UNIVERSIDAD PARA LA COOPERACION INTERNACIONAL
(UCI)

PROJECT MANAGEMENT PLAN FOR THE CONSTRUCTION OF CORAZON CREEK TECHNICAL HIGH SCHOOL EXTENSION IN BELIZE

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DEDICATION

I dedicate this project to my mother Delvorine Hamilton and my daughter Kyrie Hamilton. Their support, both financially and emotionally over the years, have helped me to reach this point in my life. Their support has been invaluable in my journey to acquire a Master's Degree in Project Management.

ACKNOWLEDGMENTS

I would like to thank the staff and lecturers of UCI for the many hours of dedication, imparting their time and knowledge in project management towards me. I would also like to thank Brian and Beatriz for all their assistance in getting me amalgamated into the system and clarifying any questions and concerns I had. Special thanks to Mr. Bolívar Solórzano Granados, my tutor, whose professional guidance played a pivotal role in the completion of my FGP.

ABSTRACT

The objective of this document is to detail the development of a Project Management Plan for the Corazon Creek Technical High School Extension construction project in Belize. The country of Belize is a developing country facing many challenges in securing funding for its infrastructure project in rural communities. The development and expansion of schools in the rural areas of the country will have a profound effect on access to education in these areas. The Project Management Plan for the construction of Corazon Creek Technical High School Extension project, is the Final Graduation Project. Deliverables for this project includes management plans for scope, schedule, costs, quality, resources, communications, risks, procurement, and stakeholders. The Project Management Institute's theoretical framework and qualitative analysis methodologies are linchpin for the development of this document.

Keywords: development, project, resources, risk, theoretical framework

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ABBREVIATIONS AND ACRONYMS

BOD: Board of Directors

BOQ: Bill Of Quantities

BSIF: Belize Social Investment Fund

CCTHS: Corazon Creek Technical High School

CDB: Caribbean Development Bank

CNAA: Community Needs Asset Assessments

CPPT: Central Project Preparation Team

DFID: Department of Foreign International Development

GOB: Government of Belize

IDB: Inter-American Development Bank

IFI: International Funding Institutions

M&E: Monitoring and Evaluation

RBS: Resource Breakdown Structure

SDGs: Sustainable Development Goals

WB: World Bank

EXECUTIVE SUMMARY

Belize's educational system is one which promotes inclusion by allowing all students the opportunity to receive quality education. Even though many of the Belizean teachers are trained, they face the stark reality that their working environment is often inadequate and lacking necessary tools to deliver the degree of education needed by students.

Corazon Creek Technical High School (CCTHS) situated in Corazon Village in the Toledo District is one such school facing significant challenges. Since it was built in 2009, the student population has outgrown the size of the school and therefore needed an expansion. The Belize Social investment fund, the project executing arm of the Government of Belize (GOB), utilized funding from the Caribbean Development Bank (CDB) for the construction of a single storey ferro-concrete building with three classrooms, male and female student bathrooms, male and female teacher bathrooms, and solar power.

The general objective of the FGP was to develop a clear and well-defined Project Management Plan for the construction of Corazon Creek Technical High School Extension in Belize. The 10 specific objectives were to develop a Project Charter for the project, which outlines the entire project for the project manager. To develop a Scope Management plan that clearly establishes how the scope will be defined, developed, monitored, controlled, and validated. To create a Schedule Management plan that will outline expectations for project schedule policies and procedures for planning, developing, managing, executing, and controlling the project schedule to ensure project completion within the defined period. To formulate a precise Cost Management Plan based on the finance available for the project spending. This plan will establish how the costs will be planned, structured, and controlled. To develop a Quality Management plan that includes continuous process improvement activities that will aid in delivering the highest quality outcomes for the project. This plan will define policies, procedures, necessary for effective management of project quality. To develop an effective Resource Management plan using proven methods and techniques to provide guidance on how project resources should be categorized, allocated, managed, and released. To create a Communication Management plan that outlines communication channels appropriate for how, when, and by whom information about the project will be administered and disseminated. To develop a comprehensive Risk Management plan that focuses on how the risk management activities will be structured and performed. To develop a Procurement Management plan that will define the appropriate methodology to be used when purchasing or acquiring products and services required from outside the organization. This plan will integrate processes and procedures that will ensure that the right materials are available to the project when and where needed. To establish a Stakeholder Management plan defines stakeholders' roles and engagement mechanism within the project lifecycle.

This plan aims to garner stakeholder support and foresee possible conflict, resistance or competing objectives among the project's stakeholders. The 10 Project Management Knowledge Areas documented in *PMBOK® Guide* was the foundation of the theoretical framework of the FGP. The mixed research method and the action research method were

both used to holistically carry out the research. These methods assisted in assessing the risks, best practices, sustainable and regenerative practices necessary for the successful implementation of the project.

The FGP was designed to streamline project management processes to successfully execute the CCTHS project. The tools and techniques mentioned will enable to project team to be more efficient and capable of effectively monitor and manage multiple activities at each stage of the project lifecycle. It is recommended the BSIF management, further develop the tools and techniques mentioned in accordance with the needs of the team. This will enhance overall project success rate.

The Final Graduation Project provided meaningful insights on how to manage the Corazon Creek Technical High School construction project effectively and efficiently. The FGP constitutes the development of a project management plan that combines the use of various tools, techniques, and processes to serve as a guide for the execution and control phases of each phase of the project.

It is recommended that the BSIF project manager update the subsidiary management plans at least once a year based on the dynamic nature of the environment. PMC members possess a background in construction, engineering or missionary works in order to provide adequate oversight of project. The project team should also hold weekly team meetings and document project experiences including lesson learnt, after each project has been completed.

1 INTRODUCTION

1.1. Background

The Belize Social Investment Fund of Belize (BSIF) was established by the Government of Belize (GOB) in 1996 and incorporated as a Statutory Body through the Belize Social Investment Fund Act. According to BSIF (2018, p2) the Act states that, "The Fund shall, subject to the availability of resources, approve projects and programs and provide, either wholly or partially, financial and technical assistance to community groups with development goals, and local government organizations, for the execution of such projects or programs which will serve to provide basic services to the most severely affected groups in the country."

The BSIF is known as a quasi-government institution, whose primary projects are linked to the health, education, and rural development sectors of the country. The organization is composed of a Central Project Preparation Team (CPPT). Whose members consist of a combination of young professional staff as well as older more experienced team members. Majority of the projects are focused on areas of education, health, and social and economic development. These areas are crucial to the GOB's National Development Framework Policy, which focuses on the elimination of poverty in Belize.

International Funding Institutions (IFIs) such as the Caribbean Development Bank (CDB), World Bank (WB) and Inter-American Development Bank (IDB) provide majority funding for BSIF projects, with counterpart funding from GOB.

1.2. Statement of the problem

The BSIF is the primary institution for executing community development projects in Belize. These projects have far-reaching implications for Belize's efforts in reducing poverty and increase overall development of the most marginalized Belizeans.

In terms of continuity, the BSIF has seen the reduction of knowledgeable project professionals in the institution. Either due to political interference, better opportunities in other organizations or frustration from uncertainty of job security. The loss of these knowledgeable personnel has left a void in the project department and has impacted the quality of project management and project delivery.

Project planning is an area significantly affected by the loss of knowledgeable personnel. The steps used are often not the most efficient. Seemingly, project officers use their own methods based on past experiences. However, a unified approach needs to be developed to ensure consistency across the project team.

Monitor and evaluation has been another critical area that needs to be addressed. The organization has seen a recent spike in project contracts being terminated and retendered because of lack of oversight.

The development of the project management plan for the Corazon Creek Technical High School Extension will be used to improve and fix the areas above that are hindering the

successfully execution of BSIF projects. The appropriate use of the Project Management Plan will equip the project team with the skills and tools needed to improve their project delivery. In essence, the problem lies in the capacity of the BSIF's team to deliver quality projects consistently. The loss of experienced personnel and the lack of knowledge transfer, have significantly crippled the organization's ability to effectively plan and execute projects in on high level.

1.3. Purpose

The FGP will develop a comprehensive Project Management Plan for the Belize Social Investment Fund to be used as a catalyst for improving its overall project management strategic framework. In this regard, FGP will apply the 10 knowledge areas in outlining the efficient means of project execution using these knowledge areas. Even though the 10 knowledge areas will be considered, the following benefits are considered of particular relevance:

1. Stakeholder identification and Communication – improvement in communications technologies and methods are fast changing and implementing the appropriate approaches will significantly improve flow of information amongst BSIF stakeholders. The FGP will thoroughly identify stakeholders and classify the based-on impacts and interests. Thereafter defining who should be given specific

information, when that information should be delivered and what communication channels will be used to deliver information.

2. Risks identification and mitigation methods – Recently, the BSIF have experienced an increased exposure to various risks, which have negatively impacted the organization project success rate. In retrospect, identifying these risks in advance would have increased the chances of project success given the appropriated mitigative measures. The FGP will develop a risk management plan that incorporates risk identification and mitigation methods. These processes will identify, evaluate, and plan for possible risks that may arise within the project management process.

3. Schedule development and compliance – Developing realistic project schedules that incorporate adequate timelines for project deliverables will improve stakeholders' awareness of time bound activities and critical path of the project. The Schedule Management Plan will define clearly how the BSIF project schedule is managed from start to finish.

4. Procurement – The procurement management plan will incorporate elements that will require procuring materials from sustainable sources where possible as a priority. This will involve identifying the relevant processes to determine which

resources the organization needs for project completion and in relation to the budget.

1.4. General objective

To develop a clear and well-defined Project Management Plan for the construction of Corazon Creek Technical High School Extension in Belize.

1.5. Specific objectives

1. To develop a Project Charter for the project, which outlines the entire project for the project manager.
2. To develop a Scope Management plan that clearly establishes how the scope will be defined, developed, monitored, controlled, and validated.
3. To create a Schedule Management plan that will outline expectations for project schedule policies and procedures for planning, developing, managing, executing, and controlling the project schedule to ensure project completion within the defined period.
4. To formulate a precise Cost Management Plan based on the finance available for the project spending. This plan will establish how the costs will be planned, structured, and controlled.
5. To develop a Quality Management plan that includes continuous process improvement activities that will aid in delivering the highest quality outcomes for the

project. This plan will define policies and procedures, necessary for effective management of project quality.

6. To develop an effective Resource Management plan using proven methods and techniques to provide guidance on how project resources should be categorized, allocated, managed, and released.

7. To create a Communication Management plan that outlines communication channels appropriate for how, when, and by whom the information about the project will be administered and disseminated.

8. To develop a comprehensive Risk Management plan that focuses on how the risk management activities will be structured and performed.

9. To develop a Procurement Management plan that will define the appropriate methodology to be used when purchasing or acquiring products and services required from outside the organization. This plan will integrate processes and procedures that will ensure that the right materials are available to the project when and where needed.

10. To establish a Stakeholder Management plan that defines stakeholders' roles and engagement mechanism within the project lifecycle.

2 THEORETICAL FRAMEWORK

2.1 Company/Enterprise framework

In 1996 the GOB incorporated BSIF as a Statutory Body through the Belize Social Investment Fund Act. The BSIF acts as an implementing agent for government projects funded by IFIs. Horizon 2030 – Belize's National Development Framework provides the structure for which projects implemented by BSIF is focused on. These include education for development, economic resilience, effective public administration, sustainable development, healthy citizens, and health environment.

2.1.1 Company/Enterprise background

Under the Act, BSIF can utilize both grant funds and loan funds to carry out projects in the country. The CPPT utilizes the expertise available through the auspices of UNICEF, the Department of Foreign International Development (DFID), and the Chilean Agency for International Cooperation, among others. Project funds are used for the development of areas such as Education, Water & Sanitation, Health, Social Services, Organizational Strengthening, and Economic Infrastructure.

2.1.2 Mission and vision statements

Elements of an organizational culture include the mission and vision statements. Interpreting the mission and vision statements of BSIF uncovered the organization's strategic engagement policies with the community and its purpose driven deliverable based structure.

The mission and vision statements of the organization addresses the human development needs of the communities in Belize, with a strategic focus on identifying and delivering projects that positively contribute to the social, economic, educational, cultural, environmental, and developmental resources of Belize.

Main mission objectives:

1. Improved standard of living for marginalized rural and urban communities.
2. Increase productivity and income for the unemployed and underemployed.

Main vision objectives:

1. Strengthen community relationships in initiating and managing sustainable solutions.
2. Develop economic and social infrastructure for the advancement of national growth.

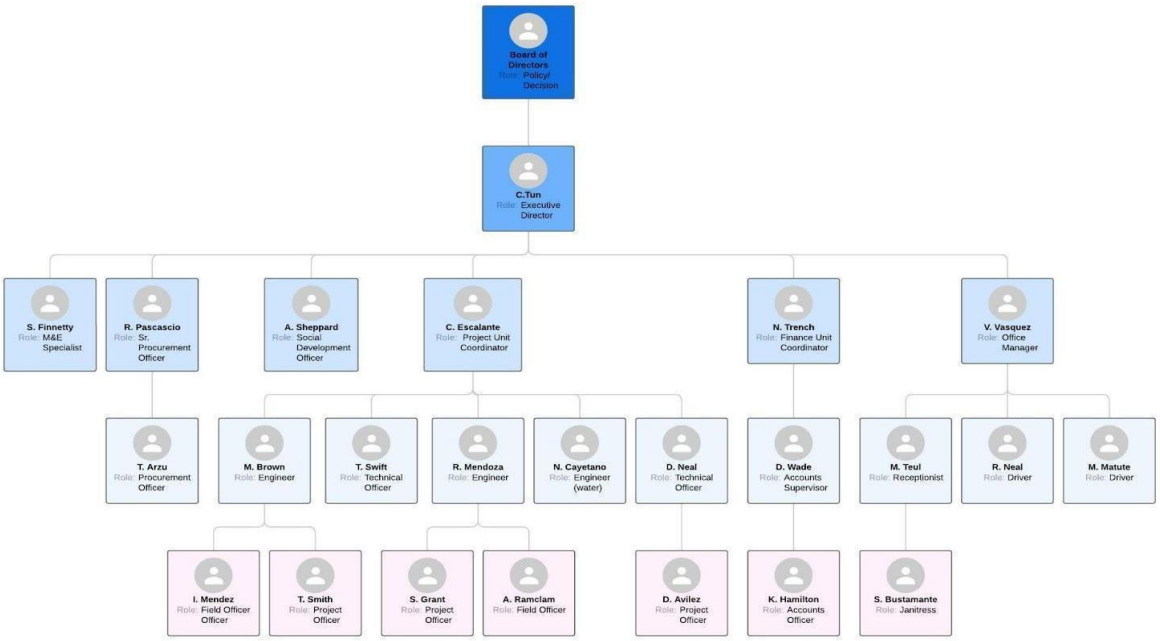
2.1.3 Organizational structure

The management of the Belize Social Investment Fund is carried out by a nine-member Board of Directors which reports to the Office of the Prime Minister and Ministry of Finance, Economic Development and Investment. Members of the Board have been selected by their respective ministry or organization and then approved by the Office of the Prime Minister. The representatives have been selected from the following Ministries and Organizations:

- Office of the Prime Minister and Ministry of Finance, Economic Development and Investment
- Ministry of Education, Culture, Science and Technology
- Ministry of Health & Wellness
- Ministry of Human Development, Families & Indigenous Peoples' Affairs
- Ministry of Rural transformation, Community Development, Labor and Local Government
- NGO Community
- Private Sector Organizations
- Women's Commission
- Youth Commission

Figure 1

Organizational structure of the Belize Social Investment Fund



Note. Prepared by Author

2.1.4 Products offered

The funds used under the BSIF are designed to assist communities in identifying their specific needs. BSIF projects contributes to Belize's National development in the following area:

Education Development – BSIF also facilitates improved access to education through the development of educational support systems and services. Projects may include the construction and improvement of educational facilities in rural and urban areas.

Capacity Building – In an effort to equip individuals with the necessary skills needed for gainful employment and entrepreneurial startups, BSIF provides various skills training for employment and self-employed individuals. Community empowerment and capacity building are enhanced in areas such as leadership, parenting and institution building etc.

Organizational Strengthening & Social Services – BSIF selects qualified individuals or agencies to provide skills training for educational and health professionals. Training in areas such as counseling, discipline, time management and other services incorporates preparation of educational and promotional materials.

Community Development - Repair and construction of community retail-based facilities. These include farmers markets, crafts workshops, sewing facilities etc.
Development of potable water systems. In addition, Construction/ rehabilitation of facilities that enhance the physical environment of the elderly, infirm, children at risk and those living with HIV/ AIDS.

As part of the consultation process, project officers conduct Community Needs Assets Assessments (CNAA) meetings. These consultations are primarily focused on identifying what projects are priority for the community. After consensus is acquired, BSIF will proceed with delivering the desired project under the appropriate funding scheme.

2.2 Project Management concepts

2.2.1 Project

A project may be characterized as having a sequence of tasks structured in a logical format that must be completed to attain a desired outcome. According to *PMBOK® Guide* (2017, p.34), "project management metrics of time, cost, scope, and quality have been the most important factors in defining the success of a project."

2.2.2 Project management

Project management requires leadership to direct the use of resources, both human and material, to achieve project goals within the given constraints. Information pertaining to the management of projects is usually described in project documentation and created at the initial development process.

The *PMBOK® Guide* further states that "project management is the application of knowledge, skills, tools, and techniques to project activities to meet the
project requirements. Project management is accomplished through the appropriate application and integration of the project management processes identified for the project (p.10)."

The following project management benefits are realized in this project management plan. These include improved process standardization, improved resource management, better

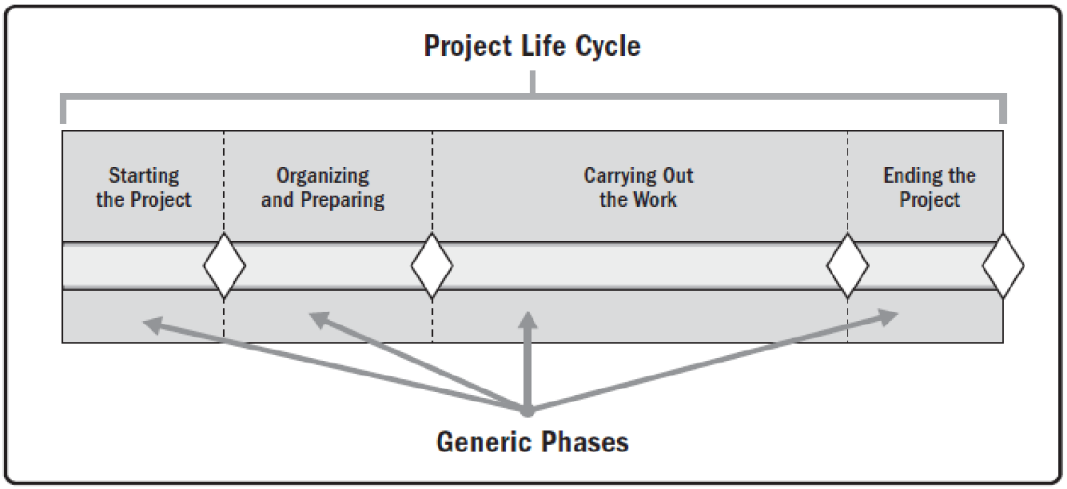
scheduling, effective stakeholder communication, risk management, improved team collaboration, document sharing and access.

2.2.3 Project life cycle

The project lifecycle provides the project team with a detailed project roadmap that establishes the steps required to complete a project. *PMBOK® Guide* defines a project lifecycle as consisting of steps required for project managers to successfully execute a project from inception to completion. If further supports this notion by emphasizing that "basic framework applies regardless of the specific project work involved. The phases may be sequential, iterative, or overlapping (p.19)."

Figure 2:

Generic Depiction of a Project Life Cycle



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The project cycle for the BSIF is a seven-step framework designed as a guide for the project team when advancing through stages of project completion. The following are BSIF project cycle:

Identification – Submittal of project request form to any BSIF Office

Appraisal – An enhanced CNAA is conducted in requesting jurisdiction. Project is submitted to the relevant government ministry for approval.

Project design – Project is designed to meet the needs of the stakeholders.

Approval -The BOD recommends the project for approval. Thereafter the project application is sent to the CDB for final approval.

Contracting/ Procurement – The procurement is carried out to identify responsive consultants, contractors, and service providers.

Implementation – The community is mobilized and the project is subsequently implemented.

Completion & Handover – The project is completed and officially handed over to the relevant officials.

Figure 3:

BSIF Project Cycle

Note: Prepared by author

2.2.4 Project management processes

Project management processes are essential in achieving project objectives. There are five process groups that *PMBOK® Guide* establishes. These include, initiating, planning, executing, monitoring and control, and closing process groups.

Initiating – This process group, according to PMI, defines the project vision and establishes what is to be achieved. Additionally; the sponsor, initial scope defined, and stakeholders identified are documented. In the context of the FGP, the Project Sponsors are CDB and

GOB. Project management will be conducted by BSIF, and Stakeholders but not limited to the Community of Corazon Creek.

Planning – Planning processes require inputs developed in the initiation process group, the FGP charter (Appendix 1), and stakeholder registry. In this regard, the planning process group establishes the total scope of the FGP. Progress elaboration is used to develop more detailed documentation for guiding the project. Elements of the planning process group include developing a project management plan, Work Breakdown Structure (WBS) (Appendix 2), schedule (Appendix 3), determining the project budget, defining the scope and collect requirements.

Executing – In the executing process group, the project team starts doing the work of creating the deliverables while the project manager coordinates those resources. Inputs from the planning phase such as the project management plan, describes how to achieve objectives and produce the final deliverable. Elements of the executing process include direct and manage project execution, acquire project team, manage stakeholder's expectations and distribute information.

