders and analyze their impact on the project.	All stakeholder requirements will be achieved successfully.	Conflicts between stakeholders may arise.

### 3.5 Deliverables

In Project Management, a deliverable is a product or service that is given to your client (Burley, 2019). Burley further expressed that a deliverable usually has a due date and is tangible, measurable, and specific. A deliverable can be given to either an external or an internal customer and satisfies a milestone or due date that is created and produced in the project plan.

PMBOK® Guide (2017), define Deliverable as “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” (p.704). A deliverable is a set of products or package of works that will be delivered to and formally accepted by a stakeholder. (APM 2019).

In the case of the FGP, the deliverables are outputs such as subsidiary plans, which are necessary for the accomplishment of the general objective; the development of a project management plan for the “Rehabilitation and Ecosystem Adaptation at South Coast, St Vincent and the Grenadines Project.” The due date for completion of the FGP is the 23 of April 2020. To achieve this milestone, it is anticipated that the deliverables would be accomplished within the stipulated timeframe. The deliverable that will be produced by the development of the FGP is depicted in Chart 5 below.

**Chart 5 Deliverables (Source: Child. N, Author, 2020)**

Objectives	Deliverables
1. To develop an Integration Management Plan to unify and coordinate the processes and project management activities during the project.	A Project Charter: comprise project purpose, assumptions, constraint, risks, milestones, budget, objectives, and related success criteria.

Objectives	Deliverables
2. To create a Scope Management Plan to guide how the project work will be defined, validated, and controlled.	Scope Management Plan: identifies the project deliverables, Requirements traceability matrix, roles, and responsibilities, and the creation of WBS and WBS dictionary.
3. To develop a Schedule Management Plan to ensure the timely completion of the project	Schedule Management Plan: provides direction on how the schedule would be managed throughout the project. It takes into account methodology to create, manage and control the schedule. It consists of outlining the WBS, sequencing activities, task duration estimates, and identifying risks.
4. To create a Cost Management Plan to manage cost throughout the life cycle of the project.	Cost Management Plan: describes how to manage, structure, and control project costs. It includes aspects such as units of measure, level of precision, control thresholds, and rules performance measurement.
5. To create a Quality Management Plan to manage the quality of project deliverables in order to meet stakeholders' expectations.	Quality Management Plan: it ensures that project requirements are produced at acceptable standards. It comprises four key components include standards, assurance, control, and inspection.
6. To develop a Resource Management Plan to ensure that all human and material resources are identified and managed effectively to successfully complete the project.	Resource Management Plan: consists of estimating activity resource, acquire resources, develop, and manage project team, control resources.
7. To design a Communications Management Plan to ensure that information generated is of the appropriate quality and breadth and that it reaches the various stakeholders at the proper time.	Communications Management Plan: this plan documents how the project manager manages and controls communication. It consists of communication methods, communication technologies, communication barriers, and different types of performance reports.

Objectives	Deliverables
8. To create a Risk Management Plan that identifies risk and risk responses to ensure successful completion of the project.	Risk Management Plan: identifies potential positive or negative risks. It contains key elements such as risk methodology, roles, and responsibilities, information on schedule and cost, reporting format, tracking information, risk categories, risk tolerance, and probability and impact matrix.
9. To develop a Procurement Management Plan to guide the process of acquiring products, services, and results required by the project.	Procurement Management Plan: it involves initiating a request, developing technical requirements in line with constraints, purchasing authority, contract management, request approval, bid proposal, and contract closure.
10. To create Stakeholder Management Plan to identify key stakeholders and analyze their impact on the project.	Stakeholder Engagement Plan: defines the approach and actions to increase support and minimize negative impacts of stakeholders. It consists of the identification of stakeholder's power, interest, and communication strategies.



## 4. RESULTS

### 4.1 Project Integration Management

Project Integration Management is essential to enable effective management of procedures throughout lifecycle of the project Rehabilitation Ecosystem Adaptation at South Coast, St. Vincent and the Grenadines project. The Project Integration Management Plan considers the Project Charter and the Project Management Plan.

#### 4.1.1 Project Charter

The Project Charter is critical aspect of project integration as used throughout the project life cycle. Below Chart 6: represents a Project Charter that provides the framework for the Project Management Plan for the Rehabilitation and Ecosystem Adaptation at South Coast, St. Vincent and the Grenadines project.

**Chart 6 Project Charter (Source: Child. N, Author, 2020)**

<b>PROJECT CHARTER</b>	
<b>Date</b>	<b>Project Name:</b>
July 5th 2021	Project Management Plan for the Rehabilitation and Ecosystem Adaptation at South Coast, St Vincent and the Grenadines Project.
<b>Knowledge Areas / Processes</b>	<b>Application Area (Sector / Activity)</b>
<b>Knowledge areas:</b> Scope Management, Cost Management, Schedule Management, Integration Management, Quality Management, Human Resource Management, Communication Management, Risk Management, Procurement Management, Stakeholder Management <b>Process groups:</b> Initiating, Planning, Executing, Monitoring and Controlling	Environment, Education
<b>Start date</b>	<b>Finish date</b>

July 5th 2021	August 30 <sup>th</sup> 2022
<b>Project Objectives</b>	
<p><b>General Objective</b> To implement ecosystem adaptation measures to build resilience to climate change.</p> <p><b>Specific Objectives</b></p> <ol style="list-style-type: none"> <li>1. To develop a project management plan to ensure that the project is successfully implemented.</li> <li>2. To implement a communication and education campaign to promote awareness about the impacts of climate change and anthropogenic stressors affecting coastal and marine ecosystems at South Coast.</li> <li>3. To plant mangroves to help reduce shoreline erosion and to protect the coastal community from storm surges.</li> <li>4. To organize multiple clean-up activities in the community to remove trash and debris and to raise public awareness about the issue of pollution and its effects on the environment.</li> <li>5. To replant stream buffer to improve buffer zone vegetation to restore buffer vegetation and help mitigate against flooding and erosion.</li> </ol>	
<b>Project Purpose/Justification</b>	
<p>The Rehabilitation and Ecosystem Adaptation at South Coast, St Vincent and the Grenadines Project aims to build resilience to climate change and anthropogenic impacts and improve the health of the coastal and marine ecosystem. The project is aligned with the SVG National Economic and Social Development Plan 2013 – 2025 Goal 4.10: which focus on the need to reduce the adverse impact of climate change. It is expected to maximize social and environmental benefits that positively contribute to biodiversity conservation and preservation of the environment.</p> <p>The creation of the Project Management Plan provides for a structured approach to project delivery, with clearly defined roles, a structured lifecycle and supporting processes. This is essential to ensure proper planning of all the work required to be executed and fulfilled within the stipulated cost, quality and time constraints. The Project Management Plan will incorporate subsidiary plans and the integration of all the management processes necessary to define how the project is to be initiated, planned, executed, monitored, controlled and close.</p>	
<b>Project final deliverables</b>	
<ul style="list-style-type: none"> <li>• <b>Project Management Plan</b> – An approved project management plan for the successful implementation of The Rehabilitation and Ecosystem Adaptation at South Coast, St Vincent and the Grenadines Project.</li> </ul>	

<ul style="list-style-type: none"> <li>• <b>Communication and Education Campaign</b> – an effective education outreach and communication materials developed, disseminated as well as evaluation instruments targeting specific audiences including, students, fisherfolk, dive operators, hoteliers and farmers among others.</li> <li>• <b>Mangrove Planting</b> – a plot of healthy thriving mangroves planted at Canash beach inclusive of monitoring and maintenance for 6 months.</li> <li>• <b>Multiple Clean-up Activity</b>- the execution of 2 river clean-up and 1 underwater clean-up with a high level of community participation.</li> <li>• <b>Replanting Stream Buffer</b> - the replanting of trees and shrubs along a 5-mile length of riverbank with maintenance and monitoring for 6 months.</li> </ul>
<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>• There will be adequate communication between stakeholders throughout the project.</li> <li>• All resources necessary for project implementation would be accessible and available when required.</li> </ul>
<p><b>Constraints</b></p> <ul style="list-style-type: none"> <li>• Only one person is assigned to work on producing the project management plan.</li> <li>• Covid 19 Pandemic can impact negatively timely completion of activities due to changes in protocols.</li> </ul>
<p><b>Risks</b></p> <ul style="list-style-type: none"> <li>• If a natural hazard (e.g. flooding) occurs during or after the replanting activity then it may create delays and damages to plants, as a result, negatively impact the achievement of the planned schedule.</li> <li>• If the currency exchange rate fluctuates, it might affect the price of goods and services required for the project, impacting on the project budget.</li> </ul>
<p><b>Summary Milestone Schedule</b></p>

<b>Milestone</b>	<b>Date</b>
Project manager assigned	July 5th , 2021
Project mangement plan completed	July 25, 2021
Contract awarded for communications specialist	Octobert 4th, 2021
Comunication strategy produced	October 22nd, 2021
Contract awarded for planting mangrove	September 1st, 2021
Planting of mangrove completed	October 21st, 2021
Multiple clean-up events completed	August 4th, 2022
Buffer stream replanting completed	November 30 <sup>th</sup> , 2022

#### **Project Budget**

The estimated budget for the project is USD 40,000.00.

#### **Relevant Historic Information**

The National Parks, Rivers and Beaches Authority (NPRBA) will be the executing agency for the Rehabilitation and Ecosystem Adaptation at South Coast, St. Vincent and the Grenadines project. The NPRBA functions and Responsibilities are advocating and promoting conservation and ensuring the protection of permanent species and habitat, especially species that are threatened, rare, endemic, and commercial species and representative habitats. The SVG Protected Areas System embraces principles and aims agreed by the international community to manage protected areas. These include scientific research, wilderness protection and landscape maintenance, preservation of species and genetic diversity, maintenance of environmental services, protection of specific natural features, promotion of recreation and tourism, education, sustainable use of natural ecosystems and maintenance of cultural and traditional attributes. Over the years, NPRBA has engaged in several specific areas, including environmental sustainability, climate change, sustainable livelihoods and tourism.

<b>Stakeholders</b>	
Direct stakeholders: Hoteliers, Community Groups, Schools, Dive Operators, Fisher-folk, Forestry Services, Fisheries Division.	
Indirect stakeholders: Contractors, Suppliers.	
<b>Authorization</b>	
<b>Project Manager:</b> Nyasha Child	<b>Signature</b>
<b>Approved by:</b>	<b>Date:</b>

#### 4.1.2 Project Management Plan

The development of the Project Management Plan is the second process in the Project Integration Management knowledge area comprised of the subsidiary plans developed. The Project Management Plan defines how the project is executed, monitored, and controlled. For this project, the Project Management Plan will be completed and approved.

In addition to the Project Management Plan, the Project Integration Management Plan considers the following processes: Direct and Manage Project Work, Manage Project Knowledge, Change Control, Lessons Learned, and Project Closure, which are described hereafter.

#### 4.1.3 Direct and Manage Project Work

The Direct and Manage Project Work involves carrying out the project activities outlined in the Project Management Plan of the Rehabilitation and Ecosystem Adaptation at South Coast, St. Vincent and the Grenadines Project. The Project Manager will provide leadership and guidance to manage and execute the planned work to achieve the project deliverables and the established project objectives. The following actions will be considered to direct and manage the planned work:

- Regular review of the project management plan - The Project Manager must execute the activities as per the project plan and review the scope statement to ensure that the work required is performed.

- Optimal resource utilization - The Project team will ensure optimal usage of the allocated resources to achieve desired results.
- Coordinate the team members - The Project Manager will coordinate the team members' actions to carry out assigned tasks.
- Gather work performance data - The Project Team will gather information from observations, Gantt charts, schedule dates, budget, and results of the key performance indicators to update on project performance.
- Change requests - If there are variances from the planned values in the actual results, change requests may be submitted. If approved, the recommended solution will be implemented.
- Create an Issue Log - To record and track issues that occur during the project's life cycle. The Project Manager will manage issues to resolve conflicts and minimize risks.
- Tools and techniques - The Project manager will apply expert judgment, meetings, and the use of the Gantt Chart and knowledge base repositories.

#### **4.1.4 Manage Project Knowledge**

The Manage Project Knowledge process will be performed throughout the life cycle of the "Rehabilitation and Ecosystem Adaptation at South Coast, St. Vincent and the Grenadines Project." The existing knowledge will be used to enhance the current project's performance. The new knowledge gained is documented for future reference. A selection of tools and techniques that will be applied include expert judgment, interpersonal and team skills, information management, and knowledge management. During the planning stage of the project, the Project Manager will apply the following steps to achieve the Manage Project Knowledge process:

- The Project Manager will select the relevant tools and techniques to connect team members and stakeholders and create opportunities for sharing of knowledge.

- The Project Manager would apply interpersonal skills to enable a working environment built on trust and collaboration to increase motivation amongst the team members and the stakeholders.
- The Project Manager will utilize various methods to enable a participatory process to share knowledge and information. These include discussion forums, workshops, interactive training, networking, and communities of interest.
- The project team will capture the knowledge and information by using images, videos, audio, written, and any other relevant means.
- Create a Lessons Learn Register to document the knowledge and information shared by team members.
- The Project Manager will ensure that appropriate communication is used during the process of creating new knowledge and integrating knowledge amongst all stakeholders.
- The Project Manager will apply procedures for formal and informal knowledge sharing. For example, conduct learning reviews with the project team before, during, and at the end of a project phase.

#### **4.1.5 Change Control Process**

For this project, this process will be completed through integrated change control. The change request helps to manage changes to the scope in a controlled manner. It outlines why the change in scope is required, what the change is, and the specific impact on the projects, proposed actions and approval. See Change Request Form Template in Appendix 4.

For this project, the change control procedures are as follows:

- a. All proposed change requests are to be discussed during status review meetings scheduled for the fifth of every month. The Project Manager is responsible for facilitating the meetings. The project team participates in these meetings and guides the need for any change request.

- b. If a change request is deemed necessary, then the Project Manager will proceed to submit the change request to the Sponsor, who has the responsibility to approve all change request. The Steering Committee will also need to be informed of the proposed change request.
- c. The Project Manager is responsible for communicating all change requests approval to the project team.
- d. All change requests are recorded in a change log. A change request log helps to keep track of all changes requested in the project. See recommended Change log template in Appendix 5.

#### **4.1.6 Lessons Learned Process**

For this project, the Project Team is responsible for updating the Lessons Learnt Register. The documentation of the lessons will consider the following process:

- a. Conduct lessons learnt meeting after each phase.
- b. Identify and discuss the situation that exists in the project.
- c. Document a brief description of the situation.
- d. Document recommendations or corrective actions. Follow-up to ensure that recommended actions were applied.
- e. Archive the lessons learnt in historical project data. Please see Appendix 6 for recommended Lessons learnt template.

#### **4.1.7 Project Closure Process**

According to Project Management Institute MI 2017, a Close Project or Phase is the process of finalizing all activities for the project, phase, or contract. (p.121) The following activities will be undertaken to ensure the successful closure of this project:

- a. Conduct Postmortem to acquire feedback about successes and failure of the project.



- b. Complete paperwork by performing administrative activities such as contractual agreements, audit results and finalizing all formal communications.
- c. Release resources including internal team members and all external contractors and suppliers from the project.
- d. Archive documents to ensure that lessons learned, and other project information documented for future use.

## **4.2 Scope Management Plan**

The Scope Management Plan outlines all the work required to complete the Rehabilitation and Ecosystem Adaptation at South Coast, St. Vincent, and the Grenadines project. The scope Management plan of the project includes a scope statement, WBS, WBS dictionary, and project governance structure.

For the development of this plan, planning and monitoring process groups enable the provision of detailed information on how the scope would be defined, developed, validated, and controlled.

### **4.2.1 Collect Requirements**

Collect Requirements is "defined as the process of determining, documenting, and managing stakeholders' needs and requirements to meet objectives." (Project Management Institute 2017, p.568). For this process, the project team would apply a combination of tools and techniques such as expert judgment, brainstorming, interviews, and focus groups to gather and analyze information to identify stakeholder needs and requirements and document them. Once the requirements are identified, they would be managed throughout the project.

**Chart 7 Requirements Traceability Matrix (Source: Child. N, Author, 2021)**

<b>ID</b>	<b>Requirements Description</b>	<b>Needs/Goals/ Objectives</b>	<b>Project Owner</b>	<b>WBS Deliverable</b>	<b>Priority</b>	<b>Due Date</b>	<b>Status</b>
1	Timely release of project funds.	Project	Project Sponsor	N/A	High	01/06/2021	
2	Brainstorming session to produce draft RFP.	Business	Project Manager/ Steering Committee	1.3	Medium	02/09/2021	
3	Contracting a communication specialist.	Business	Project Manager/ Steering Committee	1.3	High	04/10/2021	
4	Team meeting session to carry out SWOT analysis.	Business	Communication Specialist/ Project Manager	1.3	Medium	05/08/2021	
5	Completion communication strategy.	Project	Communication Specialist/	1.3	High	22/10/2021	
6	Procurement of brochures.	Project	Communication Specialist	1.3	High	01/10/2021	
8	Contact schools to conduct presentation.	Quality	Communication specialist	1.3	High	18/09/2021	
9	Invite target groups to participate in workshop.	Stakeholder	Communication specialist	1.3	High	03 /09/2021	
10	Send invitation to hoteliers and government official to attend conferences.	Stakeholder	Communication specialist	1.3	High	28/09/2021	
11	Posts on social media to commence at start of project.	Project	Communication specialist	1.3	High	23/10/2021	
12	Survey instruments for communication campaign applied.	Quality	Communication specialist	1.3	High	14/06/2022	

<b>ID</b>	<b>Requirements Description</b>	<b>Needs/Goals/ Objectives</b>	<b>Project Owner</b>	<b>WBS Deliverable</b>	<b>Priority</b>	<b>Due Date</b>	<b>Status</b>
13	Contracting of expert in mangrove planting.	Project	Project manager/ steering committee	1.3	High	01/09/2021	
14	Use of eco-friendly materials in execution of river clean-up activities.	Quality	Project Manager	1.5	High	06/10 /2022	
15	Mangrove seedlings acquired.	Project	Consultant	1.4	High	12/0/2021	
16	Mangrove planting completed.	Project	Project Manager, Consultant	1.4	High	21/10/2021	
17	Evaluation report received on communication dissemination.	Quality	Communication specialist	1.3	High	19/08/2022	
18	Community participation in clean-up activities.	Stakeholder	Project team	1.5	Medium	20/07/2022	
19	Picture report on clean-up activity.	Quality	Project team	1.5	Medium	05/08/2022	
20	Networking with Forestry Division to participate in stream buffer replanting.	Project	Project Manager	1.6	High	18/10/2021	
21	Stream buffer replanting completed.	Project	Project Manager	1.6	High	30/11/2021	

### 4.2.2 Define Scope

Define Scope is the process of developing a detailed description of the project and product. (Project Management Institute, 2017.p.569). This process helps to ensure those project elements are aligned with the objectives. To build an effective scope statement for the project, a detailed list of specific elements including project description, acceptance criteria, deliverables, assumption, and project exclusion. It outlines exactly what is included and what is not. Chart 8 depicts Scope Statement for the project.

**Chart 8 Project Scope Statement (Source: Child. N, Author, 2021)**

<b>Project Name</b>
Rehabilitation and Ecosystem Adaptation at South Coast, St. Vincent, and the Grenadines
<b>Product Scope Description</b>
The SCMCA is a multi-use area rich in biodiversity, the epicenter of tourism operations, and many commercial activities in St. Vincent. The South Coast community is located in the center of the SCMCA and is currently facing the threat of climate change and anthropogenic impacts. An urgent and ongoing need to focus attention on ecosystem-based adaptation and resilience-building measures sustainable improvements of coastal ecosystems relevant for climate change adaptation.
<b>Objectives</b>
<p><b>General Objective</b></p> <p>To implement Ecosystem adaptation measures to build resilience to climate change.</p> <p><b>Specific Objectives</b></p> <ol style="list-style-type: none"> <li>1. To develop a project management plan to ensure that the project is successfully implemented.</li> <li>2. To implement a communication and education campaign to promote awareness about the impacts of climate change and anthropogenic stressors affecting coastal and marine ecosystems at South Coast.</li> </ol>

3. To plant mangroves to help reduce shoreline erosion and to protect the coastal community from storm surges.
4. To organize multiple clean-up activities in the community to remove trash and debris and to raise public awareness about the issue of pollution and its effects on the environment.
5. To replant stream buffer to improve buffer in order to restore buffer vegetation and help mitigate against flooding, and erosion.

