ADAPTATION FUND

REGIONAL PROJECT/PROGRAMME PROPOSAL

PART I: PROJECT INFORMATION

Title of Project/Programme: Increasing the resilience of the education system to climate change impacts in the Eastern Caribbean

Countries:	Antigua and Barbuda, and St. Lucia
Thematic Focal Area:	Disaster risk reduction and early warning systems
Type of Implementing Entity:	Multilateral
Implementing Entity:	**United Nations Human Settlements Programme**

Executing Entities:

Antigua and Barbuda:
Department of Environment.

St. Lucia:
Ministry of Education, Innovation, Gender Relations and Sustainable Development.

Regional:
The Organization of Eastern Caribbean States (OECS), and

The Caribbean Disaster Emergency Management Agency (CDEMA)

Amount of Financing Requested: US$13,996,500

Project Background and Context:

Problem statement

Climate change is causing an increase in the frequency and intensity of natural disasters, notably the number of high-intensity tropical storms and hurricanes that make landfall on small island developing states (SIDS) such as Antigua and Barbuda and St. Lucia. Historically, most extreme weather events that made landfall in these two nations were of relatively low intensity, generally as tropical storms, or Category 1—3 hurricanes. Given that category 4 and 5 hurricanes were rare occurrences, and considering fiscal and capability constraints, school buildings have not been built to withstand the impacts of category 4 and 5 hurricanes; the design of school buildings set to withstand only up to a Category 3 hurricane was considered sufficient in the past. Considering the trend of increasing storm intensity within the Eastern Caribbean region that is projected to continue for the foreseeable future, adaptation measures for school buildings are needed to address the impacts of climate change in Antigua and Barbuda and St. Lucia, and throughout the region.

Background Context

The Eastern Caribbean region is one of the most disaster-prone areas of the world as over the years, the countries continue to be exposed to several natural hazards such as floods, hurricanes, droughts, fires, coastal erosion, and landslides that hinder economic growth, cause substantial damage and loss, compromise the effectiveness of poverty reduction strategies and disrupts education systems. The long-lasting impact of those hazards is further exacerbated by the effects of climate change, particularly with regard to the increasing intensity and frequency of extreme weather events. Factors such as land degradation, infrastructure development in coastal settlements, high food import bills and reliance on imported fuel also increase the vulnerability of these small island states to climate change. Many of these hazards are being exacerbated by climate change and the associated sea level rise, e.g., warming conditions over the Atlantic Ocean are resulting in an increased intensity of hurricanes in the Eastern Caribbean.

Future climate projections point to rising temperatures and increased evapotranspiration, as well as continued sea level rise, altered precipitation patterns, and increasing hurricane intensity. These projected changes will impact the region’s coastal ecosystems and fisheries, water supplies, agriculture, biodiversity, human health, tourism, and critical infrastructure.

The risks posed by high-intensity storms and powerful hurricanes to infrastructure, buildings and operations is further exacerbated by the limited adaptive capacity of Antigua and Barbuda and St. Lucia governments, school systems and communities to prepare for and recover from extreme weather events. Climate vulnerability is exacerbated by long-standing macroeconomic and financial problems in the region, with extreme climate events having significant impacts on the lives and livelihoods of local communities, as well as the local economy. Damage to critical public infrastructure — including schools — leads to disruptions to educational activity and incurs considerable recovery costs after an event. Moreover, it often takes several months for both countries to recover from such disruptions, leading to considerable declines in educational opportunities and economic productivity, as well as impacts on families who must dedicate time and energy to out-of-school children.

Antigua and Barbuda as well as St. Lucia are part of the Leeward Islands in the Eastern Caribbean. Historically, both Antigua and Barbuda and St. Lucia have only been hit by relatively low-intensity tropical storms, with those reaching hurricane status seldom strengthening above Category 3. The return rate of Category 4 hurricanes in the first half of the 20th century was only 1 in 50 years. However, since 1995, these countries have experienced 15 hurricanes and 14

tropical storms, and the only storms above Category 3 were the notable exceptions of Hurricanes Luis in 2005 (Category 4), and Irma and Maria in 2017, which were the only Category 5 hurricanes that have affected the countries and region in recorded history.

The hurricane rating system, the Saffir-Simpson Hurricane Wind Scale, is based on maximum sustained wind speed, and does not take into account such potential hazards as storm surge, flooding and tornadoes. Categories 4 and 5 indicate sustained winds of over 209 and 252 km/hour, respectively.[1] Hurricanes Irma and Maria caused more than 3,191 deaths and a cumulative damage of about US$12 billion, including major damage to housing and infrastructure – specifically, to school buildings. These two major hurricanes had the additional impact of disrupting education services, amongst other basic services such as health, telecommunication, electricity, water, sewage, and waste systems for long periods. The frequency and intensity of these storms is strongly correlated to: (i) high sea surface temperature (SST); (ii) decreasing vertical wind shear in the mid-troposphere during depression development; and (iii) changes in the La Niña phase of the El Niño Southern Oscillation.

As an example of SST impacts on storm intensity, in the lead up to Hurricane Irma in 2017, the SST anomaly from baseline climatic conditions was shown to be in the order of 1°C in the region to the south-east of Antigua and Barbuda and east of St. Lucia. Hurricane Irma was fluctuating between Category 2 and 3 strengths before being deflected west-southwest by a high-pressure system back over the area of warmer ocean. This increased SST gave energy to the depression, contributing to its development into a Category 5 hurricane.

Due to the historically low frequency of occurrence in extreme weather events, building codes in both countries did not prescribe the construction methods / technologies required to withstand above a Category 3 hurricane. While designing buildings to withstand up to a Category 3 hurricane was sufficient in the past, the increasing intensity of hurricanes hitting the region is having severe impacts on these countries' built environments and population. This trend of increasing intensity and frequency of storms within the Eastern Caribbean region is projected to continue for the foreseeable future. Therefore, urgent adaptation measures for the education sector are therefore needed to address the impacts of climate change in both countries, and throughout the region.

Given their proximity to each other, these two countries share the same vulnerability and risks to climate change. The vulnerability and risks are due to three main conditions: (i) small geographical areas, which results in disasters taking on country-wide proportions; (ii) their location in one of the highest-risk areas in the world with high levels of volcanic and seismic activity and located in the tropical cyclone belts with direct exposure to the forces of the oceans; and (iii) their dependence on relatively few sources of income (the agriculture and tourism sectors) for a substantial part of its GDP or lack of economic diversification. A single climate-related disaster can severely reduce these sources of income for months on end. Another critical indicator of each country's vulnerability is their limited capacity to promptly reactivate the development process after a devastating weather event. There are other non-climatic factors that may contribute to the country's vulnerability and exacerbate the adverse effects of climate change, including, inter alia, issues pertaining to building codes, public awareness, and sensitization, planning and development.

The impact of natural hazards on the countries' education systems is further compounded by the fact that some schools are used as emergency shelters. In St. Lucia, for example, eighty-seven (87) out of one hundred and three (103) public schools are designated emergency shelters. These schools are at the receiving end of disasters both in terms of the damage to their infrastructure

1 Saffir-Simpson Hurricane Wind Scale. (n.d.). Retrieved July 18, 2022, from https://www.nhc.noaa.gov/aboutsshws.php

and the disruptions in operations for education and shelter capacity which may occur. Widespread disruptions to the education system caused by health-related events such as the Coronavirus (COVID 19) pandemic have placed strain on the country economies, decreasing capacity to cover costs of adaptation planning and implementation by hindering fund and workforce availability, as well as diverting international funding towards other emergency initiatives.

Despite the vulnerability of schools to numerous threats, schools continue to serve as centres of knowledge transfer and human development. Schools, therefore, play a triple role: centres of education for children; beacons of safety in times of disaster; and a community-wide centre of learning where citizens increase their capacity to protect themselves from hazardous events.

Recognizing that urgent actions must be taken to increase the capacity of the education sector to combat the effects of disasters and climate change, the governments of St. Lucia and Antigua and Barbuda undertook a technical assistance project in 2020 entitled: 'Increasing Resilience of the Education System to Climate Change in Saint Lucia and Antigua and Barbuda'. This assistance was guided by technical expertise from The Climate Technology Centre and Network/United Nations Framework Convention on Climate Change (CTCN/UNFCCC). The findings from those reports guide this proposal and are part of the annexes.

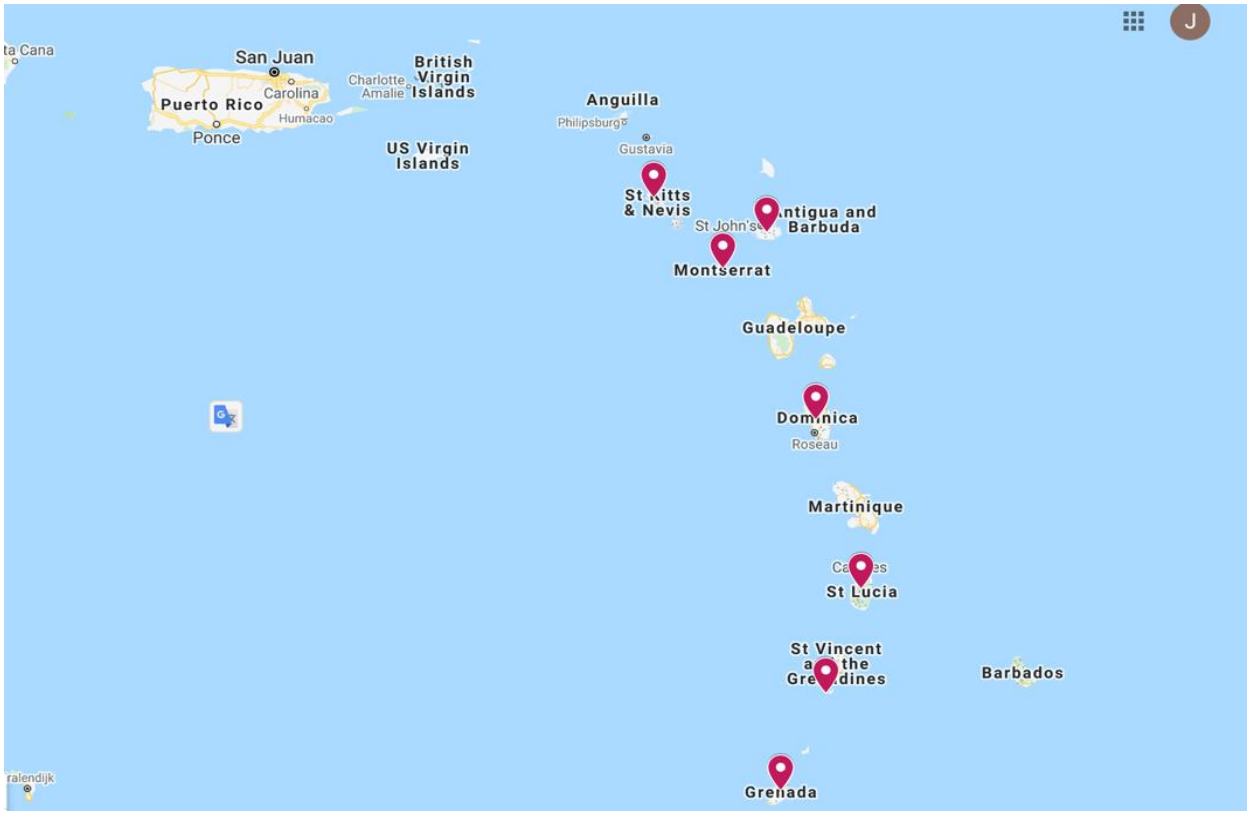


Figure 1: Map of Organization of Eastern Caribbean States Protocol Members.

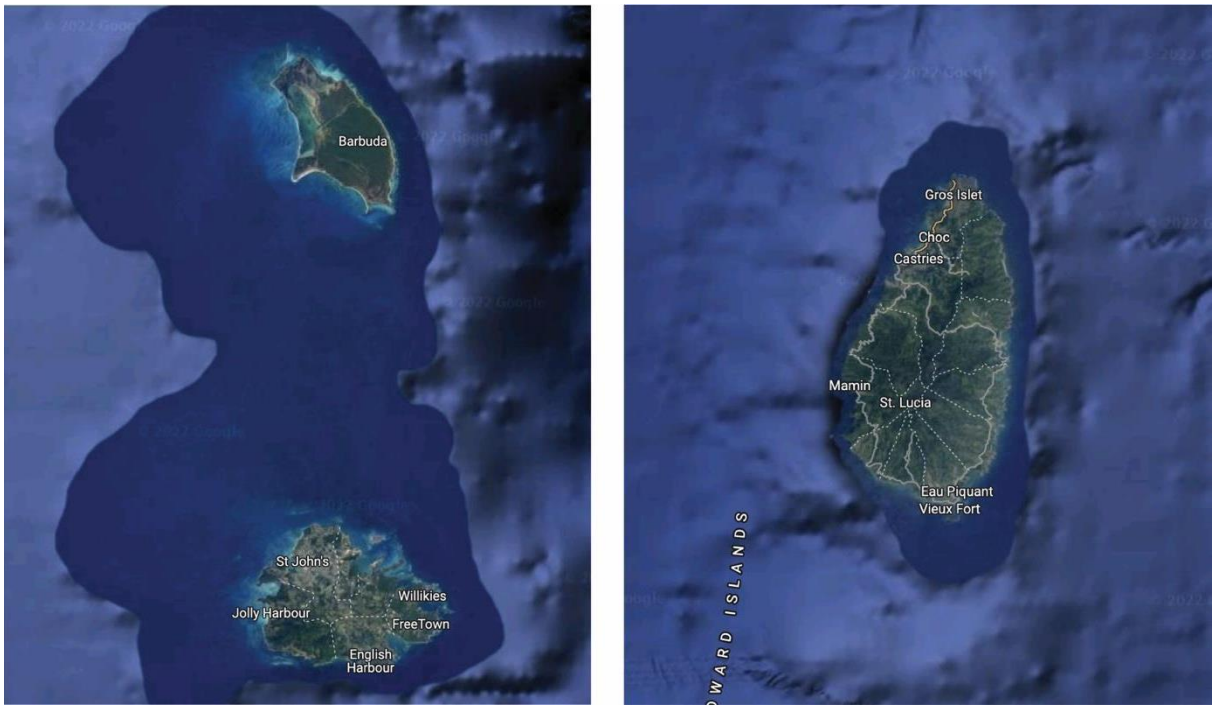


Figure 2: Satellite View of A&B (Left) and St. Lucia (Right).