Monitoring and Control – In the monitoring and controlling process group, the project manager assesses the overall performance of the project and implements measures to ensure it is on track or getting it back on target. These processes are performed throughout the lifecycle of the project. The controlling process focuses on collecting project performance

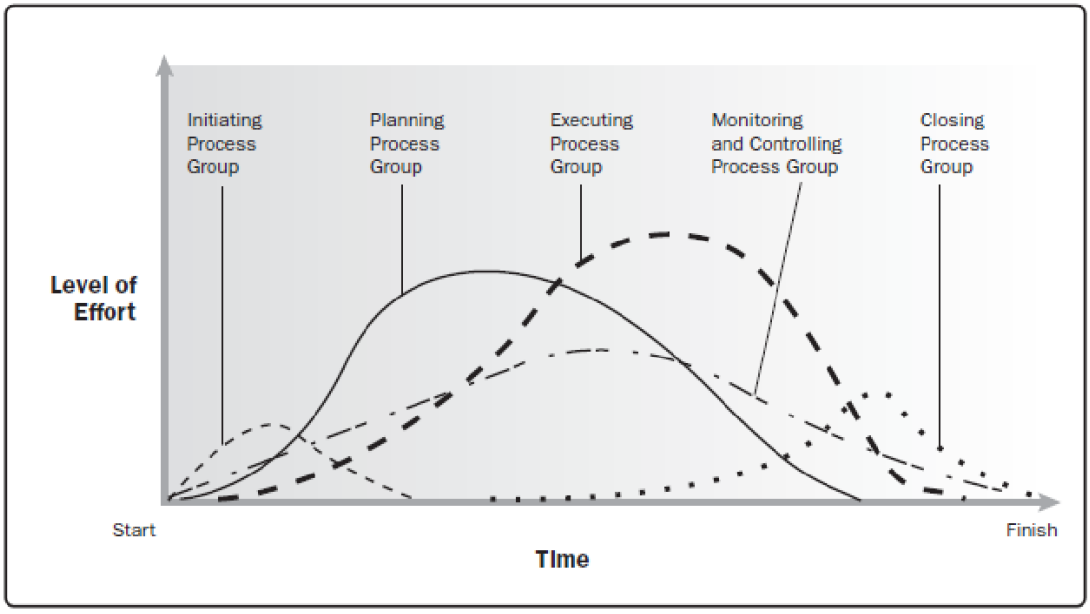
information to better manage the project. The monitoring and control process include; verifying scope, control scope, control schedule and reporting project performance.

Closing – The closing process group is at the end of the project lifecycle. Project deliverables created during project execution are given to the appropriate stakeholder and the project manager relinquishes control of the completed deliverables. The project is formally closed and acceptance is received from the customer. Lessons learned are documented and archived for use when needed.

Incorporating these process groups will enable the project team to focus on project's constraints throughout the Planning and Execution phases. This ensures that the management of the project is within budget, on time, and within scope. The project management processes also entail a level of flexibility in its various iterative processes such as planning, executing, monitoring and control.

Figure 4:

Example of Process Group Interactions Within a Project or Phase



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2.2.5 Project management knowledge areas

PMBOK® Guide specifies 10 project management knowledge areas that represent the core technical subject areas of the project management. Each knowledge area specifies their individual inputs, tools, techniques, and outputs for the project cycle. Collectively, these knowledge areas contain 49 processes.

The following are the ten knowledge areas identified:

1 Project Integration Management

2 Project Scope Management

3 Project Schedule Management

4 Project Cost Management

5 Project Quality Management

6 Project Resource Management

7 Project Communication Management

8 Project Risk Management

9 Project Procurement Management

10 Project Stakeholder Management

2.2.5.1 Project Integration Management

According to *PMBOK® Guide*, project integration management holds the project cycle together. It 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.

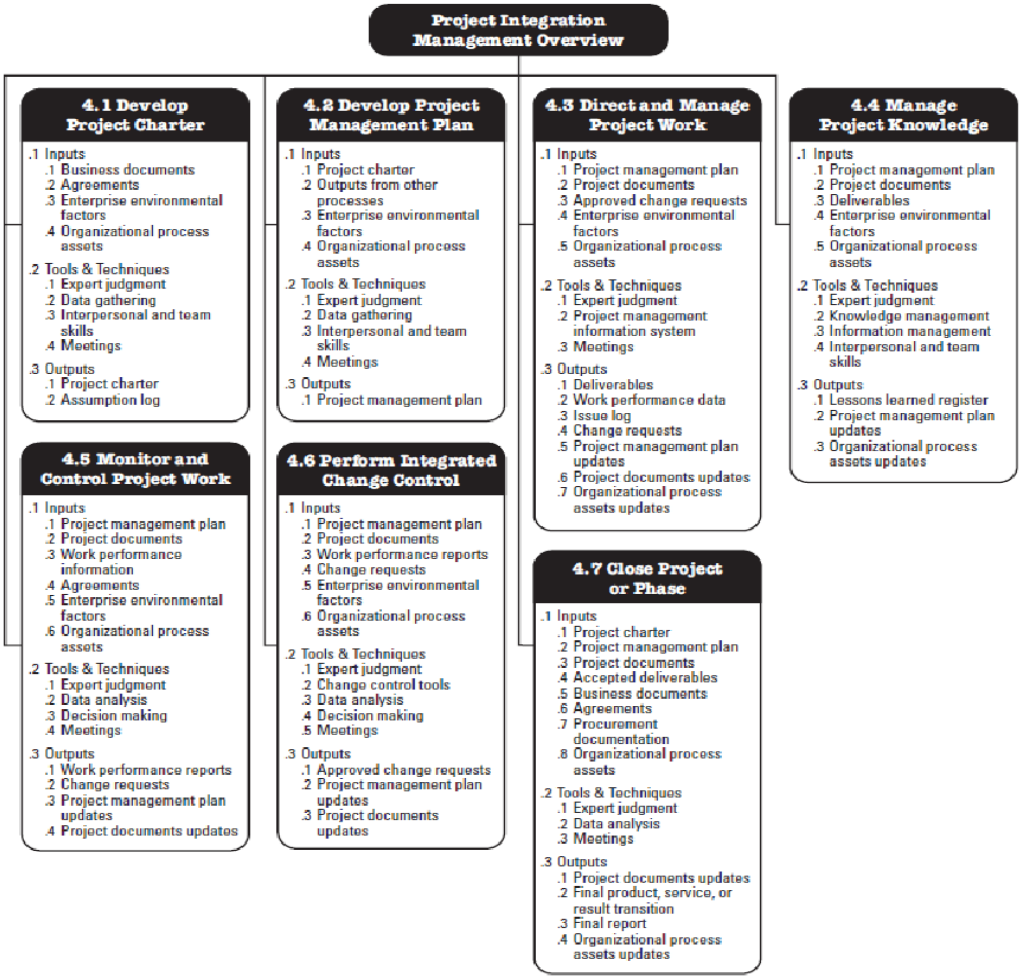
The project integration management has seven processes included in it which are:

- Develop Project Charter
- Develop Project Management Plan
- Direct and Manage Project Work

- Manage Project Knowledge
- Monitor and Control Project Work
- Perform Integrated Change Control
- Close Project or Phase

Figure 5:

Project Integration Management Overview



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2.2.5.2 Project Scope Management

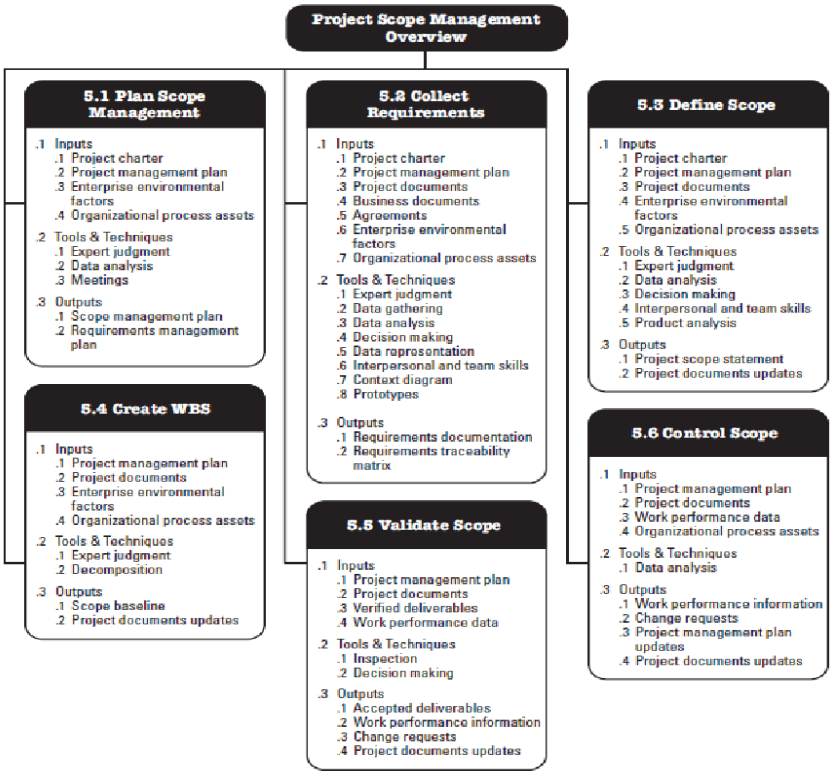
Project scope management involves managing the tasks associated with the project. Its main purpose is ensuring the project team members are aware of their roles and responsibilities. "Project Scope Management includes the processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully. Managing the project scope is primarily concerned with defining and controlling what is and is not included in the project *PMBOK® Guide*."

The project scope management includes six processes:

- Plan Scope Management
- Collect Requirements
- Define Scope
- Create WBS
- Validate Scope
- Control Scope

Figure 6:

Project Scope Management Overview



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2.2.5.3 Project Schedule Management

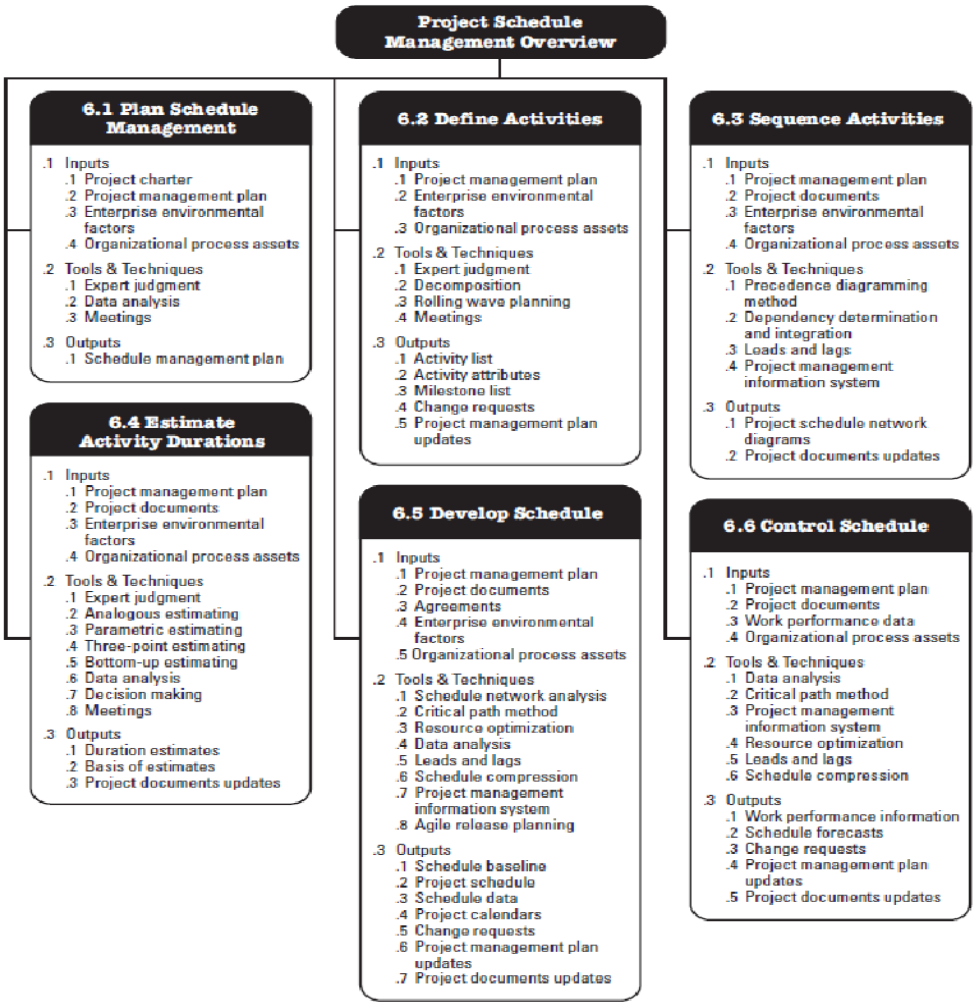
This knowledge requires the project manager to manage the schedule for the project. It involves creating a schedule for the project and determining who is responsible for what. Deliverables and tasks are time based allowing each project team member to focus on the project's objectives with the desired skills, tools, and techniques.

There are six important processes in project schedule management, and they are:

- Plan Schedule Management
- Define Activities
- Sequence Activities
- Estimate Activity Duration
- Develop Schedule
- Control Schedule

Figure 7:

Project Schedule Management Overview



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2.2.5.4 Project Cost Management

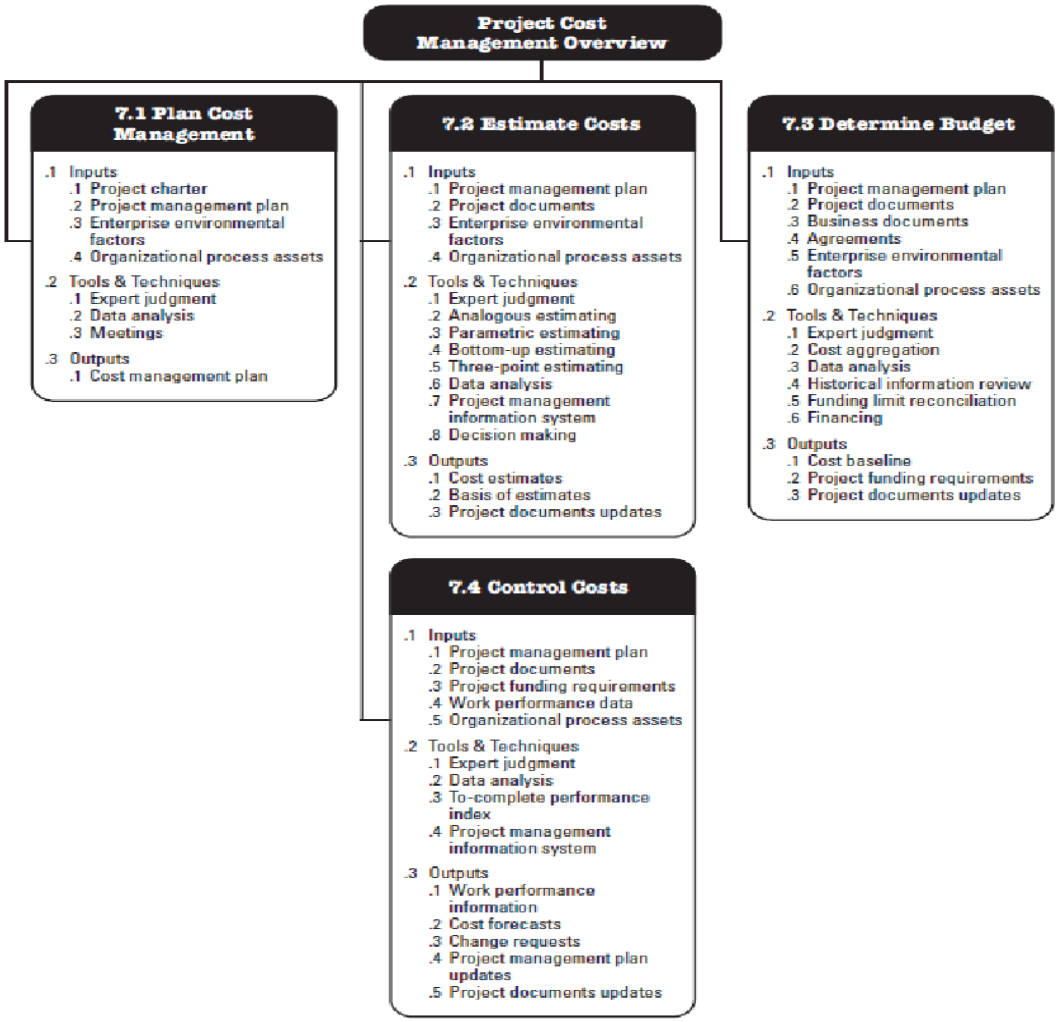
According to *PMBOK® Guide*, the project cost management determines the method to establish the budget. Budget flexibility is incorporated if required and measures to control changes in the budget is etched in. In addition, each task will have an estimated cost including all resources such as labor, materials and equipment needed to complete the task.

The project cost management processes are:

- Plan Cost Management
- Estimate Costs
- Determine Budget
- Control Costs

Figure 8:

Project Cost Management Overview



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2.2.5.5 Project Quality Management

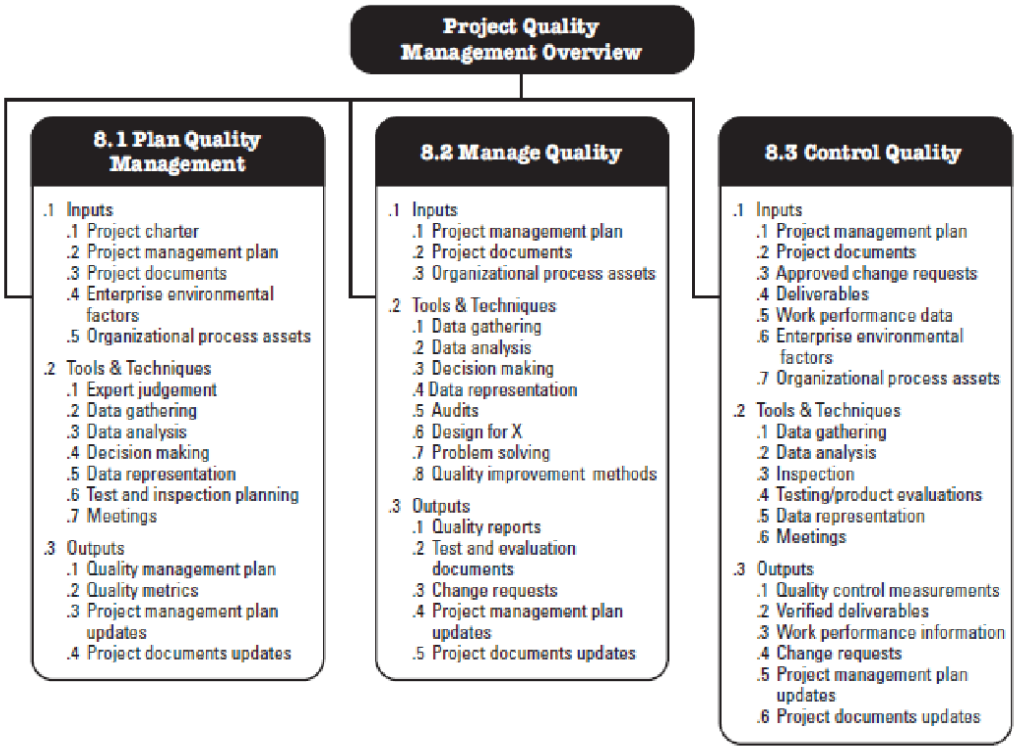
Project Quality Management includes the "processes for incorporating the organization's quality policy regarding planning, managing, and controlling project and product quality requirements in order to meet stakeholders' objectives (*PMBOK® Guide*, 2017, p.271)." Quality assurance is applied to ensure that the quality standards are being adhered to at all facets of the project lifecycle.

This project quality management knowledge area in *PMBOK® Guide* covers three processes:

- Plan quality management
- Manage Quality
- Control Quality

Figure 9:

Project Quality Management Overview



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2.2.5.6 Project Resource Management

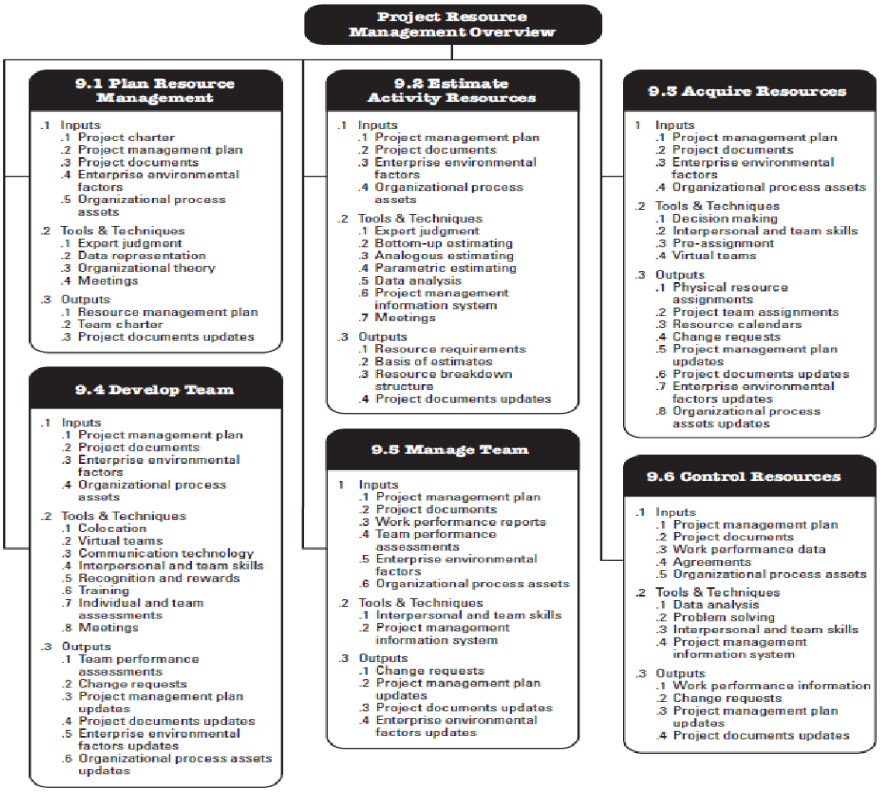
This project knowledge area involves the project manager managing the project human and material resources which are required to successfully deliver the project. This method mainly concentrates on how the project is carried out utilizing the desired resources to complete a project activity.