These objectives contribute towards minimizing the negative impacts of the land-based source of pollution, improving the natural marine ecosystem, and build resilience to climate change. As a result, maximize environmental and social benefits.

#### **Project Deliverables**

1. Project Management Plan – An approved project management plan for the successful implementation of The Rehabilitation and Ecosystem Adaptation at South Coast, St Vincent and the Grenadines Project.
2. Communication and Education Campaign – an effective education outreach and communication materials developed, disseminated as well as evaluation instruments targeting specific audiences including, students, fisher folk, dive operators, hoteliers and farmers, among others.
3. Mangrove Planting – a plot of healthy thriving mangroves planted at Canash beach inclusive of monitoring and maintenance for a 6-month period.
4. Multiple Clean-up Activity- the execution of 2 river clean-up and 1 underwater clean- up with a high level of community participation.
5. Replanting Stream Buffer - the replanting of trees and shrubs along a 5-mile length of riverbank with maintenance and monitoring for a 6-month period.

Project Deliverables	Acceptance Criteria
1. Project Management Plan	<p>10 subsidiary plans must be developed with clearly defined roles, a structured project lifecycle, and supporting processes for approval by the project sponsor.</p> <ul style="list-style-type: none"> <li>- 100% completed project management plan approved by the project sponsor.</li> </ul>
2. Communication and Education Campaign	<p>Education outreach and communication products must be designed with high quality standards and disseminated to the designated target groups.</p> <ul style="list-style-type: none"> <li>- At least 70% outreach to target groups.</li> <li>- 100% of outreach materials and media releases produced.</li> <li>- 100% utilization of survey instruments to measure program success.</li> </ul>
3. Mangrove Planting	<p>A final performance report that focuses on the success of the planting exercise and growth rate of seedlings.</p> <ul style="list-style-type: none"> <li>- The extent of planted area must be the same size as planned.</li> <li>- % survival rate of seedlings</li> </ul>
4. Multiple Clean-up Activity	<p>The execution of 2 clean-up activities with the inclusion of community volunteers and use of non-plastic materials.</p> <ul style="list-style-type: none"> <li>- 60% of Community participation in clean-up activity</li> <li>- 100% trash free areas that were cleaned up.</li> <li>- 100% eco-friendly products used for clean-up activity.</li> </ul>
5. Replanting Stream Buffer	<p>Completion of tree planting 5 miles upstream at the Calliaqua river.</p> <ul style="list-style-type: none"> <li>- 5 miles riverbank with 100% vegetation cover.</li> </ul>

<b>Project Exclusions</b>
<ul style="list-style-type: none"> <li>• Work executed outside of South Coast Area.</li> <li>• Use of plastic in clean-up events.</li> </ul>
<b>Project Constraints</b>
<ul style="list-style-type: none"> <li>• Covid-19 pandemic may cause disruption or delay project work.</li> <li>• Lack of provisional budget to cover unforeseen risk that may occur.</li> </ul>
<b>Assumptions</b>
<ul style="list-style-type: none"> <li>• The project will be financed and commence in July 2021.</li> <li>• The NPRBA will provide staff and in-kind support for the project.</li> <li>• Departments of various ministries are integrated into project work and are collaborating towards the achievement of the project objectives.</li> </ul>

#### 4.2.3 Work Breakdown Structure

According to PMI (2017), to Create a WBS “is the process of subdividing project deliverables and project work into smaller, more manageable components.” (p.156) The creation of a WBS for the project will provide a framework that defines the total scope of work to complete as specified in the current scope statement. Figure 15 represents the WBS for the project, which is composed of four deliverables. Each deliverable considers the related work packages that represent the last level included in the WBS.

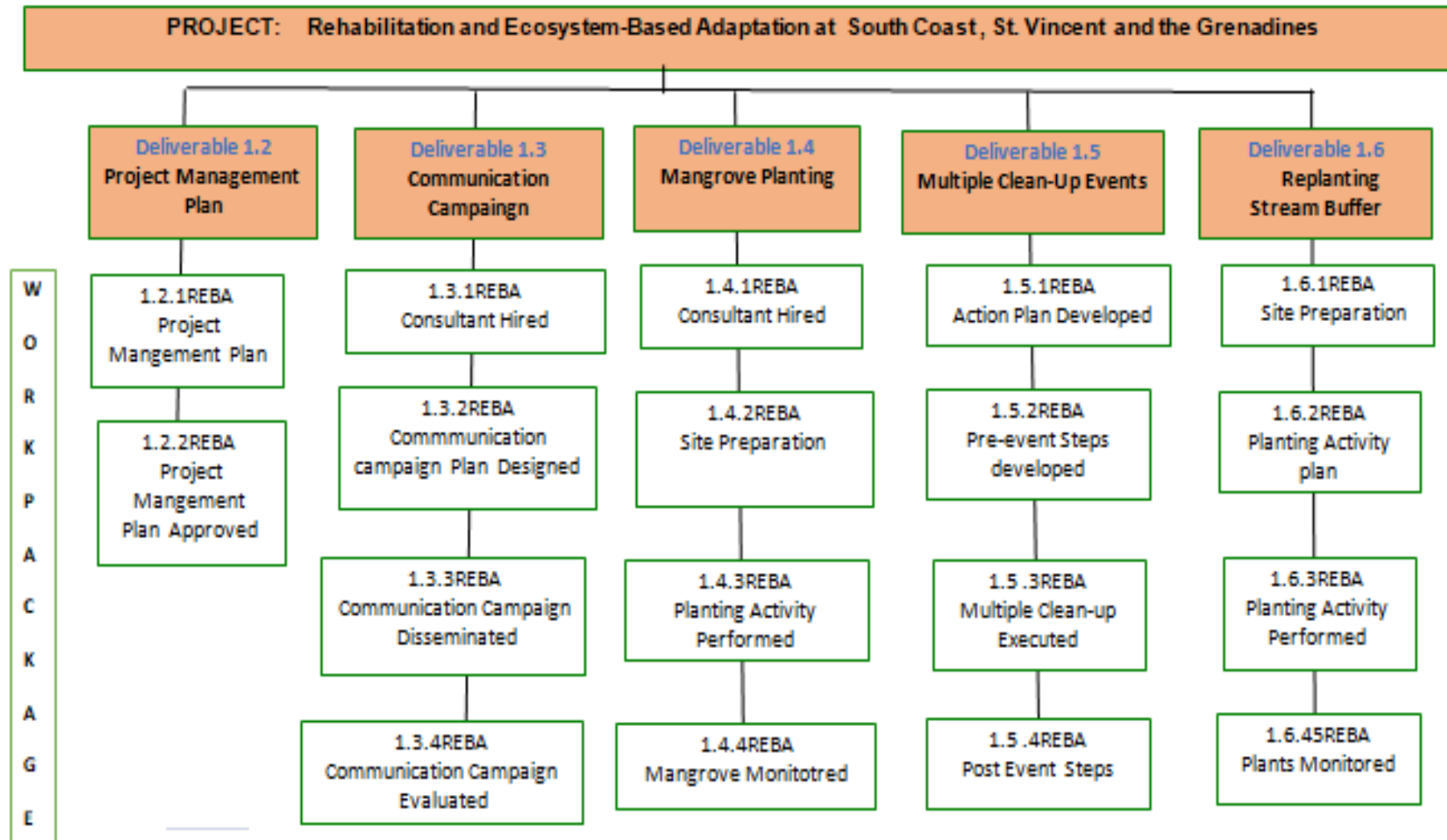


Figure 15 Work Breakdown Structure. Source: (Child. N. Author, 2021)



#### 4.2.4 WBS Dictionary

A WBS dictionary describe the activities of each work package. Chart 9 depicts the WBS Dictionary for the project, which includes a detailed description of work for each element along with the budget and resources needed for that element.

**Chart 9 WBS Dictionary (Source: Child. N, Author, 2021)**

Level	WBS Code	Work Packages	Description of work	Budget (USD)	Resources
1.2	1.2.1	Project Management Plan Developed	The preparation of subsidiary plans that will guide how the project will be managed initiation to closure.	0.00	Project manager
1.2	1.2.2	Project Management Plan Approved	Project management plan submitted to and approved by the sponsor.	N/A	Project manager
1.3	1.3.1 REBA	Consultant Hired	Hire a communication specialist to develop the awareness and communication strategy. This process would be performed through Request for proposal.	4,000	Project manager, Steering committee Draft request for proposal, email
1.3	1.3.2 REBA	Communication and Education Campaign	Analysis problem to be addressed through the communication campaign. The identification of target audience and creation of clear and culturally appropriate message that resonates with the target audience and calls them to action.	1,000	Communication specialist, Project manager
1.3	1.3.3 REBA	Communication Campaign Disseminated	Carry out the awareness campaign using the various communication channels outlined in the strategy.	16,000	Communication specialist, Project manager, Request for quotation, suppliers

Level	WBS Code	Work Packages	Description of work	Budget (USD)	Resources
1.3	1.3.4 REBA	Communication Campaign Evaluated	Measure the effectiveness of the intended message in terms of relevance, stickiness, and reach. This also involves documenting each process to identify success and failure.	500	Communication specialist, Project manager, survey, evaluation sheet
1.4	14.1 REBA	Consultant Hired	Hire professional to undertake the planting of mangroves. This process would be performed through the Request for proposal.	2,000	Project Manager, Steering committee Draft request for proposal, email
1.4	1.4.2 REBA	Site Preparation	Clean-up of Site.	300	Consultant, PM
1.4	1.4.3 REBA	Planting Activity Performed	Source seedlings for planting.	2,200	Consultant, Project Manager Seedlings, suppliers, transportation
1.4	1.4.1 REBA	Mangrove Monitored	The observation of growth and survival rate.	1,500	Consultant, Project manager
1.5	1.5.1 REBA	Action Plan Developed	Develop an action plan to outline how the clean-up activity will be implemented	200	Project team
1.5	1.5.2 REBA	Pre-Event Steps Developed	This involves various activities prior to the day of the clean-up event. This includes promoting the event, recruiting volunteers and review checklist.	1,000	Project team, volunteers, suppliers,
1.5	1.5.3 REBA	Multiple Clean-Ups Executed	Conduct multiple clean-up activity.	3,000	Project team, volunteers, clean-up tools and materials

Level	WBS Code	Work Packages	Description of work	Budget (USD)	Resources
1.5	1.5.4 REBA	Post Event Steps	Host a party to reward volunteers for their participation and picture report	500	Project team, Refreshment, photography
1.6	1.6.1 REBA	Site Preparation	This includes activities such as clearing of unwanted debris, vegetation, or plastic	1,000	Project team, Forestry Division,
1.6	1.6.2 REBA	Planting Activity Planned	Selecting and sourcing plants as well as how to plant	200	Project team, Forestry Division workers, plants suppliers
1.6	1.6.3 REBA	Planting Activity Performed	Plant trees and shrubs along the stream buffer	2,300	Planting tools, plants
1. 6	1.6.4 REBA	Plants Monitored	Measure the amount of shrub cover (at least 70%) over a period	1,500	Project team, Forestry Services

#### 4.2.5 Structure of Governance for Project

For this project, the process of identifying the roles and responsibilities of key stakeholders helps to enhance communication and work efficiently. Chart 10 below is a representation of the roles and responsibilities of the management team on the project.

**Chart 10 Roles and Responsibilities (Source: Child. N, Author, 2021)**

Project Role	Responsibilities	Comments
Project Sponsor	Provision of financial resources and support the project.	Authorize approval for the disbursement of project funds and help eliminate barriers.
Project lead	Main agency accountable for the project results and owner of project.	The agency that reports to the project sponsor.

Project Role	Responsibilities	Comments
Steering committee	Supports the sponsor, project leader, high-level direction, input and decision-making.	Receive updates from project coordinator, approve change request and corresponding analysis will meet to intervals to discuss project progress.
Project Manager	Responsible for the day-to-day management of project activities. Lead role in planning, executing, monitoring, controlling, and closing project.	Expected to deliver project on time, within the budget and briefing stakeholders when necessary.
Team members	Provides subject Matter expertise and leadership in day-to-day planning, implementation and closing of the project. Report to project manager.	Staff who exhibit high level of expertise in specialized job. Skills, or knowledge of key components of the project.
Other Stakeholders	Hoteliers, Community Groups, Schools, Dive Operators, Fisher-folk, Land and surveys department, Physical Planning Department, Forestry Services, Fisheries Division, Contractors, Suppliers.	Both direct and indirect stakeholder who would be impacted by the implementation of the project.

#### **4.2.6 Validate Scope**

According to PMI 2017, Validate scope refers to the process of formalizing acceptance of the completed project deliverables (p.165). For this project, the following activities will be undertaken to validate scope:

- a. Conduct meetings with key stakeholders including the sponsor, project manager, and steering committee to review the completed deliverables obtained.
- b. The project sponsor decides whether the deliverable is accepted or disapproved.
- c. If a deliverable is approved, then project sponsor would assign a formal acceptance letter to the Project Manager.

#### **4.2.7 Control Scope**

Control scope refers to the ongoing process of managing and monitoring changes to project scope. Once the project has started, ongoing monitoring and control of the project activities to manage scope creep. This process includes validating the project deliverables and managing changes to the scope baseline to ensure that only the work required is complete. For this project, the following activities will be undertaken to Control Scope:

- a. The Project team is assigned to perform activities to measure performance against scope baseline.
- b. The magnitude of variance. (if the delivered work does not meet requirement, the level of variance must be identified)
- c. Decided whether corrective or preventative action is needed.
- d. Update scope baseline, project management plan and other documents.
- e. Impact of changes should be evaluated.

### 4.3 Schedule Management Plan

The Schedule Management Plan will be developed to provide a road map to show how and when the schedule for the Rehabilitation and Ecosystem Adaptation at South Coast project will deliver the results defined in the scope.

#### 4.3.1 Management Approach

The aim of this management plan is to establish criteria for developing, monitoring, and controlling schedule. For this project, the Project Manager will assume overall responsibility to manage the schedule with assistance from project team members. Once the plan is approved, any change request must be issued by the project manager and authorized by the Steering Committee with approval from the sponsor.

##### ➤ Schedule Methods and Tools

- MS Project 2019 scheduling will be available for use on laptop device. The project manager would have full read/write access to project schedule file. The project team members have access to view the schedule only.
- Critical Path Method (CPM) useful method to determine the longest path of activities and measuring them from start to finish.

The CPM assists Project Managers in identifying the interrelationship between activities and tasks. Project Managers are better able to develop time sequences, set priorities, predict change, set realistic deadlines to reduce potential delays, and as a result, achieve successful scheduling. Additionally, it can enable the PM to curb project costs and ensure optimal usage of the allocated resources. Moreover, CPM can be used as a good measurement of schedule variance that helps the team to compare planned and actual project progress. The Project Manager will ensure control of the CPM by implementing the following actions:

- Implement corrective actions if there is any slippage of the critical tasks. If any critical tasks slip, so does the finish date. In this case, it is advisable to save a baseline and use the Tracking Gantt view to see the slipped tasks.
- Update CPM reports to keep track and to keep the team in the loop on all elements of the critical tasks.

- Sometimes project processes or tasks may fall behind schedule, or the project due date may change to an earlier date. The Project Manager must apply schedule compression techniques (fast tracking or crashing). The Project Manager can make adjustments by adding resources or divert more manpower to the project. Take into consideration the effects of cost due to rearranging tasks.
- Critical Path activities are considered high risk. Therefore, it is important to document them in the Risk Register and monitor them closely.
- Conduct regular view of the critical path. As the project progresses and changes are applied, the status of the critical path can change from one series of tasks to another.

#### **4.3.2 Schedule Processes**

For this project, the following processes are used to develop the project schedule.

##### **➤ Define Activities**

The project team is responsible for reviewing the WBS elements to determine all work activities required to complete the project. The Project Manager will validate the defined work activities. For this process tools and techniques such as expert judgment, meetings and decomposition are used to define the related work activities. The outcome of this process is the Activity list. Please see appendix for activity list template.

##### **➤ Duration Estimates**

The project team is responsible for estimating the activity durations. The tools and techniques such as expert judgment, analogous estimating and work breakdown structure are necessary for estimating duration. Chart 11 below represents the Duration Estimates for the project.

**Chart 11 Duration Estimates (Source: Child. N, Author, 2021)**

<b>WBS ID #</b>	<b>Activity</b>	<b>Description of activity</b>	<b>Duration Estimate (Days)</b>	<b>Resources</b>
1.2.1.1	Integration Management Plan	To develop a plan to coordinate all aspects of the project including processes and integrated systems to ensure successful execution.	4	Project Manager
1.2.1.2	Scope Management Plan	The creation of a plan to ensure that all work required to be completed, is outlined, validated, and controlled.	4	Project Manager
1.2.1.3	Schedule Management Plan	To develop a schedule to ensure timely completion of the project.	4	Project Manager
1.2.1.4	Cost Management Plan	To develop a plan to manage cost throughout the lifecycle of the project	4	Project Manager
1.2.1.5	Quality Management Plan	To develop a plan to manage the quality of project deliverables in order to meet stakeholder's expectations.	4	Project Manager
1.2.1.6	Resource Management Plan	Plan with all the necessary resources identified, acquired and managed effectively to ensure successful project completion.	4	Project Manager
1.2.1.7	Communications Management Plan	To design a plan to ensure that the information generated is of appropriate quality and that it reaches stakeholders at the proper time.	4	Project Manager
1.2.1.8	Risk Management Plan	That identifies risk and risk responses to ensure successful completion of the project.	4	Project Manager
1.2.1.9	Procurement Management Plan	To develop a Procurement Management Plan to guide the process of acquiring products, services, and results required by the project.	4	Project Manager



WBS ID #	Activity	Description of activity	Duration Estimate (Days)	Resources
1.2.1.10	Stakeholder Management Plan	To develop a plan to identify key stakeholders and analyze their impact on the project.	4	Project Manager
1.2.1	Submission of management plans and approval from Sponsor	Submission of all the subsidiary plans to the sponsor. Formal approval of project plans by sponsor	3	Project Manager Sponsor
1.3.1.1	Prepare and Distribute RFP	Draft RFP document with the necessary information. Distribute to all potential vendors via email and link it to the NPRBA's website.	3	Project Manager Steering Committee
1.3.1.2	Receive and Evaluate	Review and assess all responses.	14	Project Manager Steering Committee
1.3.1.3	Select Consultant	Conduct interviews via conference calls. (only with 2 or 3 potential service provider) Select the best fit from the interview.	2	Project Manager Steering Committee
1.3.1.4	Negotiate and Sign contract	Negotiate and finalize terms of agreement. (timeline, deliverables, and cost) Signed contract.	4	Project Manager Steering Committee
1.3.1.5	<b>Milestone: Contract Awarded</b>			
1.3.2.1	Identify goals and Objectives	Perform a results chain for the purpose of identification and the awareness and communication aims and objectives for the campaign.	1	Project Manager Communication Specialist
1.3.2.2	Situation Analysis	Perform a SWOT Analysis in order to analyze the problem to be addressed for the awareness campaign.	2	Project Manager Communication Specialist