Project Objectives

Eastern Caribbean Islands are united in their political will and commitment to building the resilience of their respective education sectors utilizing both a national and a regional approach. This commitment was established and formalized through the Declaration on School Safety and the development of the Caribbean Roadmap on Schools Safety (CRSS)[2] to which this project is aligned. However, at both the country and regional level, the enabling environment for building resiliency of school systems needs to be enhanced to increase the durability and effectiveness of the interventions.

Furthermore, schools need to be capacitated to continue to operate, or rapidly return to operating, after extreme weather events. Recent extreme weather events have taken schools out of operations, in some cases for as long as a year. This has had a huge negative impact on students' learning and outcomes as well as negative effects more broadly on families and communities who must make accommodations as their children are not in school. In order to be able to continue to operate or to return quickly to operation, schools - in addition to being made climate-resilient - also need to have off grid energy and water access. Increasing the resilience of priority school buildings will lead to critical educational services remaining operational during and after extreme events, as well as a more rapid recovery.

For Antigua and Barbuda and St. Lucia, strengthening the climate resilience of educational systems by improving the strength of the physical infrastructure of existing school buildings, is an adaptive priority of paramount importance in the face of intensifying and increasing extreme weather impacts. Schools in these countries need to be upgraded to be able to withstand the

2 *1st Caribbean ministerial forum on school safety*. UNISDR - Regional office for the Americas. (n.d.). Retrieved July 18, 2022, from https://www.eird.org/americas/safe-school-caribbean/2019/ministerial-forum.html

impacts of Category 4 and 5 hurricanes, which have sustained wind speeds of 209 km/hr and greater.

In addition to strengthening the climate resilience of school buildings, the enabling environment for building systemic resilience also needs to be improved to support the implementation of the CRSS, which has three pillars:

1. Safe learning facilities (including standardized school safety assessment),
2. School disaster management (incl. multi-hazard school safety plans and guidance documents), and
3. Risk reduction and resilience education (including curricula and training on disaster risk management).

Furthermore, for these school systems to be resilient in the face of the climate crisis, the capacity of students, parents, community members, school administrators and staff, as well government bodies need to be enhanced to improve understanding of climate risks and resiliency measures. Capacity building is also required to improve market conditions for innovative technology solutions.

The project will advance climate-resilient sustainable development in both countries' educational systems in a manner that is proactive rather than reactive to extreme climate events. In contributing to this broad vision, the project has the following three core objectives:

1. Improving the enabling environment for adaptation planning within the educational systems to support national implementation of Safe School Policies.
2. Strengthening the capacity of schools, communities, and households to both understand climate risks and adaptation options, as well as plan and implement adaptation measures.
3. Building the resilience of select existing school buildings to withstand up to Category 5 hurricanes.

This proactive approach will eventually facilitate the upscaling and replicating of these interventions across all school buildings in both countries and serve as a model for scaling these activities across the Eastern Caribbean region.

Project Components and Financing:

Table 1: Project components and financing

Components	Project Outcomes	Project Outputs	Activities	Amount (US$)
Component 1: Project Knowledge management and replication, and development of regional urban risks and vulnerabilities management approach model.	1. Strengthen the enabling environment for adaptation planning within the education sector at the national and regional level.	1.1 Policies, plans and lessons learned strengthened in alignment with the Caribbean Disaster Emergency Management Agency (CDEMA) Model Safe School Programme, to incorporate and mainstream comprehensive risk and disaster management considerations in education sector policies, planning and operations	Annual regional meetings with CDEMA, OECS, St. Lucia and Antigua and Barbuda and other key stakeholders	$380,000
			Biannual national review meetings in each country to review progress, and closely monitor the project activities.	
			Conduct a gap analysis of the coordination mechanisms and stakeholder engagement in each country to determine areas in need of improvement for implementing the Model Safe School Policy	
			Develop an updated toolkit and action plan to guide the integration of climate resilience design and OECS guidelines into the Model Safe School Policy in each country.	
			Develop and validate an updated Model Safe School Policy and Toolkit that is relevant for each country.	
			Collect data and capture lessons learned from the project on an ongoing basis and produce a final paper that can be used for scaling up the project across each country.	
			OECS and CDEMA produce a joint Lessons Learned Report with data analysis included based on the experiences of the project for use in scaling resiliency across the region's education sectors.	

Component 2: Improve awareness, ownership and capacities to respond to climate change impacts, incl, to operate, maintain and replicate resilient water harvesting, supply and alternative energy systems.	2. Strengthen the capacity of schools, businesses, communities and households to understand climate risks and adaptation options, and cope with socio-emotional impacts	2.1 Schools, communities and households' capacity building to increase resilience to climate change	Conduct annual capacity building workshops to educate communities on the risks of climate change-related hazards and how to react in case of a disaster.	$979,000
			Develop learning materials relating to climate change adaptation, resilience, and disaster recovery for integration into the Ministry of Education's Social Science Programme.	
			Conduct annual technology expos to improve knowledge-sharing of new and innovative technologies.	
			Sensitize the public on resilience, recovery, and adaptation efforts through awareness campaigns at Arbour month events. (A&B)	
			Integrate disaster risk reduction and resilience education into the school curriculum, particularly social studies programme	
			Demonstrations conducted by schools' industrial arts departments on adaptation and resilience-building benefits, as a part of School Based Assessment projects. (A&B)	
			Conduct capacity building workshops for schools to improve knowledge of Site Environmental Management Plans and call for proposal application capacity (A&B)	
			Provide capacity building for the Ministry of Environment team and technical evaluation committee team to evaluate submissions of proposals and SEMP Reports	
			Develop proposals for climate-proofing school facilities	

			Develop Construction Environmental Management Plans reports for 15 participating schools (A&B)	
			Conduct educational campaigns for participating schools	
			Develop Construction Environmental Management Plans for additional schools if the call for proposal process budget allows it and selection criteria is met. (A&B)	
			Participation of primary, secondary, and tertiary students in Department of Environment's annual Ecozone Summer Camp (A&B)	
			Develop information products for conducting self-assessments for climate resiliency at homes and buildings within target school communities (A&B)	
			Conduct student home climate resiliency self-assessment surveys (A&B)	
			Develop and implement school programme for the enhancement of the resiliency and building of the adaptive capacity of students, parents, teachers, and school personnel to help them cope with the social-emotional impacts caused by exposure to extreme weather events, including hurricanes.	
Component 3: Schools adaptation and safety Improvement	3. Climate-proofing interventions implemented in select school buildings to improve resilience to, and recovery from,	3.1 Conduct Safe School assessments with adaptation needs and maintenance plans costed.	Conduct baseline audits of school buildings in alignment with and in support of the Model Safe School Programme toolkit and OECS's Guidelines for the Locating and Designing of Disaster Resilient Schools (A&B)	$10,315,500
			Develop site-specific operational procedures for long-term maintenance, and a monitoring framework, of climate-proofing measures for each priority building	

	extreme climate events.	3.2 Improve the resilience of priority buildings through adaptation interventions	Implement climate-proofing measures to improve priority buildings climate resilience including engineering design & supervision (A&B)	
			Implement climate-proofing measures to improve priority buildings climate resilience including engineering design & supervision (St. Lucia)	
			3.2.3 Design, procure and install weather stations at select schools with very high overall hazard rank. (See Part II B.) (A&B)	
	4. Total components			$11,674,500
	5. Project Execution cost			$1,225,500
	7. Total Project Cost			$12,900,000
	8. Implementing Fee			$1,096,500
	Amount of Financing Requested			$13,996,500

Projected Calendar

Table 2: Project calendar.

Milestones	Expected Dates
Start of Project/Programme Implementation	Jan 2023
Project Closing	Dec 2026
Terminal Evaluation	Oct 2026

PART II: PROJECT / PROGRAMME JUSTIFICATION

A. Regional Approach

The project proposes a regional (Eastern Caribbean) approach to develop further evidence on the climate-resilient sustainable development in the region, which requires a holistic understanding of preparation against extreme climate events, but also post-event resilience in the different countries. The adaptation policies, strategies, and projects to be implemented need to be deduced from a regional perspective, with an understanding of the dynamics of the Eastern Caribbean countries and their influence towards the region as a whole. By being adopted steadily and progressively by Eastern Caribbean countries, both at the policy level and at the programme implementation level, the project is designed to result in a higher regional response capacity and overall climate adaptation. The project proposes to start working with two of the Eastern Caribbean countries and the long-term goal is to scale up some of the project findings to other countries in the region. The project also supports the existing knowledge and research institutions focused on the Eastern Caribbean region, such as The Caribbean Disaster Emergency Management Agency (CDEMA), and the Organization of Eastern Caribbean States (OECS).

Infrastructure and ecosystem-based interventions benefit from being designed and modeled at a regional scale to understand the environmental, social and economic implications of the interventions. For example, coastal flooding and storm system dynamics are transboundary and need to be understood both at the regional and at the national scales to be able to propose effective long-term adaptation strategies. Countries in the region benefit from exploring opportunities to share experience and expertise at technical and political levels to build resilience. The regional dimension of the project and the close partnership with institutions like the CDEMA and OECS also facilitate proper uptake and long-term sustainability of the project activities.

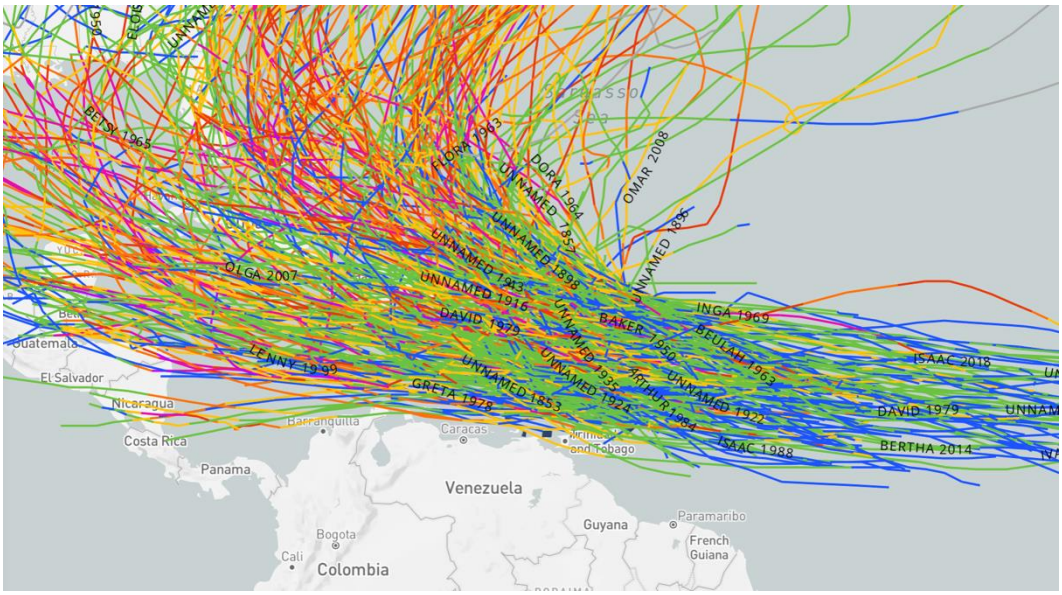


Figure 3: Historical Hurricane Tracks for a Polygon that Includes St. Lucia and Antigua and Barbuda – Mapped by the U.S. National Oceanic and Atmospheric Administration, image shows 390 storms in the past 150 years.

B. Project components

The main objective of the proposed project is to advance climate-resilient sustainable development in both countries by enhancing the resilience of their respective educational systems to extreme climate events, adopting regional tools for capacity and policy creation and applying them to educational programmes. **Component 1** seeks to implement project knowledge management, and development of a regional urban risks and vulnerabilities management approach model to scale up the efforts across the region over time. **Component 2** seeks to improve awareness, ownership, and capacities to respond to climate change impacts via operation, maintenance, and replication of practices of resilient water harvesting, water supply and alternative energy systems. **Component 3** entails carrying out school adaptation and safety improvements to make them more resistant to hurricanes and better prepared for post-disaster capacities.

All these Components play key roles in achieving the project outcomes, as they depend on each other to maximize their effect. Outputs from the evidence-based activities (Component 1) will direct the options for resiliency actions over the long term at the systems level and across both countries and the region. Component 2 will enhance capacity to plan and implement resiliency measures at various levels from national down to the local. Component 3 is the heart of this proposal which will result in schools in Saint Lucia and Antigua and Barbuda having their physical infrastructure improved. This project is adaptation-focused with cross-cutting elements including risk mitigation measures, gender-responsive approaches, knowledge management, and enhanced data management which will support engagement with stakeholders and strengthen long-term adaptation and climate resilience of the school systems and the communities they serve.

Each of the project's components corresponds to an outcome as noted below, and each of the components' activities are to be conducted in both countries (unless otherwise specified in parentheses).

Outcome 1. Strengthen the enabling environment for adaptation planning within the education sector at the national and regional level.