The processes included in this *PMBOK® Guide* knowledge area are:

- Plan Resource Management
- Estimate Activity Resources
- Acquire Resources
- Develop Team
- Manage Team
- Control Resources

Figure 10:

Project Resource Management Overview



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2.2.5.7 Project Communication Management

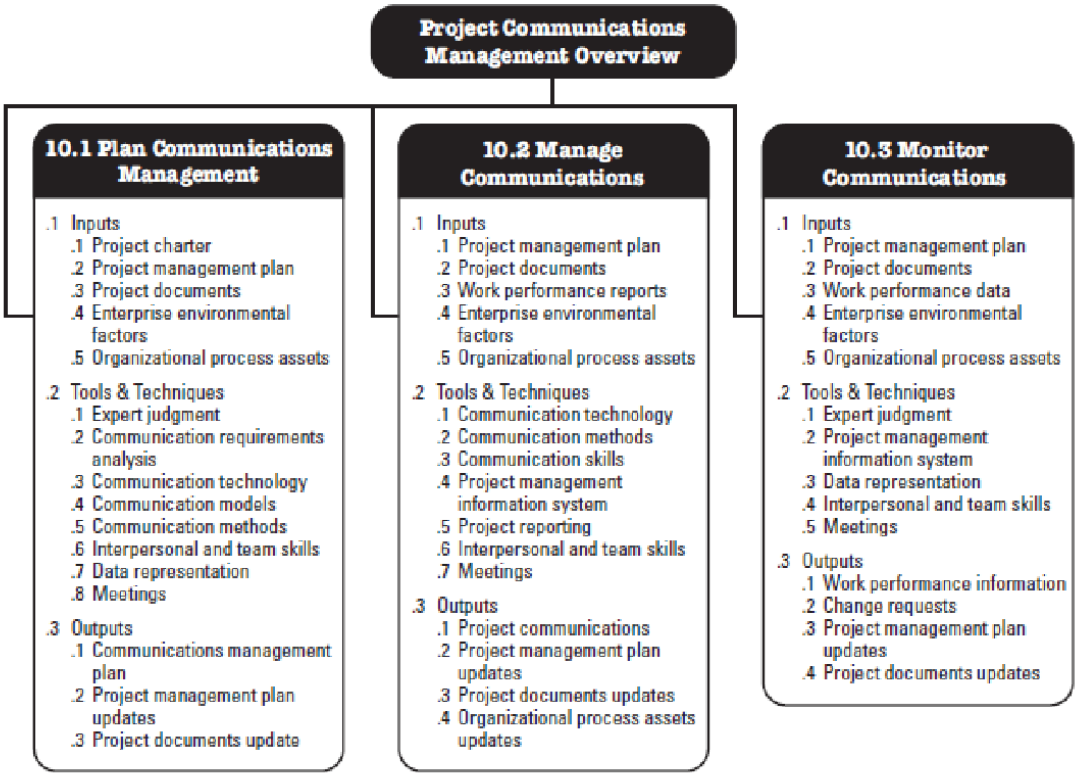
PMBOK® Guide emphasizes that communication is incorporated in every aspect of the project lifecycle. Project communications keeps the team and stakeholders informed and on the same page in terms of ongoing activities and requirements.

This *PMBOK® Guide* knowledge area also includes three processes:

- Plan Communications Management
- Manage Communications
- Monitor Communications

Figure 11:

Project Communications Overview



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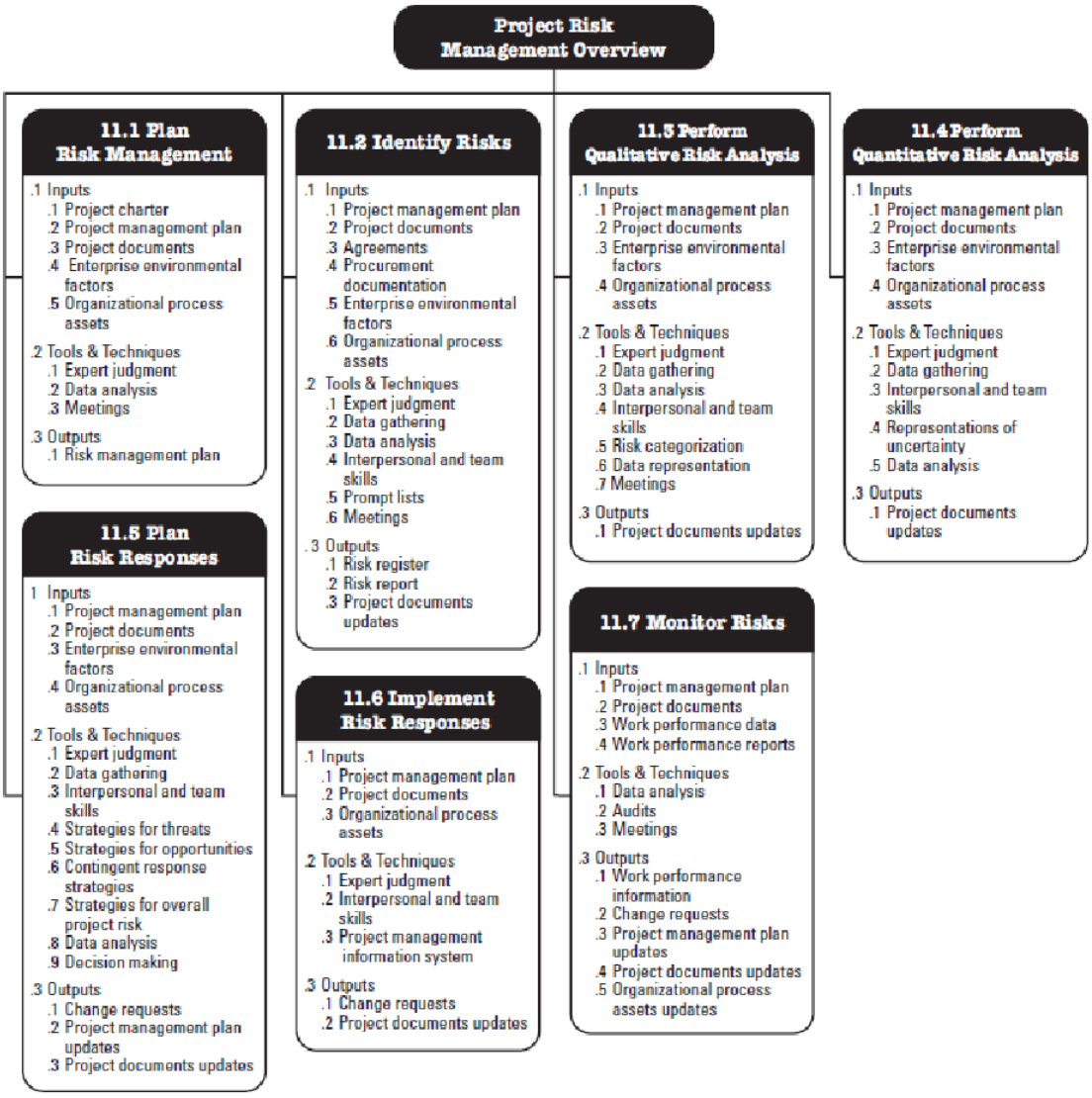
2.2.5.8 Project Risk Management

The project manager should conduct risk management assessments by identifying and analyzing risks. Thereafter, a risk response plan should be developed, which will control risks on an ongoing basis. The objectives of project risk management according to *PMBOK®*

Guide includes increasing the likelihood and/or impact of positive risks and to decrease the likelihood and/or impact of negative risks, in order to optimize the chances of project success.

Figure 12:

Project Risk Management Overview



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2.2.5.9 Project Procurement Management

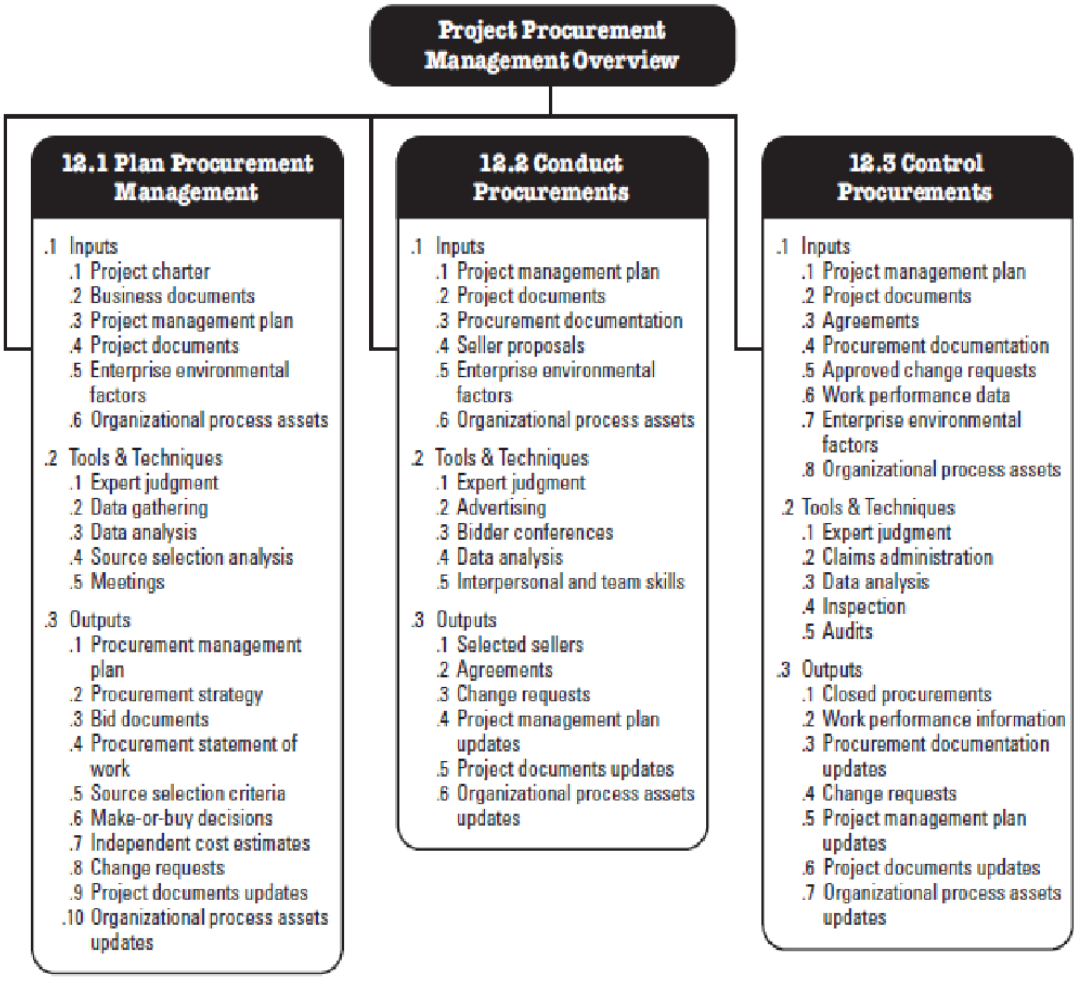
This knowledge area involves purchasing or acquiring products, services, or results from outside the project team. Project procurement and supplier work are documented starting from planning purchases, involvement in the surrendering and acquiring process to executing the task of the supplier.

Project Procurement Management processes include the following:

- Plan Procurement Management
- Conduct Procurements
- Control Procurements

Figure 13:

Project Procurement Management Overview



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2.2.5.10 Project Stakeholder Management

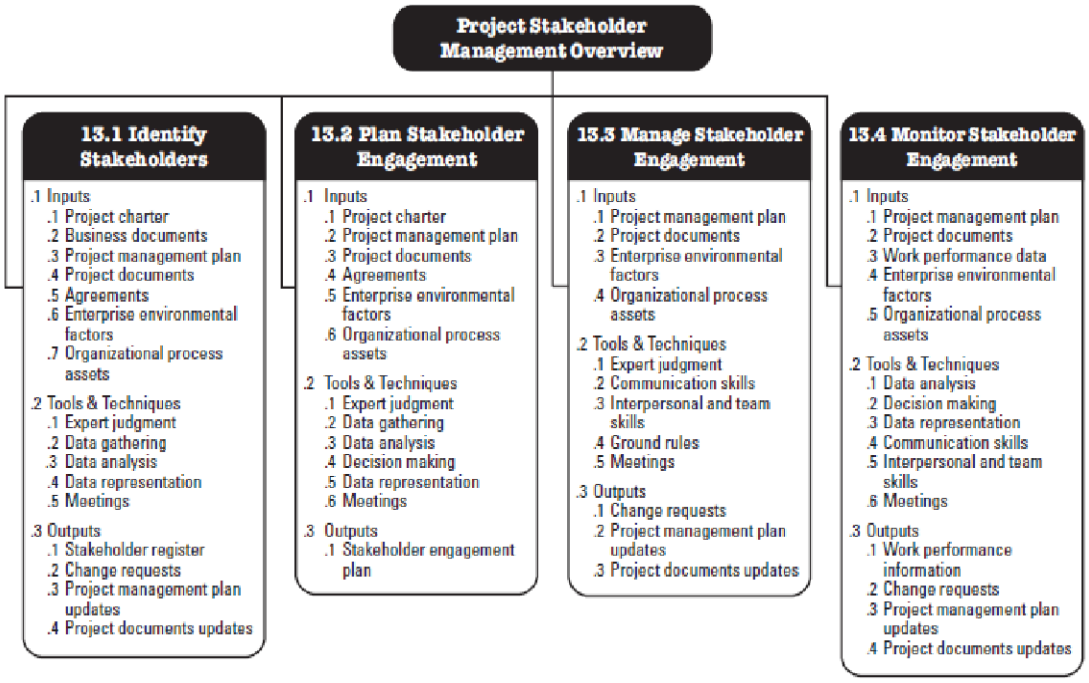
Project stakeholder management is the last knowledge whose processes are crucial in getting stakeholders involved in the project from its inception. *PMBOK® Guide* (2017, p.503) states that "Project Stakeholder Management includes the processes required to identify the people, groups, or organizations that could impact or be impacted by the project, to analyze stakeholder expectations and their impact on the project, and to develop appropriate management strategies for effectively engaging stakeholders in project decisions and execution." Stakeholders such as the customer, play the role of deciding on what changes will meet their requirements.

The four processes involved in Project Stakeholder Management:

- Identifying Stakeholders
- Plan Stakeholder Engagement
- Manage Stakeholder Engagement
- Monitor Stakeholder Engagement

Figure 14:

Project Stakeholder Management Overview



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

2.3.1 Statutory Body

A statutory body is set up by law that is authorized to implement certain legislation on behalf of the country, sometimes by being empowered or delegated to set rules in their field. A statutory body derives its legal powers from a statute.

2.3.2. Horizon 2030

This document describes the vision for Belize in the year 2030. It holds the core values that are to guide citizen's behavior and inform the strategies to achieve the common vision for the future. Its objectives include establishing a set of long-term developmental goals, targets, and indicators that will guide concerted action by all stakeholders involved in the development, implementation, and monitoring and evaluation of both long term and intermediate sector programs and Government's long and medium-term development strategies.

2.3.3 International Funding Agencies

International Financial Institutions (IFIs) are major sources of financial and technical support for developing countries like Belize. The projects that are financed contribute to poverty reduction, economic development, and sustainability endeavors etc. These institutions include multilateral, regional and national development banks with international operations. They contribute to Belize's Sustainable Development Goals (SDGs).

2.3.4 Community Needs Assets Assessments (CNAA) meeting

This document is developed based on the historical profile of the community. It contains primary and secondary sourced data based on transect walks, focus group meetings, semi-structured interviews and historical profiles and trends. Additionally, the CNAA documents a brief history of the community, significant events, major changes or shocks (natural disasters etc.).

3 METHODOLOGICAL FRAMEWORK

3.1 Information sources

An Information Source is a source of information for somebody, for instance, anything that might inform a person about something or provide knowledge to somebody. Information sources may be observations, people speeches, documents, pictures, organizations etc (LISBDNETWORK, 2022).

3.1.1 Primary sources

Primary sources of information constitute records of events or evidence as they are first described or without any alteration to its contents. According to Meddlow (2020) “It is information that is shown for the first time or original materials on which another research is based.” Primary Sources for the project include:

CEO Ministry of Education/ GOB Officials – The CEO provided access to information on ministry’s guidelines for classroom infrastructure, permits etc.

CCTHS Principal, Village Chairman, Villagers – During the CNAA meeting, interviews and telephone calls, these stakeholders provide information on the needs of the student population (size, growth rate, and needs), that are factored into the design of the classrooms.

C. Tun (Executive Director) – The project manager provides timely information regarding previous lessons learned on similar projects, as well as a liaison with the CDB and government officials, via conference calls, meetings and interviews.

3.1.2 Secondary sources

Secondary sources of information according to Meddlow (2020), "offer an analysis or restatement of primary sources. They often try to describe or explain primary sources. They tend to be works which summarize, interpret, reorganize, or otherwise provide an added value to a primary source." CCTHS project's Secondary sources used included:

PMBOK® Guide – This secondary source provided useful information on the various knowledge areas to incorporate in the project management plan, such as its processes, best practices and terminologies etc.

CCTHS Project Profile - The CCTHS project profile provided a snapshot look at a of valuable information regarding the research done on the development, its execution plan and the assignment of resources to the project.

Government of Belize SDG (2023) – A guide for the project team to ensure that the project it is inline GOB plan for the country, in terms of alleviating poverty, increasing educational opportunities etc.

Chart 1

Information sources

Objectives	Information sources	
	Primary	**Secondary**
#1 To develop a **Project Charter** for the project, which outlines the entire project for the project manager.	Interview with CEO Ministry of Education	*PMBOK® Guide*, Corazon Creek Project Profile (2020), Government of Belize SDG (2023)
#2 To develop a **Scope Management plan** that clearly establishes how the scope will be defined, developed, monitored, controlled, and validated.	Meetings and interviews GOB officials and CCTHS Principal	*PMBOK® Guide*, Corazon Creek Project Profile (2020),
#3 To create a **Schedule Management plan** that will outline expectations for project schedule policies and procedures for planning, developing, managing, executing, and controlling the project schedule to ensure project completion within the defined period	Meeting with C. Tun (Executive Director)	*PMBOK® Guide*, Corazon Creek Project Profile (2020)

#4 To formulate a precise **Cost Management Plan** based on the finance available for the project spending. This plan will establish how the costs will be planned, structured, and controlled.	Interviews/ emails with CEO Ministry of Education. Conference calls and emails with CDB officials.	*PMBOK® Guide*, Corazon Creek Project Profile (2020)
#5 To develop a **Quality Management plan** that includes continuous process improvement activities that will aid in delivering the highest quality outcomes for the project.	Conference calls, emails with CDB officials. On site meeting/ interview with CCTHS Principal	*PMBOK® Guide*, Corazon Creek Project Profile (2020),
#6 To develop an effective **Resource Management plan** using proven methods and techniques to provide guidance on how project resources should be categorized, allocated, managed, and released.	Meeting with C. Tun (Executive Director), Government Reports	*PMBOK® Guide*, Corazon Creek Project Profile (2020),
#7 To create a **Communication Management plan** that outlines communication	Meeting with C. Tun (Executive Director),	*PMBOK® Guide*

channels appropriate for how, when, and by whom information about the project will be administered and disseminated.		
#8 To develop a comprehensive **Risk Management plan** that focuses on how the risk management activities will be structured and performed.	Interviews and meetings with CCTHS Principal and Village chairman, Email communication with GOB officials	*PMBOK® Guide*, Corazon Creek Project Profile (2020)
#9 To develop a **Procurement Management plan** that will define the appropriate methodology to be used when purchasing or acquiring products and services required from outside the organization.	CDB and GOB guidelines document	*PMBOK® Guide*
#10 To establish a **Stakeholder Management plan** defines stakeholders' roles and engagement	Mattings with CDB, GOB and School Principal.	*PMBOK® Guide*, Corazon Creek Project Profile (2020),

mechanism within the project lifecycle.		

Note: Prepared by author.

3.2 Research methods

Research was articulated as the systematic investigation or study of tangible or intangible sources to verify facts and formulate new conclusions. Ramroodi, (2020) described research methods as the "blueprint of the research or study." Various research methods exist and they are distinguished by whether they focus on words, numbers, or both.

3.2.1 Mixed Research Method

The mixed-method methodology, according to researcher Ramroodi (2020), "attempts to combine the best of both qualitative and quantitative methodologies to integrate perspectives and create a rich picture."

Qualitative research referred to research which focused on collecting and analyzing words (written or spoken) and textual data. Qualitative analysis also focused on other "softer" data points, such as body language or visual elements (Ramroodi, 2020). On the other hand, Quantitative research focused on measurement and testing using numerical data (Ramroodi, 2020).

3.2.2 Action Research Method

The Action research method identified a research problem and developed credible solutions based on what was found. Autor Thomas (2021) states that action research is a “flexible research methodology uniquely suited to researching and supporting change. It integrates social research with exploratory action to promote development.”

The mixed and action research methods were both used for the development of the FGP. The mixed research method combined both the qualitative and quantitative methods. This provided a complete data analysis of the project variables. While the action research method used that information and developed solutions for the problems identified.

Chart 2

Research methods

Objectives	Mixed Research Method	Action Research Method
#1 To develop a **Project Charter** for the project, which outlines the entire project for the project manager.		Holistically analyze the research objective using convergent parallel analysis to create an outline of projects goals, objectives and resource requirements
#2 To develop a **Scope Management plan** that clearly establishes how the scope will be defined, developed, monitored, controlled, and validated.	Tool and techniques were identified to effectively guide the execution and control phases of the project.	
#3 To create a **Schedule Management plan** that will outline expectations for project schedule policies and procedures for planning, developing, managing, executing, and controlling the project schedule to ensure project completion within the defined period		The action research method was utilized in an effort to schedule the various phase of the project, using historical data and interviews with various stakeholders.

Objectives	Mixed Research Method	Action Research Method
#4 To formulate a precise **Cost Management Plan** based on the finance available for the project spending. This plan will establish how the costs will be planned, structured, and controlled.	Identifying and allocation the various costs associated with the project was done using historical data, as well as current market prices.	
#5 To develop a **Quality Management plan** that includes continuous process improvement activities that will aid in delivering the highest quality outcomes for the project.	The Mixed research method was instrumental in identifying the best quality standards to employ through the project. this was based of GOB guideless as well as CDB best practices policy for similar projects.	
#6 To develop an effective **Resource Management plan** using proven methods and techniques to provide guidance on how project resources should be categorized, allocated, managed, and released.	Research was done using previous project profile and market analysis to identify the resources need for the project.	

Objectives	Mixed Research Method	Action Research Method
#7 To create a **Communication Management plan** that outlines communication channels appropriate for how, when, and by whom information about the project will be administered and disseminated.	The mixed research method helped to identify the best channel to use in establishing communication lines and relationships throughout the project.	
#8 To develop a comprehensive **Risk Management plan** that focuses on how the risk management activities will be structured and performed.		In order to identify risks posed to the project, the action research was utilized to identify them and possible solutions if the occur.
#9 To develop a **Procurement Management plan** that will define the appropriate methodology to be used when purchasing or acquiring products and services required from outside the organization.		The action research method was used to gather information from CDB's procurement guidelines document and the GOB to use the appropriate method to procure goods, services and consultancy for the project.

Objectives	Mixed Research Method	Action Research Method
#10 To establish a **Stakeholder Management plan** defines stakeholders' roles and engagement mechanism within the project lifecycle.	Conducting an indebt research into each stakeholder group using the mix method helped to identify means of engagement, respecting boundaries and cultural differences.	

Note: Prepared by author.

3.3 Tools

Project management tools as defined by Westland (2019), are "specially designed to assist an individual or team in organizing and managing their projects and tasks effectively." The project manager can customize these tools to suit the needs of the team based on the size of the project and its requirements.

The following category of tools were utilized for the purposes of completing the FGP.