<b>WBS ID #</b>	<b>Activity</b>	<b>Description of activity</b>	<b>Duration Estimate (Days)</b>	<b>Resources</b>
1.3.2.3	Target Audience	Perform Stakeholder Analysis for identification of target audience.	1	Project Manager
1.3.2.4	Key Message	Create key messages for the identified target audience.	4	Communication Specialist
1.3.2.5	Communication Products Identified	Identify communication products to be developed.	4	Communication Specialist
1.3.2.6	Communication Channels	Selection of communication pathways/ channels use to share message to different target audience.	1	Communication Specialist
1.3.2.7	Matching Communication products with channels	Choosing suitable approaches for communicating with specific audience.	1	Communication Specialist
<b>1.3.2.8</b>	<b>Milestone: Communication strategy produced</b>			
1.3.31	Publish Articles	Publish an article related to the project newspapers and project newsletter on a monthly basis.	40	Communication Specialist
1.3.3.2	Broadcast on radio spots	Air 4000 minutes in spots at the 5 radio stations. Audio to be aired 6 times per day by each radio station.	200	Communication Specialist
1.3.3.3	School Visits	1 school visit to 3 schools to conduct presentations and share informational materials.	7	Communication Specialist
1.3.3.4	Deliver Workshops	1 educational training session each for Dive Operators, Automotive Operators and Farmers.	25	Communication Specialist
1.3.3.5	Social Media Postings	Regular postings of project information on NPRBA website, Facebook, and Instagram.	200	Communication Specialist

<b>WBS ID #</b>	<b>Activity</b>	<b>Description of activity</b>	<b>Duration Estimate (Days)</b>	<b>Resources</b>
<b>1.3.3.6</b>	Distribute T-shirts	Distribute 500 T-shirts to participants of project events.	21	Communication Specialist
<b>1.3.3.7</b>	Host Conferences	Host 2 conferences 1 for Hoteliers and 1 for government officials.	30	Communication Specialist
<b>1.3.3.8</b>	Broadcast TV infomercials	The production and broadcasting of biodiversity ads to be done by private companies.	180	Communication Specialist
<b>1.3.3.9</b>	Disseminate Brochures	2000 brochures to be printed and distributed to participants during project events and for key agencies and business involved in the project.	40	Communication Specialist
<b>1.3.4.1</b>	Communication Campaign Evaluated	Conduct evaluation of communication campaign activities to measure results.	15	Communication Specialist
<b>1.4.11</b>	Prepare & distribute a Request for Proposal (RFP)	Draft RFP document with the necessary information. Distribute to all potential vendors via email and link it to the NPRBA's website.	3	Steering committee Project Manager
<b>1.4.12</b>	Receipt & evaluate response to RFP	Review all responses received.	14	Steering committee Project Manager
<b>1.4.1.3</b>	Select Consultant	Conduct interviews via conference calls. (only with 2 or 3 potential service provider) select the best fit from the interview.	2	Steering committee Project Manager
<b>1.4.1.4</b>	Negotiate and Sign Contract	Negotiate and finalize terms of agreement (timeline, deliverables, cost) Signed contract.	4	Project Manager Steering Committee

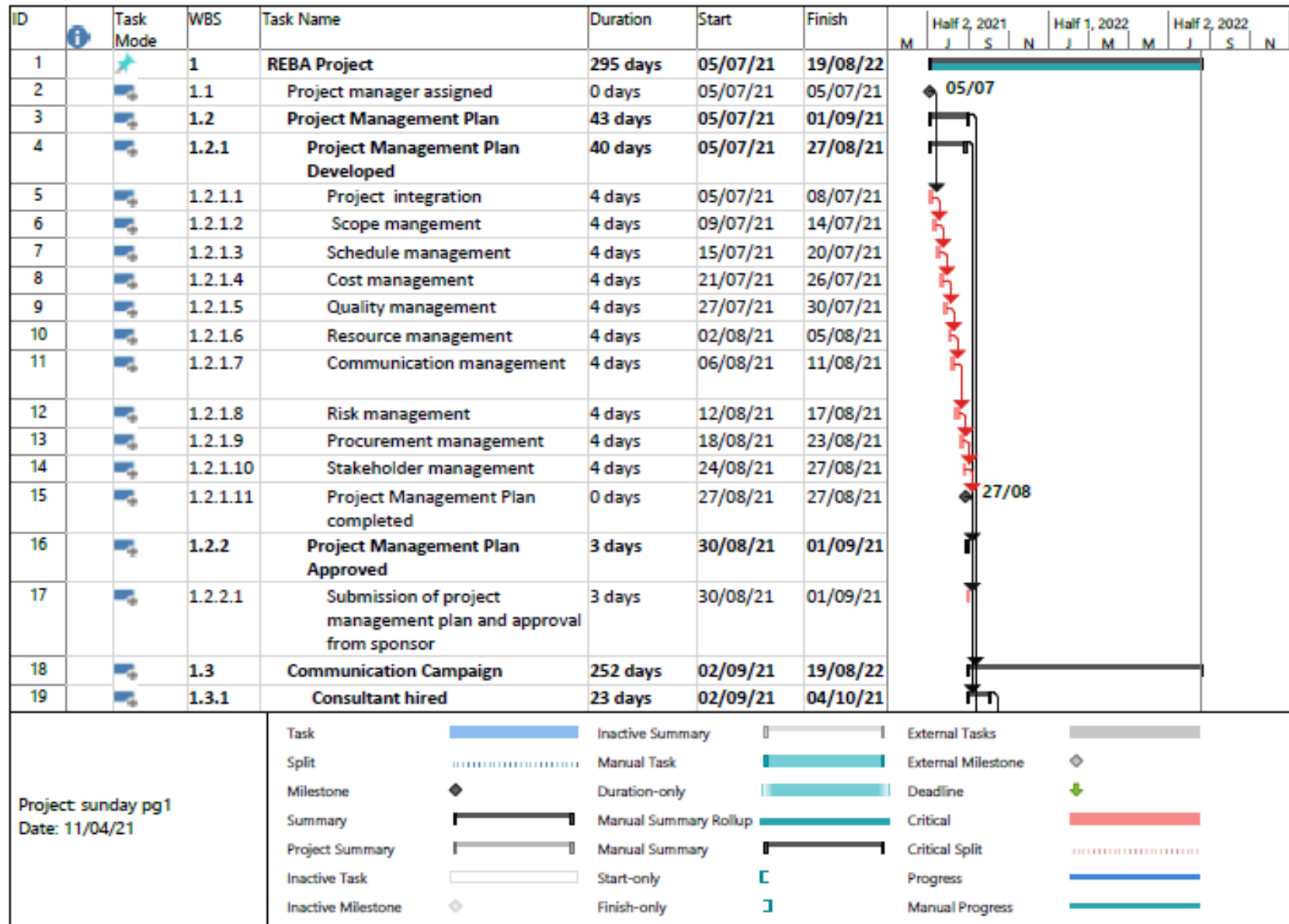
WBS ID #	Activity	Description of activity	Duration Estimate (Days)	Resources
1.4.2.1	Site visit	Conduct site visit to gather information on biophysical features.	1	Consultant
1.4.2.2	Site Clean-up	Clearing of all unwanted material on site.	3	Consultant
1.4.3.1	Acquire Seedlings	Identify and source and purchase seedlings.	7	Consultant
1.4.3.2	Plant Seedlings	Outline spacing, dig pit and plant seedlings.	2	Consultant
1.4.3.3	<b>Milestone: Planting mangrove completed</b>			
1.4.4.1	Monitoring Assessment	Data collection for a 6-month period to show data on survival, mortality, and growth rate.	180	Consultant
1.5.1.1	Meeting	Conduct team meetings with key stakeholders to develop action plan	2	Project Manager
1.5.2.1	Communicate Clean-up Day Plan	Use various channels to promote the clean-up	21	Project Manager
1.5.2.2	Acquire Resources	Purchase equipment and materials for clean-up	14	Project Manager
1.5.2.3	Recruit Volunteers	Requesting individuals from the community to participate in the clean-up activities.	7	Project Manager
1.5.3.1	2 rivers clean up	Conduct Clean up at 2 different rivers during a period of 1 year	2	Project Manager
1.5.3.2	1 underwater clean-up	Conduct 1 water clean- up.	2	Project Manager
1.5.3.3	<b>Milestone: Clean-Up events completed</b>			
1.5.4.1	Host a party, photography session	Celebrate and reward volunteers for their participation and take photographs of the clean-up activity.	1	Project Manager, Forestry service
1.6.1.1	Site Visit	Visit riparian buffer zone to conduct assessment	1	Project Manager, Forestry Service

WBS ID #	Activity	Description of activity	Duration Estimate (Days)	Resources
1.6.1.2	Clean-up site	Clear site of unwanted debris or vegetation	5	Project Manager, Forestry Service
1.6.2.1	Acquire resources	Determine types, quantity of plants and source them. Acquire workers to perform planting activity.	14	Project Manager, Forestry Service
1.6.3.1	Planting shrubs and trees	The planting of trees and shrubs along 5 miles in length of riverbank.	7	Project Manager, Forestry Service
1.6.3.2	<b>Milestone: Riparian buffer stream replanting completed</b>			
1.6.4.1	Monitoring Assessment	Data collection for over a period of 6 months to track progress of vegetation growth rate.	18	Project Manager, Forestry Service

#### 4.3.3 Develop Schedule.

For this project, the project manager with input from the project team members will create a Gantt chart schedule model.

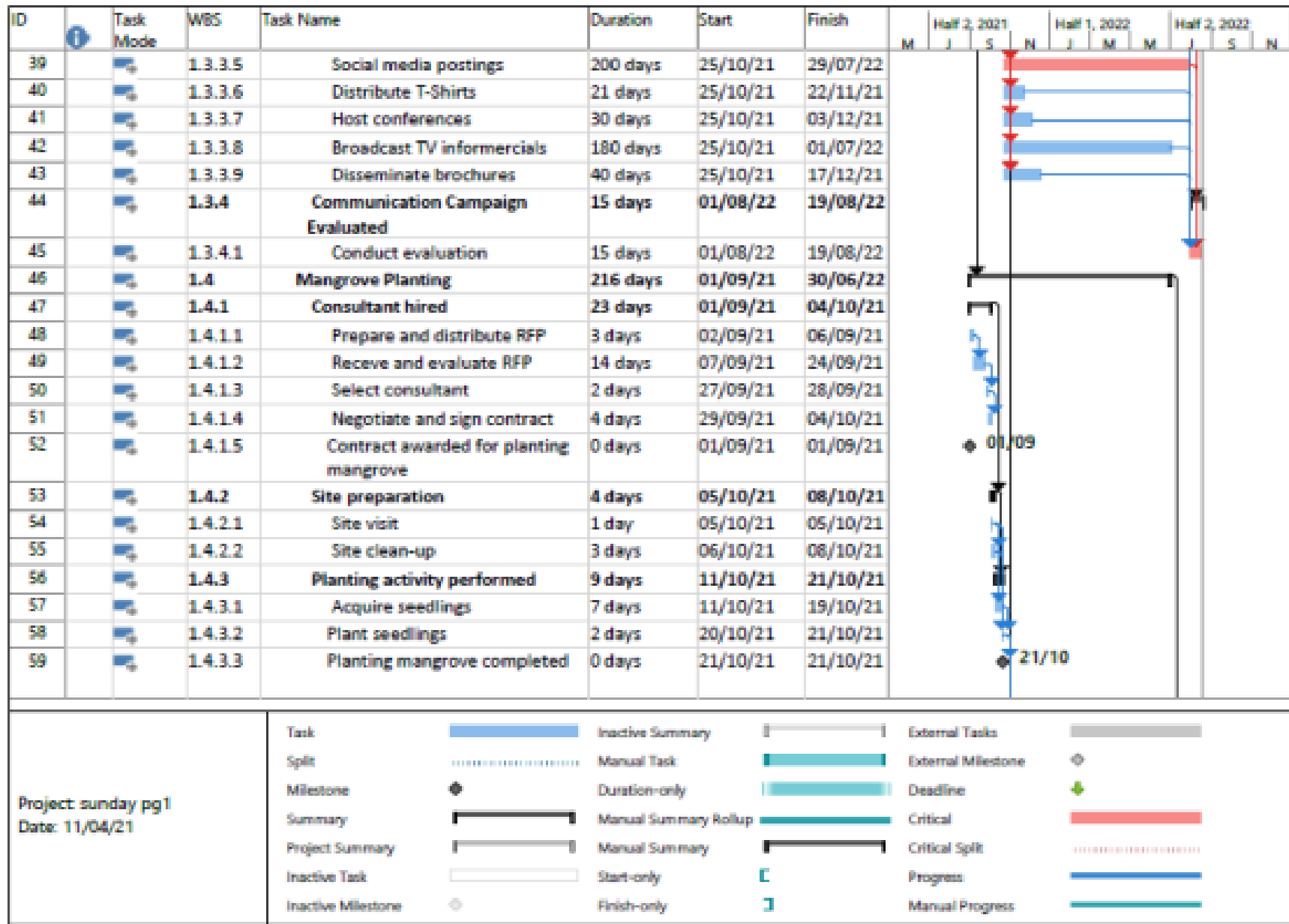
Below figure 16 depicts the Gantt chart used to develop the project schedule.



ID	Task Mode	WBS	Task Name	Duration	Start	Finish	Half 2, 2021			Half 1, 2022			Half 2, 2022			
							M	J	S	N	J	M	M	J	S	N
20		1.3.1.1	Prepare and distribute RFP	3 days	02/09/21	06/09/21										
21		1.3.1.2	Receive and evaluate RFP	14 days	07/09/21	24/09/21										
22		1.3.1.3	Select consultant	2 days	27/09/21	28/09/21										
23		1.3.1.4	Negotiate and sign contract	4 days	29/09/21	04/10/21										
24		1.3.1.5	Contract awarded	0 days	04/10/21	04/10/21										
25		1.3.2	Communication and education campaign plan	14 days	05/10/21	22/10/21										
26		1.3.2.1	Identify goals & objectives	1 day	05/10/21	05/10/21										
27		1.3.2.2	Situation analysis	2 days	06/10/21	07/10/21										
28		1.3.2.3	Target audience	1 day	08/10/21	08/10/21										
29		1.3.2.4	Key message	4 days	11/10/21	14/10/21										
30		1.3.2.5	Communication products identified	4 days	15/10/21	20/10/21										
31		1.3.2.6	Communication channels selected	1 day	21/10/21	21/10/21										
32		1.3.2.7	Matching communication products with channels	1 day	22/10/21	22/10/21										
33		1.3.2.8	Communication strategy produced	0 days	22/10/21	22/10/21										
34		1.3.3	Communication campaign disseminated	200 days	25/10/21	29/07/22										
35		1.3.3.1	Publish articles	40 days	25/10/21	17/12/21										
36		1.3.3.2	Broadcast on radio spots	200 days	25/10/21	29/07/22										
37		1.3.3.3	School visits	7 days	25/10/21	02/11/21										
38		1.3.3.4	Deliver workshops	25 days	25/10/21	26/11/21										

Project: sunday pg1 Date: 11/04/21	Task		Inactive Summary		External Tasks	
	Split		Manual Task		External Milestone	
	Milestone		Duration-only		Deadline	
	Summary		Manual Summary Rollup		Critical	
	Project Summary		Manual Summary		Critical Split	
	Inactive Task		Start-only		Progress	
	Inactive Milestone		Finish-only		Manual Progress	







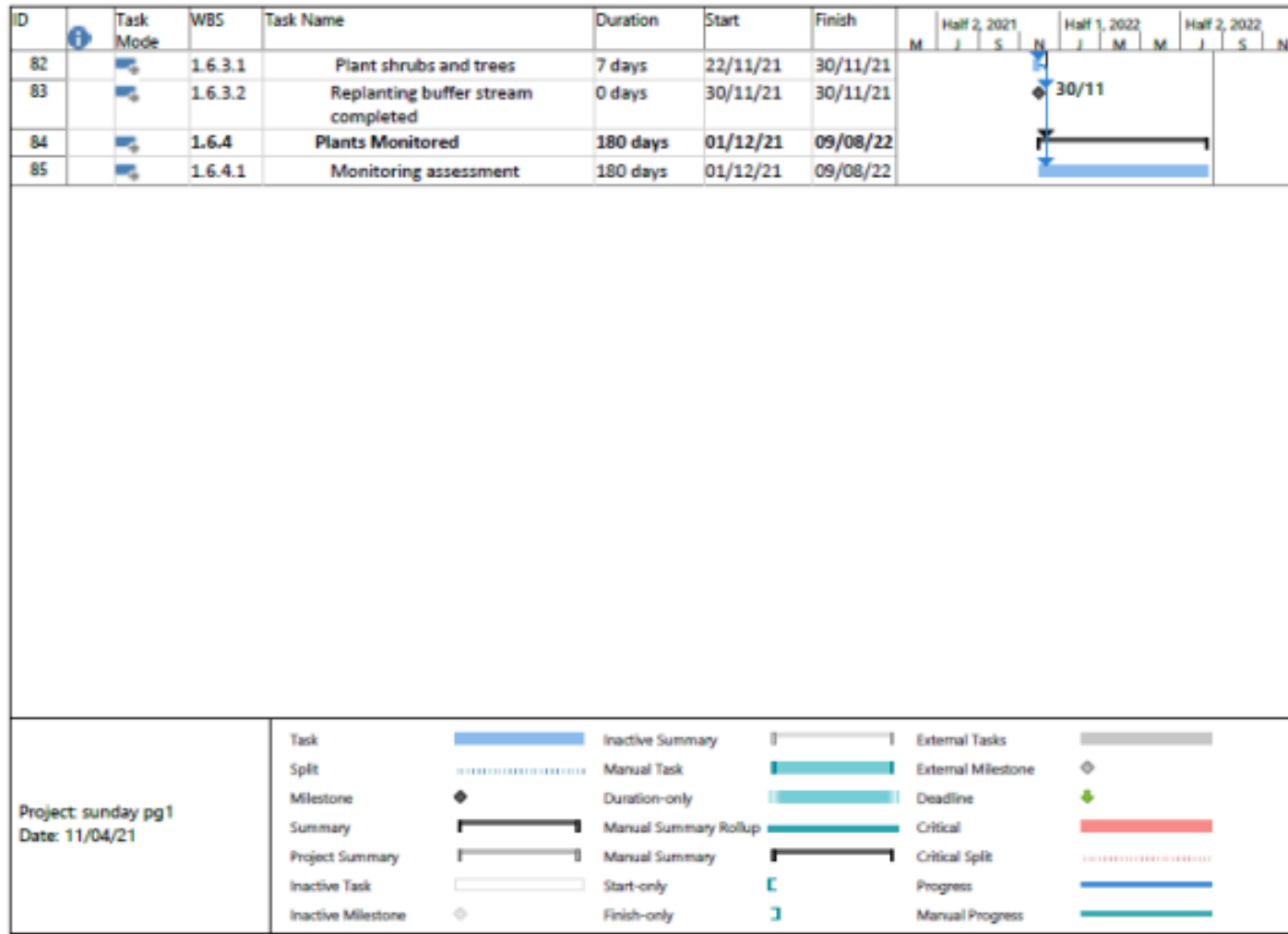


Figure 16 Project Schedule. Source: (Child. N. Author, 2021)

#### 4.3.4 Control Schedule

The following steps would apply at the onset of the project monitoring and control of the project schedule activities to capture any deviation from schedule delays:

- a. Revision of schedule to perform bi-weekly.
- b. Submission of actual performance and completion information from project team members to project manager.
- c. Analysis of the information by project manager a basis for comparison to the schedule baseline and calculate completion percentages and any variances.
- d. The Project Manager is responsible for hosting team meetings to discuss any variances identified and to develop resolution actions required.
- e. The Project Manager is responsible for submitting change requests through formal change control procedures established.
- f. The Project Manager is responsible for communicating with the sponsor about the schedule status.

The chart below represents the Key Performance Indicators for the project schedule.

**Chart 12 Key Performance Indicators, control schedule (Source: Child. N, Author, 2021)**

KPI	Description (formula)	Responsible	Frequency
Schedule Performance index (SPI)	$SPI = EV/PV$ SPI compares the earned value with the planned value. A value above 1 indicates that the project is ahead of schedule where as a value below 1 indicates that the project is behind schedule. If its value is 1, the project is on track.	Project Manager	Monthly
Schedule Variance (SV)	$SV = EV - PV$	Project Sponsor	Monthly

	SV compares the earned value with the planned value for the respective period. A positive value indicates that the project is ahead of planned whereas a negative value indicates that the project is behind schedule.		
Threshold percentage for schedule change requests	Parameters established as a percentage value to justify the acceptance of proposed changes to the project's schedule.	Project Manager	As necessary
Number of high priority change requests	The number of change requests that may impact the project scope, quality or budget and as a result significantly affect the schedule baseline.	Project Sponsor	As necessary
Percentage missed milestones	Measures the percentage of milestones missed during the project, out of the total number of project milestones.	Project Manager	Quarterly

#### 4.3.5 Schedule Changes and Threshold

The establishment of schedule parameters within which the project must operate. For this project, the following conditions are established to guide schedule change request:

1. The proposed change is estimated to reduce the duration of an individual work package by 10% or more or increase the duration of an individual work package by 10% or more.
2. The change is estimated to reduce the duration of the overall baseline schedule by 10% or more or increase the duration of the overall baseline schedule by 10% or more.