This component will contribute to Adaptation Fund Outcomes 1, 2 and 7 by enhancing the national and regional enabling environment for building the climate resiliency of school infrastructure so as to be able to withstand the impacts of Category 4 and 5 hurricanes. While this project is conducted on the ground in two countries, it is expected to serve as a model in which these resiliency measures are duplicated across all schools in both countries and regionally to all the Eastern Caribbean States.

To facilitate the enhancing of this enabling environment the following outputs and activities will be taken in both countries:

Output 1.1 Policies, plans and lessons learned strengthened in alignment with the CDEMA Model Safe School Programme.[3]

Activities:

Activity 1.1.1 Annual regional meetings with CDEMA, OECS, St. Lucia and Antigua and Barbuda and other key stakeholders will be held. Each country will take turns hosting its own regional

3 *Model Safe School Programme in the Caribbean Project*. CDEMA. Retrieved July 17, 2022, from https://www.cdema.org/model-safe-school-programme-in-the-caribbean-project#funding-and-implementing-partners

meeting and an effort to reflect, discuss lessons learned and forward plan both for each country but also more broadly for the region. Representatives from CDEMA and OECS will join these annual meetings

Activity 1.1.2 Biannual (2x per year) national review meetings in each country to review progress, and closely monitor the project activities.

Activity 1.1.3 Conduct a gap analysis of the coordination mechanisms and stakeholder engagement in each country to determine areas in need of improvement for implementing the Model Safe School Policy.

Activity 1.1.4 Develop an updated toolkit and action plan to guide the integration of climate resilience design and OECS guidelines into the Model Safe School Policy in each country.

Activity 1.1.5 Develop and validate an updated Model Safe School Policy and Toolkit that is relevant for each country.

Activity 1.1.6 Collect data and capture lessons learned from the project on an ongoing basis and produce a final paper that can be used for scaling up the project across each country. Provide this info to OECS and CDEMA.

Activity 1.1.7 OECS and CDEMA produce a joint Lessons Learned Report with data analysis included based on the experiences of the project for use in scaling resiliency across the region's education sectors.

Why this is needed: As the climate crisis increases the frequency and intensity of extreme natural events that affect the region, regional-level coordination and national-level planning processes are needed to withstand imminent challenges and to create a proper knowledge exchange, ensuring an amplifying effect for the interventions. However, in both St. Lucia and Antigua and Barbuda, there is limited capacity at the municipal/community level to respond to climate change and to manage mitigation and adaptation practices in an efficient, comprehensive, and forward-looking way.

Outcome 2: Strengthen the capacity of schools, businesses, communities, and households to understand climate risks, adaptation options, and cope with socio-emotional impacts

This component will contribute to Adaptation Fund Outcomes 2 and 3 by building the capacity of stakeholders to adapt to climate change. To ensure the sustainability and upscaling potential of climate-proofing measures implemented under Component 3, various capacity-building programmes will be implemented. These training programmes will be designed for the targeted schools and focus upon a wide range of stakeholders including governmental institution's staff, students, parents, teachers, administrators, and the local community.

Capacity building is an essential component of building the adaptive capacity of the education sector as the stakeholders will benefit from improved knowledge, skills and tools that build adaptive capacity and will go beyond the scope and timeline of the project. An interactive approach to the capacity building will be taken to allow for incorporating improvements, feedback and learning from participants. Capacity development activities will be shared openly with the OECS and CDEMA for their use but also for sharing with other Eastern Caribbean governments for utilization across the region. This will lead to the improved adaptive capacity of communities, school systems and government planners, and others. Representatives from OECS, CDEMA and

other regional and national organizations will be invited to attend training programs so as to increase capacity more rapidly across the region.

Output 2.1 Schools, communities, and households capacity building to increase resilience to climate change

Activities:

Activity 2.1.1. Annual capacity-building workshops to educate communities on the risks of climate change-related hazards and how to react in case of a disaster.

Activity 2.1.2. Develop learning materials relating to climate change adaptation, resilience, and disaster recovery for integration into Antigua and Barbuda's Ministry of Education's Social Science Programme.

Activity 2.1.3. Plan and host annual technology expos to improve knowledge-sharing of new and innovative technologies.

Activity 2.1.4. Sensitize the public on resilience, recovery, and adaptation efforts through awareness campaigns at Arbour month events. (Antigua and Barbuda or A&B)

Activity 2.1.5. Integrate disaster risk reduction and resilience education into the school curriculum, particularly social studies programme.

Activity 2.1.6. Demonstrations conducted by schools' industrial arts departments on adaptation and resilience-building benefits, as a part of School-Based Assessment projects. (A&B)

Activity 2.1.7. Conduct capacity-building workshops for schools to improve knowledge of Site Environmental Management Plans and call for proposals (CFP) application capacity (A&B)

Activity 2.1.8. Conduct training of internal Ministry of Environment teams and technical evaluation committee teams to evaluate submissions of call for proposals. (A&B)

Activity 2.1.9. Develop proposals to increase climate-proofing school facilities. (A&B)

Activity 2.1.10. Develop Site Environmental Management Plans Reports for the initial 15 participating schools (A&B)

Activity 2.1.11 Design and conduct educational campaigns for participating schools

Activity 2.1.12 Develop Site Environmental Management Plans Reports for additional schools (A&B)

Activity 2.1.13 Participation of primary, secondary and tertiary students in DoE's annual Ecozone Summer Camp. (A&B)

Activity 2.1.14 Develop information products for conducting self-assessments for climate resiliency at homes and buildings within target school communities (A&B)

Activity 2.1.15 Student home climate resiliency self-assessment surveys conducted (A&B)

Activity 2.1.16 Design and conduct school program for resiliency and building of the adaptive capacity of students, parents, teachers, and school personnel to help them cope with the social-emotional impacts caused by exposure to extreme weather events, including hurricanes.

Why this is needed: To ensure sustainability of the proposed adaptation measures under Component 3, communities need to ‘own’ the interventions and this will include awareness of various adaptation options. The project will raise awareness and capacities on how the proposed measures will be operated, maintained, and replicated.

All of the above activities will be conducted by developing operation, maintenance, and

replication plans for proposed adaptation actions in a participatory way, including identifying responsibilities and maintenance budgets, making an emphasis to include women and youth in the processes.

Outcome 3: Climate proofing interventions implemented for select school buildings to improve climate resilience.

This component will contribute to Adaptation Fund Outcome 4 by climate-proofing select school buildings in both countries to withstand the adverse impacts of Category 4 and 5 hurricanes. To achieve this, the structural integrity of the selected priority schools will be strengthened through a comprehensive set of interventions as laid out in Annexes 4 and 5. These interventions will physically protect buildings, thereby reducing damages and maintaining the operability of critical services during and directly after an extreme event. Each country has taken their own approach to this component.

An important element of resilience-building measures will focus on equipping the schools to remain open and functional in the event of extreme weather events by equipping each school with decentralized (independent from the grid) power and water supplies. Decentralizing power and water supplies will reduce the dependence of critical services on vulnerable central systems which are often disrupted for a prolonged period both during and after an extreme climate event. This will ensure that school buildings and the important services they provide are uninterrupted when centralized systems are disrupted.

Output 3.1 Conduct Safe School assessments with adaptation needs and maintenance plans costed.

Activities:

Activity 3.1.1. Conduct baseline audits of school buildings in alignment with and in support of the Model Safe School Programme toolkit and OECS's Guidelines for the Locating and Designing of Disaster Resilient Schools (A&B)

Activity 3.1.2. Develop site-specific operational procedures for long-term maintenance, and a monitoring framework, of climate-proofing measures for each priority building

Output 3.2 Improve the resilience of priority buildings through adaptation interventions

Activities:

Activity 3.2.1 Implement climate-proofing measures to improve priority buildings climate resilience including engineering design & supervision (A&B)

Activity 3.2.2 Implement climate-proofing measures to improve priority buildings climate resilience including engineering design & supervision (St. Lucia or SL)

Activity 3.2.3 Design, procure and install weather stations at select schools with very high hazards ranking (A&B)

Why this is needed: This intervention is critical because of the increasing frequency and intensity of storms and the infrastructural challenges in both St. Lucia, and Antigua and Barbuda, exacerbated by climate change and the limited options local governments have to provide shelter and recover from these events.

Project outcomes and outputs are presented below in Figure 4, along with risks, challenges, and assumptions.

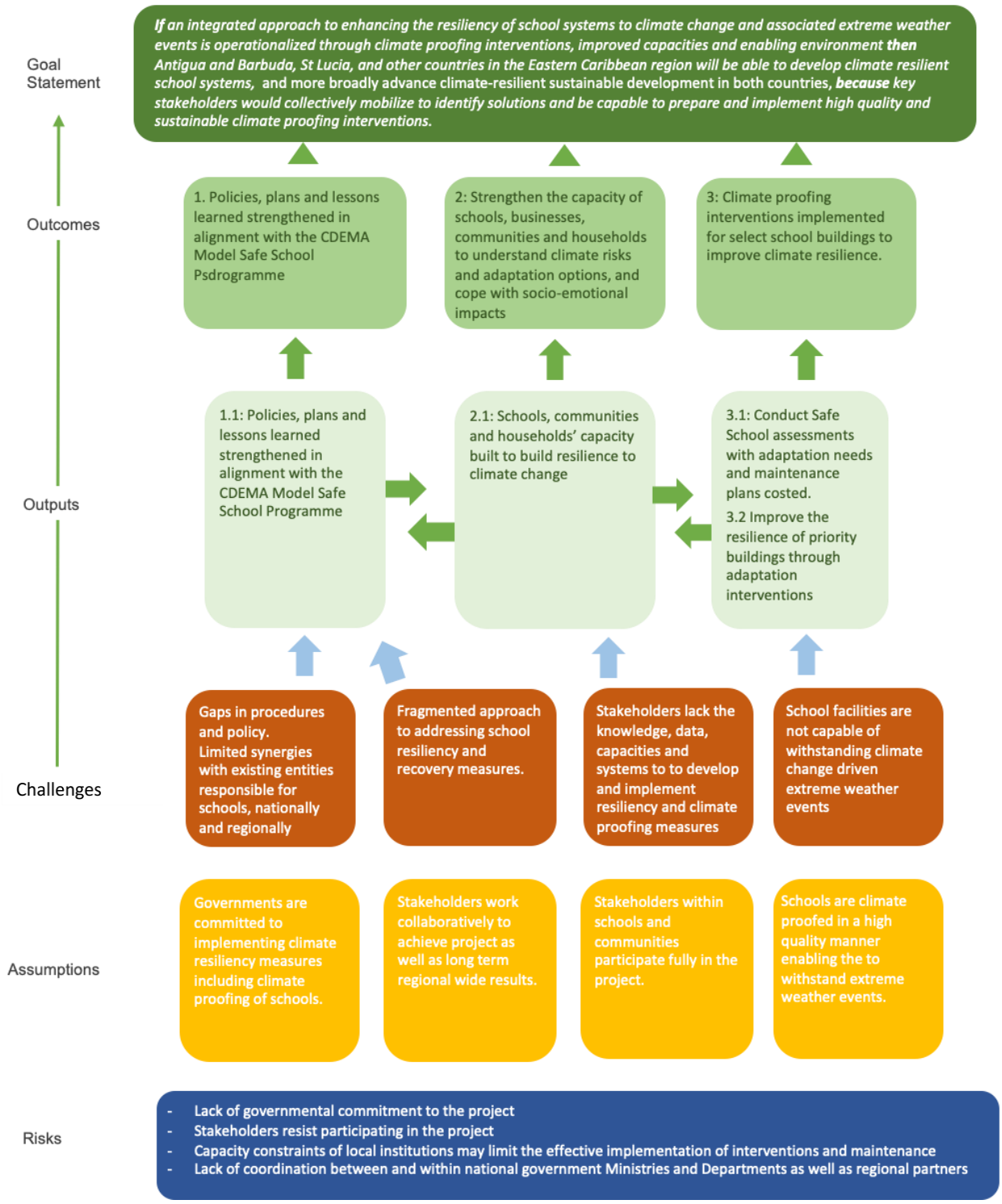


Figure 4: Project Overview.

School Pre-selection Process

The countries conducted an analysis of potential schools to participate in the project by assessing the following 10 criteria:

1. Risk Category – This is a categorization to assist with the detailed design of retrofit solutions. Depends on the nature of occupancy. There are four risk categories per ASCE 7-16: https://www.asce.org/asce-7/ in the case of St. Lucia; for Antigua and Barbuda the hazard for each school was scored and the final score was averaged. Based on the results, a score to the closest whole number was ranked from 1 – low to 5 -very high.
2. Building Condition – This is an overall physical condition assessment of the buildings on the school compound using a condition index ranging from poor with a value of 1 and excellent with a value of 5.
3. Occupancy Group – A building code relater parameter that would assist in the design of retrofit interventions.
4. Original Design Code – A document that would assist in understanding and assessing the performance of the structural elements of the buildings.
5. Occupancy Group A and B Buildings – This refers to critical institutional buildings (health centers, hospitals, fire stations, and police stations, etc.).
6. Climate Vulnerability – Defines the findings of the Rapid CVA and presents a summary basis for the rating.
7. School Layout – Brief description of what the buildings house.
8. Community type – Rural, Urban or Suburban.
9. Adjacent land uses – Residential, agricultural, recreation, transportation, commercial, and institutional
10. Climate Change Exposure – Brief description about the school's risk to Landslides, Hurricanes, Flooding, Drought, and Sea-Level Rise, understanding that the climate crisis will make these events even more recurrent.