3.3.1 Planning/ scheduling

These tools were used to assign works and tasks in one place. This includes tasks, subtasks, folders, templates, workflows, and calendars. Schedule Management template, meetings, WBS, EVM techniques, activity list, calendar were also utilized.

3.3.2 Collaboration

Tools were used to enhance team building activities such as assign tasks, add comments, organize dashboards, and proof or approve changes.

3.3.3 Data Analysis

Software tools were used to collect, organize and interpret data. Such as Microsoft Excel, Risk Probability, Earned value analysis (EVA). Impact Assessment and SWOT Analysis.

3.3.4 Documentation

Tools were used for recording research data, editing, representing, and storing files; such as Stakeholder Engagement Assessment Matrix, cause-and-Effect Diagrams, Flow charts, Probability and Impact Matrix.

3.3.5 Evaluation

These tools facilitated the process of tracking and assessing project progress, as well as efficiency in execution and resource usage.

Chart 3

Tools

Objectives	**Tools**
#1 To develop a **Project Charter** for the project, which outlines the entire project for the project manager.	Expert Judgment, Interviews
#2 To develop a **Scope Management plan** that clearly establishes how the scope will be defined, developed, monitored, controlled, and validated.	Focus Group with stakeholders, Requirements traceability matrix, MS project, Requirements Documentation template, interviews, WBS
#3 To create a **Schedule Management plan** that will outline expectations for project schedule policies and procedures for planning, developing, managing, executing, and controlling the project schedule to ensure project completion within the defined period	Brainstorming, WBS, EVM techniques, activity list, calendar , Video conference meetings
#4 To formulate a precise **Cost Management Plan** based on the finance available for the project spending. This plan will establish how the costs will be planned, structured, and controlled.	Brainstorming, Earned value analysis (EVA), Analogous estimating, Parametric estimating, Cost Management Plan template
#5 To develop a **Quality Management plan** that includes continuous process improvement activities that will aid in	Expert Judgment, Cost of Quality, Checklists, Flow charts, Quality Management Plan template, performance reviews

delivering the highest quality outcomes for the project.	
Objectives	**Tools**
#6 To develop an effective **Resource Management plan** using proven methods and techniques to provide guidance on how project resources should be categorized, allocated, managed, and released.	Archival Study, Expert Judgment, Responsibility Assignment Matrix, WBS, meetings, Analogous estimating
#7 To create a **Communication Management plan** that outlines communication channels appropriate for how, when, and by whom information about the project will be administered and disseminated.	Focus group brainstorming, Communication requirements analysis, zoom meetings, stakeholder engagement assessment matrix
#8 To develop a comprehensive **Risk Management plan** that focuses on how the risk management activities will be structured and performed.	Expert Judgment, Cause-and-Effect Diagrams, meetings SWOT analysis, and Risk Register template
#9 To develop a **Procurement Management plan** that will define the appropriate methodology to be used when purchasing or acquiring products and services required from outside the organization.	CDB Guidelines, Expert Judgement, Procurement Management Plan template, Earned value analysis (EVA), inspections, meetings
#10 To establish a **Stakeholder Management plan** defines stakeholders'	Brainstorming, Stakeholder Register template, Stakeholder Engagement Assessment Matrix, Mind Map

roles and engagement mechanism within the project lifecycle.	

Note: Prepared by author.

3.4 Assumptions and constraints

Usmani (2022) stated that identifying assumptions and constraints is crucial in ensuring project success. He defined an assumption as "what you believe to be true. These are anticipated events or circumstances that are expected during your project's life cycle. You make assumptions based on your experience or the information available on hand." Assumptions are things that we believed to be true and were accounted for in the project plan.

He also opined that project constraints were "limitations imposed on the project, like the budget, schedule, or resources." Constraints were things that we knew to be true. Therefore, adequate planning was undertaken to avoid them.

Chart 4

Assumptions and constraints

Objectives	**Assumptions**	**Constraints**
#1 To develop a **Project Charter** for the project, which outlines the entire project for the project manager.	Inputs for the development of the charter will be a team effort.	Limited time to develop the Project Charter.

Objectives	Assumptions	Constraints
	The project charter will clearly outline the goals of the project and those involved.	
#2 To develop a **Scope Management plan** that clearly establishes how the scope will be defined, developed, monitored, controlled, and validated.	The scope will be design using skilled project team members.	The scope is limited to the availability of funds and the needs of the school. Construction will be taking place during the rainy season.
#3 To create a **Schedule Management plan** that will outline expectations for project schedule policies and procedures for planning, developing, managing, executing, and controlling the project schedule to ensure project completion within the defined period.	The project schedule will be clear and concise.	Limited time to complete the project
#4 To formulate a precise **Cost Management Plan** based on the finance available for the project spending. This plan will establish how the costs will be planned, structured, and controlled.	Funding will be available to execute the project. The budget will be judiciously followed.	Funds will be limited to the approved budget.

Objectives	Assumptions	Constraints
#5 To develop a **Quality Management plan** that includes continuous process improvement activities that will aid in delivering the highest quality outcomes for the project.	The contractor and workers will have the skills and competency the deliver high quality standard work.	Contractor's experience and technical skills with this scale of project will play a pivotal role in the quality of the project
#6 To develop an effective **Resource Management plan** using proven methods and techniques to provide guidance on how project resources should be categorized, allocated, managed, and released.	All the necessary resources for the project will be provided. Resources will be readily accessible in the country	Limited to availability of resources in the country and funds allocated for each activity
#7 To create a **Communication Management plan** that outlines communication channels appropriate for how, when, and by whom information about the project will be administered and disseminated.	Communication tools such as telephone calls and emails will be utilized though the execution of the project. Miscommunications will be resolved amicably.	Telephone reception and computer accessibility may pose as a restraint to some stakeholders especially in the rural areas.
#8 To develop a comprehensive **Risk Management plan** that	Measures will be put in place to avoid or minimize the impact of identified risks.	The ability to foresee all possible risks.

Objectives	Assumptions	Constraints
focuses on how the risk management activities will be structured and performed.	Risk mitigative measures will be implement in real time.	
#9 To develop a **Procurement Management plan** that will define the appropriate methodology to be used when purchasing or acquiring products and services required from outside the organization.	Equipment and material procured will be in good condition. The procurement process will be conducted in a fair and transparent manner.	Limited to the guidelines of CDB and the government of Belize. Eligible to local contractors and consultants.
#10 To establish a **Stakeholder Management plan** defines stakeholders' roles and engagement mechanism within the project lifecycle.	All relevant stakeholders will be available for meetings, workshops, telephone calls and briefings	Time zone difference, location of the project site and road conditions

Note: Prepared by author.

3.5 Deliverables

Project deliverables defined by York (2021) referred to "all of the outputs—tangible or intangible—that are submitted within the scope of a project." According to *PMBOK® Guide* (p.4) A deliverable was defined 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. Deliverables may be tangible or intangible." The following deliverables were produced for the FGP: Project Charter (Appendix 1), Communication Management plan, Cost Management plan, Procurement Management plan, Quality Management plan, Resource Management plan, Risk Management plan, Schedule Management plan, Scope Management plan, Stakeholder Management plan.

Chart 5

Deliverables

Objectives	**Deliverables**
#1 To develop a **Project Charter** for the project, which outlines the entire project for the project manager.	Project Charter for the Construction of Corazon Creek Technical High school extension
#2 To develop a **Scope Management plan** that clearly establishes how the scope will be defined, developed, monitored, controlled, and validated.	Scope Management plan including: ● Project Scope Statement ● Work Breakdown Structure ● WBS Dictionary
#3 To create a **Schedule Management plan** that will outline expectations for project schedule policies and procedures for planning, developing, managing, executing, and controlling the project schedule to ensure project completion within the defined period.	Schedule Management plan including: ● Activity List ● Schedule in Gantt chart ● Milestone Schedule

Objectives	Deliverables
#4 To formulate a precise **Cost Management Plan** based on the finance available for the project spending. This plan will establish how the costs will be planned, structured, and controlled.	Cost Management plan including: ● Cost Baseline ● Cost Estimates ● Project Budget
#5 To develop a **Quality Management plan** that includes continuous process improvement activities that will aid in delivering the highest quality outcomes for the project.	Quality Management plan including: ● Cost of Quality Matrix ● Quality responsibilities matrix
#6 To develop an effective **Resource Management plan** using proven methods and techniques to provide guidance on how project resources should be categorized, allocated, managed, and released.	Resource Management plan including: ● RACI Matrix ● Resource Breakdown Structure
#7 To create a **Communication Management plan** that outlines communication channels appropriate for how, when, and by whom information about the project will be administered and disseminated.	Communication Management plan including: ● Stakeholders Communication Strategies ● Communications Matrix
#8 To develop a comprehensive **Risk Management plan** that focuses on how the risk management activities will be structured and performed.	Risk Management plan including: ● Resource Breakdown Structure ● Risk Register ● Risk Probability Scale ● Risk Impact Scale ● Probability and Impact Matrix

Objectives	**Deliverables**
#9 To develop a **Procurement Management plan** that will define the appropriate methodology to be used when purchasing or acquiring products and services required from outside the organization.	Procurement Management plan including: ● Procurement Plan ● Contract Administration matrix
#10 To establish a **Stakeholder Management plan** defines stakeholders' roles and engagement mechanism within the project lifecycle.	Stakeholder Management plan including: ● Stakeholder Register ● Power/ Interest Matrix ● Stakeholder Engagement Assessment Matrix.

Note: Prepared by author.

4 RESULTS

The results of the Final Graduation project are the Project Charter and Project Management Plan. Furthermore, the BSIF will be required to implement the remaining processes (Direct and Manage project work, manage project knowledge, Monitor and Control project work, and Perform Integrated Change Control, and Close project or phase). The Project Management Plan for CCTHS project consists of the project charter and nine subsidiary management plans.

4.1 Project Charter

According to *PMBOK® Guide* Develop, Project Charter is the process of developing a document that formally authorizes the existence of a project and provides the project manager with the authority to apply organizational resources to project activities (Project Management Institute, 2017). The project charter was developed based on the mutual goals of the project sponsor (CDB) and the BSIF. This document highlights the scope, goals, objectives of these two key stakeholders. It also outlines the project cost, schedule and identified risks associated with the project. This will serve a single, compact reference point for the project team and other authorized stakeholders (Project Management Institute, 2017).

Chart 6

Project Charter for the construction of Corazon Creek Technical High School Extension

Project Charter	
Date:	**Project Name:**
September 29, 2022	Construction of Corazon Creek Technical High School Extension in Belize
Knowledge Areas/ Processes	**Application Area (Sector/Activity)**
Project Integration Management Project Scope Management Project Schedule Management Project Cost Management Project Quality Management Project Resource Management Project Communications Management Project Risk Management Project Procurement Management Project Stakeholder Engagement Initiating, Planning, Monitoring, and Controlling	Construction, Education, Community Development
Start Date:	**Finish Date:**
July 28, 2023	March 26, 2024

Project Objectives (General & Specific)

General Objective:

To construct a 3 classroom, single storey ferro-concrete high school building, solar system, along with male and female bathrooms, to provide larger classrooms space and renewable energy source for the students of Corazon Creek Village.

Specific Objectives:

#1 To build the main three classroom structure to provide larger space for students.
#2 To provide spacious bathroom facilities for male and female students, in order to comply with current building and sanitary codes.
3 To provide a solar system for the school to have a source of renewable energy.

Project purpose or justification (merit & expected results)

The student population of Corazon Creek and surrounding villages have increased significantly over the years. Thus, leading to overcrowding of current classrooms and bathroom facilities. The project will provide the CCTHS with an additional three classrooms. As a result, this will give the students increased space for learning activities, and additional bathroom facilities. The classrooms can also be used as a hurricane shelter.

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

The Corazon Creek Technical Highschool project includes the following deliverables:
#1. Three classroom concrete building
#2. Male and female bathrooms
#3. Solar power system

Assumptions
1. The project charter will clearly outline the goals of the project and those involved. 2. The scope will be design using skilled project team members. 3. The project schedule will be clear and concise. 4. Funding will be available to execute the project. 5. The budget will be judiciously followed. 6. The contractor and workers will have the skills and competency the deliver high quality standard work. 7. All the necessary resources for the project will be provided. 8. Resources will be readily accessible in the country 9. Communication tools such as telephone calls and emails will be utilized though the execution of the project. 10. Miscommunications will be resolved amicably. 11. Measures will be put in place to avoid or minimize the impact of identified risks. 12. Risk mitigative measures will be implement in real time. 13. Equipment and material procured will be in good condition. 14. The procurement process will be conducted in a fair and transparent manner. 15. All relevant stakeholders will be available for meetings, workshops, telephone calls and briefings
Constraints
1. Limited time to develop the Project Charter. 2. The scope is limited to the availability of funds and the needs of the school. 3. Construction will be taking place during the rainy season. 4. Limited time to complete the project 5. Funds will be limited to the approved budget. 6. Contractor's experience and technical skills with this scale of project will play a pivotal role in the quality of the project

7. Limited to availability of resources in the country and funds allocated for each activity
8. Telephone reception and computer accessibility may pose as a restraint to some stakeholders especially in the rural areas.
9. The ability to foresee all possible risks.
10. Limited to the guidelines of CDB and the government of Belize.
11. Eligible to local contractors and consultants.
12. Time zone difference, location of the project site and road conditions

Preliminary Risks

#1. Construction delays due to heavy rains and possibly hurricanes.
#2. Destruction of access roads due to heavy rains.
#3. Community contributions towards the project may not materialize.
#4. Students related accidents if the construction area is not securely cordoned off from student access.

Budget

Agency	**Contribution**
Community	$9,000.00
GOB	$111,170.00
CDB	$480,680.00
Contingency Reserve	$*60,085.00*
Management Reserve	$5,000.00
Total	$665,935.00

Milestones and dates

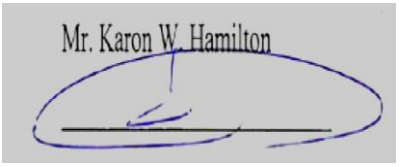
Milestone	Start date	End date
Site preparation	July 28, 2023	August 4, 2023
Foundation	August 5, 2023	September 8, 2023
Walls & Roof	September 9, 2023	October 15, 2023
Plumbing	October 16, 2023	October 30, 2023
Solar System & Electrical wiring	November 30, 2023	January 2, 2023
Windows & Doors	January 3, 2024	January 14, 2024
Interior Finishings	January 15, 2024	February 22, 2024
Exterior Finishings	February 23, 2024	March 17, 2024
Site Clearance	March 18, 2024	March 25, 2024
Project End	March 26, 2024	March 26, 2024

Estate of the "matter"

Corazon Creek Technical High School (CCTHS) is situated in Corazon Village 35 miles southwest of Punta Gorda Town, Toledo District. The community of Corazon has existed since 1974 and is inhabited by the Ketchi Mayas. The village has a population of 209 persons, (106 males, 103 females), in 50 households. Subsistence farming is the main source of economic activity in order to maintain livelihood. Livestock rearing such as poultry, pigs, and cattle is also undertaken in the village, with products either being used for home consumption or sold at the Punta Gorda Town Market.

Corazon Creek Technical High School was built by the Ministry of Education in collaboration with Sunrise Rotary Club Tyler, Texas USA, who is still a major funding source for the institution, on August 31, 2009. CCTHS opened its doors to seventy-five (75) students (50 males, 25 females) staffed then by seven full time teachers, a teaching vice principal, an administrative principal, a bursar/secretary, a janitor, and two watchmen. This high school, being a government institution, is administered by a Board of Management under the auspices of the Ministry of Education. CCTHS is situated on

approximately four acres of land with twenty eight acres available for agricultural purposes and future expansion. CCTHS is a technical institution, offering students options in Business, Academics/Sciences or Vocational areas. Their school population not only includes students from Corazon Village, but also from the ten (10) different neighboring villages of Graham Creek, Mabilha, Dolores, Crique Sarco, San Benito Poite, San Lucas, Santa Theresa, Conejo Creek, Otoxha, and Sunday Wood, all of which are located in the first quintile of the Belize Poverty Map. This institution serves as a hub for students of these eleven (11) villages, providing a convenient alternative to attending either Toledo Community College or Julian Cho Technical High School which are over 30 miles away. Over the past 13 years, since the high school opened its doors, the population has increased from 75 to 309 students (116 males 93 females). First to third form students from the surrounding communities are currently being transported to Corazon Creek Technical High School via buses, which are hired by the Government of Belize. Fourth form students from the surrounding communities have a choice of either being transported to Julian Cho Technical High School near the Dump Area on the Southern Highway or to Toledo Community College in Punta Gorda Town. As a result of the Ministry of Education's Sector Strategy Plan, this latter option is in the final year of operation as transportation will no longer be provided to Julian Cho Technical High School and Toledo Community College. With the sector strategy plan being in full effect, providing equitable access at all levels in education due to the substantial increase in the student population.

Stakeholders	
Primary Stakeholders: CDB, BSIF, Students, School administration **Secondary Stakeholders**: Contractor, Ministry of Education, Vendors, parents, community members	
Project Manager: Karon W. Hamilton	**Signature:** 
Authorized by:	**Signature:**

Note: Prepared by author.

4.2 Scope Management Plan

The scope management plan was designed to outline the resources required to achieve the objectives of the CCTHS project. It further expands on the information developed in section 4.1 project charter. This plan will aid the project team in avoiding ambiguity surrounding the project scope, reducing project scope creep, and constantly changing requirements. The project manager will use this tool to define, validate and control the scope of the project.

4.2.1 Plan Scope Management

The project cycle for executing the CCTHS project was tailored to the project cycle used by BSIF. Information in the scope management plan was acquired from conducting meetings with stakeholders including, CDB, BSIF and School management. Expert judgment was made when conducting meetings with community members as the cultural practices were different. Data was also extracted from similarly completed projects by BSIF. These documents were made available by management.

4.2.2 Requirements

The project requirements were finalized based on correspondence with the project sponsor (CDB), various GOB regulatory/ oversight bodies, village leaders, engineers, and technicians. Focused group meetings were conducted in the community of Corazon Creek, to extrapolate from its members the requirements the school is expected to provide for them. Furthermore, brainstorming sessions were held to identify the most ideal

requirements and how to efficiently merge them into a viable project. Additionally, information such as census reports and primary school records were also used. This information provided critical knowledge needed to understand the student population size and population growth trend to make informed decisions regarding designing the project scope.

4.2.3 Project Scope Statement

Project Name:	Construction of Corazon Creek Technical High School Extension in Belize
Date:	September 29, 2022
Project Objectives	
General Objective: To construct a 3 classroom, single storey ferro-concrete high school building, solar system, along with male and female bathrooms, to provide larger classrooms space and renewable energy source for the students of Corazon Creek Village. **Specific Objectives:** #1 To build the main three classroom structure to provide larger space for students. #2 To provide spacious bathroom facilities for male and female students, in order to comply with current building and sanitary codes. # 3 To provide a solar system for the school to have a source of renewable energy.	

Product Scope Definition
This project includes the construction of a new three classroom single storey ferro-concrete building consisting of a total floor area of approximately 3,250 sq. ft including a 6 ft verandah. The structure will be equipped with male and female student bathroom facilities as well as male and female teachers' restroom facilities. The building will be constructed of reinforced concrete masonry block walls, reinforced concrete beams and columns, reinforced concrete roof with parapet wall, and a reinforced concrete floor slab. All internal and external masonry walls will be plastered and painted. The building will include solid timber doors and aluminum louvered windows along with the provision of security grilles. A solar power system will be included in the project. This system will provide single phase 120V electricity to the structure powering all electrical fixtures and receptacles. Provisions for the installation of plumbing, water supply and wastewater systems in accordance with the regulation of the respective authorities will also be included in the project. The provision of bush sticks will be the community contribution.
Project Requirements
● The project is expected to complete within the approved budget and schedule. ● The classrooms are required to be constructed based on the design. ● The project site is required to be safe for workers and safe gears are required for all persons upon entering the site.

- The project site is required to be barricaded from students.
- Classroom equipment is required to be American standard.
- Male and female bathrooms are required to be separated.
- The solar system is required to produce enough energy to power the classrooms and capacity for expansion.

Project Exclusions

- Salary for additional teachers
- Maintenance of the school
- Training materials for new teachers
- Classroom furniture
- School amenities i.e parking lot, storeroom, lockers, bathroom supplies

Project Deliverables

- Three classroom concrete building
- Male and female bathrooms
- Solar power system

Product Acceptance Criteria
● Building Structure meets structural regulatory requirements. ● Plumbing for the building is working. ● Roof is secured and no leakage is detected. ● All electrical amenities are connected and functional i.e. lights, outlets, AC etc ● All electrical wiring is completed, and solar power system is functional. ● Project site is cleared off all dangerous materials.
Project Constraints
#1. Construction will be taking place during the rainy season. #2. Construction will be taking place during active school hours. #3. The contractor may face logistical issues due to the remoteness of the village. #4. Connection to the national power grid is unavailable. #5. Limited water source in the village. #6. Sourcing materials will be challenging due to the nearest depot being 150 miles away.
Project Assumptions
#1. The CCTHS project can be completed in 8 months. #2. Workforce will be available in the form of residents from the village. #3. The community will support the project. #4. The Ministry of Education will provide additional teachers when the project is completed. #5. The project will be secured from outside interference.

Initial Project Organization

The project teams consist of the project manager, project officer, engineer, consultant, electrician, CDB and the Ministry of Education. Stakeholders include; students, parents, school administration, contractors, community members and GOB officials. Additionally, a project monitoring committee (PMC) consisting of members of the school administration, members of the community and the project officer, will provide additional oversight of the project.

Schedule Milestones

Milestone	**Date**
Site preparation	August 4, 2023
Foundation	September 8, 2023
Walls & Roof	October 15, 2023
Plumbing	October 30, 2023
Electrical	January 2, 2024
Windows & Doors	January 14, 2024
Interior Finishings	February 22, 2024
Exterior Finishings	March 17, 2024
Site Clearance	March 25, 2024
Project End	March 26, 2024

Fund Limitations

The project is limited to the available funds of $600,850.00.