Any change requests that do not meet these thresholds will be submitted to the project sponsor through the steering committee for approval.

Earned Value Management (EVM) will be used to measure the performance of the Rehabilitation and Ecosystem Adaptation at South Coast, St Vincent and the Grenadines Project. EVM is used to measure schedule performance as a function of the value the project has earned (EV) and the planned value the project should have earned to date (PV).

The Project Manager will apply EVM technique to regularly review performance, and appropriate corrective action and forecast can be made based on the variance findings. The following metrics would be applied to capture schedule performance monthly:

- Performance Index (SPI) –  $EV/PV$
- $SV = EV - PV$

**Control thresholds or SPI are:**

- ✚ Yellow: within +/- 5% must be reported to the Project Sponsor. If it is determined that there is no effect on the project's baseline, then there may be no further action required.
- ✚ Red: greater than +/- 5% must be reported to the Project Sponsor. Corrective measures must be taken to move the project back to an acceptable performance level.

**Chart 13 Schedule Performance (Source: Child. N, Author, 2021)**

Earned Value Metric	Frequency of Reporting	Yellow	Red
Schedule Performance Index (SPI)	Monthly	$0.8 \leq SPI \leq 1.2$	$SPI < 0.8$ or $SPI > 1.2$

If the Schedule Performance Index has a variance of between 0.1 and 0.2, the Project Manager must report the reason for the exception. If the SPI has a variance of greater than 0.2, the Project Manager must report the reason for the exception and provide management a detailed corrective plan to bring the projects performance back to acceptable levels.

#### **4.3.6 Scope Changes**

Approved changes to Scope may result in the schedule needing to be re-baseline. Once the Project Manager determines that the change in scope can significantly affect the schedule then change request would apply. The Project Manager would submit change request for the schedule to be re-baseline.

### **4.4 Cost Management Plan**

The purpose of the Cost Management Plan is to define the methodology by which cost associated with the Rehabilitation and Ecosystem Adaptation at South Coast, St Vincent and the Grenadines Project will be managed from initiation to closure. It is primarily concerned with the cost for any expenditure incurred to produce project deliverables. The plan outlines procedures of estimating, allocating, and controlling costs for the required resources to complete project activities.

#### **4.4.1 Cost Management Approach**

The Cost Management Approach covers the planning and estimating cost, cost tracking, cost metrics, and cost control. The Project Manager is responsible for project reporting. The performance will be measured using earned value analysis. The Project Sponsor has authority to make changes to cost baseline.

#### **4.4.2 Cost Planning and Estimating**

Cost Estimation is necessary to enable a realistic estimate. It quantifies all expenses associated with the required resources to execute the project. During this process, the elements of the WBS, the expenditures and planned durations will be analyzed to determine an estimate. Once all allocations are reviewed and approved by the

Project Manager the cost baseline will be established. Only the Project Sponsor has the authority to change the cost baseline. The tools and techniques used for the planning and estimation of cost for this project are outlined below:

- Meetings – host meetings to discuss costs associated with the project. It creates an avenue for the team to be flexible and helps to leverage reducing cost.
- Expert Judgment - to obtain guidance on how to develop the cost estimates and considers types of cost associated with the project, inflation, and value of money.
- Project Management Software- Ms. Project 2019 and Ms. Excel are required for developing the resource estimates.
- Bottom-up estimation -The summation of estimates for activity cost including contingency reserves, which are aggregated into their associated work packages to produce the cost baseline. Then the overall budget by adding the management reserve.
- Reserve analysis - to monitor the status of reserves allocated in the budget to cover risks. A contingency reserve of 10% allocated for identified risk associated with the project. A management reserve of 5% included in the cost estimation to account for unforeseen risks.
- Earned Value Analysis - The Project Manager will utilize EVM to identify and track project performance. Cost and schedule variances would be calculated regularly, and appropriate corrective action and forecast can be made based on the variance findings.

#### **4.4.3 Tracking Cost**

MS project 2019 will be used to track the project budget as depicted in the schedule. Project team will observe the schedule to ensure that there are no delays in completing project work. The Project Manger would have full read/write access to the project budget in MS. Project or Excel. The Project Team will only have access to read only MS. Project file and no access to excel. The Project Manager will calculate actual costs for all cost categories and WBS elements and compare these

actual costs to the projected baseline costs monthly. These comparisons are used to generate the data for all metrics, status reports, and variance analysis.

#### 4.4.4 Cost Metrics and Reporting Format

EVM can be used to measure cost performance as a function of the value the project has earned (EV), the actual costs of the project to date (AC), and the planned value the project should have earned to date (PV).

The Project Manager will apply EVM technique to review performance regularly, and appropriate corrective action and forecast can be made based on the variance findings. The following metrics would be applied to capture cost performance monthly:

- Cost Performance Index (CPI) =  $EV/AC$ .
- $CV = EV - AC$ .

#### Control thresholds or CPI are:

- ✚ Yellow: within +/- 5% must be reported to the Project Sponsor. If it is determined that there is no effect on the project's cost baseline, then there may be no further action required.
- ✚ Red: greater than +/- 5% must be reported to the Project Sponsor. Corrective measures must be taken to move the project back to an acceptable performance level.

**Chart 14 Cost Performance (Source: Child. N, Author, 2021)**

Earned Value Metric	Frequency of Reporting	Yellow	Red
Cost Performance Index (CPI)	Monthly	$0.8 \leq CPI \leq 1.2$	$CPI < 0.8$ or $CPI > 1.2$

If the Cost Performance Index has a variance of between 0.1 and 0.2, the Project Manager must report the reason for the exception. If the CPI has a variance of greater than 0.2, the Project Manager must report the reason for the exception and



provide management a detailed corrective plan to bring the projects performance back to acceptable levels. On the fifth of every month, the Project Manager will compile and submit them to the project sponsor. The charts would provide for review of project performance to the Project Sponsor.

#### 4.4.5 Cost Control Measures

Cost control plays a pivotal role in monitoring project expenditure and performance against project progress. It allows for measuring variances from the cost baseline and to taking corrective actions to achieve minimum cost. If the Rehabilitation and Ecosystem Adaptation at South Coast, St Vincent and the Grenadines Project exceeds the established thresholds at any time for CPI, effective measures would be required to bring the project on track to acceptable range performance. The following procedures would apply if the project exceeded the established threshold:

- a. Project Manager will host a meeting with team member to consider possible corrective measures.
- b. The Project Manager submits a detailed analysis of the corrective measures to the project sponsor for review.
- c. The Project Sponsor will authorize the recommended corrective measures if deemed appropriate. The Project Manager must complete any change request as per the project's change control process.

The chart below represents the Key Performance Indicators for cost control.

**Chart 15 Key Performance Indicators, Cost Control (Source: Child. N, Author, 2021)**

KPI	Description (formula)	Responsible	Frequency
Cost Performance index (CPI)	$CPI = EV/AC$ CPI measures the value of work completed compared to the actual cost of the work completed. If CPI is less than 1, the project is	Project Manager	Monthly

	considered over budget whereas if CPI is greater than 1, the project is considered under budget. If the value of CPI is equal to 1, the project is consider to be on track.		
Cost Variance (CV)	CV=EV-AC CV is calculated as the difference between earned value and actual cost. A positive CV indicates that the project is under-budget whereas negative CV indicates the project is over budget.	Project Manager	Monthly
Budget shift	The number of times that the budget is modified or reallocated to support shifts within the project.	Project Manager	As necessary

#### 4.4.6 Determine Project Budget

The Project Budget refers to all the funds authorized to execute the project. Budgeting is a sub-process within estimating used for allocating the estimated cost of resources into cost accounts against which cost performance will be measured and assessed. This forms the baseline for cost control. Thus, preventing over-utilization and allowing balancing efficiency and effective workflow. The bottom-up approach was used to develop the project budget. The chart below represents the project budget.

Chart 16 Project Budget (Source: Child. N, Author, 2021)

WBS Code	Deliverable	Amount \$	Contingency	Control A/C \$
1.3	Communication Campaign		2%	
1.3.1REBA	Consultant hired	4,000.00		
1.3.2REBA	Communication campaign plan designed	1000.00		
1.3.3REBA	Communication campaign disseminated	16,000.00		
1.3.4REBA	Communication campaign evaluated	500.00		
		21,500.00	430.00	21,930.00
1.4	Planting Mangrove		5%	
1.4.1REBA	Consultant hired	2,000.00		
1.4.2REBA	Site preparation	300.00		
1.4.3REBA	Planting activity performed	2,200.00		
1.4.4REBA	Mangrove Monitored	1,500.00		
		6,000.00	300.00	6,300.00
1.5	Multiple Clean-up events		0%	
1.5.1REBA	Action Plan developed	200.00		
1.5.2REBA	Pre-event steps	1,000.00		
1.5.3REBA	Multiple clean-up activity executed	3,000.00		
1.5.4REBA	Post event steps	500.00		
		4,700.00	0.00	4,700.00
1.6	Replanting stream buffer		3%	
1.6.1REBA	Site preparation	1,000.00		
1.6.2REBA	Planting activity plan	200.00		
1.6.3REBA	Planting activity performed	2,300.00		
1.6.4REBA	Plants monitored	1,500.00		
		5,000.00	150.00	5,150.00
Aggregate		37,200.00	880.00	38,080.00
	Cost baseline			38,080.00
	Management reserve (5%)			1,904.00
	<b>Total budget</b>			<b>39,984.00</b>

## **4.5 Quality Management Plan**

### **4.5.1 Purpose of Quality Management Plan**

The Quality Management Plan (QPM) is an integral part of the project management plan that documents the necessary information required to effectively manage quality from project planning to delivery. The primary goal of Quality Management Plan is to ensure that the project deliverables are of adequate quality and fit for purpose. QMP describes in detail how the quality is planned, managed, and controlled.

### **4.5.2 Quality Management Approach**

Quality Management is broken down into three process groups' Quality Planning (QP), Quality assurance and Quality Control (QC). The project will apply each of these processes to define, monitor, and control quality standards. The QMP outlines the policies, procedures, criteria for and areas of application, and roles, responsibilities, and authorities. Quality Assurance and Quality Control is an integral part of the Project Quality Management Plan.

#### **➤ Quality Policies**

Quality Policies associated with the lead organization NPRBA are incorporated in the Rehabilitation Ecosystem Adaptation at South Coast project. This includes the following:

- a. A commitment to environmentally responsible products, services, and operations.
- b. The principle that materials must be responsibly sourced.
- c. Commitment to have an impact on the communities in which the organization operates.
- d. Commitment to listening to the customers and use their input to improve quality.

### 4.5.3 Roles and Responsibilities

All project participants will play their respective role in quality management. The following roles and responsibilities have been identified.

**Chart 17 Roles and Responsibilities (Source: Child. N, Author, 2021)**

<b>Role</b>	<b>Responsibility</b>
Project Manager	<ul style="list-style-type: none"> <li>- Provide guidance and coordination of all quality matters including plan, implement quality processes and controls.</li> <li>- Ensure compliance with project standards and specifications.</li> <li>- Measurement of progress and the satisfaction of client requirements.</li> <li>- Planning implementation of corrective action and ensure that planned improvements eventuate.</li> <li>- Perform quality control at every stage of project completion</li> </ul>
Project Sponsor	<ul style="list-style-type: none"> <li>- To ensure that the quality management plan of the project is aligned to achieve the Project deliverables.</li> <li>- Monitor closely the implementation of the projected in accordance with the quality management plan through the review of project reports submitted by the project manager.</li> </ul>
Project Consultants	<ul style="list-style-type: none"> <li>- Must ensure that the procedures employed in producing the deliverables result in fitness for use (quality of design) and conformance to specification (quality of conformance).</li> <li>- The consultants are required to work in close collaboration with the project manager and quality coordinator to ensure that their work procedures are compliant with the quality standards laid out in the Quality Management Plan.</li> <li>- To report any non-conformities and to ensure that corrective measures can be implemented for improvement.</li> </ul>
Project Stakeholders	-All stakeholders have the responsibility of ensuring that the project's execution reflects their needs and expectations. Their role in participatory planning is vital for support of the project.

Role	Responsibility
	-The Client plays a major role in the review of quality control process to verify the deliverables and to provide formal acceptance of the deliverables by stating their level of satisfaction.

#### 4.5.4 Key Factors related to quality

The quality plan also describes the conditions that the services and materials must possess to satisfy the needs and expectations of the project stakeholders to deliver a successful project; the project team must ensure that quality is built into the project processes and deliverables. It must constitute agreed parameters that help to deliver the desired outcomes on time and budget. The factors identified to improve the quality of the project include timeliness, completeness, and communication.

**Chart 18 Key Factors (Source: Child. N, Author, 2021)**

Factor	Factor Definition
Timeliness	Delivery of Project deliverables within a specific period.
Completeness	Achieve quality and quantity of finished activities include the entire scope of services required to achieve successful deliverables.
Communication	Communication flow between the project team and stakeholders.

#### 4.5.5 Metrics and Quality Baseline

This section establishes the metrics for achieving quality assurance and quality control.

**Chart 19 Metrics and Quality Baseline (Source: Child. N, Author, 2021)**

<b>Quality objective</b>	<b>Metric</b>	<b>Metric definition</b>	<b>Expected outcome /results</b>	<b>Measurement frequency</b>	<b>Responsible</b>
Control of the project	On time completion	Number of milestones achieved	100% of project milestones	At least once in each project phase	Project Manager
Maintain the quality of all project deliverables	Earned value management	EV=work completed/ budget	Successful project performance (actual performance matched actual performance)	Every 6 months	Project Manager
Maintain adequate flow of communications between project team and stakeholders	Communication channels  Communication methods	$[N = (N-1)/2]$  Use formula to calculate the number of stakeholders necessary to interact with in the project.  Number of communication methods utilized.	Effective and regular communications	As often as needed	Project Team
Project processes are efficiently performed and regularly documented and reported.	Quality audits  Project Process analysis	On-time audit completion rate  Count issues found and recommendations made.	Processes are completed within acceptable control limits	As needed	Project Manager

#### 4.5.6 Quality Activities Matrix

This section outlines the management and control actions required to ensure that the quality metrics and objectives are obtained.

**Chart 20 Quality Activities Matrix (Source: Child. N, Author, 2021)**

Quality area	Requirement	Management and control activities	Frequency	Responsibility
Anticipation of risks	Performing earned value analysis	<p><b>Manage:</b></p> <ul style="list-style-type: none"> <li>-Overseer performance about schedule and budget.</li> <li>-Pay attention to variance analysis results and implement corrective actions.</li> <li>-Use of project management software to help collect and track information for EVM analysis.</li> </ul> <p><b>Control:</b> Implement necessary changes request for the cost and schedule baseline.</p>	6 months	Project Manager
Milestones	Plan schedule	<p><b>Manage:</b></p> <ul style="list-style-type: none"> <li>Use of a Gantt chart to track milestones, and tasks associated with achieving them.</li> <li>-Use a histogram graph to track the frequency of tasks.</li> <li>- Implement tools such as float, slack, fast-tracking and crashing when applicable.</li> <li>-Assign specific consultants and team members to be accountable for the achievement of milestones.</li> </ul>	Bi-weekly	Project team members, project consultants



Quality area	Requirement	Management and control activities	Frequency	Responsibility
		<p><b>Control:</b> Review progress reports. Create a milestone checklist. All changes to schedule must be approved through the change request system.</p>		
Completion of deliverables	Completeness	<p><b>Manage:</b> Review updates from progress reports, perform quality audits.</p> <p><b>Control:</b> At 50% completion of deliverable conduct peer reviews, technical reviews, and deliverable walk-through. Keep track of milestone dates.</p>	Once every 6 months	Project Manager and Project consultants
Communications	Accuracy, completeness	<p><b>Manage:</b></p> <ul style="list-style-type: none"> <li>-Use of appropriate information distribution systems.</li> <li>-Use monthly status reports, error check sheets to ensure correctness.</li> <li>- Build relationships with team members, and stakeholders. Control: Reinforce quality culture amongst team members.</li> <li>-Apply a cause-effect diagram for problem-solving regarding project team or stakeholders. Review accuracy of project records before distribution. Pay attention to feedback from stakeholders. Apply change request to meet the change in stakeholder requirements. Review and update project reports.</li> </ul>	As needed	Project team

Quality area	Requirement	Management and control activities	Frequency	Responsibility
Project Processes	Accuracy, problem prevention	<p><b>Manage:</b></p> <ul style="list-style-type: none"> <li>- Audit work processes and quality reports can help to make informed decisions including modifying work processes to reduce or eliminate errors.</li> <li>- Establish a Records Management System for control of both printed-paper copies and documents and data stored in electronic media.</li> <li>- A Pillar diagrams to identify root causes related to multiple results. It addresses the value of causes and their influence on results.</li> </ul> <p><b>Control:</b></p> <ul style="list-style-type: none"> <li>- Check sheets to collect and organize data related to processes assessing a process or as an input to other analysis.</li> <li>- Flow charts to identify where quality problems might occur and then redesign processes to control the problem.</li> </ul>	As needed	Project Manager

#### **4.5.7 Continuous Improvement Plan**

This Continuous Improvement Plan details that analyze project management or organizational processes to identify activities that increase their value. To establish a Continuous Improvement Plan for the Rehabilitation Ecosystem Adaptation at South Coast project the Shewhart Cycle/Deming Cycle “Plan, Do, Check and Act” (PDCA) will be used. The PDCA is an effective tool for monitoring quality assurance. It consists of the following procedures:

- a. Plan – establish objectives and processes required to deliver desired results.
- b. Do – Implement the process developed.
- c. Check- Monitor and evaluate the implemented process by testing the results against the predetermined objectives.
- d. Act – Apply actions necessary for improvement if the results require changes.

#### **4.6 Resource Management Plan**

The purpose of the Resource Management Plan is to document how human and physical resources required for the project Rehabilitation Ecosystem and Adaptation project will be identified and managed to meet project deliverables. This document will ensure that the correct resources will be acquired for use at the right time. Plan Resources Management is essential to achieve client satisfaction and to improve the project team’s performance, productivity, and engagement. The Resource Management Plan will be developed with the following components:

1. Estimate Resources
2. Acquire Resources
3. Develop Team
4. Control Resources.

#### 4.6.1 Estimate Activity Resources

It is essential to identify the human and physical resources needed to perform the work required to complete the project for this process. The tool Expert Judgment is used to identify the resources required. The resources required for this project are categorized into four (4) areas: human, material, equipment, and facilities.

##### ➤ Resource Calendar

The Resource Calendar provides a clear indication of the time required for the human resources that the project will require throughout the project cycle. The projects duration is 12 months.