The relative vulnerability of the schools was established using the five hazards stipulated in the 10 assessment criteria, namely: Landslides; Fluvial Flooding; Wind Speed; Droughts; and Sea Level Rise/Coastal Hazards. Where available, established hazard maps were used to identify the location of the schools, thereby assessing relative climate change vulnerability of the schools. An assessment of risk was conducted for both countries, using the color-coded risk scoring table found in Table 3.

Score	Landslide	Fluvial Flooding	Wind Speed	Drought	Sea Level Rise/Coastal Hazards
1	Low susceptibility	Very low flood hazard susceptibility (Predicted to flood less frequently than a 1 in 50-year return period storm event).	Very low wind hazard susceptibility (between 30-35 m/s wind speed; 100-year maximum likelihood event).	Very low (low flows resulting in demand restrictions have never been experienced in this system).	No impact – combined 1.1 metre Sea Level Rise and a 4 metre storm surge will have no impact due to high elevation of school above sea-level.
2	Not applicable	Low flood hazard susceptibility (Predicted to flood for events between 1:20 and 1 in 50 year-return period).	Low wind speed hazard susceptibility (between 35 to 40 m/s; 1 in 100-year maximum likelihood event).	Low (low flows result in demand restrictions implemented less than once in 5 years).	Not applicable.
3	Moderate susceptibility	Moderate flood hazard susceptibility (Predicted to flood for events between 1:10 and 1:20 year return period).	Moderate wind speed hazard (between 40 to 45 m/s; 1 in 100-year maximum likelihood event).	Medium (low flows result in demand restrictions implemented once every 1 to 5 years).	Future impact only – combined 1.1-metre Sea Level Rise and a 4-metre storm surge will have an impact due to low elevation of school above sea-level.
4	Not applicable	High flood hazard susceptibility (Predicted to flood for events between 1:5 and 1:10 year return period).	High wind speed hazard (between 45 to 50 m/s; 1 in 100-year maximum likelihood event).	High (low flows result in demand restrictions implemented typically once per dry season on average).	Not applicable.
5	High susceptibility	Very high flood hazard susceptibility (Predicted to flood for events of 1:5 years or more frequent).	Very high wind speed hazard (50-55m/s; 1 in 100-year maximum likelihood event).	Very high (low flows result in demand restrictions implemented multiple times each dry season).	High impact – a 4-metre storm surge will have an impact due to low elevation of school above sea-level.

Table 3: Color-Coded Climate Hazard Assessment Table.

Antigua and Barbuda

Antigua and Barbuda identified 15 schools (see Figure 5) to participate in the project, and conducted an initial assessment for each that provides a generalized indication of key details included in Annex 2. A&B will take a grant-based approach to approve which measures are taken at each school. That is, each school, in response to a call for proposals, will provide detailed climate change adaptation measures after a prioritization process. This call for proposals/grants-based approach is the model that the government of Antigua and Barbuda (GoAB) typically utilizes when allocating capital (including from international sources) for environmental, and climate change mitigation and adaptation projects.

The GoAB believes that the call for proposals model has many benefits including:

- Reduces the possibility for bias by giving schools the opportunity to share their views on interventions.
- Provides an opportunity for a wider cross-section of the community to be reached, informed of the proposed activities, and take part in the process.
- Supports school ownership of the work that will be conducted and the concept of adaptation more broadly.
- Allows an opportunity for independent stakeholders to be a part of the vetting process.
- Builds ownership as it relates to the chosen interventions and will improve their knowledge of the needs of their facilities.
- Ensures a transparent and competitive award process.

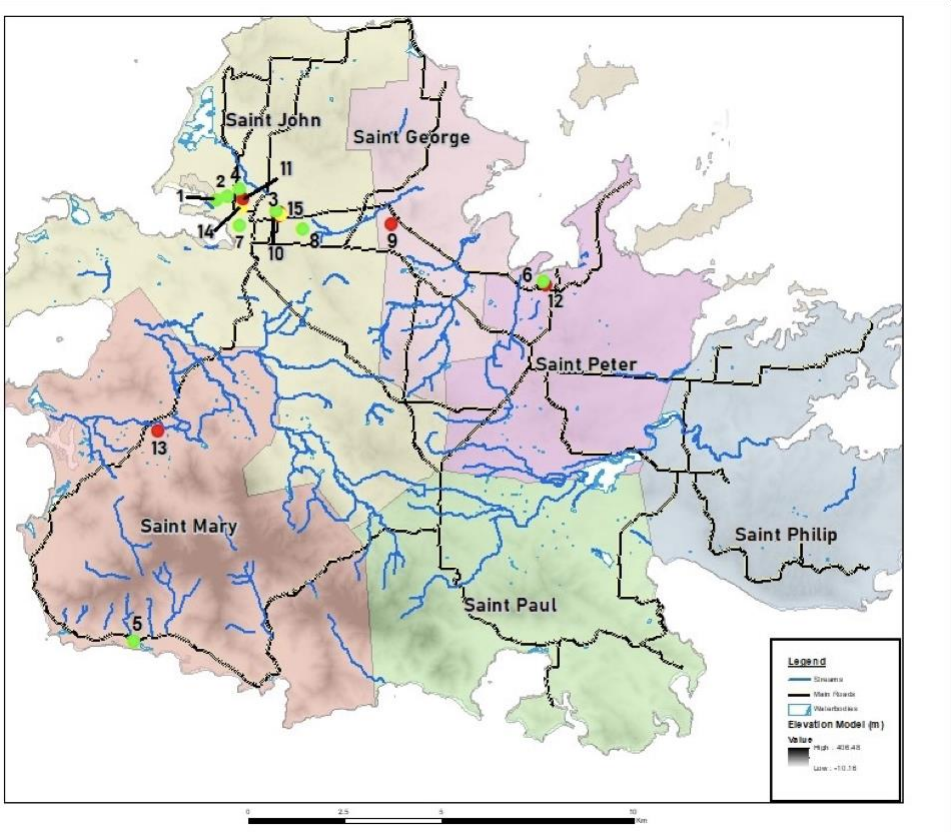


Figure 5: Map illustrating the location of the included schools in Antigua and Barbuda.

To demonstrate the call for proposals (CFP) model, an example of a similar and previous Grant Process Checklist is provided in Annex 9.

Depending on such criteria as site-specific conditions and suitability, stakeholder prioritization, technical capacity required, and cost effectiveness, Antigua and Barbuda is targeting the following climate-proofing measures:

- Building condition upgrades
- Photovoltaics (PV) systems
- Backup battery systems
- Water harvesting systems (water tanks)
- Stormwater drainage solutions
- Flooding protection components
- HVAC systems upgrade (inverter a/c),
- Safety of electrical equipment and HVAC components
- LED lighting systems
- Tents to be stored/managed by the army
- Storm-proof windows and shutters
- Roofing reinforcement for PV systems
- Wastewater management systems
- Storm-proof exit and entrance doors

- Disability accessibility components

From a process perspective, the CFP and selection of schools will be conducted as follows:

- Each of the 15 schools will be invited to respond to a call for proposals.
- Each of the 15 schools will be given a small preparation grant to understand the baseline and develop the solutions.
- The evaluation and selection of schools will be managed by the Department of Environment.
- Grants will be processed and awarded through the Sustainable Island Resources Framework (SIRF) Fund.

The criteria for the initial selection of schools will be determined in collaboration with local partners after the project is initiated, and may include the following:

- The school faces environmental challenges such as droughts and high temperatures that impede learning which will be improved through the project interventions.
- The location of the school serves geographically or socially vulnerable populations.
- The school is geographically vulnerable: prone to flooding, remote or restricted access, at risk to storm surge or sea-level rise, and no other access to education in the area. A ranking was conducted of schools in Antigua and Barbuda based on the level of hazards considering fluvial flooding, wind speed, drought, and sea level rise and the ranking is presented in Figure 6. Please note Landslides was not included in the analysis table as it was deemed not applicable.
- The school is socially vulnerable: densely populated areas, provides services to differently abled students, or to socio-cultural minorities.

School	Fluvial Flooding	Wind speed	Drought	Sea Level Rise	Average Score	Overall hazard rank
Jennings Primary	5	4	3	4	4.0	High
Ottos Comprehensive	3	2	5	1	2.8	Moderate
Piggots Primary	5	2	5	1	3.3	High
Parham Primary	5	4	4	5	4.5	Very High
Pares Primary	3	2	4	1	2.5	Moderate
Charlesworth T Samuel Primary	1	3	3	1	2.0	Low
Newfield Primary	3	4	2	1	2.5	Moderate
SeaView Farm Primary	1	2	2	1	1.5	Low
Grace Christian Academy	3	2	5	1	2.8	Moderate
Pares Secondary School	3	2	4	1	2.5	Moderate
All Saints Secondary	1	2	2	1	1.5	Low
Adele School	3	2	5	1	2.8	Moderate
Christ the King High School	1	2	5	1	2.3	Low
St. John's Catholic Primary	1	2	5	1	2.3	Low
St. John's Catholic Pre-School	1	2	5	1	2.3	Low
Sir Luther Wynter Pre-school	1	2	5	1	2.3	Low
Villa pre-school	5	2	5	4	4.0	High
Simon Bolivar	4	2	5	1	3.0	Moderate
Early Learning Centre	4	2	2	3	2.8	Moderate
Bright Beginnings Pre-school	5	4	4	5	4.5	Very High
Green Bay Preschool	5	2	2	1	2.5	Moderate
Princess Margaret Secondary	4	2	5	1	3.0	Moderate
St. Michael's Primary	3	3	5	1	3.0	Moderate
Kuddles	4	2	2	1	2.3	Low
Salvation Army	4	2	5	4	3.8	High
Beacon Light Nazarene	5	2	5	4	4.0	High
Montessori Preschool	4	2	5	4	3.8	High

Figure 6: Antigua and Barbuda school hazard rating

For Antigua and Barbuda, school selection criteria will include consideration of climate support received through other initiatives of the DoE to ensure complementarity and avoid duplication.

The DoE helped to identify communities that are particularly vulnerable to extreme climate events. The selection of the 15 schools, therefore, took into consideration not only the educational benefits but also the needs of at-risk populations that depend on the school for shelter or other community services. It is possible that schools will be added or dropped during the grant process as a result of the application process.

Saint Lucia

The project will execute climate resilience building of eight (8) schools across St. Lucia, allocating direct funding, after identifying and implementing building-appropriate climate-proofing measures. This will include such resilience measures as water harvesting and storage systems, solar energy for emergency power, hurricane shutters and other retrofitting interventions. Detailed school-specific upgrading plans for St Lucia are included in Annex 5.

A vulnerability analysis was conducted for 12 schools using the five stipulated hazards, namely: Landslides; Fluvial Flooding; and Sea Level Rise; Droughts; and Wind Speed. Where available, established hazard maps were used to assess relative climate change vulnerability of the schools. In the case of the drought hazard, there was a paucity of data further exacerbated by less than timely responses from the sole producer of water in St. Lucia. In that regard, the consulting team decided to undertake a qualitative assessment based on information from senior officers of the Water and Sewerage Company Incorporated and the knowledge of the Senior Advisor on the team.

The summary of hazard sensitivity associated with each of the 12 schools is provided in Figure 7 and their location in Figure 8.

School	Landslide	Fluvial Flooding	Wind Speed	Drought	Sea Level Rise	Average Score	School Average Hazard Rank	Comments (provided by ECMC based on local knowledge)
Ave Maria Infant	1	5	3	1	3	2.6	3	In centre of Castries which is known to flood. Located in fairly open country
Ave Maria Primary	1	5	3	1	3	2.6	3	In centre of Castries which is known to flood, located in a fairly open area
Balata Combined	3	3	2	2	1	2.6	3	Very inland and near a river
Bexon Primary	3	3	1	1	1	2.2	7	Known to be in a flood plain. The hill to the east can be a concern
Corinth Secondary	1	5	3	1	1	1.8	11	In a low-lying area, near a river, and is known to have drainage issues. Located in open country
Desruisseaux Combined	1	1	4	2	1	1.8	11	In the South, elevated and exposed. Water shortage is a known concern
Fond Assau Combined	1	1	4	3	1	2	9	Within an agricultural zone and on the upper slopes of a narrow valley
Micoud Primary	3	1	4	2	1	2.2	7	In the southeast and elevated topography. Supply of water is known to be an issue
Patience Combined	3	1	4	3	1	2.4	6	In the southeast and elevated topography. Supply of water is known to be an issue
Saltibus Combined	5	1	4	4	1	3	2	At a high elevation, with the Saltibus River being a water source
Vieux-Fort Infant	1	1	4	1	1	2	9	In the south of the island which is extremely flat and known to have water problems
Vieux-Fort Primary	1	1	4	3	5	3.6	1	In the south of the Island which is extremely flat and known to have water supply problems