Approval Requirements
After completing the project, the school administration, and officials from the ministry of education will inspect the building for any defects. The classrooms will be officially handed over to the school administration after it meets their satisfaction that no defects are identifiable.
Decision
☐ Approved ☐ Approved with modifications ☐ Rejected ☐ Deferred
Required Modifications
Additional Comments

_____ _____

Approver's Name (Printed) Date

_____

Title

_____

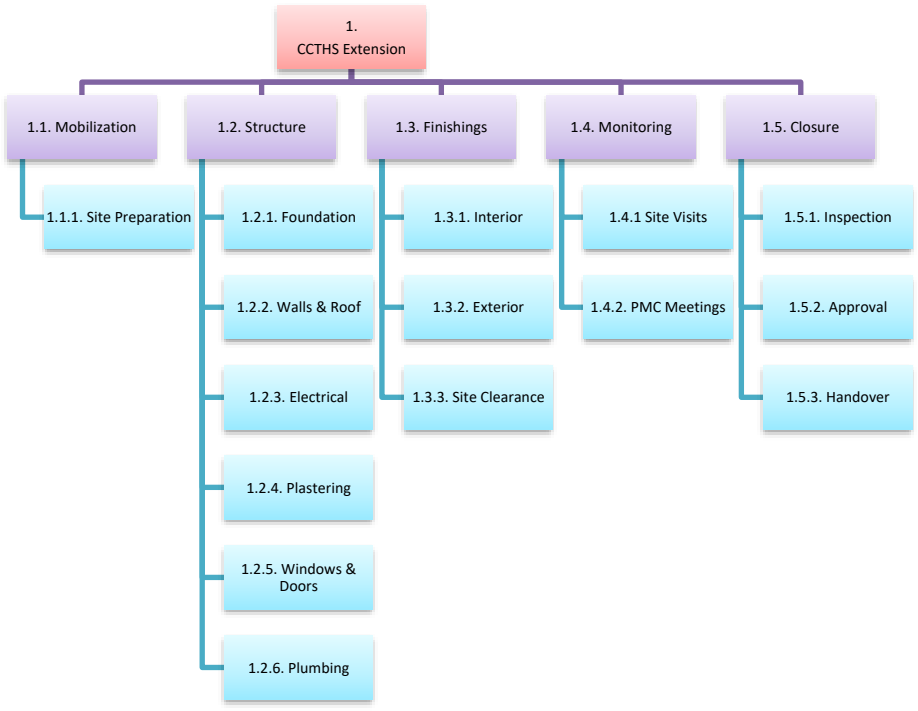
Signature

4.2.4. Work Breakdown Structure

The WBS was created to illustrate the process of subdividing the project deliverables into smaller work components. The decomposition technique was used to develop the WBS, which was derived from the scope description. The project team will have clarity when carrying out project objectives and producing deliverables. Figure 8 is a representation of the WBS levels.

Figure 15

Corazon Creek Technical High School Extension Project Work Breakdown Structure (WBS)



Note: Prepared by author.

4.2.5. Work Breakdown Structure Dictionary

Additionally, the WBS dictionary in chart 8 below, outlines responsibilities, milestones, assumptions and constraints, quality metrics, cost, schedule, and required resources for each work package.

Chart 7

Corazon Creek Technical High School Extension Project WBS Dictionary

WBS ID	Description of work	Owner	Milestone	Assumptions/Constraints	Quality metrics	Cost	Schedule	Resource required
1.1. Mobilization								
1.1.1.	Site Preparation	Contractor	Project Start	Project site will be barricaded from students/ access to school facilities is off limits	# of fences	$25,000.00	4-Aug-23	Workers, Equipment & Supplies
1.2. Structure								
1.2.1.	Foundation	Contractor, Engineer	Foundation completed	Equipment & materials will be available/ heavy rains my delay project	% of the building completed	$166,000.00	8-Sep-23	Workers, Equipment & Supplies
1.2.2.	Walls & Roof		Roof completed			$75,100.00	15-Oct-23	
1.2.3.	Electrical		Wiring completed			$56,400.00	2-Jan-24	
1.2.4.	Plastering		Plastering completed			$36,350	29-Nov-23	
1.2.5.	Windows & Doors		Windows & doors installed			$64,900	14-Jan-24	

1.2.6.	Plumbing		Plumbing Completed			$55,000.00	30-Oct-23	
1.3 Finishings								
1.3.1.	Interior	Contractor, Engineer	Interior detailing completed	Equipment & materials will be available/ heavy rains my delay project	% of the building completed	$57,000.00	22-Feb-24	Workers, Equipment & Supplies
1.3.2.	Exterior		Exterior detailing completed			$30,000.00	17-Mar-24	
1.3.3.	Site Clearance		Project site cleared of all debris and materials			$20,000.00	25-Mar-24	
1.4. Monitoring								
1.4.1.	Site Visits	Project Team	NA	Project team will visit sites regularly/ road access	# of reports	$0.00	Weekly	Tablet
1.4.2.	Project Monitoring Committee Meeting	Project team, community members, School administration	NA	Committee members will attend meetings/ road access	# of members in attendance	$0.00	bi-weekly	Computer, Internet, Electricity, Projector
1.5. Closure								
1.5.1	Inspection	School administration, Ministry of Education	NA	no defects will be found/ defects will delay project closure	# of defects	$0.00	26-Mar-24	Defects checklist, pen
1.5.2	Approval	School administration, Ministry of Education	NA	All relevant stakeholders will approve the completed project/ all signatures are needed	# of approved signatures	$0.00	26-Mar-24	Approval form, pen

1.5.4	Handover	BSIF	Project officially closes	Handing over Ceremony	# of Pamphlet	$100.00	26-Mar-24	Inauguration pamphlets / P.A. System

Note: Prepared by author.

4.2.6. Validate Scope

Weekly site visits by the project technical officer and the engineer are to be conducted. The purpose of these visits is to ascertain the progress of project completion, as well as compliance with the project standards. Weekly progress reports are to be submitted to the project manager.

4.2.7. Control Scope

Upon site visits, inspections are made on the progress of the project, milestones accomplished, and quality of works conducted. Any deviation from the design will result in the project being halted and the contractor will be required to rework the deviations he made. Changes to the scope and schedule baselines and to the subsidiary project management plans are amended by formally requesting the change through the change request mechanism. Submissions are made to the Project Manager via the change request form. Requests are to be categorized by the potential impact of the change, including project cost, schedule, and quality. A final decision will be made by the project manager in collaboration with the project sponsor.

4.3 Schedule Management Plan

The project management schedule for the CCTHS project contains a breakdown of the necessary activities, deliverables, and milestones to complete the project. The schedule further simplifies the project cycle in terms of its duration, assigned activity resources and commencement and conclusion date.

4.3.1 Plan Schedule Management

The project manager in collaboration with the project team developed the strategies necessary for the overall management of the project schedule. The schedule was developed using the Microsoft Project application. The app provided the project team with a visual roadmap for managing the time allocated to various project deliverables.

4.3.2 Activity List

The activity list developed in Chart 8 contains a list of the scheduled activities decomposed from level 3 of the WBS. The list clearly elaborates the project scope for the project team to use in advancing the project. Information in the activity list was extracted from the WBS and WBS Dictionary. The project teams has the obligation to update the list as the project progresses.

Chart 8

Corazon Creek Technical High School Extension Project Activity List

WBS ID	Work Package	Activity Name	Description
1.1.1.	Site Preparation	Ground works	Site leveling, access routes
1.1.1	Site Preparation	Site management	Installation of appropriate warning signs and barricades.
1.1.1.	Site Preparation	Site facilities	Erecting a site office, bathroom facility and power supply.
1.2.1.	Foundation	Ground works	Digging site layout, laying footings and erecting foundation walls.
1.2.1.	Foundation	Steel works	Tying steel. Laying steel in foundation.
1.2.1.	Foundation	Concrete slab	Pour concrete slab. Leveling floor
1.2.2.	Walls & Roof	Beams	Install reinforced bars and footers
1.2.2.	Walls & Roof	Wall construction	Erecting interior and exterior concrete walls
1.2.2.	Walls & Roof	Roof frame	Weld metal roof frame
1.2.2.	Walls & Roof	Roof installation	Install corrugated zinc sheets
1.2.3.	Electrical	Wiring building	Install wires, breakers
1.2.3.	Electrical	Fixtures	Connecting electrical fixtures, switches and solar system
1.2.4.	Plastering	Interior	Coat and level walls with cement mixture
1.2.4.	Plastering	Exterior	Coat and level walls with cement mixture
1.2.5.	Windows & Doors	Install windows and doors	Fitting window and door including frames.
1.2.6.	Plumbing	Water installation	Install pipes, valves and meters
1.2.6.	Plumbing	Fixtures installation	Connecting faucets and toilets
1.3.1	Interior	Painting	Painting inside walls and ceiling
1.3.1.	Interior	Floor installation	Install tiles in all rooms
1.3.2.	Exterior	Painting	Painting outside walls
1.3.3.	Site Clearance	Project site cleared of all debris and materials	Removal of barricades, debris and equipment
1.4.1.	Site Visits	Weekly team visits	Site inspection for compliance with the project plan

1.4.2.	PMC Meeting	Data collection	Meetings are held to discuss concerns regarding the project
1.5.1.	Inspection	Identifying defects	The building is evaluated for apparent defects.
1.5.2.	Approval	Acceptance of the building	Approval for the handing over of the building after it accepted
1.5.3.	Handover	Project Inauguration Ceremony	Project is officially handed over to the school Administration and Ministry of Education

Note: Prepared by author.

4.3.3 Activity Dependency

After careful considerations, mandatory and discretionary dependencies were applied in developing the project schedule. Works such as foundation, which involves completing steel works for the floor and pouring of concrete slab, must be completed before the walls and roof are erected. These are considered to have mandatory dependency relationships. Other works such as painting and installation of doors, can be completed independent of each other. Thus, these are considered to have a discretionary relationship.

4.3.4 Activity Duration

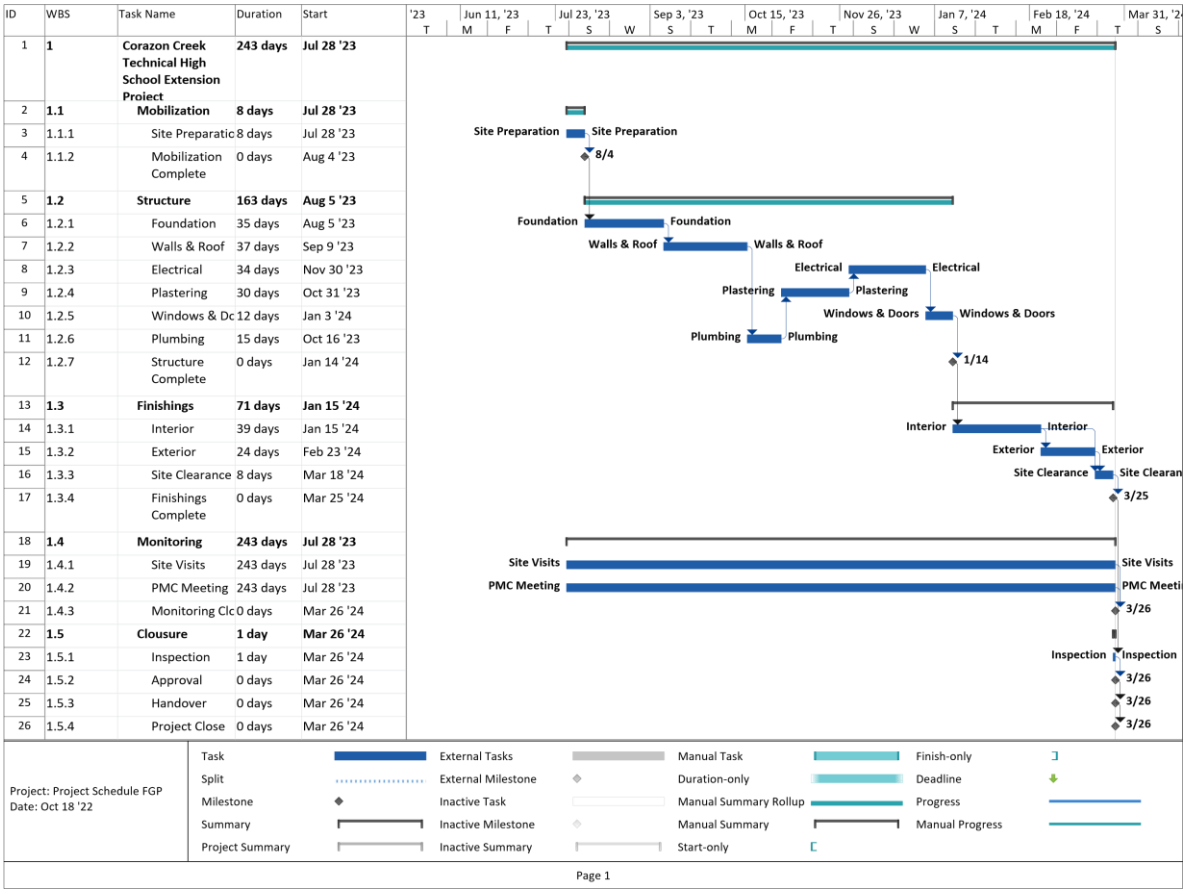
The estimated activity duration was developed using both the analogous and bottoms up estimating techniques. Durations were drawn from similar construction projects completed in the past and aggregating the lower-level works of the WBS. Thus, producing an adequate projection of each duration period.

4.3.5 Project Schedule

The project schedule will give the project team a reliable guide for keeping track of deadlines, reporting requirements and project progress. The schedule includes start and completion dates, activity duration and milestones. A graphical representation was created in Microsoft Project software.

Figure 16

Corazon Creek Technical High School Extension Project Schedule



Note: Prepared by author

4.3.6 Control Schedule

Schedule control is critical in completing the project in the specified timeframe. The project milestone schedule will be the reference point for controlling the schedule implementation. Furthermore, the project manager will use both the performance reviews and variance analysis to vehemently keep the project on its target completion timeline. Performance reviews provides the project manager with the versatility to measure, compare, and analyze schedule performance against baselines, including start and finish dates, percent complete etc. Similarly, the variance analysis involves identifying the changes in dates.

The project's schedule duration is 243 days or approximately 8 months.

Chart 9

Corazon Creek Technical High School Extension Project Milestone Schedule

PROJECT SCHEDULE TIMEFRAME									
WBS ID	**Activity Name**	**Jul/Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
1.2.1.	Site preparation	*							
1.3.1.	Foundation		*						
1.3.2.	Walls & Roof			*					
1.3.6.	Plumbing			*					
1.3.3.	Electrical						*		
1.3.5.	Windows & Doors						*		
1.4.1.	Interior Finishings							*	
1.4.2.	Exterior Finishings								*
1.4.3.	Site Clearance								*
1.6.4.	Project End								*

Note: Prepared by author.

4.4 Cost Management Plan

The project cost management plan was developed to enable the project manager to maintain control of the project expenditures. The plan outlines various processes for controlling costs throughout the project lifecycle. They include estimating, budgeting and controlling costs based on the approved budget.

4.4.1 Plan Cost Management

The available funding for the project was used to plan the necessary cost management procedures. The project is funded by the Caribbean development bank and Government of Belize. The plan establishes thresholds to guide the project manager in managing cost performances and variances.

4.4.2 Cost Estimation

The cost estimates for the project were generated using the analogous and bottoms up costs estimating techniques. BSIF have executed similar projects in the past and have kept a record of the financial information, thus providing a meaningful baseline to formulate the cost estimates. Individual work packages were analyzed to determine their costs. The costs were then compiled for tracking during the project lifecycle.

Chart 10

Corazon Creek Technical High School Extension Project Cost Estimates

WBS ID	Activity Name	Estimated Cost
1.2.1.	Ground works	$8,000
1.2.1	Site management	$17,000
1.2.1.	Site facilities	$15,000
1.3.1.	Ground works	$20,000
1.3.1.	Steel works	$80,000
1.3.1.	Concrete slab	$66,000
1.3.2.	Beams	$6,100
1.3.2.	Wall construction	$35,000
1.3.2.	Roof frame	$12,000
1.3.2.	Roof installation	$22,000
1.3.3.	Wiring building	$40,000
1.3.3.	Fixtures	$16,400
1.3.4.	Interior Plastering	$24,233.33
1.3.4.	Exterior Plastering	$12,116.67
1.3.5.	Install windows and doors	$64,900
1.3.6.	Water installation	$40,000
1.3.6.	Fixtures installation	$15,000
1.4.1	Painting	$14,000
1.4.1.	Floor installation	$43,000
1.4.2.	Painting	$30,000
1.4.3.	Project site cleared of all debris and materials	$20,000
1.5.1.	Weekly team visits	$0

1.5.2.	Data collection	$0
1.6.1.	Identifying defects	$0
1.6.2.	Acceptance of the building	$0
1.6.3.	Project Inauguration Ceremony	$100
	Contingency Reserve Management Reserve	$60.085 $5,000

Note: Prepared by author.

The cost estimates for the CCTHS project were developed based on the design of the classrooms and the materials needed to complete each phase. Because of various risks identified for the project, it was imperative to assign a contingency and management reserve funds for the project. This will cover any additional costs that may occur as a result of the risks coming into fruition.

4.4.3 Budget Determination

The CDB has unique guidelines when accessing loan funds. This will determine the budgetary flexibility the project manager can maneuver within the management of the project costs. Due to potential project risks identified through brainstorming, expertise and historical information, a contingency reserve of 5% was established. Additionally, a management reserve of $5,000 was included in the budget.

Chart 11

Corazon Creek Technical High School Extension Project Budget

Agency	**Contribution**
Community	$9,000.00
GOB	$111,170.00
CDB	$480,680.00
Contingency Reserve (5%)	*$60,085.00*
Management Reserve	*$5,000.00*
Project Budget Total	**$665,935.00**

Note: Prepared by author

4.4.2 Costs control

The BSIF finance unit coordinator is responsible for implementing the control measures and providing monthly reporting updates to the project manager. The Earned Value analysis (EVA)will be the focal point for analyzing the performance measurement baseline to the actual schedule and cost performance. The three aspects developed and monitored by the EVA are the Planned Value, Earned Value and Actual Cost.

Additionally, the cost will be controlled using the project disbursement schedule. Funds will be paid out based on deliverables received. Invoice and supporting documentation are vetted by the project manager and then passed to the finance coordinator for payment.

Payments are logged and tracked using QuickBooks and the project payment registry document.

Figure 17

Earned Value Analysis Calculations Summary Table

Earned Value Analysis

Abbreviation	Name	Lexicon Definition	How Used	Equation	Interpretation of Result
PV	Planned Value	The authorized budget assigned to scheduled work.	The value of the work planned to be completed to a point in time, usually the data date, or project completion.		
EV	Earned Value	The measure of work performed expressed in terms of the budget authorized for that work.	The planned value of all the work completed (earned) to a point in time, usually the data date, without reference to actual costs.	EV = sum of the planned value of completed work	
AC	Actual Cost	The realized cost incurred for the work performed on an activity during a specific time period.	The actual cost of all the work completed to a point in time, usually the data date.		
BAC	Budget at Completion	The sum of all budgets established for the work to be performed.	The value of total planned work, the project cost baseline.		
CV	Cost Variance	The amount of budget deficit or surplus at a given point in time, expressed as the difference between the earned value and the actual cost.	The difference between the value of work completed to a point in time, usually the data date, and the actual costs to the same point in time.	CV = EV – AC	Positive = Under planned cost Neutral = On planned cost Negative = Over planned cost
SV	Schedule Variance	The amount by which the project is ahead or behind the planned delivery date, at a given point in time, expressed as the difference between the earned value and the planned value.	The difference between the work completed to a point in time, usually the data date, and the work planned to be completed to the same point in time.	SV = EV – PV	Positive = Ahead of Schedule Neutral = On schedule Negative = Behind Schedule
VAC	Variance at Completion	A projection of the amount of budget deficit or surplus, expressed as the difference between the budget at completion and the estimate at completion.	The estimated difference in cost at the completion of the project.	VAC = BAC – EAC	Positive = Under planned cost Neutral = On planned cost Negative = Over planned cost
CPI	Cost Performance Index	A measure of the cost efficiency of budgeted resources expressed as the ratio of earned value to actual cost.	A CPI of 1.0 means the project is exactly on budget, that the work actually done so far is exactly the same as the cost so far. Other values show the percentage of how much costs are over or under the budgeted amount for work accomplished.	CPI = EV/AC	Greater than 1.0 = Under planned cost Exactly 1.0 = On planned cost Less than 1.0 = Over planned cost
SPI	Schedule Performance Index	A measure of schedule efficiency expressed as the ratio of earned value to planned value.	An SPI of 1.0 means that the project is exactly on schedule, that the work actually done so far is exactly the same as the work planned to be done so far. Other values show the percentage of how much costs are over or under the budgeted amount for work planned.	SPI = EV/PV	Greater than 1.0 = Ahead of schedule Exactly 1.0 = On schedule Less than 1.0 = Behind schedule
EAC	Estimate At Completion	The expected total cost of completing all work expressed as the sum of the actual cost to date and the estimate to complete.	If the CPI is expected to be the same for the remainder of the project, EAC can be calculated using: If future work will be accomplished at the planned rate, use: If the initial plan is no longer valid, use: If both the CPI and SPI influence the remaining work, use:	EAC = BAC/CPI EAC = AC + BAC – EV EAC = AC + Bottom-up ETC EAC = AC + [(BAC – EV)/(CPI x SPI)]	
ETC	Estimate to Complete	The expected cost to finish all the remaining project work.	Assuming work is proceeding on plan, the cost of completing the remaining authorized work can be calculated using: Reestimate the remaining work from the bottom up.	ETC = EAC – AC ETC = Reestimate	
TCPI	To Complete Performance Index	A measure of the cost performance that must be achieved with the remaining resources in order to meet a specified management goal, expressed as the ratio of the cost to finish the outstanding work to the budget available.	The efficiency that must be maintained in order to complete on plan. The efficiency that must be maintained in order to complete the current EAC.	TCPI = (BAC – EV)/(BAC – AC) TCPI = (BAC – EV)/(EAC – AC)	Greater than 1.0 = Harder to complete Exactly 1.0 = Same to complete Less than 1.0 = Easier to complete Greater than 1.0 = Harder to complete Exactly 1.0 = Same to complete Less than 1.0 = Easier to complete

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4.5 Quality Management Plan

The quality standards for the CCTHs project were identified based on the project specifications. These quality standards, objectives, control, and tools are essential processes in the project life cycle and critical for acceptance of the final product. Additionally, the project will be guided by the building standards outlined by the Belize Central Building Authority. Consequently, the BSIF project team is required to implement these quality measures in the project planning, implementation, monitoring, and evaluation phases.

4.5.1 Plan Quality Management

The Belize Central Building Authority building code document provided information on the structural requirements of the building for which the building was designed. BSIF engineers utilizes theses specifications and incorporates them into the structural design of the classroom buildings. Such as the recommended concrete, Steel, lumber and roofing material. Additionally, soil testing and concrete PSI requirements provided another layer to address the quality requirements of the project.