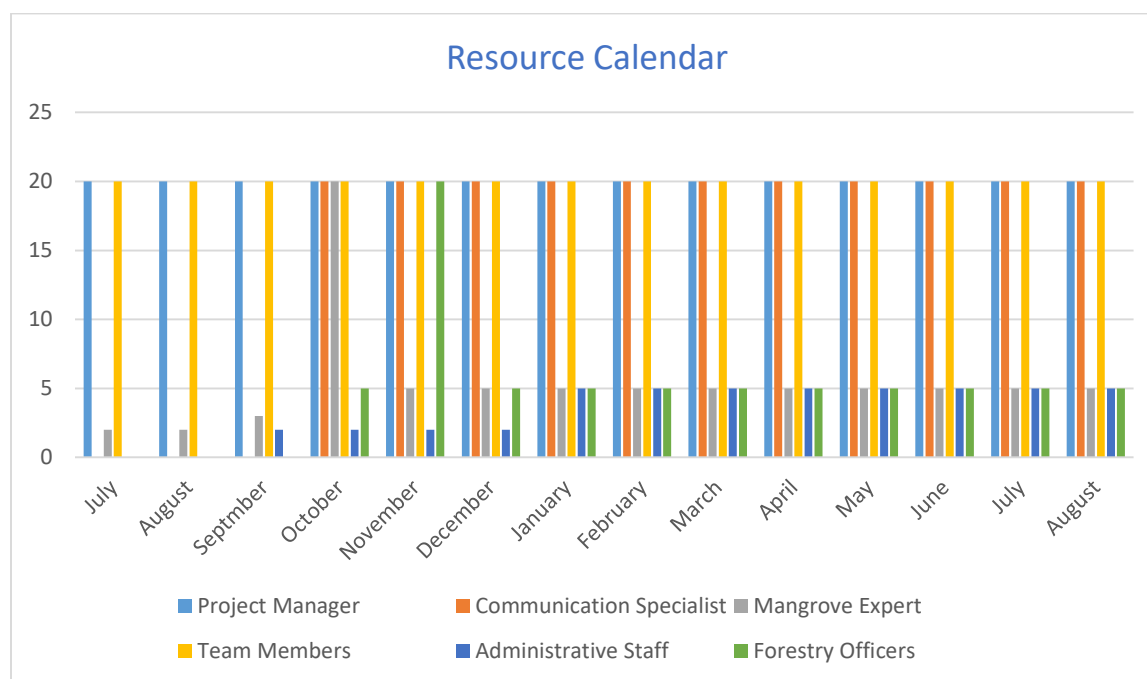


Figure 17 Project Resource Calendar. Source: (Child. N. Author, 2021)

#### 4.6.2 Acquire Resources

The Acquire resources process will determine how to obtain the human, material, equipment, and facilities necessary to complete the Rehabilitation Ecosystem Adaptation at South Coast project successfully. The human resources required for the project will form the project team. The Project Manager and other staff will be assigned from the NPRBA. The acquisition of consultants that will provide technical expertise for the project

will be sourced through a consultancy contract. A Request for Proposal will be issued to acquire consultants to work as part of the Project Team. RFP is essential to acquire the Communications Specialist and the Mangrove Specialist for the project. The RFP consist of four essential steps:

1. Prepare and distribute RFP - gather information for RFP requirements, drafting the document and circulate the RFP.
2. Receive and evaluate - obtain and review each of the responses.
3. Select consultant - scoring the responses and selecting the most suitable vendor.
4. Negotiate and a sign contract - to reach an agreement on details concerning deadlines and project deliverables and signing a legally binding agreement.

Physical Resources will be acquired with support from the Administrative staff of the NPRBA. The make or buy analysis will be applied in sourcing physical resources. The Chart 3 below depicts the physical resources required for the Rehabilitation Ecosystem Adaptation at South Coast project.

**Chart 21 Physical Resources (Source: Child. N, Author, 2021)**

<b>Project Name</b>		<b>Rehabilitation Ecosystem-Based Adaptation at South Coast</b>	
<b>Project Timeline</b>	<b>Start date</b> 05/07/2021	<b>End date</b> 19/08/2021	
<b>Physical Resource</b>	<b>Description</b>	<b>Source</b>	<b>Available time period</b>
<b>Materials</b>			
Stationary	Pens and notepads	Internal	05/07/2021-19/08/2021
	Flip chart	Internal	05/07/2021-19/08/2021
Documents for tracking or registering information	Attendance sheet	Internal	25/10/2021-03/12/2021
	Evaluation sheet	Internal	25/10/2021-03/12/2021
	Data sheets	Internal	30/09/2021-19/08/2021
Plants	Mangrove, seedlings,	External	11/10/21-19/10/2021
	Shrubs, trees	External	02/11/2021-19/11/2021
Clean-up items	Trash bags, trash grabbers, gloves, shovel	External	05/07/2022/-22/07/2022
Safety items	First aid kit Hand sanitizer	Internal	05/07/2022/-22/07/2022
Tools	Camera	Internal	25/10/2021-19/08/2021
Refreshment	Snacks, water	Internal	03/08/2021-04/08/2021

<b>Equipment</b>			
Computer	HP 27 Pavilion all in one PC equipped with MS. Project 2019, Ms. Excel 2013, Ms. word 2013	Internal	05/07/2021-19/08/2021
Projector and Screen		Internal	05/07/2021-19/08/2021
Farm tools	Wheelbarrow, hoe, forks, rakes, cutlass, spade	External	02/11/2021-19/11/2021
<b>Facility</b>			
Venue	Conference room	External	25/10/2021-03/12/2021
	Meeting room	Internal	27/08/2020-19/08/2021

#### **4.6.3 Develop Team**

Develop Team process outlines the human resources required for the Rehabilitation Ecosystem Adaptation at South Coast project. It provides guidance and understanding the role and responsibilities, relationships among project team and team-building efforts. The purpose of the process developing a team is to enhance the performance of the overall team environment. For this project, team-development will consist of the following components:

- a. Project organizational charts–this graphically displays the reporting relationships among project team members.
- b. Roles and responsibilities-involves listing the roles, authority levels, responsibilities, and competencies of various members of the project team.
- c. Training–training strategies for team members.
- d. Team development–methods for developing the project team from a collection of individuals into a cohesive group working towards the same objectives.

##### **➤ Organizational Chart**

To identify and understand the roles and responsibilities of the team members for the Rehabilitation and Ecosystem Adaptation at South Coast project, the following tools are used:

- a) Roles and Responsibilities, Authority and Competencies chart  
 b) Responsibility Assignment Matrix (RAM)

**Chart 22 Roles and Responsibilities, Authority and Competence Matrix**  
 (Source: Child. N, Author, 2021)

<b>Role</b>	<b>Responsibilities</b>	<b>Authority</b>	<b>Competence</b>
Sponsor	<ul style="list-style-type: none"> <li>-Provides project funding</li> <li>-Provides a governance structure for the project</li> <li>-Communicate updates to executive management</li> <li>-Makes decisions on project data.</li> <li>-Supports project manager and his team</li> </ul>	<ul style="list-style-type: none"> <li>-Ultimate project authority</li> <li>-Approve or deny change requests</li> <li>-Accept project deliverables</li> </ul>	<ul style="list-style-type: none"> <li>-Leadership-provide guidance and direction to project manager and steering committee</li> <li>-To communicate effectively at all levels, credibility</li> <li>-To be professional, being honest, building good working relationships</li> <li>-Businesses awareness-understanding of what is happening outside of the project</li> </ul>
Project Manager	<ul style="list-style-type: none"> <li>-Responsible for planning, managing and controlling and communicating all phases of a project</li> <li>-Establish project plans, maintaining prime customer liaison and contact</li> <li>-Manage project team, facilitate change request</li> <li>-Schedule status meeting, measure and verify project performance</li> <li>-Control and monitor project update project documents,</li> </ul>	<ul style="list-style-type: none"> <li>-Delegate tasks to team members</li> <li>-Rights in resolving conflicts</li> <li>-Allocations of resources in keeping within project constraints</li> <li>-Authorize quality metrics. Participate in major management and technical decisions</li> </ul>	<ul style="list-style-type: none"> <li>-Technical, business, and management skills to work along with relevant stakeholders to develop appropriate strategy,</li> <li>-Leadership skills to guide, direct and motivate team</li> </ul>

Role	Responsibilities	Authority	Competence
	<ul style="list-style-type: none"> <li>-Communicate updated status to relevant stakeholders</li> <li>-Develop meaningful relationship with those who must coordinate to manage project</li> <li>-Update sponsor on project progress</li> </ul>	<ul style="list-style-type: none"> <li>-Selection of subcontractors</li> </ul>	
Steering Committee	Supports the sponsor, Support the PM, provide guidance and oversight of project progress, provides subject matter input, ensure benefit realization through the project	-Advisor to the project manager	<ul style="list-style-type: none"> <li>-Knowledge of project management</li> <li>-Leadership skills</li> <li>-Professionalism</li> </ul>
Team members	<ul style="list-style-type: none"> <li>-Complete tasks in areas of expertise project participate in defining change resolutions</li> <li>-Evaluate the need for any change resolutions</li> <li>-Evaluate the need for change requests and communicate them to the PM as necessary</li> <li>-Document processes</li> </ul>	<ul style="list-style-type: none"> <li>-Authority to document information.</li> </ul>	<ul style="list-style-type: none"> <li>-Basic project management knowledge,</li> <li>-Technical documentation skills</li> <li>-Communication skills, problem-solving and skills networking skills</li> </ul>
Communication specialist	<ul style="list-style-type: none"> <li>-Provide technical expertise to achieve communication and education campaign</li> <li>-Undertake evaluation and provide reports</li> <li>-Progress reports</li> </ul>	<ul style="list-style-type: none"> <li>Authority to perform a task related to accomplishing the deliverable communication and awareness in compliance with contractual terms and conditions</li> </ul>	<ul style="list-style-type: none"> <li>-Computer literate with specific knowledge in the use of communication tools</li> <li>-Adaptability to manage change.</li> <li>-Strong communication and reporting skills in English language</li> </ul>



<b>Role</b>	<b>Responsibilities</b>	<b>Authority</b>	<b>Competence</b>
Mangrove Expert	<ul style="list-style-type: none"> <li>-Provide technical expertise to achieve mangrove planting exercise</li> <li>-Provide site assessment reports and progress reports</li> <li>-Provide technical expertise to achieve deliverables</li> </ul>	Authority to carry out tasks related to the planting of mangroves in accordance with contractual terms and conditions	<ul style="list-style-type: none"> <li>-Expertise on mangrove ecosystem</li> <li>-Knowledge, and experience on environmental issues, particularly on mangroves as nature-based solutions climate change adaptation and mitigation strategies</li> <li>- Excellent analytical, and research skills, able to work and deliver results independently and within a team</li> </ul>
Forestry services	<ul style="list-style-type: none"> <li>-Provide technical assistance in replanting buffer zone</li> </ul>	<ul style="list-style-type: none"> <li>-Has little or no authority</li> <li>-Plays a supporting role in the project</li> </ul>	B.Sc. qualification from an accredited institution in the field of conservation biology, natural resource management, ability to work in a team
Administrative office	<ul style="list-style-type: none"> <li>-Provide assistance in organizing and executing administrative duties related to financial and procurement activities</li> </ul>	<ul style="list-style-type: none"> <li>-Play a supporting role to PM</li> </ul>	Certificate in business administration and other related fields

The RAM matrix is a description of the participation with accompanying tasks of the individual in relation to each work package for the project. The RAM identifies the person responsible for each work package of the WBS. The RACI, map out who is:

- Responsible - Who is in charge of completing tasks.
- Accountable – who is making decision and taking actions on the task.
- Consulted – who will be communicated with regarding decisions and task.
- Informed – who will be updated on the decisions and actions during the project.

**The list of persons on the project team are:**

- Project Manager (PM)
- Project Sponsor (PS)
- Steering Committee (St. Cmtee)
- Mangrove Expert (ME)
- Forestry Services (FS)
- Communication Specialist (CS)

The chart below represents the RACI for the Rehabilitation and Ecosystem Adaptation at South Coast project.

**Chart 23 RACI Matrix (Source: Child. N, Author, 2021)**

WBS	Product/Deliverable	Team Members / Project / Stakeholders			
		R	A	C	I
<b>1.2.</b>	<b>Project Management Plan</b>				
1.2.1	Project management plan developed	PM	PM	PT	SP
<b>1.3</b>	<b>Communication and Education Campaign</b>				
1.3.1	Consultant hired	PM	St. Cmtee	PT	SP
1.3.2	Communication campaign plan designed	CS	CS, PM	PT	St. Cmtee
1.3.3	Communication campaign plan disseminated	CS	CS, PM	PT	St. Cmtee, SP
1.3.4	Communication campaign plan evaluated	CS	CS, PM	PT	St. Cmtee
<b>1.4</b>	<b>Mangrove Planting</b>				
1.4.1	Consultant hired	PM	St. Cmtee	PT	SP
1.4.2	Site preparation	ME	ME, PM	PT	St. Cmtee
1.4.3	Planting activity performed	ME	ME, PM	PT	St. Cmtee, SP
1.4.4	Mangrove monitored	ME	ME, PM	PT	St. Cmtee
<b>1.5</b>	<b>Multiple Clean-up Activity</b>				
1.5.1	Action Plan developed	PM	PM	PT	St. Cmtee
1.5.2	Pre-event steps	PM	PM	PT	St. Cmtee
1.5.3	Multiple clean-ups executed	PM	PM	PT	SP, St. Cmtee

WBS	Product/Deliverable	Team Members / Project / Stakeholders			
1.5.4	Post event steps	PM	PM	PT	St. Cmtee
<b>1.6</b>	<b>Replanting Stream Buffer</b>				
1.6.1	Planting preparation	PM	FS	PT	St. Cmtee
1.6.2	Plating activity plan	PM	FS	PT	St. Cmtee
1.6.3	Planting activity performed	PM	FS	PT	SP, St. Cmtee
1.6.4	Plants monitored	PM	FS	PT	St. Cmtee

### ➤ Training

Developing project team helps to improve the overall team environment to enhance project performances. For this project, the focus will be on training and team building. Training would be carried out by the Project Manager in the form of mentoring and coaching. The coaching model that will be adopted for this project is called “PRACTICE”. The PRACTICE model is a simple framework that help to identify problems and decide on best solutions. The acronym stands for 7 steps in the process:

- a. Identify the Problem.
- b. Develop Realistic and relevant goals.
- c. Generate Alternative solutions.
- d. Consider the consequences.
- e. Target the most feasible solution.
- f. Implement your Chosen solution.
- g. Conduct Evaluation

### ➤ Team Building Methods

To encourage interactions of team members to foster a dynamic, cohesive and collaborative team culture the following team building procedures would apply:

- a. Perform a self-assessment.
- b. Diagnose team behaviors.
- c. Meet with individual team members.
- d. Analyze and synthesize information.
- e. Bring the team together.

- f. Set objectives and goals.
- g. Define and assign roles.
- h. Monitor as required.
- i. Reward the team and team members for performance.

#### **4.6.4 Control Resources**

This process involves the monitoring of both physical and human resources ensuring that they are procure, used, and released according to the project plan. To ensure successful monitoring the following strategies would be carried out:

- a. Conduct performance review -the project manager will conduct performance reviews to compare planned resources to actual utilization. Work Performance Data provide valuable insight to resources requirement, resource allocation and resource utilization of the project. This can help to identify gaps of resource availability that needs to be addressed.
- b. Change request - when recommendations or corrective actions are required that may impact any component of the project the project manager must submit a change request.
- c. Conflicts – in regard to dealing with conflicts relating to the control of resources the project manager can implement problem solving tools to addressed the situation.

### **4.7 Communications Management Plan**

#### **4.7.1 Purpose of the Communications Management Plan**

The purpose of the Communication Management Plan is to ensure that the Rehabilitation Ecosystem Adaptation at South Coast project provides a framework to guide how to manage, and monitor communication. It allows for the provision of accurate and current information to the identified stakeholders regarding project status at the proper time.

### 4.7.2 Communications Management Approach

The Communications Management Plan documents the communication requirements throughout the lifecycle of the project. The Communications Management Plan will systematically identify communication requirements for successful buy-in and project implementation. The requirements define the format, frequency, and content of communication and the medium that the project will employ to facilitate its distribution and type of communication technology.

To ensure that information is distributed to project stakeholders the following methods are used.

#### ➤ Communications Methods

- Interactive communication – meeting with the project team and a group of key stakeholders.
- Push communication – dissemination of project information via blogs and press releases.
- Pull communication – use of project website and social media platform to disseminate information to the general public to access at their own discretion.
- Interpersonal communication- project team interact face to face on a daily basis to exchange information.

#### ➤ Number of Communication Channels

This process considers the number of potential communication paths between and among the project team members and stakeholders. This are required to communicate with stakeholders successfully. To manage these channels effectively, the project manager must ensure they understand the complexity of their project. This complexity is calculated with the formula below.

$$\frac{n \times (n-1)}{2} = \text{Total number of communication channels}$$

➤ **Communications Matrix**

The Rehabilitation and Ecosystem Adaptation Project will utilize a communication matrix as an assessment tool provide a framework for determining logical communication goals to dictate communication methods. This matrix allows the project team to communicate most efficiently and effectively to stakeholders. To be effective the matrix will be evaluated on a regular basis to ensure that it is continually beneficial to the project's success.

**Chart 24 Communications Matrix (Source: Child. N, Author, 2021)**

Information	Frequency	Delivery Method	Who is Responsible	Recipient
Kick-off meeting	Once	Meeting	Project Manager	Project Team, Sponsor, Steering Committee
Project team meetings	Bi-weekly	Meetings	Project Manager	Project Team,
Project status reports	Monthly	Email	Project Manager	Stakeholder, Project Team, Steering Committee
Project documents	As needed	SharePoint	Project Team	PM, Document Approvers.
Agenda/Meetings	Monthly	Email, team meeting, SharePoint	Project Team	Project Team, Steering Committee, Stakeholders
Budget reports	Monthly	Email, paper print out	Project Team	Sponsor, Steering Committee
Change requests	As needed	Meeting, email	Project Team	Sponsor
Project schedule update	Bi-weekly	Meeting	Project Team	Sponsor, Steering Committee
Hiring consultant	Less than month	Meeting, interview, negotiation	Project Manager	Sponsor, Steering Committee

Information	Frequency	Delivery Method	Who is Responsible	Recipient
Report on site visit	Once	Email, paper	Consultant/Expert on Mangrove Planting	Project Manager
Monitoring assessment report	Six months interval	Email, paper	Consultant/ Mangrove Expert	Project Manager
Formulation of communication strategy	Once	Email, paper	Communications Specialist	Project Manager, Project Team, Stakeholders
Evaluation reports on communication dissemination	Once	Email, paper	Communication Specialist	Project Manager, Project Team.
Project risks	As needed	Risk register documents, meeting minutes	Project Manager	Sponsor, Steering Committee, Project Team
General project information	Quarterly	Project website, social media	Project Team	Stakeholders

### 4.7.3 Manage Communications

Communications for the Rehabilitation Ecosystem Adaptation at South Coast project will with a focus on the implementation and management of the Communication Plan. The process would facilitate stakeholders through proactive communication, active listening and soliciting input and feedback to make sure that information is well received, and clearly understood. In addition, the information captured can be used to make adjustments and to respond to issues.

#### ➤ Stakeholder Engagement

Stakeholder Engagement aims to outline the methodology or approach for the project team to communicate effectively with the key stakeholders. It is tailored to take into

account stakeholders' expectations, communication preferences, and level of engagement with the project. Stakeholder Engagement will ensure that information regarding decisions, risks and project progress is delivered in a proactive and timely manner. This will provide valuable input to determine the frequency and type of communications required to send the stakeholders.

### ➤ **Project Management information Systems**

To manage communication efficiently, the Rehabilitation Ecosystem Adaptation at South Coast project will use PMIS. The following examples of PMIS would be utilized:

- a. **Electronic project management tools** - The project manager will be using Microsoft Project 2019 and share point. Microsoft Project is useful to track the schedule, manage the budget, and analyze resource workload. SharePoint is useful to store project documents, and to collaborate on project deliverables such as presentations, reports, and campaigns.
- b. **Electronic communication management** - The complexity of the project requires the use of E-mails, video, and audio communications. The Project Manager understands that in many cases face to face interactions can be a limitation due to location, time zone and schedule.
- c. **Social media management** - the use of social media to support the communication and education campaign.

### ➤ **Project Reporting**

Report performance forms part of the Communication Plan. Reports are used to provide relevant information related to cost, schedule, scope, and quality performance. The method used to send reports plays a crucial role in getting the report read and acted upon consistently. All reports must give clear, concise, and accurate information. It is important to select the appropriate method to use to send the reports to the identified project stakeholders.