Figure 7: St. Lucia school hazard rating

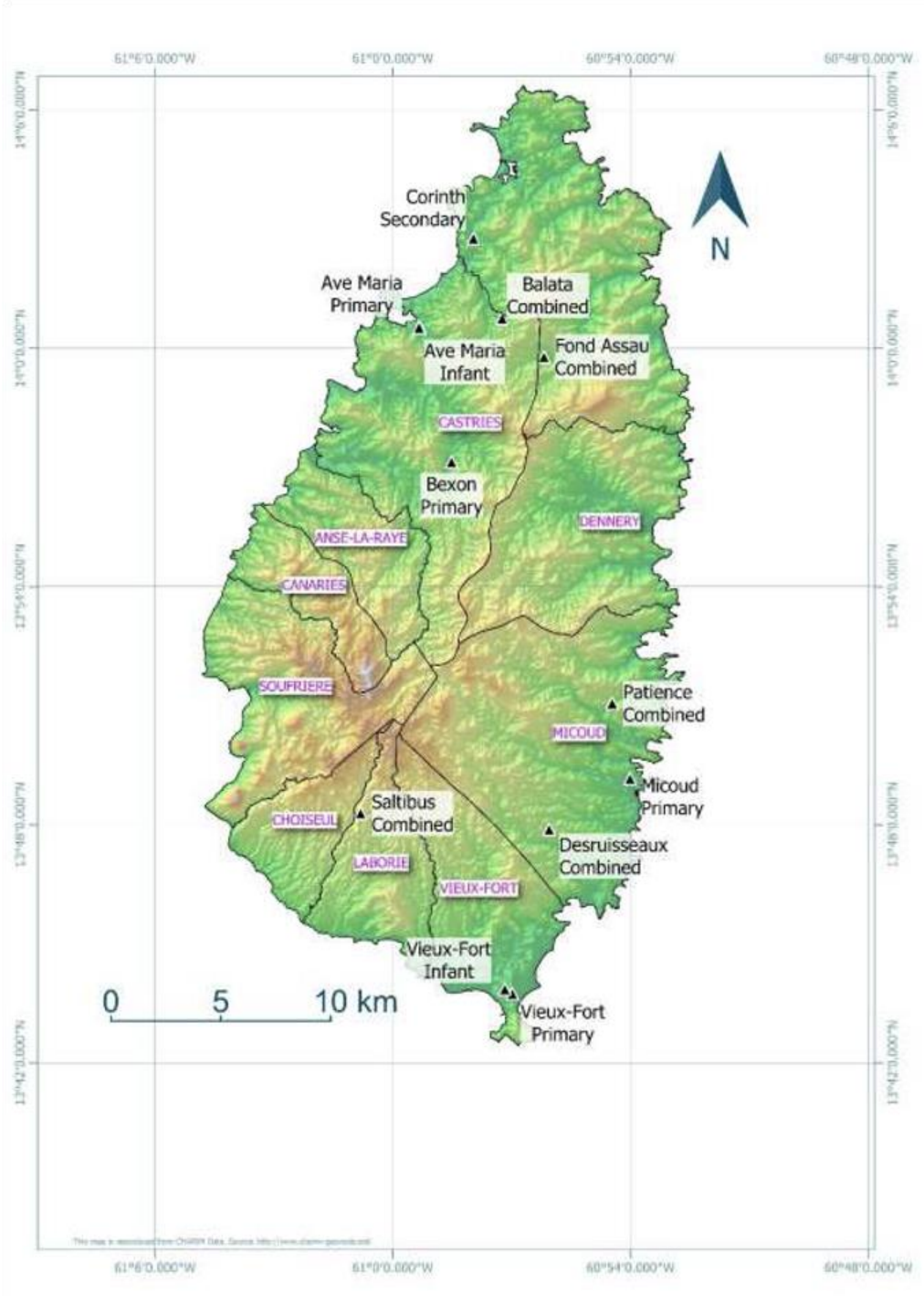


Figure 8: Map illustrating the location of the analyzed schools in St. Lucia:

To facilitate an appreciation of the approach adopted, Figure 9 presents a summary or Level 1 interventions, the subtask or Level 2 measures and the mitigation measures or Level 3 activities, which are then used for establishing the scope of works and associated costing for specified interventions for each school.

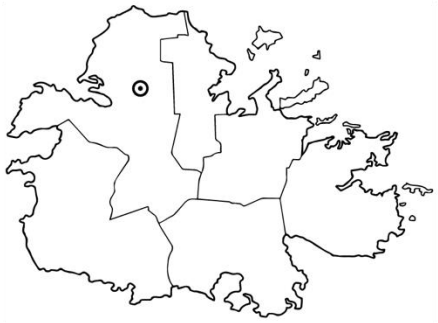
Interventions			Sample Mitigation Measures
No.	Summary – Level 1	Subtask – Level 2	Mitigation Measures – Level 3
1	Structural Retrofitting of both Elements and the Whole Structure		Undertake detailed structural condition assessment of Bexon school before zoning as a disaster shelter
2	Retrofit and Repairs to Roof Structure		Install additional fasteners at every trough at the eaves, hips, ridges, and edges of gable roofs for the resistance of hurricane-force winds
3	Retrofit and Repairs of Door and Window Systems to Withstand Hurricane-force Winds		Install 150 mm concrete surround having minimum cube strength of 21 MPa at 28 days to all windows to ensure adequate anchorage
4	Internal and Superficial Works		Replace all termite infested timber and undertake termite treatment of buildings and compound
5	External Works	Structural	Improve access to school entrance - roadway and gate
		Environmental	Improve and introduce drainage of the school compound
6	Water Storage, Plumbing, and Accessories	Potable Water	Procurement and installation of additional potable water storage tanks
		Rainwater Harvesting	Allow for supply and installation of rainwater harvesting system with pump and first flush system
		Plumbing and fixture	Re-plumbing of buildings to facilitate dual water use - potable and rainwater harvesting
7	Electrical Energy Improvement	Alternative	Allow for supply and installation of the solar photovoltaic system as an alternative power supply
		Stand-by Generation	Allow for supply and installation of a generator
		Electrical Wiring & Lighting Systems	Improve electrical systems, inspection, and re-certification
8	Air Conditioning Systems		Increase capacity of system - cooling generating systems
9	Information Technology		Communication & Security - complete rewiring required
10	Fire Protection	Detection & Alarm	Procure and install smoke detectors
		Suppression	Install fire extinguishers at strategic locations throughout school
		Safety	Install illuminated exit signs at strategic points
11	Disability Accessibility		All ground floor classrooms to be made wheel-chair accessible
12	Access to Site		Improve existing ingress and egress to the site

Figure 9: Mitigation Measures and Options

A school profile was developed for each school under consideration. The profiles include site plans and pertinent information as stipulated in the School Pre-selection Process. School profiles are provided below.

Antigua and Barbuda Pre-Selected School's Profiles.

Beacon Light Nazarene Academy

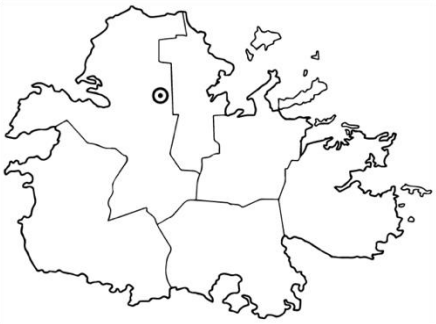


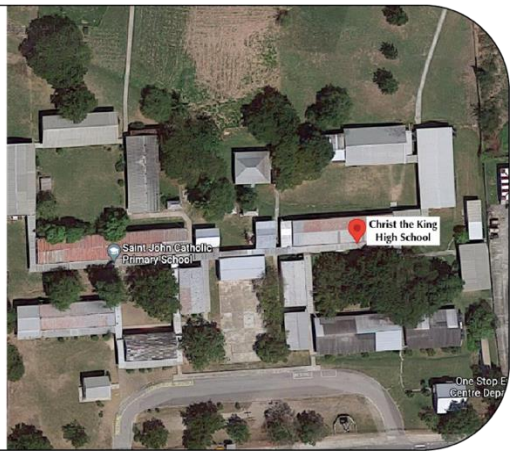
Facility Name:	Beacon Light	Risk Category:	High
Type of School:	Pre-school	Occupancy Group:	Private building
School Address:	Hann Street, Villa, St John's	No. of Occupants:	60
Latitude:	17° 06' 30" N	Year Built:	1985
Longitude:	61° 46' 49" W	Year(s) Renovated:	3 Years
Use:	School	Original Design Code:	Uncertain
Date of Building Condition Assessment Visit:	29th June 2021	Date of Fire Safety Assessment Visit:	Uncertain
School Description		No. of Buildings:	1
		Shape of Building:	Rectangular
		School Layout:	One story building which house a Classroom, Bathroom, Kitchen
Environmental and Social Factors		Community Type:	Suburban
		Adjacent Land Users:	Residential, Commercial
		Occupancy Group A and B Buildings within 1km:	Restaurants, Religious Building
Climate Change Exposure*		Landslides:	N/A
		Wind Speed:	Low
*Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Flooding:	Moderate to High
		Drought:	High
		Sea-level Rise:	Moderate to High
		Overall:	High
Proposed Adaptation Measures:	Install photovoltaics (PV) systems, backup battery systems, water harvesting solutions for buildings and stormwater drainage solutions, flooding protection components, enhance energy efficiency of existing HVAC systems (inverter a/c) LED lighting systems, water storage (water tanks), tents (1-4) to be stored/managed by the army.		

Bright Beginnings Pre-School

Facility Name:	Bright Beginnings Pre-school	Risk Category:	High
Type of School:	Pre-school	Occupancy Group:	Private building
School Address:	Parham Village, St Peter	No. of Occupants:	90
Latitude:	17° 06’ 30” N	Year Built:	Uncertain
Longitude:	61° 46’ 09” W	Year(s) Renovated:	Uncertain
Use:	School	Original Design Code:	Uncertain
Date of Building Condition Assessment Visit:	29th June 2021	Date of Fire Safety Assessment Visit:	Uncertain
School Description		No. of Buildings:	1
		Shape of Building:	Rectangular
		School Layout:	One story building which house a
Environmental and Social Factors		Community Type:	Suburban
		Adjacent Land Users:	Commercial, Residential
		Occupancy Group A and B Buildings within 1km:	Teaching Facility, Religious Building
Climate Change Exposure*		Landslides:	N/A
		Wind Speed:	Moderate
		Flooding:	Moderate
*Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Drought:	Moderate to High
		Sea-level Rise:	High
		Overall:	High
Proposed Adaptation Measures:	Install photovoltaics (PV) systems, backup battery systems, water harvesting solutions for buildings and stormwater drainage solutions, flooding protection components, enhance energy efficiency of existing HVAC systems (inverter a/c) LED lighting systems, water storage (water tanks), tents (1-4) to be stored/managed by the army, early warning system (weather station).		

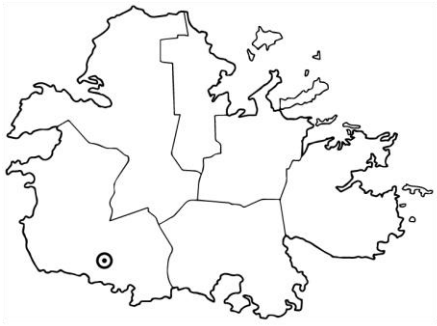
Christ the King High-School





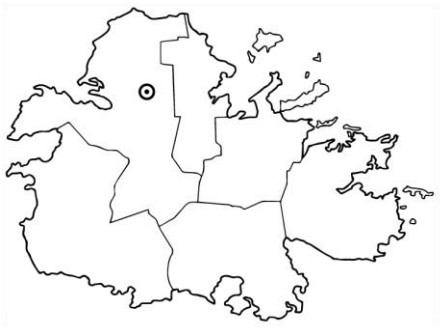
Facility Name:	Christ the King High School	Risk Category:	Moderate
Type of School:	Secondary	Occupancy Group:	Private building
School Address:	Old Parham Road, St. John's, Antigua	No. of Occupants:	264
Latitude:	17°07'27" N	Year Built:	1933
Longitude:	61°49'57" W	Year(s) Renovated:	2-3 years ago
Use:	School	Original Design Code:	Uncertain
Date of Building Condition Assessment Visit:	23rd June 2021 12:00PM	Date of Fire Safety Assessment Visit:	None
School Description		No. of Buildings:	12
		Shape of Building:	Rectangular
		School Layout:	10 rectangular classrooms which house 1 lab, 1 staff room
Environmental and Social Factors		Community Type:	Urban
		Adjacent Land Users:	Residential, Commercial, Recreational
		Occupancy Group A and B Buildings within 1km:	Restaurants, Religious Building
Climate Change Exposure*		Landslides:	N/A
		Wind Speed:	Low
		Flooding:	No to Low
*Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Drought:	High
		Sea-level Rise:	No to Low
		Overall:	Moderate
Proposed Adaptation Measures:	Install photovoltaics (PV) systems, backup battery systems, water harvesting solutions for buildings and stormwater drainage solutions, enhance energy efficiency of existing HVAC systems (inverter a/c) LED lighting systems, water storage (water tanks), tents (1-4) to be stored/managed by the army.		

Early Learning Centre Pre-School



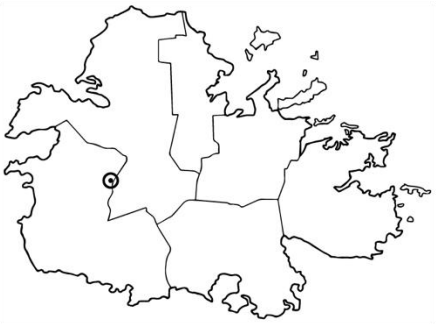
Facility Name:	Early Learning Centre	Risk Category:	Moderate
Type of School:	Pre-school	Occupancy Group:	Private building
School Address:	Urlings Village, St. Mary's, Antigua	No. of Occupants:	17
Latitude:	17°" N	Year Built:	Over 20 years
Longitude:	61°" W	Year(s) Renovated:	2018-2019
Use:	School	Original Design Code:	Uncertain
Date of Building Condition Assessment Visit:	23rd June 2021	Date of Fire Safety Assessment Visit:	2018-2019
School Description		No. of Buildings:	1
		Shape of Building:	Rectangular
		School Layout:	Rectangle building
Environmental and Social Factors		Community Type:	Suburban
		Adjacent Land Users:	Residential
		Occupancy Group A and B Buildings within 1km:	Restaurants, Public HealthCenter & Clinics, Gas Stations , Religious Building
Climate Change Exposure*		Landslides:	N/A
		Wind Speed:	Low
		Flooding:	Moderate to High
*Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Drought:	Low
		Sea-level Rise:	Moderate
		Overall:	Moderate
Proposed Adaptation Measures:	Install photovoltaics (PV) systems, backup battery systems, water harvesting solutions for buildings and stormwater drainage solutions, flooding protection components, enhance energy efficiency of existing HVAC systems (inverter a/c) LED lighting systems, water storage (water tanks), tents (1-4) to be stored/managed by the army.		