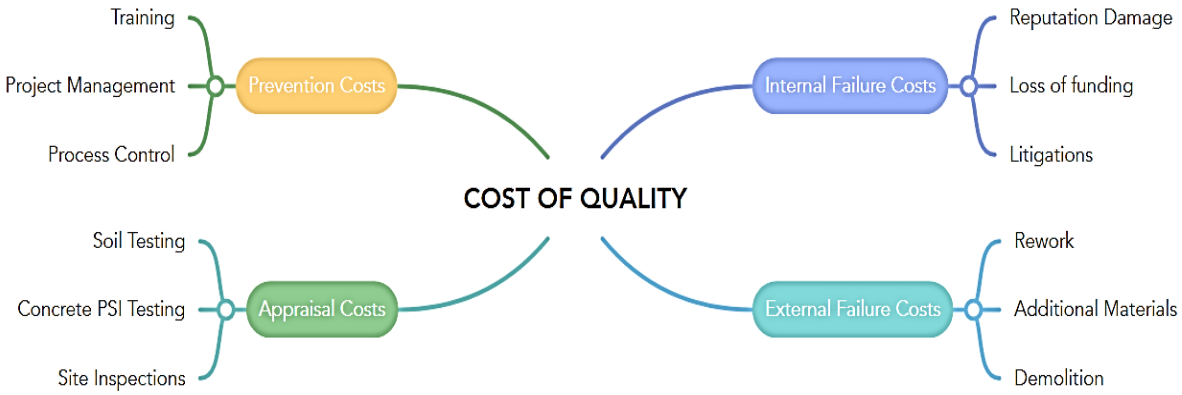
4.5.2 Cost of Quality

The Cost of Quality was brainstormed to ascertain the costs associated with producing and maintaining the quality outputs of the projects. These include prevention costs, which are costs related to preventing inferior quality products, services, and deliverables from infiltrating the project. Secondly, appraisal costs are the costs related to evaluating, measuring, auditing, and testing the products, deliverables of the project. Lastly, costs

related to failure to quality management measures were analyzed. These include costs associated with internal/external nonconformance of the products, deliverables, or services requirements.

Figure 18

Cost of Quality Matrix



Note: Prepared by author

4.5.3 Manage Quality

The entire team will be involved with the quality management of the project. Primarily the project manager, project officer and the engineer. Additionally, the PMC will provide the project team with additional support by monitoring the project and raising the alarm if the contractor deviates from any of the quality control measures set in place.

4.5.3.1 Checklists

The checklist is an important tool the team will utilize in managing the control quality activities of the project. The project checklist will be used to track the tasks, deadlines, resources and goals necessary to complete the project. These tools will afford the project team the flexibility to monitor the progress of a project's various elements, such as materials specification, building specification etc. Checklists are updated on weekly site visits by the project officer.

4.5.4 Control Quality

The entire BSIF project team is responsible for carrying out the quality control measures. These responsibilities such as monitoring and recording results are conducted weekly. Based on the results, the project manager will assess whether recommendations for improving outputs are needed to complete the project based on the specifications. Chart 12 identifies those responsible for different aspects of project quality control.

Chart 12

Corazon Creek Technical High School Extension Project Quality responsibility table

WBS ID	Description	Requirement	Quality Control activities	Frequency	Responsible	Measure tool
1.1.	Mobilization	Site office, Barricades	4ft high barricade, adequate caution signs, Office equipped with water, lights, bathroom	Once	Project Officer, Technical Officer, Engineer	Checklist

done 1.2.	Structure	Architectural Design plans, Materials, testing equipment.	Conduct performance review, Test (PSI, water pressure, soil), Electrical wiring test. Carry our Roots cause and analysis & updated the issues	Weekly	Engineer, Technical Officer	Checklist, Building codes, Design specificatio ns
1.3.	Finishings	Materials, testing equipment.	Ensuring no leaks, windows and doors are secured. And the building power supply is working efficiently.	Weekly	Engineer, Technical Officer	Check list
1.4.	Monitoring	Site Visits,	Organizing PMC meetings & focus group discussions, evaluate project performance	Weekly	Project Officer, Project Manager	Check list Quality specificatio ns.
1.5.	Closure	Pamphlets/ P.A. System	Official handing over of the building, carried out at the site location.	Once	Project officer, Personnel Relation Officer	Check list

4.6 Resource Management Plan

The management of resources involves the processes needed to identify, acquire and manage human and non-human resources for the project. The BSIF project team will not micromanage resources such as materials and equipment because these are the responsibilities of the contractor. However, the project team will maintain oversight by ensuring that the resources that are acquired are of the standard and quality specified by the engineer.

4.6.1 Plan Resource Management

The resource management will empower the team to effectively manage all aspects of resources related to the project in order to deliver the project successfully. The project manager as the head of the team is responsible for implementing the measures necessary to estimate, acquire, manage, and use team and physical resources. The RACI (responsible, accountable, consulted and informed) matrix will outline the various activities or decision-making authorities in the BSIF project team based on the roles and responsibility.

Chart 13

Corazon Creek Technical High School Extension Project RACI Matrix

Activity	**Roles**				
	Project Manager	Project Officer	Engineer	Contractor	CDB
Access Risk	**A**	**R**	**C**	**C**	**I**
Progress Reports	**R**	**C**	**C**	**C**	**I**
Site Visits/ inspection	**A**	**I**	**R**	**C**	**I**
PMC Meetings	**I**	**R**	**C**	**C**	**I**
Constructio n	**A**	**C**	**C**	**R**	**I**

R = Responsible A = Accountable C = Consult I = Inform

Note: prepared by author.

4.6.2 Estimation of Activity Resource

The prudent estimation of resources by the project manager requires not only using expert judgment and historical information, but also tools such as bottoms up and analogous estimations.

4.6.2.1 Bottoms-Up Estimating

The bottoms up estimation tool provided the project team with the ability to develop the Bill of Quantities (BOQ) for the entire project. The BOQ document for the CCTHS project will contain the unit of measurement for the estimated number of materials and equipment needed to complete the project. It is the contractor's responsibility to determine the quantity and caliber of labor required for the project to be completed.

4.6.2.2 Analogous Estimating

By using the estimates from previously completed projects, the project manager can utilize this technique to determine the duration, personnel requirements as well as financial resources necessary for completing the project more accurately.

4.6.3 Acquire Resources

For this project, both internal and external requirements are needed. Internal resources such as technical staff that are obtained through the BSIF human resource department. External resources such as contractors, consultants and materials are obtained through the procurement process.

4.6.3.1 Pre-assignment from other projects

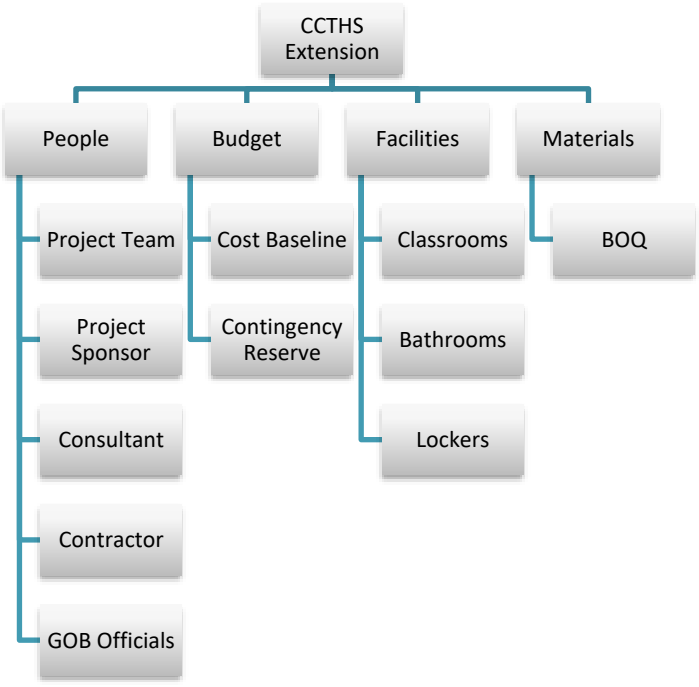
Similar projects have been completed before by BSIF personnel. Moreover, assigning existing employees to the project and utilizing cross functional staff to support its implementation will fulfill their required internal human resource needs.

4.6.3.2 Virtual Teams

Due to the remoteness of the project site, the virtual team is an ideal tool to utilize for ongoing correspondence with Government officials and the project team. It gives the flexibility to meet virtually to discuss concerns and the overall progress of the project without having to travel long distances to meet in person.

Figure 19

Corazon Creek Technical High School Extension Project Resource Breakdown Structure (RBS)



Note: Prepared by author

4.6.4 Develop Team

To a large extent, it is the role of the BSIF project manager to identify strategic ways to improve and develop the team to meet the needs of the project. Performance evaluation records of team members will give the project manager a better understanding of the skills needed to be developed to complement each team member. The relevant training exercises are then carried through meetings, training workshops and virtual courses in collaboration with the HR department. The team consists of a Project Manager, Technical Officer, Officer, Engineer, Procurement Officer and Finance Coordinator.

4.6.5 Manage Team

The management of the project team falls under the purview of the project manager. Skills such as conflict management will be vital for the project manager to resolve internal and external conflicts that may befall the project. Additionally, the project manager will be responsible for the implementing of problem-solving measures and change control mechanisms to address each situation.

4.6.6 Control Resources

The Project Manager along with the engineer will control the outflows and inflows of project resources based on the project performance. This involves, but not limited to authorizing disbursement of funds to the contractor as a result of deliverables completed. Weekly progress reports by the engineer will serve to inform the project manager of the utilization of resources available. These reports will also highlight any areas that of

resources that will be need adjustment. This will allow the project manager to address these issues and streamline resources. The cost benefits and alternative analysis will be used to identify different solutions to the supply chain constraints due to the remote location of the project. This will allow the team to determine the best solutions to meet the needs for materials and equipment of the project site. controlling the resources is essential to project success and will be carried out continuously throughout the project.

4.7 Communications Management Plan

The communications management plan is spearheaded by the project manager with the collaboration of the BSIF PR Officer. The plan covers planning, managing, and monitoring communications among the various project stakeholders. Due to the nature of the cultural divide in these rural villages, communications with the female population are forbidden. Thus, a female communications office is required to speak to the female, while a male officer will speak to the male population separately. The plan will cover various communications roles and responsibilities necessary for the entirety of the project.

4.7.1. Plan Communication Management

The appropriate strategies were identified to plan various communications approaches with the different identified stakeholders. These strategies will define how information will be communicated to stakeholders throughout the project. Furthermore, who receives the communication, how they receive it and in what format the information is received has been determined.

Chart 14

Corazon Creek Technical High School Extension Project Stakeholder Strategies

Stakeholder	Interest	Strategy	Frequency	Objective
Project Team	Project completes withing scope, time, and budget.	Weekly site visits, project progress reports and team	Weekly	To Solve problems, discuss

		meetings. Members of the teams will communicate via, email, memos, WhatsApp, zoom meetings and in person.		corrective actions, and assign tasks.
Contractor	Contract terms are adhered to, disbursement of funds is not delayed, minimal change to scope.	Discussions and meetings are held with the contractor regarding the progress of the project. Receipts of payments deposits are provided for each disbursement.	Weekly	Discuss project implementation and progress.
CDB	Fair procurement process, project is	Monthly progress reports are	Monthly	To update the bank on the

	completed on time, no misappropriation of funds.	forwarded to CDB, along with audited financial reports.		status of the project
GOB	Project follows national building standards, Building is capable of being used as a hurricane shelter, building is defects free.	Project design and implementation plan are provided for approval. Community Impact assessment and Student Impact Assessment reports are provided via email communications.	Monthly	To provide reporting on project progress
School Administration	Safety of Students & staff, Adequate classroom size, minimal	Meetings, site walkthroughs and progress reports are made	Weekly	To provide reporting on project progress,

	disruption of ongoing class sessions.	available to the school administration throughout the project lifecycle.		answer question and concerns.
PMC	No interference with the community members, Quality built structure. Jobs for community members	In-person Project Monitoring Committee meetings are held once a month. Members are brief on the progress of the project and their concerns are documented and addressed.	Monthly	Answer question and concerns. Update members on the progress of the project and their in-kind contribution

Note: Prepared by author.

4.7.2. Communication Management

Actively engaging stakeholders, involves managing various project communication channels; including emails, phone calls, WhatsApp, in person meetings, zoom meetings,

memos, reports. Etc. Using the communication matrix below, different approaches were identified to effectively manage communications between stakeholders.

Chart 15

Corazon Creek Technical High School Extension Project Communications Matrix

Communications Type	Audience	Description/ Purpose	Frequency	Owner	Channel
Project Commencement meeting	Project Team, Contractor, CDB, GOB	Project overview, Contractor introduction, project team introduction	Once	Project Team	Combination of in-person & Virtual via Zoom Call or Microsoft meets
Public Announcement	Contractors	Invitation to bid for the construction of the school	One Month	Project Team	Local Newspaper, Radio, Television, Email
Site Visits	Project Team, Contractor	Inspection of Project site	Weekly	Project Team	In-Person Visits

Communications Type	Audience	Description/ Purpose	Frequency	Owner	Channel
PMC Meetings	Project Team, PMC members	Updates on project progress/ concerns	Monthly	Project Team	In-Person Visits
Internal Communication	Project Team	Discuss project progress, improvements and addressing concerns.	Weekly	Project Team	In-person, emails, memos, reports, telephone call
External Communication	PR Officer, Community members	Sensitize the community with the purpose of the project. its timeline and get feedback on community's response	As needed	Project Team	In-person, TV, Radio

Communications Type	Audience	Description/ Purpose	Frequency	Owner	Channel
Site Visit	Project Team, School Administration, Personnel from Ministry of Education	Inspect the completed building for defects and approval for handing of the school from the contractor to the school	As needed	Project Team	In-person, document
Inauguration Ceremony	All Stakeholders	Officially handing over of the building	Once	Project Team	In-person, television, radio

Note: Prepared by author.

4.7.3. Monitor Communication

The monitoring of communication distribution and channels adequacy will be monitored by the entire project team on various levels. Communications with the project sponsor will be directly monitored by the project manager. Communications with GOB officials, school administrations and contractor will be monitor directly by the project team members. This will ensure that whatever information is required throughout the project, will be delivered

to the right person and at the right time. This can be accomplished by employing a combination of interpersonal skills, meetings and high-level discussions. Concerns raised by stakeholder will be documented and kept in an issue log register. Issues will be resolved based on priority.

4.8 Risk Management Plan

Considering the nature of the project, managing the perceived and unperceived risks will be a challenge for the entire team. This entails identifying various levels of risks and their associated impacts. Consequently, the probability of these risks occurring will have an impact on the team's heightened awareness and level of response to address the risk. The risk management plan outlines meaningful ways the team can either avoid, transfer, mitigate and accept risks associated with the CCTHS project.

4.8.1. Plan Risk Management

As previously mentioned, the construction of school buildings has been carried out numerous times by the BSIF and its project team. However, the uniqueness of this project is the remoteness and lack of readily accessible supplies which the risk management plan considers. This ensures that the degree, type, and visibility of risk management are proportionate for the various risks and are in line with the BSIF and CDB standards. By using a combination of expert judgment and discussions with various stakeholders, the risk breakdown structure (RBS) in chart 15 was developed to highlight the various categories of risks associated with the project.

Chart 16

Corazon Creek Technical High School Extension Project Risk Breakdown Structure

RBS Level 0	RBS Level 1	RBS Level 2
0.ALL SOURCES OF PROJECT RISK	1. TECHNICAL RISK	1.1 Low grant output targets
		1.2 Insufficient data quality
	2. MANAGEMENT RISK	2.1 Ambiguous objectives
		2.2 Stakeholders conflicts
		2.3 Insufficient oversight
		2.4 Project outcome shortfall
		2.5 Inadequate financial reports
	3. COMMERCIAL RISK	3.1 Cost of goods
		3.2 Subcontracting failures
		3.3 Inconsistent finances
		3.4 lack of materials
		3.5 Spike in Tax
	4. EXTERNAL RISK	4.1 Extreme weather events
		4.2 Safety Standards
		4.3 Misinterpretation of culture
		4.4 Labor disputes
		4.5 Contamination of ground waters

Note: Prepared by author.

4.8.2. Risk Identification

The risks identified was a compilation of both individual and project-wide in terms of its possible effects on the project life cycle. A combination of tools such as brainstorming, expert judgment, lessons learned, and root cause analysis were used to identify the various

risks associated with the project. These risks are documented in the risk register below and therefore builds on the information developed in the RBS by listing the identified risks, their potential owners and potential response strategies.

Chart 17

Corazon Creek Technical High School Extension Project Risk Register

RBS code	Cause	Risk	Consequence	Probability	Impact	Pxl	Trigger	Owner	Strategy	Cost
1.1.	Low project performance	Delays in completing the project	Increased in project schedule and cost	0.1	5	0.5	Noncompliance with set standards	Project Manager	**Avoid**: Project Manager will establish a timeline to complete deliverables and weekly monitoring will be conducted by the project team	Project Funding
1.2.	Subpar M&E	Inaccurate reports	Compromise project deliverables	0.3	2	0.6	Inaccurate & untimely reports provide the team with wrong data.	Project Team	**Transfer**: Project consultant will be required to produce daily reports and provide technical assistance to the contractor	Performance Bond Insurance
2.1.	Objectives not clearly explained during the design and implementation of a project.	Misunderstood objectives	Stakeholders do not feel engaged and lack of support of the project	0.1	1	0.1	Insufficient engagement and emphasis set on the objectives to be understood by all	Project team	**Avoid:** Engage at all levels. This will garner the support needed for effective design and implementation of the project	$0

RBS code	Cause	Risk	Consequence	Probability	Impact	Pxl	Trigger	Owner	Strategy	Cost
2.2.	Diverting from the project scope	Conflicts among stakeholders	Rework, delays & additional expense	0.3	2	0.6	Inadequate systems control and monitoring	Project Manager	Avoid: Stringent project oversite & change control mechanism	$0
3.1.	Global recession	Costs to complete the project increases beyond budget	Project may fail due to the contractor inability to complete	0.1	4	0.4	Higher cost of gas, equipment, and supplies	BSIF, GOB, CDB	**Accept:** Monitor the market for inflation costs and request additional funding if needed.	Depends on inflation rates
4.1	Consistently heavy rain downfall	Roads impassable, construction site is flooded	Project delay, additional costs for damage to structure and materials	0.3	4	1.2	Hurricane season brings heavy rains and flooding to the area	Project Team, Contractor, Consultant	**Escalate:** Project manage advises the contractor to pause construction and secure the site when there is an imminent threat of flooding.	Based on damages incurred
4.2	Contractor is not complicit with the safety standard guidelines	Students traverse the project site and get injured	Halt of construction, investigation, and lawsuit from parents	0.3	5	1,5	Safety standards were not incorporated as prescribed	Technical officer/ Engineer	Transfer: Conduct weekly site visits to ensure compliance with safety standards. Insurance is required.	Insurance Costs

Note: Prepared by author

4.8.3. Qualitative Risk Analysis

The qualitative risk analysis considers the probability of risks occurring and their potential impact on the project processes and objectives. The probability and impact scales along with the probability impact matrix, gives visual perspective to the project risks. The project manager will prioritize the importance of these risks based on these scenarios.

Chart 18

Corazon Creek Technical High School Extension Project Risk Probability Scale

LEVEL	LIKELIHOOD	PROBABILITY DESCRIPTION
1	Rare	The event may only occur in exceptional circumstances.
2	Unlikely	The event could occur at some time
3	Possible	The event might (or should) occur at some time
4	Likely	The event will probably occur in most circumstances
5	Almost certain	The event is expected to occur in most circumstances

Note: Prepared by author.

Chart 19

Corazon Creek Technical High School Extension Project Risk Impact Scale

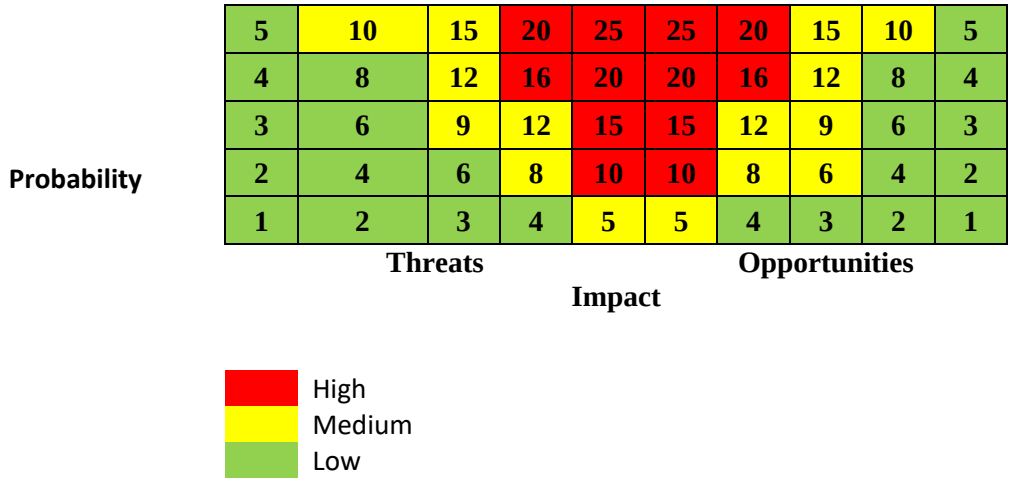
Level	Scale	Cost Increase
1	Insignificant	Less than 5%
2	Minor	5.1% - 10%
3	Moderate	10.1% - 20%
4	Major	20.1% - 40%
5	Disastrous	Exceeding 40%

Note: Prepared by author.

The probability Impact matrix in **chart 19** is color coordinated to differentiate the level or degree of risk, and its value by multiplying the corresponding levels of probability and risk along the x and y axis. Risks that are color coated red require significant priority by the project team due to their high impact and high possibility of occurring. Those colored yellow are of concern and must be monitored. Lastly, those colored green are of less importance due to the low impact and unlikelihood of occurring. This will determine further which of the three priority groups a risk can be classified under based on the combination of its likelihood and impact on project processes and objectives.

Chart 20

Corazon Creek Technical High School Extension Project Probability and Impact Matrix



Note: Prepared by author.

4.8.4. Plan Risk Response

The risk responses were based on brainstorming and historical information from similar projects. However, risk response strategies for the CCTHS should be dynamic and updated

as necessary throughout the project lifecycle. These strategies identify the most ideal way to deal with each risk. The following strategies can be applied in response to various threats and opportunities:

Threats

Avoid – The threats deed to be of consequential impact and must be eliminated.

Transfer – The impact of the threat is diverted to a third.

Mitigate – Measures are taken to reduce the probability of occurrence of the risk.

Accept – The risk is documented however, no action unless the risk occurs.

Opportunities

Exploit – Implement measures to remove the uncertainty associated with the risk.

Enhance – increases the probability or the positive impacts of an opportunity.

Share – This involves incorporating other entities in the ownership of the opportunity.

Acceptance – Take advantage of the opportunity if it arises.