#### **4.7.4 Monitor Communications**

Communications will be monitored using various methods to control of the flow of communication. These methods include:

- a. Observations from the project team.
- b. Review data documented in issue logs and lessons learnt register and evaluating changes made to the stakeholder engagement matrix. Information derived from review would aid in making decision to amend the communication plan.
- c. The establishment of a dashboard, accessible to stakeholders which will share and monitor data on key project management knowledge areas.
- d. Establish a database with feedback from stakeholders to help improve stakeholder engagement.
- e. Review project status and performance. Conduct comparison to compare planned communication to actual communications. The results would reflect the effectiveness of the communication plan.
- f. Change request would be implemented to correct any gaps identified in the communication plan.

### **4.8 Risk Management Plan**

#### **4.8.1 Purpose of Risk Management Plan**

A Risk refers to the foreseen or unforeseen event(s) that occurs during the project lifecycle, could affect the achievement of the project objectives, and project, and expected results. Risk Management is the process of identifying, analyzing, responding to monitoring, controlling, and reporting risks.

This Risk Management Plan defines the strategy for the overall management of risks associated with the Rehabilitation and Ecosystem Adaptation at South Coast project and the Grenadines project and how to identify, analyze, and manage them throughout the project lifecycle.

It outlines the activities that are performed, recorded, and monitored. It also includes the templates (risk breakdown structure, risk register) and best practices for documenting, and prioritizing risks.

The intended audience of this document is the project team, project sponsor, and steering committee.

#### **4.8.2 Risk Management Procedures**

The risk management process is iterative, repeating the risk identification process is necessary to find risks that may emerge as the project progresses. The Project Manager will serve as the Risk Manager for this project. Risks are identified as early as possible in the project to minimize their impact. The steps for accomplishing this are outlined in the following sections:

- a. Risk identification
- b. Risk analysis
- c. Risk response planning
- d. Monitoring and reporting

#### **4.8.3 Risk Identification**

For the Rehabilitation and Ecosystem Adaptation Project, the methods used to identify risks include brainstorming, examining the project Work Breakdown Structure (WBS), the creation of a risk breakdown structure, document analysis (assumptions, constraints, scope, resource requirements, procurement), and review of common risks from similar projects. In addition, risks are identified during project team meetings and therefore should be incorporated into the meeting agenda and minutes templates for all project meetings. Please see Appendix 8 for Risk Breakdown Structure.

A Risk Register is developed and updated as needed and shared with the project team. The Risk Register is a tool used to document and track potential risks. It contains relevant details about each risk including cause, consequence, probability, impact, and overall score. For ease of reference an excel spreadsheet is generated and it essentially combines the results from the risk analysis and response planning. Please see chart 26.

#### 4.8.4 Risk Analysis

For this process, a risk assessment conducted to determine the effects of each identified risk on the project's success.

The project manager with input from the project team will assess the impact and probability to establish priorities for the development of risk responses. The Project Manager will utilize a probability-impact matrix to facilitate the team to calculate and prioritize based on the severity of each risk. The probability and impact scales will form the basis for the construction of the risk register.

**Chart 25 Probability Scale (Source: Child. N, Author, 2021)**

LEVEL	VALUE
Event that is very likely to happen during the project lifecycle.	3
Event that could happen but there are no factors indicating a high likelihood of occurrence during the project lifecycle.	2
Event that is not very likely to happen during the project lifecycle.	1

**Chart 26 Impact Scale (Source: Child. N, Author, 2021)**

LEVEL	VALUE
Event that would affect the project with a delay of more than 30 days or a financial cost higher than \$900	3
Event that would affect the project with a delay of 8-30 days or a financial cost between \$250 and \$500	2
Event that would affect the project with a delay of 1-7 days or a financial cost of less than \$200	1

A risk event with a level 3 probability is likely to happen and one with level (1) probability is not that likely to happen. Similarly, an event with level (3) impact would cause critical effects on the project, whereas a level (1) impact would not severely threaten the project.

The risk analysis considers the following guidelines:

- a. The team will analyze each risk using a 3x3 matrix with a traffic light system in which red is the highest risk, yellow medium, and green lowest risk.
- b. The values from the impact and probability scales are multiplied to determine a priority index. Level 1 would be low priority, and level (9) would be high priority.

The following chart represent the Impact probability matrix.

**Chart 27 Impact Probability Matrix. (Source: Child. N, Author, 2021)**

Impact	H	3	6	9
	M	2	4	6
	L	1	2	3
		L	M	H
<b>Probability</b>				

#### 4.8.5 Risk Response Planning

This process involves establishing strategies in response to each identified risk. It includes a strategy for both positive and negative risks. The following approaches are selected to address each risk:

##### Strategies for negative risks or threats

- a. Escalate – threats that are considered to be outside of the project scope or exceed response by the project manager or the project sponsor will be handled by a higher level of the relevant authority.
- b. Avoid - actions to eliminate the threat. This includes eliminating the cause, modify the project strategy, extend the schedule or reduce scope. Some risks can be avoided through the acquisition of additional information, expertise, clarifying requirements, or improving the communication process.
- c. Transfer- shifting the ownership of the threat to a third party to manage.
- d. Mitigate – take immediate steps to reduce the probability and impact of the threat.

- e. Accept – acknowledge the threat but no actions will be applied in response to it. (usually low priority risk)

### **Strategies for positive risks or opportunities**

- a. Escalate – opportunities that are considered to be outside of the project scope or exceed response by the project manager or the project sponsor will be handled by a higher level of relevant authority.
- b. Share – transfer of ownership of an opportunity to a third party to manage.
- c. Exploit - this strategy is applied to eliminate the uncertainty associated with a positive risk by ensuring that the opportunity happens.
- d. Enhance - this strategy is used to increase the probability and or the positive impact of an opportunity, identifying and maximizing key drivers of positive risks
- e. Accept - acknowledge a positive risk or opportunity but no actions will apply in response to it (usually low priority risk).

4.8.6 Risk Register

Chart 28 Risk Register (Source: Child. N, Author, 2021)

RBS Code	Cause	Risk	Consequence	P	I	PxL	Trigger	Owner	Strategy	Cost
1.1.1	Changes to project scope requirements resulting in addition of new requirements	Increase in cost	Lead to Scope creep	3	3	9	Frequent change requests from client	Project Manager	<u>Mitigate:</u> Clarify requirements: formally communicate, review, and get all approved: use traceability matrix to manage them.	1,000
2.1.1	Weak Stakeholder engagement	Limited or no community buy-in	Performance related issues that can lead to long-term obstacles, which can derail the project.	3	2	6	Stakeholders reacting surprise to events that they should have been aware of.	Project management team	Mitigate: track and review the effectiveness of the stakeholder engagement plan and the communication plan. Make the necessary adjustments to gain stakeholders' interest, trust and build strong relationship.	1,000

RBS Code	Cause	Risk	Consequence	P	I	PxL	Trigger	Owner	Strategy	Cost
2.1.2	Project team members avoiding blame for mistakes that occur while performing tasks.	Lack of accountability	Possible disrupt project work	2	2	4	Misunderstandings that arise over poor performance of unfinished tasks	Project Manager	<u>Avoid:</u> At the start of the project, clarify responsibilities and make only one person accountable to an assigned action or any decision related to the task and must report the status at status update meetings.	300
2.2.1	Slow flow of communications during project execution	Unpredicted-table decelerations in processing timeframe of project activities	Delay in schedule	2	2	4	Delay in delivery and feedback of information	Project manager	<u>Mitigate:</u> Track reporting requirements and frequency of the existing communication methods and implement corrective actions.	500

RBS Code	Cause	Risk	Consequence	P	I	PxL	Trigger	Owner	Strategy	Cost
2.2.2	Strong Commitment and agreement from key government agency Forestry Services to work on the replanting buffer stream	Increase collaboration and technical support	High performance to achieve successful project deliverable; replanting stream buffer	1	1	1	Milestone achieved; expenditure aligned with estimated budget	Project Manager, Forestry services	<u>Exploit</u> : Implement measures to enhance the collaboration between Forestry services and the project team	0
2.3.1	Unavailability of appropriate type of mangrove seedlings	Inadequate supply of mangrove seedlings	Affect achievement of project scope	2	3	6	Scarcity of particular type of mangrove	Mangrove expert	<u>Transfer</u> : subcontractor would bear the risk associated with supply of mangrove seedlings	1,000
3.1.1	Weak clause in contract	Insufficient risk bearing by the consultant. (service provider)	Can incur secondary risk and increase cost of project budget	2	2	4	The wording content of the contractual agreement	Project Manager	<u>Avoid</u> : Prior to commence execution, restructure clause to make it more appropriate to deal with. Increase the % of risk to the contractor to more than 0.01.	500



RBS Code	Cause	Risk	Consequence	P	I	PxL	Trigger	Owner	Strategy	Cost
3.1.2	Non-compliance of contract requirements for mangrove planting	Low performance in output of work for the mangrove planting exercise	Mangrove expert (consultant) output of work is unsatisfactory	2	2	4	Milestones are not met	Project Manager	<u>Avoid:</u> Specify performance & productivity goals and insert penalty clauses in the terms and conditions of the contract.	500
4.1.1	Prolonged rain during the hurricane season	Flooding breaks riverbanks	Delay in schedule of work to replant stream buffer	2	2	4	Projected weather patterns	Project Manager	<u>Avoid:</u> Try to complete schedule work before the hurricane season begins.	500
4.2.1	Frequent fluctuation of exchange rate for goods purchased due to the time difference between placing the purchase order and settlement of the invoice.	Escalation of project cost	Increase in project budget and can lead to cost overrun	3	3	9	Changes in global market inflation	Project Manager	<u>Mitigate:</u> Make payments for each purchase immediately without putting any items on hold.	1000

RBS Code	Cause	Risk	Consequence	P	I	PxL	Trigger	Owner	Strategy	Cost
4.3.1	Due to the Covid-19 pandemic less persons are allowed to work at project sites (planting of buffer zone and planting of mangrove)	May slow progress of workflow at project sites	Delayed timeline	3	3	9	The statistical data results on number of positive covid-19 cases	Mangrove Expert, Forestry services	<u>Mitigate:</u> adhere to covid-19 protocols and monitor workflow	1,000
4.3.2	Due to spikes in the Covid-19 cases, there has been intermittent closure of school institutions and the creation of online classes.	Possible cancellation of school visits	Delay in schedule of the communication s campaign	2	2	4	Drastic increase in the number of covid-19 cases.	Communi-cations specialist	<u>Mitigate:</u> change the type of activity from school visits to Ms. PowerPoint presentations via the online classroom	500
									<b>Total Cost</b>	<b>\$7,800</b>

#### **4.8.7 Risk Monitoring and Reporting**

Monitor all identified risks on an ongoing basis. This includes regular reviews and documentation of actions or events that change the status of the risk listed in the risk register.

The following are monitoring activities for the Rehabilitation and Ecosystem Adaptation at South Coast, St. Vincent, and the Grenadines project:

- a. Ensure that risk responses are implemented as planned and evaluate their effectiveness throughout the project lifecycle.
- b. Monitor project for risk triggers.
- c. Re-examining existing risks to determine if their status has changed or if it should be closed out.
- d. Identify new risks.
- e. Monitor residual risks.
- f. Reassessing project assumptions and determining the validity.

The Project Manager will communicate the results of risk assessments to the relevant stakeholders. The Project Manager will communicate the results of risk assessments to the relevant stakeholders. All of the identified risks will be monitored using the Risk Register. The risk register will form part of the project status reporting process during the monthly status meetings. All project change requests are analyzed to determine any possible impact on the project risks. The Sponsor must be notified of significant changes to the risk status to aid in the decision-making process.

## **4.9 Procurement Management Plan**

### **4.9.1 Purpose of the Procurement Management Plan**

The purpose of the Procurement Management Plan is to define the procurement requirements for the Rehabilitation and Ecosystem Adaptation at South Coast, St. Vincent, and the Grenadines project and how it will be managed from developing procurement documentation to contract closure. It outlines the process for the acquisition of goods and services, how service providers will be selected and managed, and types of contracts to be used in support of the project. Other items included in the procurement plan are risk management, responsible for procurement, change control procedures, and approval process.

### **4.9.2 Procurement Management Approach**

The Project Manager works with the Project Team, Project Sponsor, and the Steering Committee to manage the project's procurement activities and ensure that all deliverables achieve maximum value and cost-efficiency. The Steering Committee will actively engage in the process of hiring the consultants. The Project Sponsor and the Project Manager approves the Procurement Plan before the actual procurement process begins. The Project Manager must follow the procurement guidelines of Sponsor Caribbean Community Climate Change Centre (CCCCC).

### **4.9.3 Procurement Responsibilities**

- The Project Manager is ultimately responsible for the procurement of goods and services for the Rehabilitation and Ecosystem Adaptation at South Coast project
- The Steering Committee will provide support for the selection process to identify potential contractors.
- The Administrative Staff of the NPRBA will provide assistance to prepare the standard procurement documentation required.
- Project Sponsor – approve all contracts associated with the procurement of goods and services.

#### 4.9.4 Procurement Description

The following procurement items and/or services are considered for the successful completion of the Rehabilitation and Ecosystem Adaptation at South Coast, St. Vincent, and the Grenadines project. The following list of items/services, justification, and timeline are pending for procurement.

**Chart 29 Procurement Description (Source: Child. N, Author, 2021)**

Item/service	Justification	Needed By
Communication Specialist	Contract Award for consultancy required for developing a communication strategy and conducting key activities for the awareness campaign	04 October 2021
Mangrove Expert	Contract Award for consultancy required for mangrove planting exercise.	01 September 2021
Materials for multiple clean-up activities	The need to source environmentally friendly materials for use in the clean-up activity	22 July 2021
Plants and shrubs	Needed for the execution of the replanting of buffer stream	19 November 2021
Mangrove seedlings	Need to source mangrove seedlings for project execution	19 October 2021
Communication products	Need to source a variety of communication products necessary for the communication awareness campaign	12 December 2021

#### 4.9.5 Solicitation Process

##### ➤ Solicitation

For this project, potential contractors will prepare a Request for Proposal (RFP). RFP accounts for price but focuses on meeting the project quality and schedule

requirements. The vendors are expected to outline how they will meet the seller requirements, to show how the work will be accomplished, experience in performing the work required, technical and academic background and a breakdown of cost. Additionally, vendors must submit a work program to show planned estimate activity and understanding of the work to be performed and their ability to execute the project on time and budget. Proposals will be used as the foundation for selection criteria, all incomplete proposals will not be considered for the selection process.

➤ **Procurement Documentation**

The Procurement Management Plan consist of standard documents needed to support solicitation and awarding contract processes. The following standard documents will be used for project procurement activities:

- Standard Request for Proposal Template to include:
  - Background
  - Proposal process and timelines
  - Proposal guidelines
  - Source selection criteria
  - Scope of work
  - Terms and Conditions
- Source selection evaluation forms
- Letter of intent
- Firm fixed price contract
- Procurement performance evaluation form
- Lessons learned form.

➤ **Source Selection**

- a. Proposals – The project manager will review proposals received from potential vendors prior to the established deadline.

- b. Interviews - Prospective Contractors would be interviewed. The interviews coordinated by the Project manager with support from the Steering Committee.
- c. Evaluation Criteria
  - Academic qualification
  - Competence
  - Experience

Please see the appendix 10 for an example of the Evaluation criteria for Communication Specialist. Persons applying should meet a minimum score of 80.

#### **4.9.6 Type of Contract**

This project, all goods and services will be solicited under firm-fixed-price contracts. The project manager will work in collaboration with the steering committee to prepare the contract. The contract will be awarded for the required period for execution of the project deliverable.

#### **4.9.7 Contract standards**

The Fixed Firm Price contracts require delivery of a product or services at a specified price, fixed at the time of contract award, and not subject to any adjustment. Definite design or performance specifications are available. Performance uncertainties can be identified, and reasonable costs estimated and negotiated. Fair and reasonable prices can be established at the time of award, funds obligated in total at the time of the award. be established at the time of award funds obligated in total at time of award.

#### **4.9.8. Risk Management Plan**

Managing risk is an integral part of good management, and fundamental to achieving effective procurement of goods and services. The project's Risk Management Plan will manage all risks for the Rehabilitation and Ecosystem. The standard risk management processes will be used to manage, identify, analyze, respond, and monitor risks.

#### **4.9.9 Procurement Change Control Process**

All changes related to the procurement of goods and services must be conducted using the established project change control procedures. Adherence to change request procedure is required.

### **4.10 Stakeholder Management Plan**

#### **4.10.1 Purpose of Stakeholder Management Plan**

Stakeholder Management includes the processes required to identify stakeholders that could affect or be affected by the project, analyze their expectations, impact and devise appropriate strategies to effectively engage with them. The Stakeholder Management Plan is a formal document that outlines how to identify, engage, manage and monitor stakeholder relationships from initiation to project closure. For the development of this plan, for the Rehabilitation and Ecosystem Adaptation at South Coast project, four (4) processes will be performed. They are as follows:

- a. Identify stakeholder.
- b. Plan stakeholder engagement
- c. Manage Stakeholder engagement
- d. Monitor Stakeholder engagement

#### **4.10.2 Identify Stakeholder**

Stakeholder Analysis Register categorized by Stakeholder Group. The Stakeholder Analysis Register captures the following information:

- Name of Stakeholder
- Description of the stakeholder
- Level of Impact on the Project: High (H), Medium (M) or Low (L)



- Interest
- Direction of Influence

According to the PMBOK® (2017) “Direction of Influence- classifies stakeholders according to their influence on the work of the project or the project team itself” (p.513). The PMBOK® further expressed that stakeholders can be classified in the following ways:

- Upward – Senior management of the performing organization or customer organization.
- Downward – the team or specialist contributing knowledge or skills in a temporary capacity.
- Outward–Stakeholder groups and their representatives outside the project team such as suppliers, government departments, the public, end users, and government regulators.
- Sideward – the peers of the project manager, such as other project managers or middle managers who are in competition for scarce project resources, collaborate with the project manager in sharing resources, or project information.

**Chart 30 Stakeholder Analysis Register (Source: Child. N, Author, 2021)**

No	Name of Stakeholder	Description of Stakeholder	Interest	Level of Impact	Direction of Influence
1	Caribbean Community Climate Change Center	Sponsor	To provide financial support for the project.	H	Upward
2	National Parks Authority	Lead organization or applicant of the project	Support the achievement of successful project outcome and align project outcomes with goals and objectives of the organization and by extension the Socio-economic Plan 2013-2025.	H	Upward
4	Steering Committee	Advisory to project team	To provide guidance to project manager and team members.	H	Upward
5	Team Members	Persons assigned to project team	To support project management and perform project activities.	H	Downward
6	Communication Specialist	Project consultant	Provision of technical expertise for achieving project deliverable communication and education awareness campaign.	H	Downward

No	Name of Stakeholder	Description of Stakeholder	Interest	Level of Impact	Direction of Influence
7	Mangrove Expert	Project consultant	Provision of Technical expertise for achieving project deliverable Mangrove planting	H	Downward
8	Forestry Services	Collaborator	Keen interest in providing technical and human resources in performing project activity related to replanting stream buffer.	H	Downward
9	Suppliers	Providers of resources/ procurement services	Provision of goods and services required for the project.	H	Outward
10	Schools	Educational institution located in South Coast	Acquisition of knowledge about biodiversity conservation and environmental issues in relation to their surroundings.	M	Outward
11	Dive Operators,	Tourism entrepreneurs located in South Coast	Interested in training and enhancement of dive business.	M	Outward
12	The Media	The media channels such as radio stations, national TV station and other medium	Direct business opportunity and promoting the project.	M	Outward

No	Name of Stakeholder	Description of Stakeholder	Interest	Level of Impact	Direction of Influence
13	Fisheries Division	Government agency that works along with lead agency in protected areas management	Networking and support of project outcome.	M	Sideward
14	Solid waste management unit	Department that manages all waste produced in the country	Networking and support of project outcome	M	Sideward
15	Hoteliers	Hotels located in South Coast	Keen interest in project activities related to Pollution reduction, shoreline protection and property resilience	M	Outward
16	Residents	Members of South Coast community	Mutually beneficial in project outcome in terms of Health, safety, clean environment, education Improve coastal protection	H	Outward
17	Farmers	Persons that work agricultural land in the upper watershed of South Coast	Opportunity for training in conservation	M	Outward
18	Automotive Operators	Business that performs automotive services located in South Coast	Improving operations on site to reduce liquid and solid waste	M	Outward

No	Name of Stakeholder	Description of Stakeholder	Interest	Level of Impact	Direction of Influence
19	Government Officials	High ranking officials within the Ministries of government	The development of South coast as a tourism destination and protected area	M	Outward
20	Fisher folk	Fishermen in South Coast	Training and capacity building in marine conservation	M	Outward

### 4.10.3 Plan Stakeholder Engagement

Plan Stakeholder Engagement is the process of developing an approach to manage stakeholders' expectations and interest throughout the lifecycle of the project. The Stakeholder Register provides valuable information about the stakeholders, interest and impact on the project success. This information can be used to identify appropriate strategies that will be used to achieve buy-in of stakeholders to ensure a successful project outcome.