Grace Christian Academy



Facility Name:	Grace Christian Academy	Risk Category:	Moderate
Type of School:	Primary	Occupancy Group:	Private building
School Address:	Rowan Henry Street, St. John's, Antigua	No. of Occupants:	350
Latitude:	17°07'39" N	Year Built:	1978
Longitude:	61°50'27" W	Year(s) Renovated:	Yearly
Use:	School	Original Design Code:	Uncertain
Date of Building Condition Assessment Visit:	23rd June 2021	Date of Fire Safety Assessment Visit:	2018
School Description		No. of Buildings:	3
		Shape of Building:	Rectangular
		School Layout:	Two rectangular 2-story building which house classrooms, office, bathroom and a 1-story building which house two classrooms
Environmental and Social Factors		Community Type:	Suburban
		Adjacent Land Users:	Commercial, Residential
		Occupancy Group A and B Buildings within 1km:	Restaurants, Religious Building
Climate Change Exposure*		Landslides:	N/A
		Wind Speed:	Low
		Flooding:	Moderate
*Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Drought:	High
		Sea-level Rise:	No to low
		Overall:	Moderate
Proposed Adaptation Measures:	Install photovoltaics (PV) systems, backup battery systems, water harvesting solutions for buildings and stormwater drainage solutions, flooding protection components, enhance energy efficiency of existing HVAC systems (inverter a/c) LED lighting systems, water storage (water tanks), tents (1-4) to be stored/managed by the army.		

Jennings Primary School



Facility Name:	Jennings Primary School	Risk Category:	High
Type of School:	Primary	Occupancy Group:	Public building
School Address:	Jennings Village, St.Mary's Antigua	No. of Occupants:	214
Latitude:	17°04'25" N	Year Built:	1995
Longitude:	61°51'47" W	Year(s) Renovated:	2019
Use:	School	Original Design Code:	Uncertain
Date of Building Condition Assessment Visit:	21 June 2021 12:00PM	Date of Fire Safety Assessment Visit:	Uncertain
School Description		No. of Buildings:	5
		Shape of Building:	Rectangular
		School Layout:	5 Blocks, A: Staffroom, Principal's office, reading room, Bathroom, Kitchen. B: 2-story with 5 classrooms, storeroom, Computer room, 3 Classrooms, pump room. C: 2 Classrooms. D: 1 Classroom. E: 2 Bathrooms and Auditorium.
Environmental and Social Factors		Community Type:	Suburban
		Adjacent Land Users:	Residential, Commercial, Recreational
		Occupancy Group A and B Buildings within 1km:	Teaching Facility, Recreational Ground
Climate Change Exposure*		Landslides:	N/A
		Wind Speed:	Moderate to High
		Flooding:	High
*Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Drought:	Moderate
		Sea-level Rise:	Moderate to High
		Overall:	High
Proposed Adaptation Measures:	Install photovoltaics (PV) systems, backup battery systems, water harvesting solutions for buildings and stormwater drainage solutions, flooding protection components, enhance energy efficiency of existing HVAC systems (inverter a/c) LED lighting systems, water storage (water tanks), tents (1-4) to be stored/managed by the army.		

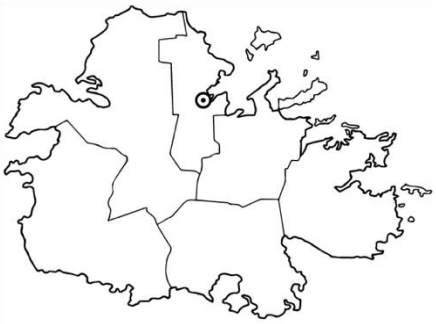
Montessori Pre-School

Facility Name:	Montessori Preschool	Risk Category:	Moderate
Type of School:	Pre-school	Occupancy Group:	Private building
School Address:	Lower Gambles, St John's, Antigua	No. of Occupants:	35
Latitude:	17°07'46" N	Year Built:	1921
Longitude:	61°50'30" W	Year(s) Renovated:	2019
Use:	School	Original Design Code:	Uncertain
Date of Building Condition Assessment Visit:	29th June 2021	Date of Fire Safety Assessment Visit:	2021
School Description		No. of Buildings:	1
		Shape of Building:	Rectangular
		School Layout:	1-story building which houses classroom, bathroom
Environmental and Social Factors		Community Type:	Suburban
		Adjacent Land Users:	Commercial, Residential
		Occupancy Group A and B Buildings within 1km:	Restaurants, Religious Building
Climate Change Exposure*		Landslides:	N/A
		Wind Speed:	Low
		Flooding:	Moderate
*Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Drought:	High
		Sea-level Rise:	Moderate to High
		Overall:	Moderate
Proposed Adaptation Measures:	Install photovoltaics (PV) systems, backup battery systems, water harvesting solutions for buildings and stormwater drainage solutions, flooding protection components, enhance energy efficiency of existing HVAC systems (inverter a/c) LED lighting systems, water storage (water tanks), tents (1-4) to be stored/managed by the army.		

Parham Primary School

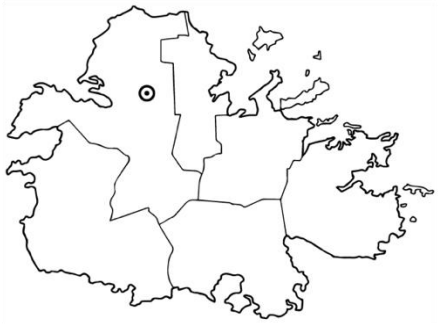
Facility Name:	Parham Primary School	Risk Category:	High
Type of School:	Primary	Occupancy Group:	Public building
School Address:	Parham Village, St. Peter's, Antigua	No. of Occupants:	90
Latitude:	17°06'28" N	Year Built:	1970
Longitude:	61° 45'46" W	Year(s) Renovated:	Uncertain
Use:	School	Original Design Code:	Uncertain
Date of Building Condition Assessment Visit:	22 June 2021 10:00AM	Date of Fire Safety Assessment Visit:	Uncertain
School Description		No. of Buildings:	6
		Shape of Building:	Rectangular
		School Layout:	5 Rectangular building which house classrooms and one building which house 1staff room and a Principal office
Environmental and Social Factors		Community Type:	Suburban
		Adjacent Land Users:	Residential
		Occupancy Group A and B Buildings within 1km:	Restaurants, Religious Building, Parham Fisheries
Climate Change Exposure*		Landslides:	N/A
		Wind Speed:	Moderate to High
		Flooding:	High
*Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Drought:	Moderate to High
		Sea-level Rise:	High
		Overall:	High
Proposed Adaptation Measures:	Install photovoltaics (PV) systems, backup battery systems, water harvesting solutions for buildings and stormwater drainage solutions, flooding protection components, enhance energy efficiency of existing HVAC systems (inverter a/c), LED lighting systems, water storage (water tanks), tents (1-4) to be stored/managed by the army.		

Piggots Primary School



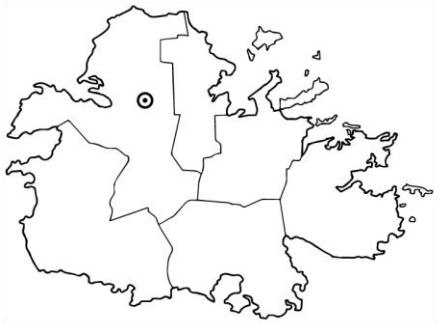
Facility Name:	Piggott's Primary School	Risk Category:	Moderate
Type of School:	Primary	Occupancy Group:	Public building
School Address:	Piggotts Village, St. George's, Antigua	No. of Occupants:	234
Latitude:	17°07'18" N	Year Built:	1974
Longitude:	61°43'13" W	Year(s) Renovated:	Uncertain
Use:	School	Original Design Code:	Uncertain
Date of Building Condition Assessment Visit:	22 June 2021 9:00AM	Date of Fire Safety Assessment Visit:	2017
School Description		No. of Buildings:	9
		Shape of Building:	Rectangular
		School Layout:	8 Rectangular buildings which house Classrooms, 1 Auditorium and 1 Building which House staffroom and Principal office
Environmental and Social Factors		Community Type:	Suburban
		Adjacent Land Users:	Residential, Recreational, Commercial
		Occupancy Group A and B Buildings within 1km:	Restaurants, Public HealthCenter & Clinics, Gas Stations , Religious Building
Climate Change Exposure*		Landslides:	N/A
		Wind Speed:	Low
		Flooding:	High
*Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Drought:	High
		Sea-level Rise:	No to Low
		Overall:	Moderate
Proposed Adaptation Measures:	Install photovoltaics (PV) systems, backup battery systems, water harvesting solutions for buildings and stormwater drainage solutions, flooding protection components, enhance energy efficiency of existing HVAC systems (inverter a/c), LED lighting systems, water storage (water tanks), tents (1-4) to be stored/managed by the army.		

Princess Margaret Secondary



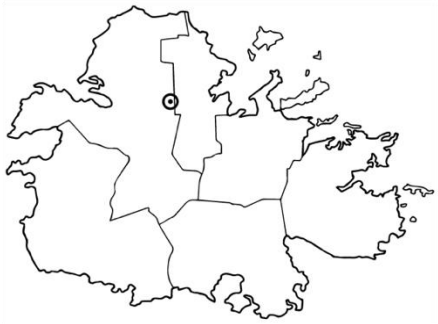
Facility Name:	Princess Margaret Secondary	Risk Category:	Moderate
Type of School:	Secondary	Occupancy Group:	Public building
School Address:	St. John's, Antigua	No. of Occupants:	869
Latitude:	17°07'33" N	Year Built:	1955
Longitude:	61°50'31" W	Year(s) Renovated:	2003
Use:	School	Original Design Code:	Uncertain
Date of Building Condition Assessment Visit:	28th June 2021	Date of Fire Safety Assessment Visit:	2019
School Description		No. of Buildings:	17
		Shape of Building:	Rectangular
		School Layout:	A: 1-story Building Tech, Staff Room, Metal Room, Technical Drawing Room. B: 2-storry Management Room, Staff Room/kitchen and 1 Lab. Upstairs Home Economics Room. Music Block
Environmental and Social Factors		Community Type:	Urban
		Adjacent Land Users:	Residential, Commercial, Recreational
		Occupancy Group A and B Buildings within 1km:	Restaurants, Public HealthCenter & Clinics, Religious Building
Climate Change Exposure*		Landslides:	N/A
		Wind Speed:	Low
		Flooding:	Moderate to High
*Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Drought:	High
		Sea-level Rise:	No to Low
		Overall:	Moderate
Proposed Adaptation Measures:	Install photovoltaics (PV) systems, backup battery systems, water harvesting solutions for buildings and stormwater drainage solutions, flooding protection components, enhance energy efficiency of existing HVAC systems (inverter a/c), LED lighting systems, water storage (water tanks), tents (1-4) to be stored/managed by the army.		

Salvation Army Pre-School



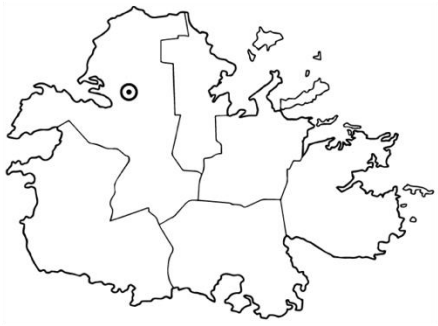
Facility Name:	Salvation Army	Risk Category:	High
Type of School:	Pre-school	Occupancy Group:	Private building
School Address:	Long Street, St Johns Antigua	No. of Occupants:	37
Latitude:	17°07’22” N	Year Built:	1976
Longitude:	61°50’31” W	Year(s) Renovated:	2007
Use:	School	Original Design Code:	Uncertain
Date of Building Condition Assessment Visit:	23rd June 2021	Date of Fire Safety Assessment Visit:	Uncertain
School Description		No. of Buildings:	1
		Shape of Building:	Rectangular
		School Layout:	2-story building. The first Floor is Utilized by the school which House Bathroom’s, Kitchen, Classrooms and Offices
Environmental and Social Factors		Community Type:	Urban
		Adjacent Land Users:	Commercial
		Occupancy Group A and B Buildings within 1km:	Restaurants, Religious Building
Climate Change Exposure*		Landslides:	N/A
		Wind Speed:	Low
		Flooding:	High to Moderate
*Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Drought:	High
		Sea-level Rise:	Moderate to High
		Overall:	High
Proposed Adaptation Measures:	Install photovoltaics (PV) systems, backup battery systems, water harvesting solutions for buildings and stormwater drainage solutions, flooding protection components, enhance energy efficiency of existing HVAC systems (inverter a/c), LED lighting systems, water storage (water tanks), tents (1-4) to be stored/managed by the army.		