4.8.5. Implement Risk Response

The appropriate owner for each risk is responsible for implementing the appropriate response in a timely manner. The project manager is the linchpin in the overall response mechanism and is therefore responsible for updating each response strategy and updating and keeping each owner informed. This will ensure that agreed-upon risk responses are executed as planned. Thus, alleviating overall project risk exposure, minimize individual project threats, and maximize individual project opportunities.

As a part of the risk response strategy, the project teams found it appropriate to allocate 5% of the project funds as a **Contingency Reserve** and an additional $5,000 as **Management reserve.** These reserves will be triggered in the event that risks impacts occurs ranging from moderate to disastrous.

4.8.6. Monitor Risk

The project team is expected to take a multifaceted approach in monitoring risks. This includes monthly risk review meetings, analyzing project risk occurrences and their corresponding response. The team must also analyze each threat and opportunities individually on a weekly basis, subsequently keeping records of the steps taken for each strategy execution. The project manager is also expected to conduct monthly risk audits to ascertain the effectiveness and timeliness of each risk response.

4.9 Procurement Management Plan

Establishing a robust procurement management plan, will enable the BSIF to transparently and fairly acquire the best products and services for the project without bias. The CCTHS project requires a works contract for construction of the school building, which includes detail of materials and personnel requirements. The procurement management plan will establish a viable framework for acquiring these resources. CDB Funded projects require a national competitive bidding process.

4.9.1. Plan Procurement

The Senior Procurement officer is responsible for the procurement process for the project. The project manager and the engineer provide technical inputs for the bidding documents. Additionally, the Caribbean Development Bank's Procurement Guidelines 2021 will be used to guide the procurement processes for the project.

Chart 21

Corazon Creek Technical High School Extension Project Procurement Plan

WBS ID	Activity	Procurement Method	Contract Type	Procurement Document	Statement of Work	Estimated Amount	Bid Opening	Start Date	Terminal disbursement date
Contract Works									
1.3.	Construction of three (3) classrooms for CCTHS	National Competitive Bidding	Lump-sum	Request for proposal	Priced Activity Schedule	$600,850	May 5, 2023	July 28, 2023	March 26, 2024

Note: Prepared by author.

4.9.2. Conduct Procurement

The execution of the procurement processes is primarily managed by the Senior Procurement officer. The procurement team is responsible to carry out calls for bids nationally for the works contracts, responses are then analyzed, and the most responsive bidder is selected. The mediums used in this process are nationally circulated newspapers, TV, Radio, and social media. Additionally, the procurement team conducts pre-bid meetings prior to opening bid submissions. These meetings are designed to inform bidders about the requirements of each section of the bidding document. Such as financial requirements / eligibility and technical specifications. After conducting the meeting, minutes of the meeting are shared with bidders, inclusive of questions and answers.

4.9.3. Control Procurement

The Senior Procurement officer along with the project manager will monitor contract performance, make changes and corrections as appropriate (during contract negotiations) and close contract. The works contract will be monitored using check sheets and contract administration matrix.

Additionally, the project engineer will ensure the contractor is abiding by the terms of the contract by conducting the following:

1. Weekly site visits monitoring each project phase.
2. Produce weekly progress reports give details as to the contractor's compliance with project scope.
3. Prepare change requests if needed. These must be approved by the project manager.

4. Review request for disbursements based on deliverables completed.

Chart 22

Corazon Creek Technical High School Extension Project Contract Administration Matrix

Contract Administration Matrix				
Project: Corazon Creek Technical High School Extension			Contract# EDU- BLDG-123	
Contract Manager:				
Contact #				
Technical Group:				
Validity of the Contract				
Start Date:		Closing Date:		
Activities	Date	Requires Validation	Validate by	Other Aspects
Review/ Visits				
Payment/ Amounts				
Verifications of Guarantees/ Bonds				

Subcontractor Control				
Closing Contract				
Observations:				
Approved by:				
Signature:				
Date:				

Note: Prepared by Author.

4.10 Stakeholder Management Plan

The CCTHS project consists of many different stakeholders, all of whom possess varying degrees of interest in the project. This stakeholder management plan will identify people, groups, or organizations that can potentially have an impact on the project or be impacted by it in some form or another. Using tools such as brainstorming, meetings and discussions, stakeholder expectations and their impact on the project will be analyzed and compiled. Consequently, the end result will provide the project manager and the team with the appropriate strategies for effectively engaging project stakeholders.

4.10.1. Identify Stakeholders

In order to gather a full understanding of the stakeholders of the project, tools such as meetings, focus groups, brainstorming, and use of official historical documents. As a part of this process, the BSIF project officer conducts a Community Needs Assets Assessment meeting in the community. These meetings are conducted to identify stakeholders in the community and their inputs relating to the project. As part of the identification process in chart 21, stakeholder's interests, role, expectations, influence, potential impact on the project were documented.

Chart 23

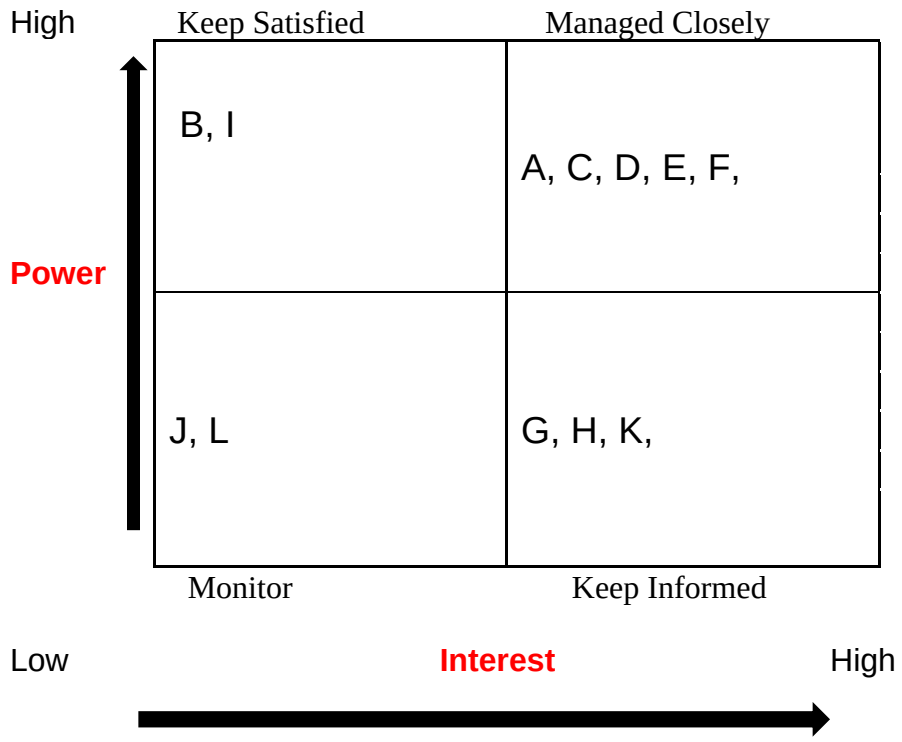
Corazon Creek Technical High School Extension Project Stakeholder Register

ID	Stakeholder	Role	Type	Communication Method	Expectation	Influence	Impact
A	BSIF	Implementing Agency	Internal	Emails, telephone, reports, meetings	Project is completed successfully	High	High
B	CDB	Sponsor	External	Emails, telephone	Project executed within time, scope, and budget	High	High
C	Collin	Project Manager	Internal	Emails, Memos, reports, meetings, site visits	Timely execution of each phase, project completed successfully.	High	Medium
D	Michael	Project Officer	Internal	Meetings, emails, telephone, site visits, reports	Successfully completes each phase.	Low	Medium
E	Nuani	Engineer	Internal	Drawings, estimates, reports, emails, site visits	Project specifications are adhered to.	Medium	Medium
F	Angeles	Sr. Procurement Officer	Internal	Pre-bid meetings, emails, telephone, contract	Compliance with contract terms.	Low	Medium
G	Students	Beneficiaries	External	Meetings	Improved classroom	Low	High
H	Principal	School Administration	External	Meetings, Emails, Inspections	Improved classroom, safe environment, adequate classroom size	Low	Medium
I	Ministry of Education	Government advisor	External	Meetings, Memos, Inspections	Students' attendance increases	Low	Medium
J	Community Members	Source of information	External	CNAA	Building is complete, and added value as a hurricane shelter	Low	Low
K	Parents	Indirect beneficiaries	External	Meetings	Safe learning environment.	Low	Low
L	Contractor	Engineering	External	Pre-Bid Meetings, Emails, reports, site visits	Clarity, guidance, timely disbursements	Low	Low

Note: Prepared by author

Figure 20

Corazon Creek Technical High School Extension Project Power Interest Matrix



4.10.2. Plan Stakeholders Engagement

Interacting with the stakeholders of the project is necessary for establishing relationships centered on completing the project. Consequently, understanding stakeholders' needs, expectations, interests, and potential impact on the project will provide the project manager with the right engagement rationale.

The Stakeholder Engagement Matrix in **Chart 22** was used to analyze stakeholders based on five engagement categories. This will allow the project team to actively engage the

appropriate stakeholder in the most suitable manner. The matrix specifies the current (C) engagement level and the desired (D) engagement level.

Chart 24

Corazon Creek Technical High School Extension Project Stakeholder Engagement Assessment Matrix.

Stakeholder	Unaware	Resistant	Neutral	Supportive	Leading
BSIF				C	D
CDB				C	D
Collin				C	D
Michael				C	D
Nuani				C	D
Angeles				C	D
Students	C		D		
Principal	C			D	
Ministry of Education			C	D	
Community Members			C	D	
Parents	C		D		
Contractor	C		D		

Note: Prepared by author

4.10.3. Managing Stakeholders Engagement

The BSIF project manager, along with the project team must effectively manage how they engage stakeholders' engagement for greater efficiency, logistic fluidity and minimize resistance. By soliciting feedback from stakeholders, the team will be able to understand their reaction to the various project management activities and key decisions. This will involve weekly site visits by the team to discuss with the contractor the project and challenges he may be facing. Additionally, the community will be engaged through the PMC meeting, where they can be updated on the progress of the project and raise concerns. The project manager is responsible for engaging with the project sponsor on a regular basis, providing various reports on project financing and progress. Referring to the communications management plan will provide the appropriate channels to use to engage specific stakeholders.

4.10.4. Monitor Stakeholders Engagement

It is essential for the team to monitor the effectiveness of the methods used to engage the various stakeholders of the project. This will allow the team to adjust current measures or implement new measures to increase the efficiency and effectiveness of engagement activities. This may be accomplished by relying on communication skills such as discussions and presentations. Also, the project team can utilize interpersonal and team skills such as active listening, cultural awareness, and leadership to ascertain how well the engagement is progressing.

5 CONCLUSIONS

1. Notwithstanding being a short document, the project charter provides vivid details regarding goals, objectives, deliverables, preliminary risks, milestones, assumptions, and resource requirements of the project.

2. The scope management plan was developed with specific limitations to guide the team in executing the project. Tools used in this section included the Work Breakdown Structure and the Work Breakdown Dictionary. Managing scope is a critical function of the project manager, because of the responsibility to provide the team guidance throughout the project lifecycle.

3. The Schedule Management Plan focused on estimating the duration of each project deliverable. It also defined how the project schedule should be executed, managed controlled throughout the project lifecycle. Tools used includes activity list, schedule in Gantt chart and milestones.

4. Using tools such as Cost Baseline, Cost Estimates and project budget, the cost management plan outlines methods to control the budget. It takes into consideration the estimated costs of each work package and allocate resources to the right areas while controlling the overall spending.

5. The Quality Management plan was designed to achieve the approved project requirements and standards. Maintaining strict compliance to local building codes and safety standards were of top priority for the project. Tools used in developing the Quality Management Plan include the Cost of Quality Matrix and the Quality Responsibility Matrix.

6. The Resource Management Plan was used to define methods on how to efficiently and effectively use the various resources associated with a project. Tools such as the Resource Breakdown Structure lists the resources needed to complete the project, while the RACI Matrix identifies each project stakeholder and assigns their involvement in each task.

7. The communications Management Plan took into consideration the various project stakeholders and provided the most effective means of relaying information amongst them. Furthermore, this will enable the project team to seamlessly gather and disseminate critical information along a fluid communication network. The plan formulated various strategic strategies for engaging stakeholders, including a detail communication matrix.

8. A comprehensive Risk Management plan was required due to the circumstances surrounding this project, such as the remote location, lack of electricity connectivity and construction during the hurricane season. Risks were meticulously identified and

assessed, thereafter monitoring and mitigative procedures were outlined. Tools used include Resource Breakdown Structure, Risk Register and Probability Impact Matrix.

9. The Procurement plan for this project was designed to suit a works contract framework. In this case, the contract will be advertised nationally for the most responsive bidder, the successful contractor or firm must submit a bid price for the works to complete the entire contract, including materials and labor. The Contract Administration Matrix Tools are used in this plan.

10. Using the stakeholder register and power/interest matrix, stakeholders were identified and classified. Additionally, the stakeholder engagement assessment matrix was used to differentiate between current and desired levels of engagement. The plan also identifies tools to monitor and engage each stakeholder.

6 RECOMMENDATIONS

1. I recommend that the BSIF project manager update the subsidiary management plans at least once a year based on the dynamic nature of the environment. The project team is also recommended to provide information based on experiences in similar projects to aid in this process.

2. Based on information received, the PMC members who provide oversite and information to the project officer are members of the community and school administration. I recommend that someone with a background in construction, engineering or missionary works be placed on the committee. Moreover, this will provide the committee with a member who is technically sound and can provide valuable insights in the project progress.

3. BSIF will be a more productive organization by documenting project experiences including lesson learnt, after each project has been completed. This will improve the organizations' ability to foresee and remedy challenges in advance. As well increasing its capacity to deliver projects within scope, time budget and quality. I propose implementing a Management Information System to sever as a central location for this information, which is to be made accessible to the entire project team.

4. I recommend that the project manager team hold weekly team meetings to discuss the project progress, challenges and possible risks which may affect the project. These meetings will keep each team member informed at each stage of the project. This will foster team synergy, improve team's response and delivery of the project's mandate to keep it on track.

5. The skills and tools mentioned in the FGP should be further developed and tailored to the specific needs of the BSIF project team. Additionally, a qualified, well informed and well equip team will feel more satisfied with their roles and will be motivated to perform at a higher level. As a result, this will ultimately lead to a greater project success rate.

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

The CCTHS project design incorporates both regenerative and sustainable eco-friendly practices. The Elkington (1994) Triple Bottom Line (3BL) model, which measures profit, people, and planet, was used to measure the financial, social and environmental performance of the project. In terms of profit the project is expected to be completed within its defined budget. The classroom buildings will generate income based on the number of student enrollment. The project also entails a social responsibility component, which is accomplished by engaging the community through advertisements, discussions and CNAA meetings. Through these channels, valuable information is gained in terms of the community customs, layout of the landscape and addressing concerns. The school was designed with an environmentally friendly concept, which significantly reduces its carbon footprint. Benefits such as increased water efficiency usage is incorporated in the project by capturing rainwater via the building downspouts. Additional, water is stored in a water tank and is pumped into the building using an electric water pump. The building has the capacity to also generate its own energy by using solar panels mounted on the roof. The building electrical system is also connected to smart energy meters that manage the buildings electricity consumption. Solar panels are a source of renewable energy, thus reducing the costs of electricity and thus increasing profits.

The FGP has many tools and techniques to enhance the regenerative and sustainable practices touted throughout the master's degree program. The scope management and quality management plan incorporate tools and techniques to effectively manage the project, while reducing the possibility of waste. Both processes define actions required to deliver the project's requirements within time, budget, schedule, and quality. The Resource management plan is also critical in ensuring that the team can execute the project sustainably. Tools such as the RACI matrix gives the team a vivid outline of stakeholder's roles in the project and the accompanying task which they are responsible for. As project managers, we should use our knowledge to sensitize stakeholders about the importance of integrating regenerative and sustainable eco-friendly projects in our countries. We should also use our influence to foster a system whereby regenerative and sustainable projects are the norm. This will motivate the stakeholders to accept and design projects that are socially conscious and provides greater efficiency, which ultimately produces a culture that mitigate climate change and reduce carbon emissions.

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9 APPENDICES

Appendix 1: FGP Charter

CHARTER OF THE PROPOSED FINAL GRADUATION PROJECT (FGP)

1. Student name

Karon Woodry Hamilton

2. FGP name

Project Management plan for the construction of Corazon Creek Technical High School Extension in Belize

3. Application Area (Sector or activity)

Construction

4. Student signature

5. Name of the Graduation Seminar facilitator

Róger Valverde

6. Signature of the facilitator

7. Date of charter approval

July 31, 2022

8. Project start and finish date

July 28, 2022	December 26, 2022

9. Research question

Will the development of a project management plan, infused with sustainability practices help to increase the likeliness of organizations to adapt more sustainability elements in projects?

10. Research hypothesis

Organizations will be receptive to include sustainability practices, methodology and components in projects. This will be receptive across the board level, to management and project officers.

11. General objective

To develop a clear and well-defined Project Management Plan for the construction of Corazon Creek Technical High School Extension in Belize.

12. Specific objectives

1. To develop a Project Charter for the Final Graduation Project (FGP), which outlines the entire project for the project manager.

2. To develop a Scope Management plan that clearly establishes how the scope will be defined, developed, monitored, controlled, and validated.

3. To create a Schedule Management plan that will outline expectations for project schedule policies and procedures for planning, developing, managing, executing, and controlling the project schedule to ensure project completion within the defined period.

4. To formulate a precise Cost Management Plan based on the finance available for the project spending. This plan will establish how the costs will be planned, structured, and controlled.

5. To develop a Quality Management plan that includes continuous process improvement activities that will aid in delivering the highest quality outcomes for the project. The QMP will define policies, procedures, necessary for effective management of project quality.

6. To develop an effective Resource Management plan using proven methods and techniques to provide guidance on how project resources should be categorized, allocated, managed, and released.

7. To create a Communication Management plan that outlines communication channels appropriate for how, when, and by whom information about the project will be administered and disseminated.

8. To develop a comprehensive Risk Management plan that focused on how the risk management activities will be structured and performed.

9. To develop a Procurement Management plan that will define the appropriate methodology to be used when purchasing or acquiring products and services required from outside the organization. This plan will integrate processes and procedures that will ensure that the right materials are available to the project when and where needed.

10. To establish a Stakeholder Management plan defines stakeholders' roles and engagement mechanism within the project lifecycle. This plan aims to garner stakeholder support and foresee possible conflict, resistance or competing objectives among the project's stakeholders.

13. FGP purpose or justification

The Belize Social Investment Fund is currently in a phase of uncertainty. There have been many new staff hires and the old, more knowledgeable staff members have left or are in the process of seeking employment in other institutions. The Project Management

Plan (PMP) will be a tool for the project team to gain knowledge and techniques to deliver projects the right way.

The PMP will be developed to maximize the use of project resources. It will also be used to reduce costs by managing project resources efficiently. Additionally, the use of procurement methods that adheres to professional practices, will provide transparency for stakeholders and improve the acquisition of project resources in a sustainable manner. The PMP will also serve as a reference document for continuously improving company culture and project execution framework. The improved company culture will serve as a catalyst for increased employee participation and communication.

In its entirety, the PMP will holistically provide the project team and management of the BSIF an all-encompassing guide for the execution of the Corazon Creek Technical High School Extension project. This PMP can also be used for future projects as it will aid in the management of resources, identifying and addressing project risks. The quality of projects delivered will also be elevated, as well as project schedule management will be improved to deliver on time.

14. Work Breakdown Structure (WBS)

Final Graduation Project WBS (table form)

1. Graduation Seminar
    - 1.1. FGP deliverables
        - 1.1.1. Charter
        - 1.1.2. WBS
        - 1.1.3. Chapter I Introduction
        - 1.1.4. Chapter II Theoretical
        - 1.1.5. Chapter III Methodological framework
        - 1.1.6. Annexes
            - 1.1.6.1. Bibliography
            - 1.1.6.2. Schedule
    - 1.2. Graduation Seminar
2. Tutoring Process
    - 2.1. Tutor
        - 2.1.1. Tutor Assignment
        - 2.1.2. Communication
    - 2.2. Adjustments of previous chapters
    - 2.3. Chapter IV Development
    - 2.4. Chapter V Conclusions

- 2.5. Chapter VI Recommendations
3. Reading by reviewers
  - 3.1. Reviewers' assignment
    - 3.1.1. Assignment of two reviewers
    - 3.1.2. Communication
    - 3.1.3. FGP submission to reviewers
  - 3.2. Reviewers work
    - 3.2.1. Reviewer 1
      - 3.2.1.1. FGP reading
      - 3.2.1.2. Reader 1 report
    - 3.2.2. Reviewer 2
      - 3.2.2.1. FGP reading
      - 3.2.2.2. Reader 2 report
4. Adjustments
  - 4.1. Report for reviewers
  - 4.2. FGP update
  - 4.3. Second Review by reviewers
5. Presentation to the board of examiners
  - 5.1. Final review by board
  - 5.2. FGP grade report

15. FGP budget

The total budget will be 500USD to cover the cost of software licenses, printing, binding and shipping fees.

16. FGP planning and development assumptions

1. The Project Management plan will be developed by one person.
2. The project can be successfully completed in time stipulated by UCI.
3. All information needed to develop the PMP are accessible.
4. Guidance will be provided for developing PMP.
5. Costs related to developing the PMP will remain stable for the entirety of the project.

17. FGP constraints

Time: Limited time to develop the Project Management Plan

Quality: Project must be done to UCI standards

Confidentiality: Documents used for reference must be available to the school upon request.

18. FGP development risks

Covid 19 pandemic may impact the project manager's health and delay deliverables.

Response from tutors may not be forthcoming and timely and can have a negative impact on the delivery of the PMP.

The amount of time given to develop the PMP may not be enough and may require an extension.

19. FGP main milestones

Milestones		
Deliverable	**Start date**	**End date**
1.1.1. Charter	July 18, 2022	September 4, 2022
1.1.3. Chapter I Introduction	September 5, 2022	September 18, 2022
1.1.4. Chapter II Theoretical	September 19, 2022	October 2, 2022
1.1.5. Chapter III Methodological framework	October 3, 2022	October 16, 2022
2.1.1. Tutor Assignment	October 17, 2022	October 17, 2022
2.2. Adjustments of previous chapters	October 17, 2022	October 23, 2022
2.3. Chapter IV Development	October 24, 2022	November 6, 2022
2.4. Chapter V Conclusions	November 7, 2022	November 20, 2022
2.5. Chapter VI Recommendations	November 21, 2022	December 4, 2022
3.1.3. FGP submission to reviewers	December 5, 2022	December 11, 2022
4.2. FGP update	December 12, 2022	December 18, 2022

4.3. Second Review by reviewers	January 9, 2022	January 22,2022
5.1. Final review by board	January 23, 2023	February 5, 2023

20. Theoretical framework

20.1 Estate of the "matter"

Corazon Creek Technical High School (CCTHS) is situated in Corazon Village 35 miles southwest of Punta Gorda Town, Toledo District. The community of Corazon has existed since 1974 and is inhabited by the Ketchi Mayas. The village has a population of 209 persons, (106 males, 103 females), in 50 households. Subsistence farming is the main source of economic activity in order to maintain livelihood. Livestock raring such as poultry, pigs, and cattle is also undertaken in the village, with products either being used for home consumption or sold at the Punta Gorda Town Market.