#### ➤ Stakeholder Engagement

Each stakeholder will be assessed using a Stakeholder Engagement Assessment Matrix. This Matrix is used to show the comparison of the current state of engagement level and the desired state required for a successful project outcome. This process involves creating a list of all stakeholders and place a "C" to represent current level of engagement and a "D" to represent the column of their desired level of engagement. The Chart below represents the Stakeholder Engagement Assessment Matrix for this project.

**Chart 31 Stakeholder Engagement Assessment Matrix (Source: Child. N, Author, 2021)**

Stakeholder	Unaware		Resistant	Neutral	Supportive	Leading
Caribbean Community Climate Change Center					<b>CD</b>	
National Parks Authority						<b>CD</b>
Steering Committee					<b>CD</b>	
Team Members					<b>CD</b>	
Communication Specialist					<b>CD</b>	
Mangrove Expert					<b>CD</b>	
Forestry Services					<b>CD</b>	

Stakeholder	Unaware	Resistant	Neutral	Supportive	Leading
Suppliers	C			D	
Schools	C			D	
Dive Operators,	C			D	
The Media	C			D	
Fisheries Division,			C	D	
Solid waste management unit			C	D	
Hoteliers	C			D	
Residents	C			D	
Farmers	C			D	
Automotive Operators	C			D	
Government Officials			C	D	
Fisher folk	C			D	

For this research, a map of stakeholders was developed identifying stakeholders and classifying each according to their level of interest and influence: Map of Stakeholders.

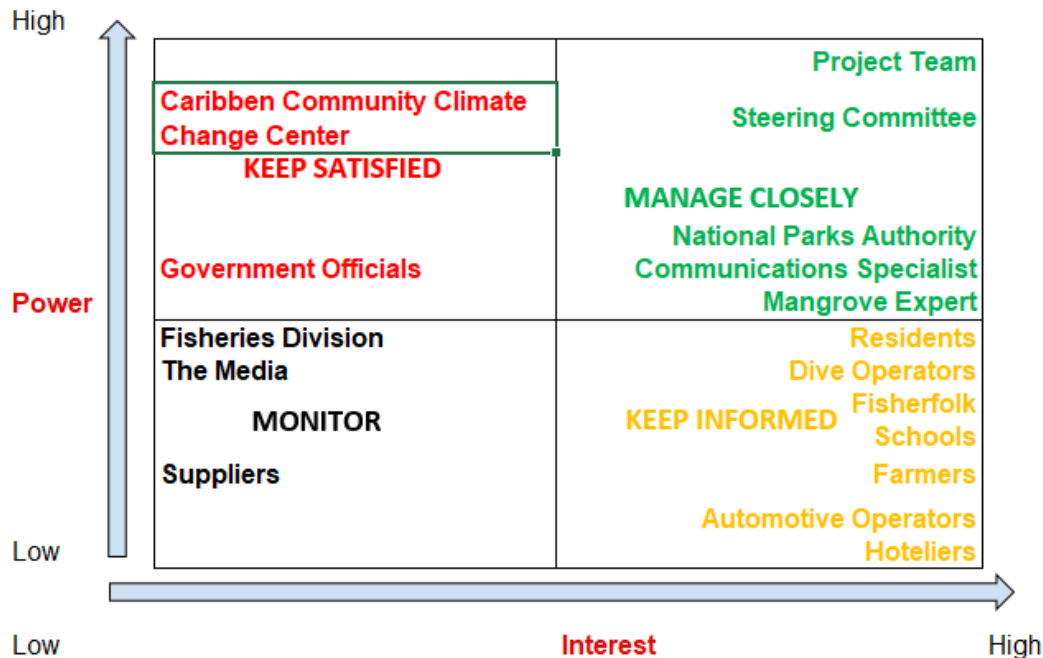


Figure 18 Stakeholder Map. Source: (Child. N. Author, 2021)

All Stakeholders should be involved in the following steps identified as stages that can lead to successful project.

- Stage 1. Plan and Design (state level strategy)
- Stage 2. Listen and Engage Stakeholders
- Stage 3. Internal Preparations and Alignment
- Stage 4. Build Trust through Strategic Option Review.
- Stage 5. Consult, Synthesis, and Strategy Development
- Stage 6. Commit and Implement.
- Stage 7. Monitor, Evaluate, and Report

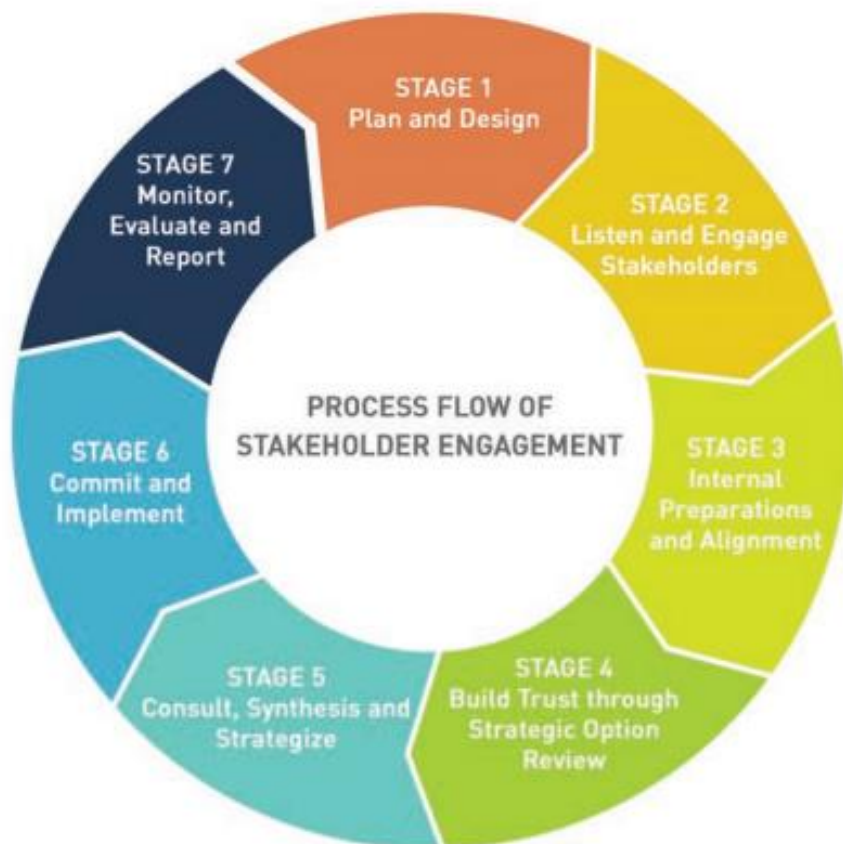


Figure 19 Process Flow of Stakeholder Engagement. Source: (Klaric et al., 2016)



#### **4.10.4 Manage Stakeholder**

To successfully manage stakeholder engagement, the Project will utilize valuable information from the Communication Plan and the strategies identified above in the stakeholder assessment matrix to communicate with the stakeholders. The communication plan is helpful to ensure that stakeholders are well informed as the project related information and that the projects objective, risks and benefits are understood. It can increase support, minimize resistance, and contribute towards a successful project implementation. In addition, as best practice the Project Manager will check in with each stakeholder at intervals because as the project progresses, the level of engagement may shift. This is important to ensure the analysis of their needs is still sound and if necessary, adjustments can be made. Any changes to communications will be carried out using via the established Change Control Process.

#### **4.10.5 Monitor Stakeholder Engagement**

Monitor Stakeholder Engagement is the process of monitoring the overall stakeholder relationships, adjusting plans and strategies for effective engagement of stakeholder in support of project decision, planning and execution. To ensure successful monitoring of Stakeholder Engagement for the Rehabilitation and Ecosystem Adaptation at South Coast project, the Project Manager can employ the following strategies:

- a. Leverage the information provided in the Communication Plan as to ensure that mechanism is in place to receive direct feedback from stakeholders.
- b. To use the information acquired to aid in the decision-making process, and determining the necessary modifications required based on changes identified in stakeholder's behaviors and satisfaction levels.
- c. Utilize the Issues Log to gain insight of problem areas and make the necessary adjustments in response resolving issues. This is essential to prevent issues form materializing into risks.

## 5. CONCLUSIONS

- The Integration Management Plan presents an opportunity for the NPRBA to improve project management processes and understand the importance of a Project Charter. At the NPRBA, the value of the Project Charter is underestimated. Small and medium-sized projects are usually implemented without a formal project charter. An oral communicated charter is used, not a written or signed document. Chartering a project can positively impact the project's success and greatly benefit the organization. The Project charter developed for the Rehabilitation and Ecosystem Adaptation South Coast project can be used to guide future charters.
- The Scope Management Plan captures all the work required for the completion of the project. In situations where specific activities are to be carried out by external organizations or consultants, it necessary to understand how their performance can impact the project scope. In the case of the Rehabilitation and Ecosystem Adaptation at South Coast project, there are two external consultants: Mangrove Expert and Communication Specialist, to conduct specific work required for the project. It is, therefore, necessary to understand the dependencies from external parties that can affect the project.
- At the NPRBA, project schedules are created and manage in an ad hoc manner. As a result, projects tend to experience delays. The project team lacks knowledge and expertise in performing analysis of project data and checking for variances. NPRBA would benefit greatly from the application of the project Schedule Management Plan. This plan comprises of control mechanism to capture deviations in the Schedule. It helps to enable the project team to make informed decisions and necessary modifications to manage and control the Schedule successfully.

- A comprehensive Cost Management Plan is essential to the NPRBA's project planning process. It is crucial to understand the value of the total budget, especially given that it is interrelated to schedule, quality, and scope. A negative impact on one area can create a domino effect that can affect the achievement of project deliverables. If, for example, a specific activity was omitted during the calculation of the total budget. It may impact schedule, scope, and quality. Resulting in a possible extension of the schedule, update of scope, and increase in the cost of quality. The impact on these variables can negatively affect the implementation of the Rehabilitation Ecosystem-Based Adaptation project. Failure of projects can damage the reputation of the organization. It is, therefore, necessary for the project team to use the Cost Management Plan as a guide for the successful project outcome.
- The Quality Management Plan is the document that establishes the quality practices and processes for the Rehabilitation and Ecosystem Adaptation at South Coast project, ensuring that quality requirements are well planned and fulfilled appropriately. The absence of a formal and complete Quality Management Plan has prevented the NPRBA from attaining its full potential. The Quality Management Plan can positively affect the NPRBA by improving its business performance through better and consistent control of significant business processes. The Quality Management Plan is an opportunity to create awareness about the importance and benefits of quality in managing projects. The Quality Management Plan will create less rework, which leads to the achievement of milestones and staying within the boundaries of the Project's budget. Enhance the NPRBA's effectiveness by improving the time and resources usage. Thus, reducing costly errors, greater efficiency, and less waste.
- Resource Management Plan provides a road map to improve insight into resource availability and timeline projections for the project. The Resource Management Plan provides the Project Team with in-depth visibility into the team's capacity, workload, and performance. The Resource Management

Plan allows the Project Manager to see detailed information about current resource needs. Effective Management of resources can enable NPRBA to deliver projects more consistently and on time. Also, assist in obtaining greater consistency in each project activity and enhancing the effectiveness of the NPRBA by improving the time and resources usage. Thus, reducing costly errors, greater efficiency, and less waste.

- Planning Communication helps to achieve a successful project outcome. The Communications Management Plan created for the Rehabilitation and Ecosystem Adaptation South Coast project represents a blueprint for the communications process. The Communications Management Plan sets a standard to control the flow of project information between the project team and key stakeholders. Residents of communities located within the South Coast and the Project Team are two main stakeholders in the project. By implementing the Communications Management Plan, the project team will develop the capacity to build positive community relations and minimize conflict by ensuring that the key stakeholders align with project goals. Furthermore, communications planning supports the business goals of the NPRBA by creating a favorable environment for the business to operate and one that delivers projects consistently with successful outcomes.
- Risk Management is a relatively new concept at the NPRBA. The Rehabilitation Ecosystem Adaptation at South Coast project provides a platform to introduce procedures to manage risks. The NPRBA can use the Risk Management Plan as a basis for compliance with risk management procedures. The Risk Management Plan allows for the identification and analysis of risks associated with the right people at the right time. The application of the Risk Management Plan would increase the chances of the NPRBA in delivering projects on time, on budget, and with quality results. Furthermore, the Risk Management Plan can impact the reputation of the NPRBA as an organization that delivers projects consistently with successful outcomes.

- In the absence of a formal procurement plan within the NPRBA, most projects are managed in compliance with the procurement policy established by the sponsor. The Procurement Management Plan for the Ecosystem-Based Adaptation project Rehabilitation project provides a framework to facilitate the smooth execution of procurement processes and ensures the project meets its objectives. The Procurement Management Plan would increase the competency level of the NPRBA to plan and execute procurement management processes more effectively. Additionally, the implementation of the Procurement Management Plan will minimize potential procurement risks, increase certainty, quality, and control cost.
- The Stakeholder Management Plan can enable the NPRBA to achieve its business goals and build better relationships with stakeholders. The Prioritization of Stakeholders is a technique that is helpful to identify the level of stakeholders and their ability to influence decisions affecting the organization's business goals. The two main stakeholders of the Rehabilitation Ecosystem-Based Adaptation project are the residents of the communities located within the South Coast and the project team. The Stakeholder Management Plan helps to foster relationship building between the project team and the residents. Additionally, the Stakeholder Management Plan can enable the NPRBA to build better relationships with key stakeholders, leading to better outcomes from communities, stakeholders, and the environment. It also enhances the credibility of the NPRBA. The Procurement Management Plan would increase the competency level of the NPRBA to plan and execute procurement management processes more effectively.

## 6. RECOMMENDATIONS

1. The Project Charter is an essential element of project planning and sets the foundation for successful project implementation. Integrating the principles of Regenerative Development in the Project Charter will help define the result, objectives, and success factors. The Project Manager should ensure that regenerative principles are integrated into the Project Charter.
2. Effective Project scope management is essential to generate a positive impact on this project. It is, therefore, highly recommended that the Project Manager invest adequate time and effort during the planning phase to create a thorough project definition that is specific, clear, and attainable. In addition, ensure that any changes in the scope are monitored and controlled to avoid the occurrence of scope creep.
3. The estimated duration for the Project is 295 days. The Project Manager should emphasize tracking relationship dependencies among activities, the critical path, lead, and lags as any change can increase the project timeline. The Project Manager can optimize the projects' duration to meet the goals within the scheduled timeframe by applying fast crashing and compression techniques.
4. The Project Manager must monitor the project budget effectively to ensure control within the established limits. Once the Project Team identify possible reasons for variances, it is necessary to immediately start planning actions that will lead to a reduction of variances.
5. Quality and requirements go hand in hand. Once the quality criteria and project requirements are established, they must be adhered to. The Project Team should not add features that are not already included in the scope or not requested by the customer or features. It can lead to scope creep and increase project costs or delays. Therefore, the Project Manager must focus on consistently improving project quality and delivery within budget.

6. It is essential for the Project Team to be aware of the importance of resource scheduling and resource allocation during the planning phase of Project Resource Management. The Project Manager must take advantage of tools and techniques in managing project resources. A combination of resource leveling, and resource smoothing can help identify the current resources available and when the project will be completed. Some work may be delayed as the result of resource-leveling or smoothing but the advantage is a more efficient and cost-effective use of resources in the long term.
7. Effective communication and engagement are crucial to project success. It is advisable to communicate regularly with stakeholders and to be proactive.. The Project Manager should provide status updates, set clear expectations about project forecasts, and address issues early on to avoid possible risks. Furthermore, be proactive in your approach to communicating with stakeholders to ensure the proper level of engagement is attained, and the correct attitude towards the project.
8. Risk Management promotes good management but is often ignored. Risk Management should be a top priority. The Project team must proactively manage risks associated with the project. The Project Manager must clearly define risk management procedures, expectations and communicate its importance to the project team.
9. Rehabilitation and Ecosystem Adaptation South Coast project is design to bring about positive social and environmental benefits. The Project Manager should consider the integration of regenerative development principles in the Procurement Management Plan. The adoption of regenerative practices can ensure that goods and services procured contribute towards the decrease in waste production and reduction of carbon monoxide emissions.
10. The Project consists of multiple stakeholders. Stakeholders have different levels of duties and authority when contributing to a project. It is recommended to continuously identify the stakeholders and ascertain level the different levels

throughout the project lifecycle. The Project Team should identify and understand their level of effect on the project to manage and satisfy their demands, needs, and expectations.