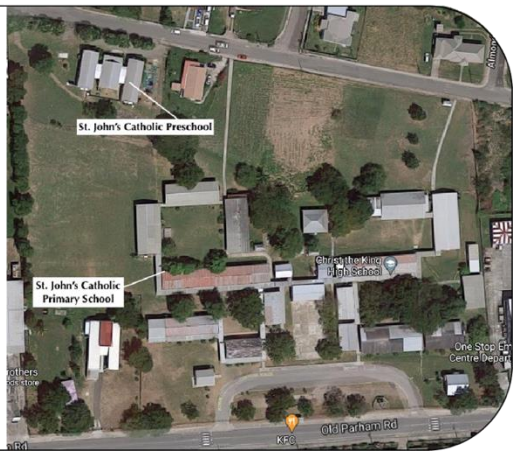
Simon Bolivar Pre-School



Facility Name:	Simon Bolivar	Risk Category:	Moderate
Type of School:	Pre-school	Occupancy Group:	Private building
School Address:	St Johnson's Village Main Rd Antigua	No. of Occupants:	28
Latitude:	17°07'22" N	Year Built:	Uncertain
Longitude:	61°49'32" W	Year(s) Renovated:	2021
Use:	School	Original Design Code:	Uncertain
Date of Building Condition Assessment Visit:	July 2021	Date of Fire Safety Assessment Visit:	Uncertain
School Description		No. of Buildings:	3
		Shape of Building:	Each Building is shaped like a pumpkin
		School Layout:	There are 2 1-story buildings which each house a Classroom, Bathroom and Kitchen. 1 1-story building houses an Office, Bathroom and Kitchen
Environmental and Social Factors		Community Type:	Urban
		Adjacent Land Users:	Residential, Recreational, Commercial
		Occupancy Group A and B Buildings within 1km:	Restaurants, Religious Building, Sports ground
Climate Change Exposure*		Landslides:	N/A
		Wind Speed:	Low
		Flooding:	High
*Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Drought:	High
		Sea-level Rise:	No to Low
		Overall:	Moderate
Proposed Adaptation Measures:	Install photovoltaics (PV) systems, backup battery systems, water harvesting solutions for buildings and stormwater drainage solutions, flooding protection components, enhance energy efficiency of existing HVAC systems (inverter a/c), LED lighting systems, water storage (water tanks), tents (1-4) to be stored/managed by the army.		

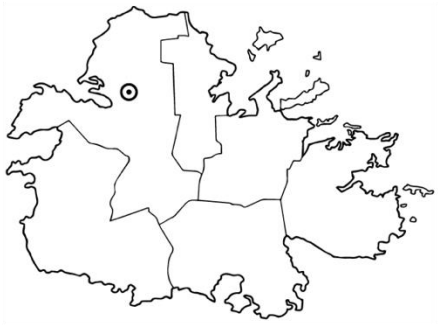
St. John's Catholic Pre-school

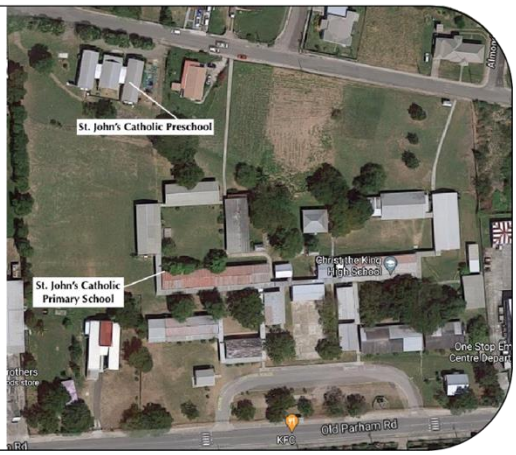




Facility Name:	St. John's Catholic Preschool	Risk Category:	Moderate
Type of School:	Pre-school	Occupancy Group:	Private building
School Address:	Old Parham Road, St. John's, Antigua	No. of Occupants:	39
Latitude:	17°07'28" N	Year Built:	1984
Longitude:	61° 50'05" W	Year(s) Renovated:	6 years ago
Use:	School	Original Design Code:	Uncertain
Date of Building Condition Assessment Visit:	23 June 2021 11:30AM	Date of Fire Safety Assessment Visit:	None
School Description		No. of Buildings:	3
		Shape of Building:	Rectangular
		School Layout:	Three 1-story building connected by a canopy which house classrooms, office, and kitchen
Environmental and Social Factors		Community Type:	Urban
		Adjacent Land Users:	Residential, Commercial, Recreational
		Occupancy Group A and B Buildings within 1km:	Restaurants, Religious Building, Teaching Facility
Climate Change Exposure*		Landslides:	N/A
		Wind Speed:	Low
		Flooding:	High
*Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Drought:	High
		Sea-level Rise:	Low
		Overall:	Moderate
Proposed Adaptation Measures:	Install photovoltaics (PV) systems, backup battery systems, water harvesting solutions for buildings and stormwater drainage solutions, flooding protection components, enhance energy efficiency of existing HVAC systems (inverter a/c), LED lighting systems, water storage (water tanks), tents (1-4) to be stored/managed by the army.		

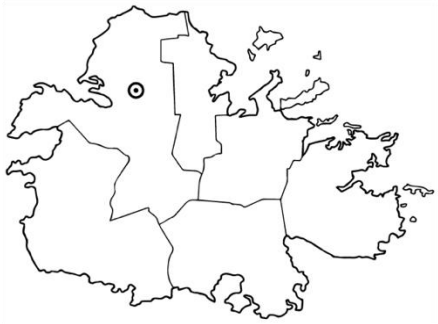
St. John's Primary School

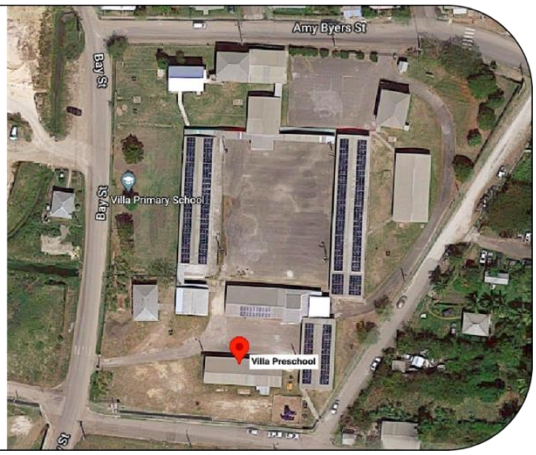




Facility Name:	St. John's Catholic Primary School	Risk Category:	Moderate
Type of School:	Primary	Occupancy Group:	Private building
School Address:	Old Parham Road, St. John's, Antigua	No. of Occupants:	310
Latitude:	17°07'28" N	Year Built:	1981
Longitude:	61° 50'05" W	Year(s) Renovated:	6-7 years ago
Use:	School	Original Design Code:	Uncertain
Date of Building Condition Assessment Visit:	23 June 2021 11:00AM	Date of Fire Safety Assessment Visit:	2020
School Description		No. of Buildings:	9
		Shape of Building:	Rectangular
		School Layout:	9 Rectangular buildings which house classrooms, 1 Staffroom, Principal office
Environmental and Social Factors		Community Type:	Urban
		Adjacent Land Users:	Residential, Commercial, Recreational
		Occupancy Group A and B Buildings within 1km:	Restaurants , Religious Building
Climate Change Exposure*		Landslides:	N/A
		Wind Speed:	Low
		Flooding:	No to Low
*Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Drought:	High
		Sea-level Rise:	No to Low
		Overall:	Moderate
Proposed Adaptation Measures:	Install photovoltaics (PV) systems, backup battery systems, water harvesting solutions for buildings and stormwater drainage solutions, enhance energy efficiency of existing HVAC systems (inverter a/c) LED lighting systems, water storage (water tanks), tents (1-4) to be stored/managed by the army.		

Villa Pre-School





Facility Name:	Villa Preschool	Risk Category:	Moderate
Type of School:	Pre-school	Occupancy Group:	Public building
School Address:	Amy Byers Street, St John's Antigua	No. of Occupants:	18
Latitude:	17°07'49" N	Year Built:	1969
Longitude:	61°50'49" W	Year(s) Renovated:	1-3 years ago
Use:	School	Original Design Code:	Uncertain
Date of Building Condition Assessment Visit:	June 2021	Date of Fire Safety Assessment Visit:	2018
School Description		No. of Buildings:	1
		Shape of Building:	Rectangular
		School Layout:	A rectangular building which houses two Classroom and bathroom
Environmental and Social Factors		Community Type:	Suburban
		Adjacent Land Users:	Residential, Commercial
		Occupancy Group A and B Buildings within 1km:	Restaurants, Public Health Center & Clinics, Gas Stations, Religious Building
Climate Change Exposure* *Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Landslides:	N/A
		Wind Speed:	Low to Moderate
		Flooding:	Moderate
		Drought:	High
		Sea-level Rise:	Moderate to High
		Overall:	Moderate
Proposed Adaptation Measures:	Install photovoltaics (PV) systems, backup battery systems, water harvesting solutions for buildings and stormwater drainage solutions, flooding protection components, enhance energy efficiency of existing HVAC systems (inverter a/c) LED lighting systems, water storage (water tanks), tents (1-4) to be stored/managed by the army.		

St. Lucia Pre-Selected School's Profiles.

Ave Maria Infant School

Facility Name:	Ave Maria Infant	Risk Category:	RCIV
Type of School:	Infant	Occupancy Group:	Group A: Public Buildings
School Address:	Corner of Coral & Micoud Street, Castries	No. of Occupants:	402
Latitude:	14°00'31.73" N	Year Built:	1901
Longitude:	60°59'19.39" W	Year(s) Renovated:	2001, within last 10 years
Use:	School & Emergency Shelter	Original Design Code:	Unknown
Date of Building Condition Assessment Visit:	September 9, 2020	Date of Fire Safety Assessment Visit:	December 29, 2020
School Description		No. of Buildings:	2
		Shape of Building:	2 rectangular buildings forming L-shape
		School Layout:	Each building has two floors which house classrooms. A: houses a stage, storage room and principal's office, washrooms, a library, canteen and staff resource.
Environmental and Social Factors		Community Type:	Urban
		Adjacent Land Users:	Commercial, Institutional, Transportation
		Occupancy Group A and B Buildings within 1km:	City and Town Halls, Public Libraries, Religious Buildings, Teaching Facilities, Restaurants, Court Houses, Assembly Buildings, Public Health Centres and Clinics
Climate Change Exposure* *Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Landslides:	No or low
		Wind Speed:	Moderate
		Flooding:	High
		Drought:	No or low
		Sea-level Rise:	Moderate
		Overall:	Low to moderate
Proposed Adaptation Measures:	Exterior Doors, Exits and Entrances, Windows and shutters, Safety of roofing, Parapets and other outside Elements (railings, ornaments), Internal walls, Safety of stairways and Ramps, Disability Accessibility, Water Reserves, Water Distribution System, Wastewater System, Storm Drainage System, Flooding Protection Components, Alternate Sources of Electricity, Safety of Electrical Equipment, Lighting System, Safety of HVAC Components.		

Ave Maria Primary School

Facility Name:	Ave Maria Primary	Risk Category:	RCIV
Type of School:	Primary	Occupancy Group:	Group A: Public Buildings
School Address:	Corner of Broglie & Brazil Street, Castries	No. of Occupants:	529
Latitude:	14°00'31.73" N	Year Built:	1901
Longitude:	60°59'19.39" W	Year(s) Renovated:	Within last 8 years
Use:	School & Emergency Shelter	Original Design Code:	Unknown
Date of Building Condition Assessment Visit:	September 9, 2020	Date of Fire Safety Assessment Visit:	December 8, 2020
School Description		No. of Buildings:	3
		Shape of Building:	Two rectangular buildings forming an L-shape.
		School Layout:	The L-shaped building has two floors which house classrooms. The ground floor houses a sick bay, office, and home economics room. The rectangular building houses a canteen.
Environmental and Social Factors		Community Type:	Urban
		Adjacent Land Users:	Commercial, Institutional, Transportation
		Occupancy Group A and B Buildings within 1km:	City and Town Halls, Public Libraries, Religious Buildings, Teaching Facilities, Restaurants, Court Houses, Auditoria, Permanent Exhibition Buildings, Passenger Assembly Buildings, Public Health Centres and Clinics
Climate Change Exposure* *Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Landslides:	No or low
		Wind Speed:	Moderate
		Flooding:	High
		Drought:	No or low
		Sea-level Rise:	Moderate
		Overall:	Low to moderate
Proposed Adaptation Measures:	Exterior Doors, Exits and Entrances, Windows and shutters, Safety of roofing, Parapets and other outside Elements (railings, ornaments), Internal walls, Safety of stairways and Ramps, Disability Accessibility, Water Reserves, Water Distribution System, Wastewater System, Storm Drainage System, Flooding Protection Components, Alternate Sources of Electricity, Safety of Electrical Equipment, Lighting System, Safety of HVAC Components.		

Balata Combined School

Facility Name:	Balata Combined	Risk Category:	RCIV
Type of School:	Primary	Occupancy Group:	Group A: Public Buildings
School Address:	Balata, Castries	No. of Occupants:	274
Latitude:	14°00'45.43" N	Year Built:	1978, 1989, 2003
Longitude:	60°57'13.83" W	Year(s) Renovated:	2019
Use:	School & Emergency Shelter	Original Design Code:	Unknown
Date of Building Condition Assessment Visit:	August 27, 2020	Date of Fire Safety Assessment Visit:	December 21, 2020
School Description		No. of Buildings:	3
		Shape of Building:	L-shaped and rectangular buildings
		School Layout:	One building has two floors and the other has only one. A: classrooms, toilets, a kitchen, staff room and principal's office. B: Library.
Environmental and Social Factors		Community Type:	Suburban
		Adjacent Land Users:	Residential, Recreation, Transportation, Institutional
		Occupancy Group A and B Buildings within 1km:	Assembly Halls, Restaurants, Religious Buildings
Climate Change Exposure*		Landslides:	Moderate
		Wind Speed:	Low to moderate
		Flooding:	Moderate
		Drought:	Low to moderate
*Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Sea-level Rise:	No or low
		Overall:	Low to moderate
Proposed Adaptation Measures:	Exterior Doors, Exits and Entrances, Windows and shutters, Safety of roofing, Parapets and other outside Elements (railings, ornaments), Internal walls, Safety of stairways and Ramps, Disability Accessibility, Water Reserves, Water Distribution System, Wastewater System, Storm Drainage System, Flooding Protection Components, Alternate Sources of Electricity, Safety of Electrical Equipment, Lighting System, Safety of HVAC Components.		