Corazon Creek Technical High School was built by the Ministry of Education in collaboration with Sunrise Rotary Club Tyler, Texas USA, who is still a major funding source for the institution, on August 31, 2009. CCTHS opened its doors to seventy-five (75) students (50 males, 25 females) staffed then by seven full time teachers, a teaching vice principal, an administrative principal, a bursar/secretary, a janitor, and two watchmen. This high school, being a government institution, is administered by a Board of Management under the auspices of the Ministry of Education. CCTHS is situated on approximately 4 acres of land with 28 acres available for agricultural purposes and future expansion. CCTHS is a technical institution, offering students options in Business, Academics/Sciences or Vocational areas. Their school population not only includes students from Corazon Village, but also from the ten (10) different neighboring villages of Graham Creek, Mabilha, Dolores, Crique Sarco, San Benito Poite, San Lucas, Santa Theresa, Conejo Creek, Otoxha, and Sunday Wood, all of which are located in the first quintile of the Belize

Poverty Map. This institution serves as a hub for students of these eleven (11) villages, providing a convenient alternative to attending either Toledo Community College or Julian Cho Technical High School which are over 30 miles away. Over the past 13 years, since the high school opened its doors, the population has increased from 75 to 309 students (116 males 93 females). First to third form students from the surrounding communities are currently being transported to Corazon Creek Technical High School via buses, which are hired by the Government of Belize. Fourth form students from the surrounding communities have a choice of either being transported to Julian Cho Technical High School near the Dump Area on the Southern Highway or to Toledo Community College in Punta Gorda Town. As a result of the Ministry of Education's Sector Strategy Plan, this latter option is in the final year of operation as transportation will no longer be provided to Julian Cho Technical High School and Toledo Community College. With the sector strategy plan being in full effect, providing equitable access at all levels in education due to the substantial increase in the student population.

20.2 Basic conceptual framework

- Statutory Body
- Horizon 2030
- International Funding Agencies
- Community Needs Assets Assessments
- Project

21. Methodological framework

Objective	Name of deliverable	Information sources	Research method	Tools	Restrictions

Develop a Project Charter Create a Communication Management plan Formulate a Cost Management plan Develop a Procurement Management plan Develop a Quality Management plan Develop a Resource Management plan Develop a Risk Management plan Create a Schedule Management plan Develop a Scope Management plan	Project Charter Communication Management plan Cost Management plan Procurement Management plan Quality Management plan Resource Management plan Risk Management plan Schedule Management plan Scope Management plan	Secondary: thesis, reports Primary: CNAA, field interviews.	Action Research: Problem diagnosis and solution development-based research Mixed Research: Combining both Quantitative and Qualitative Research methods	Observations Structured and unstructured interviews Case studies Bibliographical files	Field research limited to the weekends. Because of cultural norms, the Mayan females of Corazon Creek may be hesitant to provide feedback. Limited time of the personnel.

Establish a Stakeholder Management plan	Stakeholder Management plan				

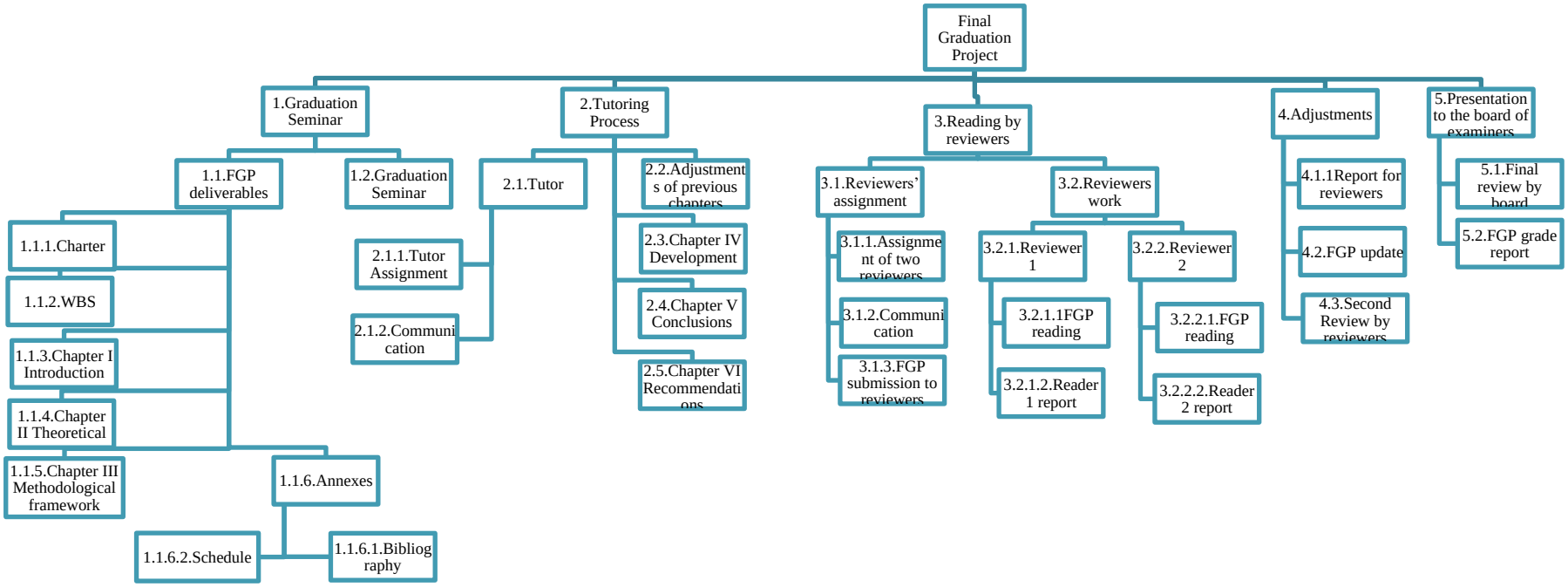
22. Validation of the work in the field of the regenerative and sustainable development.

The FGP will identify regenerative and sustainable development methods to be implemented in the execution of the Corazon Creek Technical High School extension project. For the purposes of this research, the focal point will be on identifying ways the BSIF projects can adapt and implement regenerative and sustainable eco-friendly practices. The Model used to measure these accomplishments is the Elkington (1994) Triple Bottom Line (3BL). 3BL consists of three Ps: profit, people and planet. "It aims to measure the financial, social and environmental performance of the corporation over a period of time. Only a company that produces a 3BL is taking account of the full cost involved in doing business (Barnes, 2009)."

1. Profit: Measure corporate profit and loss.
2. People: Measures an organization's social responsibility.
3. Planet: Measures an organization's eco-friendliness.

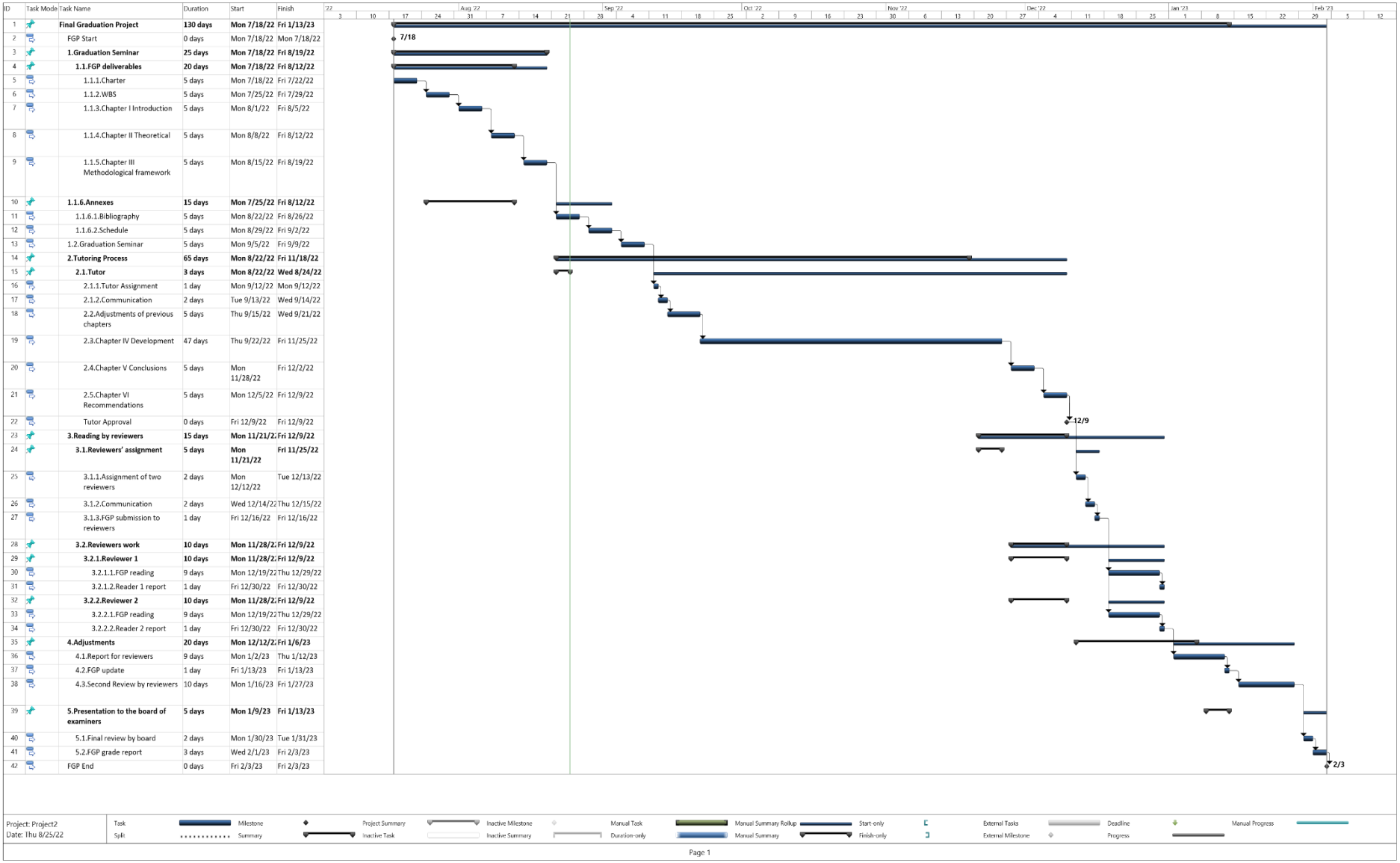
The organization will therefore have the ability to sensitize stakeholders about the importance of integrating regenerative and sustainable eco-friendly projects in the countries. These measures foster a system whereby regenerative and sustainable projects are the norm. This will motivate the stakeholders to accept and design projects that are socially conscious and provide greater efficiency, which ultimately produces a culture that mitigate climate change and reduce carbon emissions.

Appendix 2: FGP WBS



Appendix 3: FGP Schedule

The Final Graduation Schedule below was developed using Microsoft Project 2022 application.



ID	Task Mode	Task Name	Duration	Start	Finish
1		**Final Graduation Project**	**130 days**	**Mon 7/18/22**	**Fri 1/13/23**
2		FGP Start	0 days	Mon 7/18/22	Mon 7/18/22
3		**1.Graduation Seminar**	**25 days**	**Mon 7/18/22**	**Fri 8/19/22**
4		**1.1.FGP deliverables**	**20 days**	**Mon 7/18/22**	**Fri 8/12/22**
5		1.1.1.Charter	5 days	Mon 7/18/22	Fri 7/22/22
6		1.1.2.WBS	5 days	Mon 7/25/22	Fri 7/29/22
7		1.1.3.Chapter I Introduction	5 days	Mon 8/1/22	Fri 8/5/22
8		1.1.4.Chapter II Theoretical	5 days	Mon 8/8/22	Fri 8/12/22
9		1.1.5.Chapter III Methodological framework	5 days	Mon 8/15/22	Fri 8/19/22
10		**1.1.6.Annexes**	**15 days**	**Mon 7/25/22**	**Fri 8/12/22**
11		1.1.6.1.Bibliography	5 days	Mon 8/22/22	Fri 8/26/22
12		1.1.6.2.Schedule	5 days	Mon 8/29/22	Fri 9/2/22
13		1.2.Graduation Seminar	5 days	Mon 9/5/22	Fri 9/9/22
14		**2.Tutoring Process**	**65 days**	**Mon 8/22/22**	**Fri 11/18/22**
15		**2.1.Tutor**	**3 days**	**Mon 8/22/22**	**Wed 8/24/22**
16		2.1.1.Tutor Assignment	1 day	Mon 9/12/22	Mon 9/12/22
17		2.1.2.Communication	2 days	Tue 9/13/22	Wed 9/14/22
18		2.2.Adjustments of previous chapters	5 days	Thu 9/15/22	Wed 9/21/22
19		2.3.Chapter IV Development	47 days	Thu 9/22/22	Fri 11/25/22
20		2.4.Chapter V Conclusions	5 days	Mon 11/28/22	Fri 12/2/22
21		2.5.Chapter VI Recommendations	5 days	Mon 12/5/22	Fri 12/9/22
22		Tutor Approval	0 days	Fri 12/9/22	Fri 12/9/22
23		**3.Reading by reviewers**	**15 days**	**Mon 11/21/2**	**Fri 12/9/22**
24		**3.1.Reviewers' assignment**	**5 days**	**Mon 11/21/22**	**Fri 11/25/22**
25		3.1.1.Assignment of two reviewers	2 days	Mon 12/12/22	Tue 12/13/22
26		3.1.2.Communication	2 days	Wed 12/14/22	Thu 12/15/22
27		3.1.3.FGP submission to reviewers	1 day	Fri 12/16/22	Fri 12/16/22
28		**3.2.Reviewers work**	**10 days**	**Mon 11/28/2**	**Fri 12/9/22**
29		**3.2.1.Reviewer 1**	**10 days**	**Mon 11/28/2**	**Fri 12/9/22**
30		3.2.1.1.FGP reading	9 days	Mon 12/19/22	Thu 12/29/22
31		3.2.1.2.Reader 1 report	1 day	Fri 12/30/22	Fri 12/30/22
32		**3.2.2.Reviewer 2**	**10 days**	**Mon 11/28/2**	**Fri 12/9/22**
33		3.2.2.1.FGP reading	9 days	Mon 12/19/22	Thu 12/29/22
34		3.2.2.2.Reader 2 report	1 day	Fri 12/30/22	Fri 12/30/22
35		**4.Adjustments**	**20 days**	**Mon 12/12/2**	**Fri 1/6/23**
36		4.1.Report for reviewers	9 days	Mon 1/2/23	Thu 1/12/23
37		4.2.FGP update	1 day	Fri 1/13/23	Fri 1/13/23
38		4.3.Second Review by reviewers	10 days	Mon 1/16/23	Fri 1/27/23
39		**5.Presentation to the board of examiners**	**5 days**	**Mon 1/9/23**	**Fri 1/13/23**
40		5.1.Final review by board	2 days	Mon 1/30/23	Tue 1/31/23
41		5.2.FGP grade report	3 days	Wed 2/1/23	Fri 2/3/23
42		FGP End	0 days	Fri 2/3/23	Fri 2/3/23

Appendix 4: Preliminary bibliographical research

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York, A. (2021, August 11). Understanding project deliverables: A complete breakdown with examples. TeamWork. https://www.teamwork.com/blog/project-deliverables/

Literature Review

The desires of mankind to develop projects have been around for a very long time. The need to develop a new drug or a bigger building has driven humanity to the brink. The lack of previous care for the environment and its diminishing resources

have brought to light the need to manage projects more sustainably and incorporate sustainable and regenerative practices in our project endeavors. One such way is by adapting the ten knowledge when designing our projects. According to the *PMBOK® Guide* (2017, p.23), “A Knowledge Area is an identified area of project management defined by its knowledge requirements and described in terms of its component processes, practices, inputs, outputs, tools, and techniques.” These elements are applied to the development of the Corazon Creek Technical High School Extension in Belize. The Belize Social investment fund (2020, p9) states that the rural village is near a nature preserve and thus the cultural and environmental landscape is cherished by the community. The GPM (2019) was used to source valid information about the P5 standard for sustainability. Similarly, the United Nations (n.d.) Achieve gender equality and empower all women and girls helped to identify methods and approaches the ensure that communication and practices within the project framework is equally balanced among its stakeholders. The communications structure was enhanced based on the information extracted from the APM SIG (2020). Researchers Milosevic, D., & Srivannaboon, S. (2021) provided useful information that solidifies the theoretical Framework for Aligning Project Management with Business Strategy. Project risks and constraints we identified using measures mentioned in the PMI (2019), The Standard for Risk Management in Portfolio and Project Constraints. (n.d) respectively. Lastly, the project was conducted replicating and incorporating suitability methods and practices based on the Logie, J. (2019, May 30). Sustainability Management Plan document.

Appendix 5: Other relevant information

Philological Dictum

Department of English
Banana Bank
Belmopan City
Belize, Central America

November 9, 2022

Universidad Para La Cooperacion Internacional
Avendia 15, Calle 35
Barro Escalante, San Jose 10101
Costa Rica

To Whom it May Concern:

Re: Philological Review of Karon Hamilton's Thesis Submission

I have read and reviewed the Final Graduation Project entitled *" Project Management Plan for the construction of Corazon Creek Technical High School Extension in Belize"* prepared by Mr. Karon Hamilton and submitted in partial fulfilment of the requirements for the Master's in Project Management (MPM) Degree at UCI.

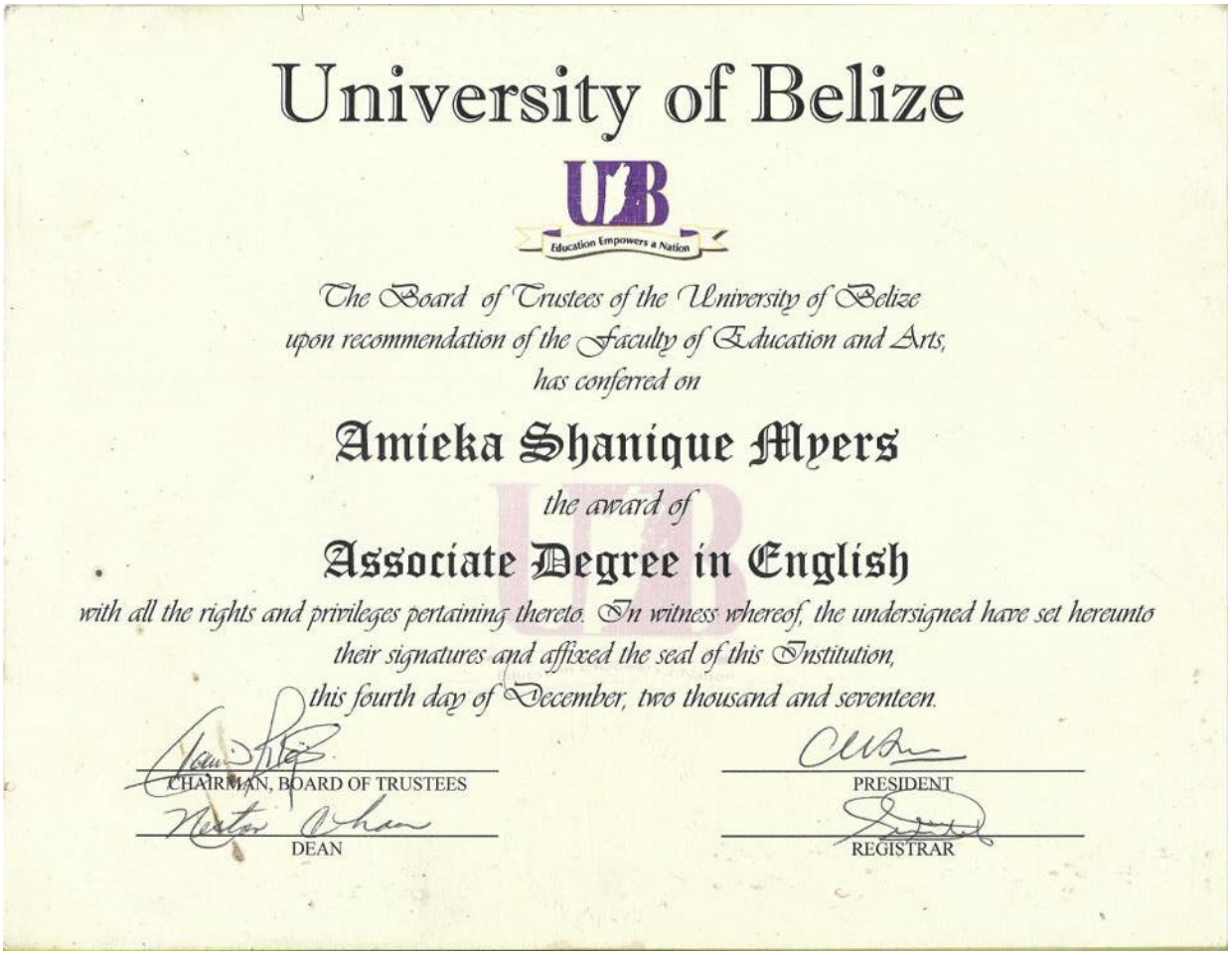
I have considered the standard of academic writing and the use of English in the document. I find the language and expression therein to be lucid and precise. Syntax is sophisticated and correct throughout. Spelling is accurate and the register appropriate for work at this level. Overall, the fluency of writing is proficient, precise and mature. The scholarly apparatus is accurate, consistent and well-judged. The document appears complete and logically organized.

Should any further information regarding these comments be required or should the thesis committee wish to discuss any aspect of my evaluation, I would be available to assist.

Sincerely,

Amieka Shanique Myers
English Lecture
Department of English
Belmopan Baptist High School
amiekamyers@ymail.com
+(501) 636 6316

Credentials



University of Belize

Education Empowers a Nation

The Board of Trustees of the University of Belize
upon recommendation of the Faculty of Education and Arts,
has conferred on

Amieka Shanique Myers

the award of

Associate Degree in English

with all the rights and privileges pertaining thereto. In witness whereof, the undersigned have set hereunto their signatures and affixed the seal of this Institution,
this fourth day of December, two thousand and seventeen.

CHAIRMAN, BOARD OF TRUSTEES

PRESIDENT

DEAN

REGISTRAR