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## 8. APPENDICES

### Appendix 1: FGP Charter

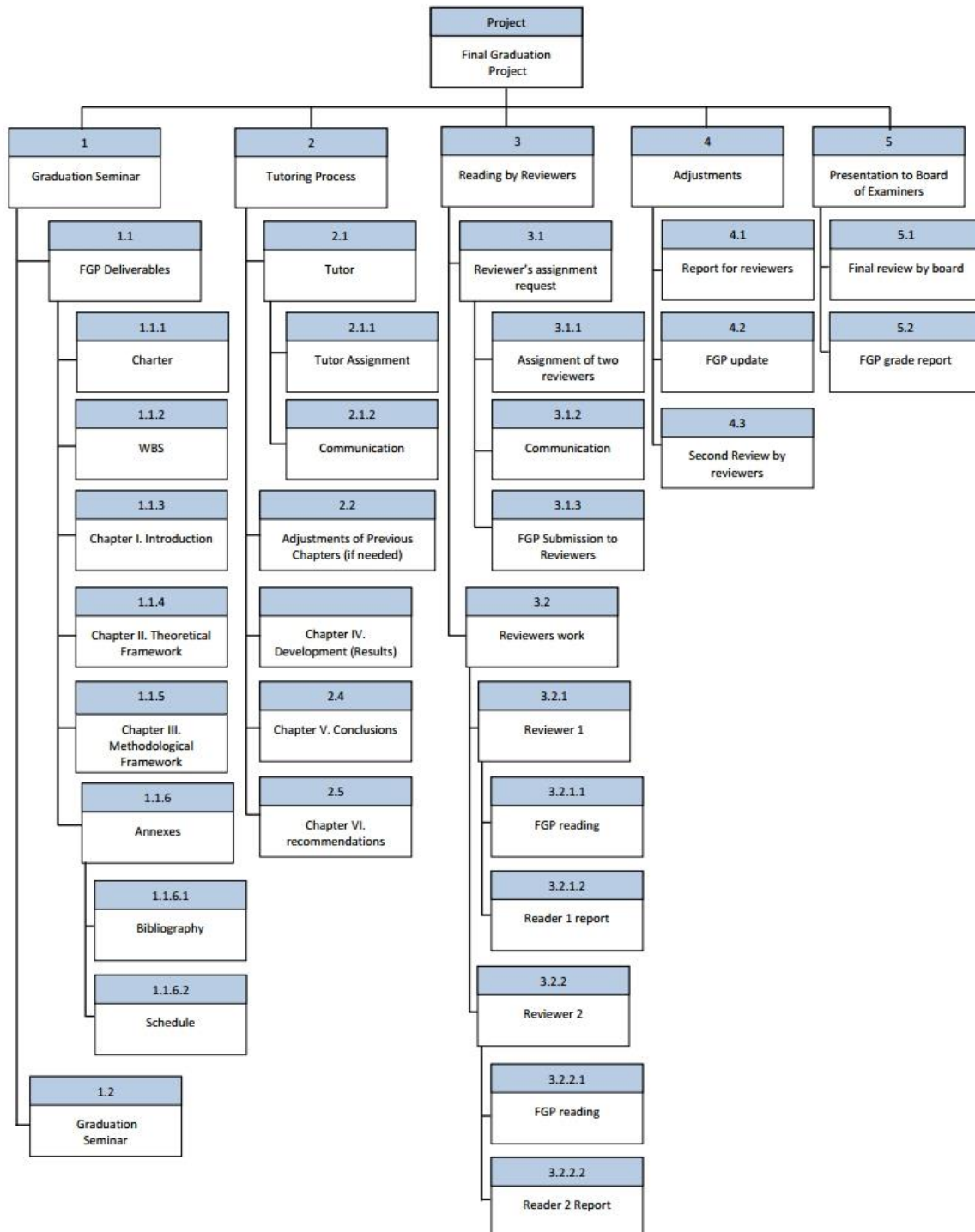
PROJECT CHARTER	
<b>Date</b>	<b>Project Name:</b>
October 26 2020	Project Management Plan for the Rehabilitation and Ecosystem Adaptation at South Coast, St Vincent and the Grenadines Project
<b>Knowledge Areas / Processes</b>	<b>Application Area (Sector / Activity)</b>
<p><b>Knowledge areas:</b> Scope Management, Cost Management, Schedule Management, Integration Management, Quality Management, Human Resource Management, Communication Management, Risk Management, Procurement Management, Stakeholder Management</p> <p><b>Process groups:</b> Initiating, Planning, Executing, Monitoring and Controlling</p>	Environment, Education, Construction
<b>Start date</b>	<b>Finish date</b>
October 26 2020	April 23 2021
<b>Project Objectives</b>	
<p><b>General objective:</b> To develop a Project Management Plan framed within the Standards of the Project Management Institute in order to successfully manage the Rehabilitation and Ecosystem Adaptation at South Coast, St Vincent and the Grenadines Project.</p> <p><b>Specific objectives:</b></p> <ol style="list-style-type: none"> <li>1. To develop an Integration Management Plan to unify and coordinate the processes and project management activities during the project.</li> <li>2. To create a Scope Management Plan to guide how the project work will be defined, validated, and controlled.</li> <li>3. To create a Cost Management Plan to manage cost throughout the life cycle of the project.</li> <li>4. To develop a Schedule Management Plan to ensure the timely completion of the project.</li> <li>5. To develop a Resource Management Plan with all the necessary human resource, equipment, supplies and other resources are identified, acquired and managed effectively to ensure successful project completion.</li> <li>6. To create a Quality Management Plan to manage the quality of project deliverables in order to meet stakeholders' expectations.</li> <li>7. To design a Communications Management Plan to ensure that information is generated with the appropriate quality and breadth and that it reaches the various stakeholders at the proper time.</li> </ol>	

<ol style="list-style-type: none"> <li>8. To create a Risk Management Plan that identifies risk and risk responses to ensure successful completion of the project.</li> <li>9. To develop a Procurement Management Plan to guide the process of acquiring products, services, and results required by the project.</li> <li>10. To develop a Stakeholder Management Plan to identify key stakeholders and analyze their impact on the project.</li> </ol>
<p><b>Project purpose or justification (merit and expected results)</b></p> <p>The Rehabilitation and Ecosystem Adaptation at South Coast, St Vincent and the Grenadines Project aims to build resilience to climate change and anthropogenic impacts and improve the health of the coastal and marine ecosystem. The project is aligned with the SVG National Economic and Social Development Plan 2013 – 2025 Goal 4.10: which focus on the need to reduce the adverse impact of climate change. It is expected to maximize social and environmental benefits that positively contribute to biodiversity conservation and preservation of the environment.</p> <p>The creation of the Project Management Plan provides for a structured approach to project delivery, with clearly defined roles, a structured lifecycle and supporting processes. This is essential to ensure proper planning of all the work required to be executed and fulfilled within the stipulated cost, quality and time constraints. The Project Management Plan will incorporate subsidiary plans and the integration of all the management processes necessary to define how the how the project is to be initiated, planned, executed, monitored, controlled and close.</p>
<p><b>Description of Product or Service to be generated by the Project – Project final deliverables</b></p> <p>The project final deliverables will include but are not limited to:</p> <ul style="list-style-type: none"> <li>• An approved project charter.</li> <li>• An approved project management plan for the Rehabilitation and Ecosystem Adaptation at South Coast, St Vincent and the Grenadines. <ul style="list-style-type: none"> <li>• Approved subsidiary plans which will include an integration, scope, schedule, cost, resource, quality, communication, procurement, risk, and stakeholder management plan.</li> </ul> </li> </ul>
<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>▪ There will be adequate communication between stakeholders throughout the project.</li> <li>▪ All resources necessary for project implementation would be accessible and available when required.</li> </ul>
<p><b>Constraints</b></p> <ul style="list-style-type: none"> <li>▪ Only one person is assigned to work on producing the project management plan</li> <li>▪ Covid 19 Pandemic can impact negatively timely completion of activities due to changes in protocols</li> </ul>
<p><b>Preliminary risks</b></p> <ul style="list-style-type: none"> <li>▪ Occurrence of natural disaster eg. Hurricane, flood, landslide or volcanic eruption can impact time and cost</li> <li>▪ Currency fluctuation can impact on project cost</li> </ul>
<p><b>Budget</b></p> <ul style="list-style-type: none"> <li>▪ The estimated budget for the project is USD 70,000.00.</li> </ul>

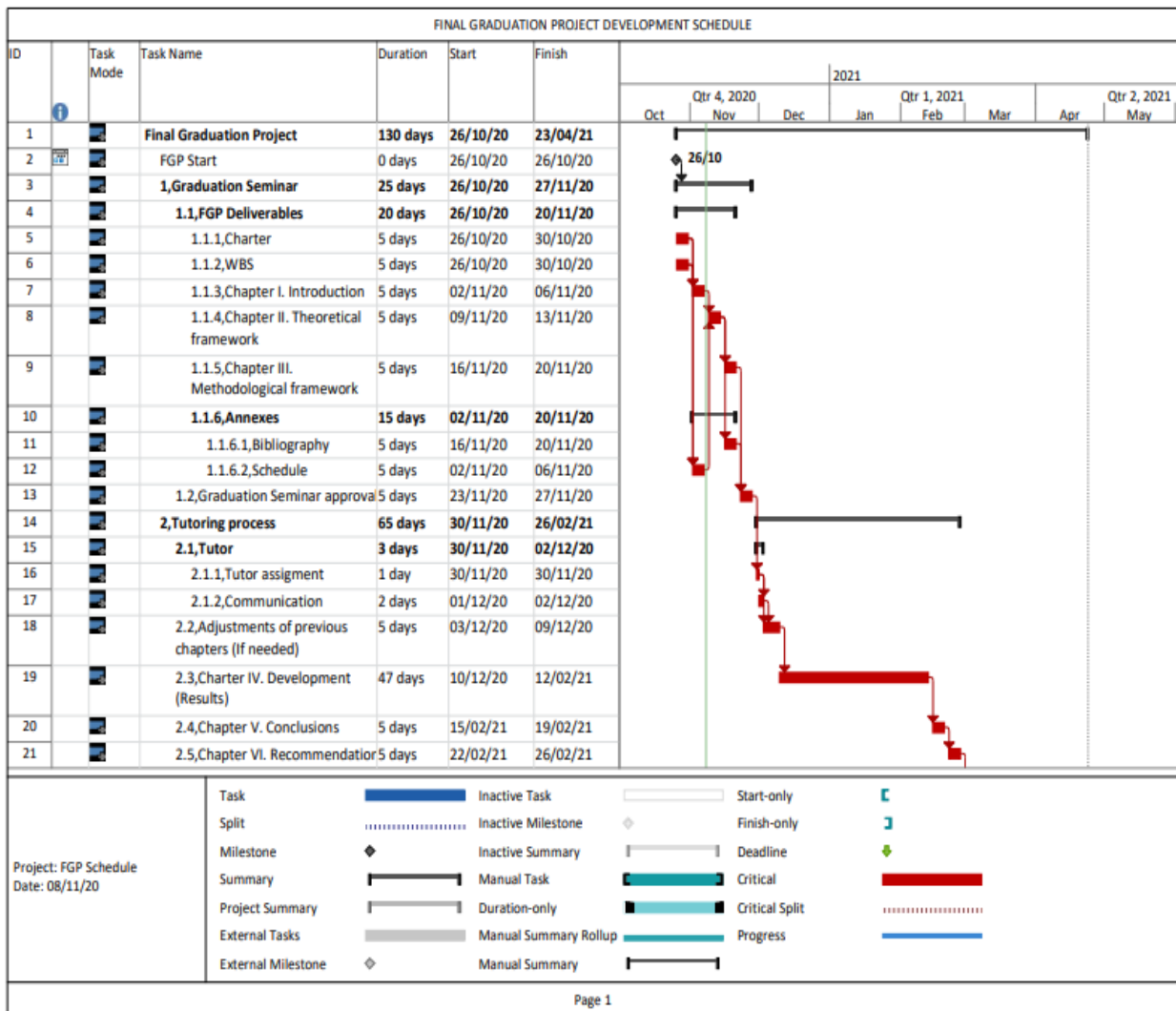
<b>Milestones and dates</b>		
Milestone	Start date	End date
Project Charter completed and approved	February 10 <sup>th</sup> , 2021	February 28th, 2021
Project Management Plan completed and approved	March 1st, 2021	March 15th, 2021
Project subsidiary plans completed and approved	March 16 <sup>th</sup> , 2021	April 15 <sup>th</sup> ,2021

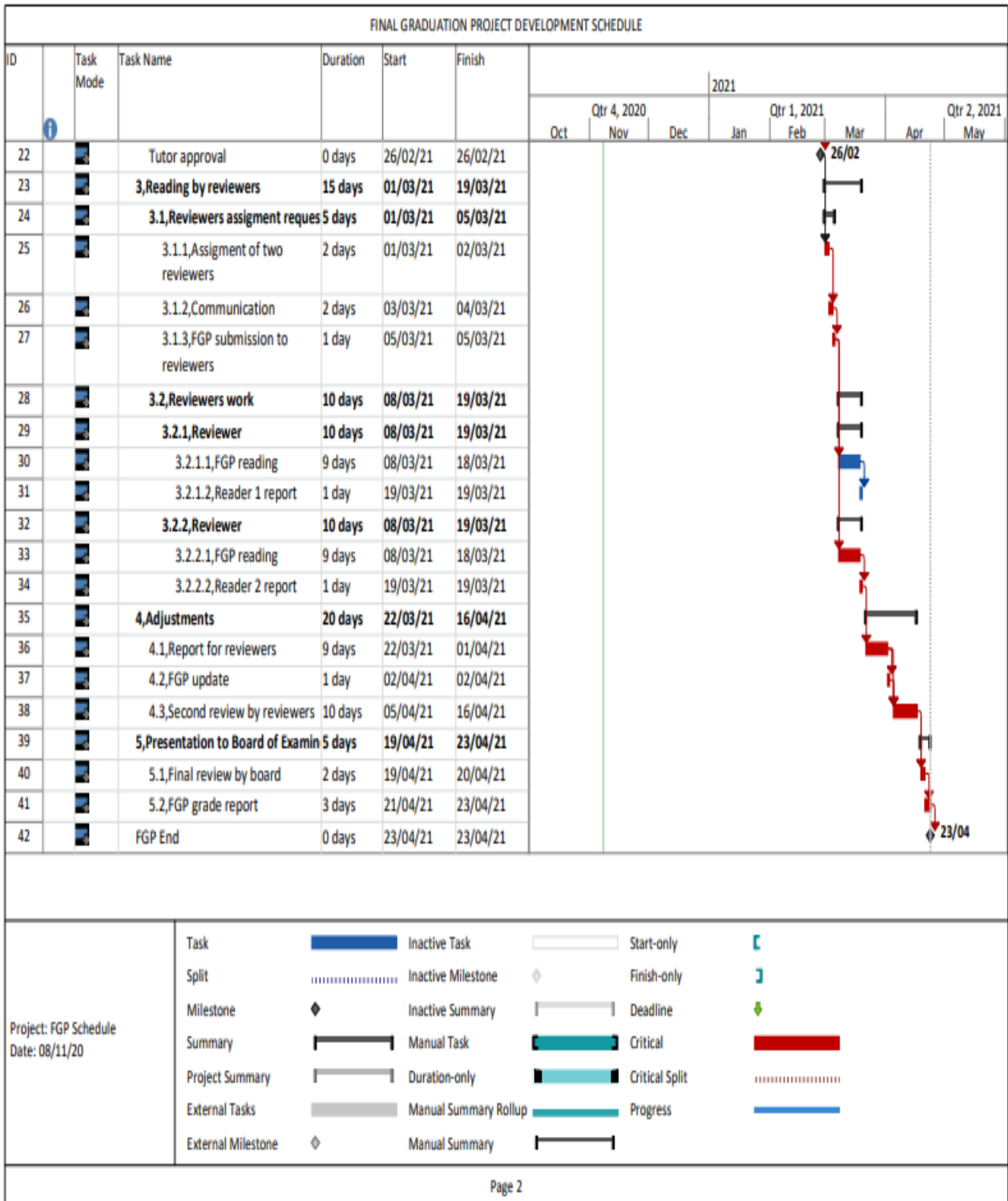
<b>Relevant historical information</b>	
<p>The National Parks, Rivers and Beaches Authority (NPRBA) will be the executing agency for the Rehabilitation and Ecosystem Adaptation at South Coast, St.Vincent and the Grenadines project. The NPRBA functions and Responsibilities are to advocate and promote conservation and to ensure the protection of permanent species and habitat, especially species which are threatened, rare, endemic, and commercial species and representative habitats. The SVG Protected Areas System embraces principles and aims agreed by the international community for the management of protected areas. These include scientific research, wilderness protection and landscape maintenance, preservation of species and genetic diversity, maintenance of environmental services, protection of specific natural features, promotion of recreation and tourism, education, sustainable use of natural ecosystems and maintenance of cultural and traditional attributes. Over the years, NPRBA has engaged in several projects in relation to specific areas including environmental sustainability, climate change, sustainable livelihoods.and tourism.</p>	
<b>Stakeholders</b>	
<p>Direct stakeholders: Hoteliers, Community Groups, Schools, Dive Operators, Fisher-folk,  Indirect stakeholders: Contractors, Suppliers</p>	
<b>Project Manager:</b> Nyasha Child	<b>Signature</b>
<b>Authorized by:</b>	<b>Signature:</b>

## Appendix 2: FGP WBS



### Appendix 3: FGP Schedule



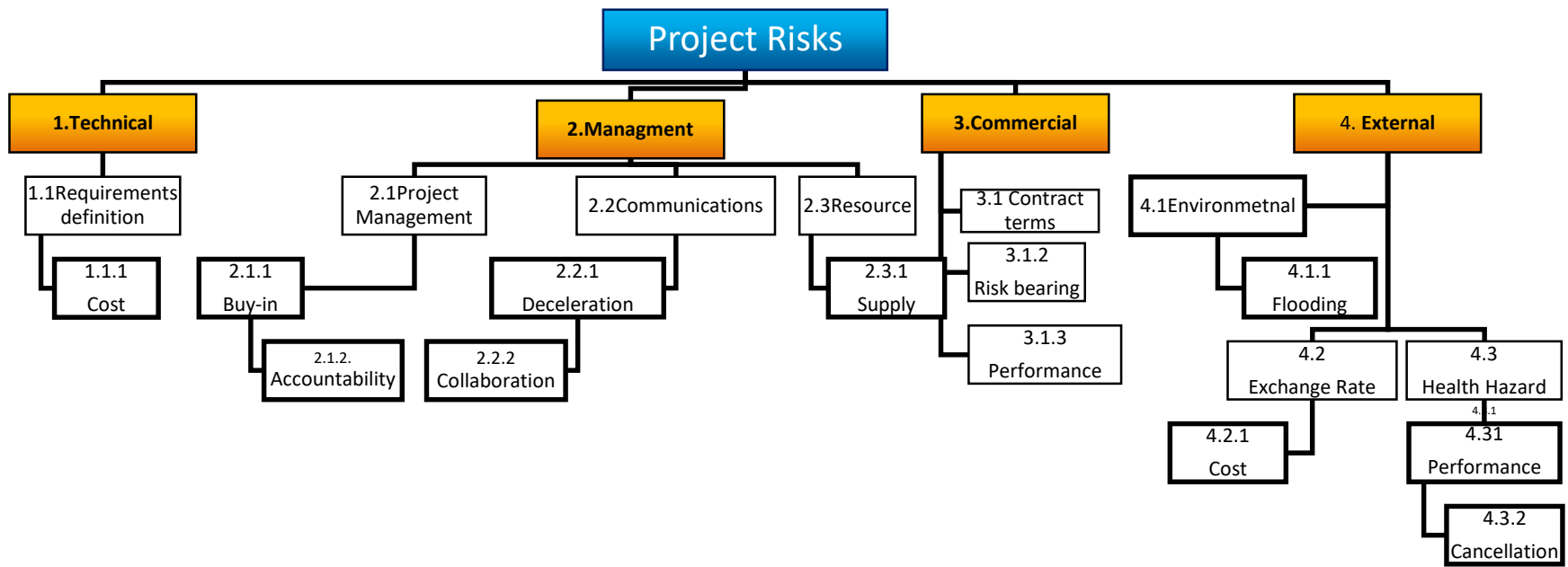








### Appendix 8 Risk Breakdown Structure



**Appendix 9. Example of Evaluation criteria for consultancy of Communication Specialist**

	<b>Criteria</b>	<b>Description</b>	<b>Weighting</b>
A	Academic qualification	<ul style="list-style-type: none"> <li>▪ A Master's Degree in Communications and relates field including public relations</li> </ul>	20
B	Competency	<ul style="list-style-type: none"> <li>▪ Computer literate with specific knowledge in the use of communication tools</li> <li>▪ Ability to work within the framework of the project team.</li> <li>▪ Adaptability to manage change.</li> <li>▪ Strong communication and reporting skills in English language.</li> <li>▪ High level of professional ethics.</li> <li>▪ Attention to details</li> </ul>	40
C	Experience	<ul style="list-style-type: none"> <li>▪ Minimum 5 years' experience the in communication with a good record of accomplishment in development of communication strategy and implementation in the Caribbean region.</li> <li>▪ At least 5 years experience in designing, creating, organizing, and coordinating in relation to publishing and disseminating media products.</li> <li>▪ Experience in developing public education, and outreach programs (training workshops) The production of educational and promotional materials.</li> </ul>	40
Total			100

## Appendix 10: Philologist Credentials



**THE UNIVERSITY OF THE WEST INDIES**

*Shara Sharnica Olivierre*

having completed the Course of Study approved  
by the University and having satisfied the  
Examiners, has this day been admitted by the  
Senate to the Degree of

**MASTER OF ARTS  
ENGLISH LANGUAGE**

*September 1, 2014*

DATE

*Don H. Harris*

VICE-CHANCELLOR

*C. William Horn*

UNIVERSITY REGISTRAR

This Document is not valid unless it bears the University's seal

**Appendix 11: Revision Dictum****Shara Ollivierre-Stewart**Amos Vale  
PO Box 1758  
Kingstown  
St Vincent

Mobile: (1784) 527-9690

Email: [sharaollivierre@gmail.com](mailto:sharaollivierre@gmail.com)24<sup>th</sup> April, 2021Academic Advisor  
Masters Degree in Project Management (MPM)  
University for International Cooperation (UCI)

Dear Academic Advisor

**Re: Philological Review of Final Graduation Project Submitted by Nyasha Child in Partial fulfilment of the requirements for the Masters in Project Management (MPM) Degree.**

I hereby confirm that this thesis entitled Project Management Plan (PMP) for the Rehabilitation and Ecosystem Adaptation at South Coast, St Vincent and the Grenadines has been reviewed and meets the literary and linguistic standards expected of a student completing a degree at the Masters level.

Yours truly,



---

Shara Ollivierre-Stewart (Mrs.)  
Educator