Bexon Primary School

Facility Name:	Bexon Primary	Risk Category:	RCIV
Type of School:	Primary	Occupancy Group:	Group A: Public Buildings
School Address:	Bexon, Castries	No. of Occupants:	152
Latitude:	13°57'08.70" N	Year Built:	1996
Longitude:	60°58'30.92" W	Year(s) Renovated:	After 2007 earthquake
Use:	School	Original Design Code:	Unknown
Date of Building Condition Assessment Visit:	September 14, 2020	Date of Fire Safety Assessment Visit:	September 14, 2020 January 6, 2021
School Description		No. of Buildings:	1
		Shape of Building:	Rectangular
		School Layout:	The building has three floors which house classrooms, washrooms, storerooms, panel rooms, a science lab, janitor room, canteen, principal's office, and staff room.
Environmental and Social Factors		Community Type:	Suburban
		Adjacent Land Users:	Residential, Agricultural, Recreational, Institutional
		Occupancy Group A and B Buildings within 1km:	Restaurants, Religious Buildings, Teaching Facilities
Climate Change Exposure* *Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Landslides:	Moderate
		Wind Speed:	No or low
		Flooding:	High
		Drought:	No or low
		Sea-level Rise:	No or low
		Overall:	Low to moderate
Proposed Adaptation Measures:	Exterior Doors, Exits and Entrances, Windows and shutters, Safety of roofing, Parapets and other outside Elements (railings, ornaments), Internal walls, Safety of stairways and Ramps, Disability Accessibility, Water Reserves, Water Distribution System, Wastewater System, Storm Drainage System, Flooding Protection Components, Alternate Sources of Electricity, Safety of Electrical Equipment, Lighting System, Safety of HVAC Components.		

Fond Assau Combined School

Facility Name:	Fond Assau Combined	Risk Category:	RCIV
Type of School:	Primary	Occupancy Group:	Group A: Public Buildings
School Address:	Fond Assau, Babonneau Castries	No. of Occupants:	142
Latitude:	13°59'47.27" N	Year Built:	2006, 2015
Longitude:	60°56'10.83" W	Year(s) Renovated:	Unknown
Use:	School & Emergency Shelter	Original Design Code:	Unknown
Date of Building Condition Assessment Visit:	September 4, 2020	Date of Fire Safety Assessment Visit:	December 21, 2020 December 21, 2020
School Description		No. of Buildings:	3
		Shape of Building:	Rectangular
		School Layout:	Two buildings have three stories and there is one single story building. The two three story buildings house classrooms, toilets, and administrative offices. The single-story building houses a kitchen and a resource/recreational room.
Environmental and Social Factors		Community Type:	Suburban
		Adjacent Land Users:	Residential, Agricultural, Transportation
		Occupancy Group A and B Buildings within 1km:	Assembly Halls, Restaurants, Religious Buildings, Teaching Facilities
Climate Change Exposure* *Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Landslides:	No or low
		Wind Speed:	Moderate to high
		Flooding:	No or low
		Drought:	Moderate
		Sea-level Rise:	No or low
		Overall:	Low
Proposed Adaptation Measures:	Exterior Doors, Exits and Entrances, Windows and shutters, Safety of roofing, Parapets and other outside Elements (railings, ornaments), Internal walls, Safety of stairways and Ramps, Disability Accessibility, Water Reserves, Water Distribution System, Wastewater System, Storm Drainage System, Alternate Sources of Electricity, Safety of Electrical Equipment, Lighting System, Safety of HVAC Components.		

Saltibus Combined School

Facility Name:	Saltibus Combined	Risk Category:	RCIV
Type of School:	Primary	Occupancy Group:	Group A: Public Buildings
School Address:	Saltibus, Choiseul	No. of Occupants:	126
Latitude:	61°00'47.44" N	Year Built:	Unknown
Longitude:	13°48'16.68" W	Year(s) Renovated:	Unknown
Use:	School & Emergency Shelter	Original Design Code:	Unknown
Date of Building Condition Assessment Visit:	September 14, 2020	Date of Fire Safety Assessment Visit:	November 25, 2020 November 25, 2020
School Description		No. of Buildings:	5
		Shape of Building:	Two rectangular buildings joined to form an L-shape and rectangular
		School Layout:	4 single-story buildings and one two-story building. Two of the single-story buildings house the infant school which have classrooms, a music room and a janitor's room. A single-story building houses toilets and the last one houses a classroom, library, principal's office, and IT lab. Two-story buildings houses classrooms, a stage, storage room, kitchen, canteen, and sick room.
Environmental and Social Factors		Community Type:	Rural
		Adjacent Land Users:	Residential, Agricultural, Recreation, Transportation, Institutional
		Occupancy Group A and B Buildings within 1km:	Community Centre, Religious Buildings
Climate Change Exposure* *Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Landslides:	High
		Wind Speed:	Moderate to high
		Flooding:	No or low
		Drought:	Moderate to high
		Sea-level Rise:	No or low
		Overall:	Moderate
Proposed Adaptation Measures:	Exterior Doors, Exits and Entrances, Windows and shutters, Safety of roofing, Parapets, and other outside Elements (railings, ornaments), Internal walls, Water Reserves, Alternate water supply to regular water supply, Water Distribution System, Wastewater System, Alternate Sources of Electricity, Safety of Electrical Equipment, Lighting System, Safety of HVAC Components, Lighting System, Information Technology, Fire Protection, Disability Accessibility, ESIA Recommendations		

Vieux Fort Infant School

Facility Name:	Vieux Fort Infant	Risk Category:	RCIII
Type of School:	Infant	Occupancy Group:	Group A: Public Buildings
School Address:	Clarke Street, Vieux Fort	No. of Occupants:	197
Latitude:	60°57'09.69" N	Year Built:	Unknown
Longitude:	13°43'52.06" W	Year(s) Renovated:	2015, 2020
Use:	School	Original Design Code:	Unknown
Date of Building Condition Assessment Visit:	September 4, 2020	Date of Fire Safety Assessment Visit:	November 25, 2020
School Description		No. of Buildings:	4
		Shape of Building:	Rectangular
		School Layout:	There are three single story buildings and one two-story building. A: classroom, B: kitchen, c: storage, D: classrooms, toilets, a sick bay, library, computer lab, staff room, stage, and principal's office.
Environmental and Social Factors		Community Type:	Urban
		Adjacent Land Users:	Transportation, Commercial, Institutional
		Occupancy Group A and B Buildings within 1km:	Restaurants, Religious Buildings, Teaching Facilities
Climate Change Exposure*		Landslides:	No or low
		Wind Speed:	Moderate to high
		Flooding:	Moderate to high
*Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Drought:	No or low
		Sea-level Rise:	No or low
		Overall:	Low to moderate
Proposed Adaptation Measures:	Safety of Foundations, Disability Accessibility, Exterior Doors, Exits and Entrances, Windows and shutters, Safety of roofing, Internal walls, Alternate water supply to regular water supply, Water Distribution System, Wastewater System, Storm Drainage System, Flooding Protection Components, Alternate Sources of Electricity, Safety of Electrical Equipment, Lighting System, Safety of HVAC Components, Information Technology, Fire Protection, ESIA Recommendations		

Vieux Fort Primary School

Facility Name:	Vieux Fort Primary	Risk Category:	RCIV
Type of School:	Primary	Occupancy Group:	Group A: Public Buildings
School Address:	Beanfield, Vieux Fort	No. of Occupants:	226
Latitude:	60°56'58.77" N	Year Built:	Between 1984 - 1985
Longitude:	13°43'45.47" W	Year(s) Renovated:	2019, 2018, 2016, 2015, 2008
Use:	School & Emergency Shelter (Blocks A, D, C)	Original Design Code:	Unknown
Date of Building Condition Assessment Visit:	September 4, 2020	Date of Fire Safety Assessment Visit:	November 25, 2020
School Description		No. of Buildings:	4
		Shape of Building:	Rectangular
		School Layout:	A/B: classrooms, C: special education rooms, toilets and electrical room, D: assembly hall and offices.
Environmental and Social Factors		Community Type:	Urban
		Adjacent Land Users:	Recreation, Transportation, Commercial, Institutional
		Occupancy Group A and B Buildings within 1km:	Passenger Assembly Buildings, Restaurants, Religious Buildings, Teaching Facilities
Climate Change Exposure* *Always important to remember how each of these items will be worsened over time by the Climate Crisis.		Landslides:	No or low
		Wind Speed:	Moderate to high
		Flooding:	High
		Drought:	Moderate
		Sea-level Rise:	Moderate
		Overall:	Moderate
Proposed Adaptation Measures:	Disability Accessibility, Structural Integrity of Roofs, Exterior Doors, Exits and Entrances, Windows and shutters, Other Elements of the Building Envelope, Safety of roofing, Alternate water supply to regular water supply, Water Distribution System, Wastewater System, Storm Drainage System, Flooding Protection Components, Alternate Sources of Electricity, Safety of Electrical Equipment, Lighting System, Safety of HVAC Components, Lighting System, Information Technology, Fire Protection, ESIA Recommendations		

C. Promotion of innovative solutions

This regional proposal focuses on implementing comprehensive solutions for climate change adaptation, based on a community-approach to disaster risk management, promoting institutional, capacity building and technical elements. These components are innovative as they are framed in a multi-level strategic framework, which ultimately functions as a framework for scaling up and replicate similar frameworks in other Eastern Caribbean countries, accelerating regional climate adaptation and increasing resilience in climate-vulnerable communities. In addition, implementing the same strategic framework in two countries - Antigua and Barbuda and St. Lucia - allows us to see how distinct institutions and communities undertake differently the challenges and opportunities for climate change adaptation, gathering experience from diverse contexts which in the long run can improve the adoption and replication of similar frameworks to other Eastern Caribbean countries.

Institutional innovation at a regional level looks forward to strengthening capacities in the country's school systems. The Eastern Caribbean region benefits from some experiences in regional collaboration on adaptation, through regional organizations such as the Caribbean Community Climate Change Centre (CCCCC) and regional bodies such as the Organization of Eastern Caribbean States (OECS) and its Council of Ministers of Environment and CDEMA on disaster risk reduction (DRR). These experiences provide a basis for advancing regional level planning, the setting of joint policies and standards, knowledge sharing and implementation of adaptation measures through this project.

The advancement of adaptation activities at the regional level is **i**nnovative in the context of the Eastern Caribbean region, especially in the education sector. On a local level, the innovation would be to ensure that model schools (those that will be supported) are ‘green’, i.e., use sustainable energy and manage water efficiently, and are safe from hurricanes for children and other users, including teachers and community members. In doing so, school interruptions will be minimized as well as damages from extreme weather events. This is directly linked with the introduction of physical elements for improving school infrastructure resilience as an innovative technical solution in this type of construction. The proposed project aims to develop a practice of conducting regular assessments of schools and increased compliance to standards (i.e., building codes, national and OECS guidelines, etc.).

The proposed project will support an innovative approach to student and community learning with the purpose to increase the resilience of the communities where they live: each beneficiary school/community will develop facility and community climate change resilient / DRR management plans which will be updated annually. This will allow the schools and communities to track their progress on how ‘resilient’ they are and to identify measures to increase their resilience.

Additionally, the beneficiary schools will develop education campaigns as part of the curriculum that will include ways to reduce risk, increase resilience, and prepare for climate change hazards. To reduce the burden on individual schools and to ensure consistency in education across all schools, the campaign will be designed at the national level and disseminated to each school by designated officers in each country. The campaigns should include both practical and theory-centred activities, sourcing creative expressions from students.

D. Economic, Social, and Environmental Benefits

Economic benefits

Project interventions will increase the resilience of select school buildings and critical services, resulting in improved climate-responsive planning and early action. These factors will lead to reduced economic losses from extreme climate events and provide several significant economic co-benefits, as listed below.

- Employment opportunities will be created through the implementation of innovative climate-proofing technologies on select school buildings. These opportunities include construction work for installing, operating, monitoring, and maintaining climate change adaptation technologies, including decentralized renewable energy, climate-resilient water harvesting solutions and other resiliency measures. The creation of such employment opportunities will enhance the sustainability of project interventions beyond the project lifetime and will help stimulate critical economic activity which covid-19 has severely reduced.
- The cost to repair school infrastructure after extreme climate events such as hurricanes will be reduced as schools included in the project will incur no or less damage from extreme weather events.
- As retrofitting activities will be designed according to regional guidelines, damages and required repairs from Category 4 and 5 hurricanes will inform similar regional wide efforts and therefore support cost-efficiency at regional scale
- Increasing the climate resilience of select school buildings will decrease the time required for some segments of the economy to become operational and for communities to recover quickly following extreme climate events. This will reduce economic inactivity after a storm.
- Using decentralized, on-site renewable energy will reduce energy usage costs, allowing for additional funds to be made available for maintenance of the systems. Additionally, energy efficiency measures related to lighting and cooling will also result in less energy usage and more savings.

Social benefits

Climate-proofing of select school buildings will increase the resilience of vulnerable communities to extreme climate events and provide several social co-benefits, which are described below.

- Climate-proofing of select school buildings will reduce the exposure of these buildings to high-intensity storms. This will contribute significantly to reducing the risk of injuries and loss of life during such events.
- Installing decentralized, on-site renewable energy technologies forselect school buildings will ensure the continued provision of energy during and immediately following extreme climate events. As a result, communication networks will continue to be operational, and businesses will be able to resume operations after an extreme event sooner than would be possible in the absence of decentralized power.
- Installing climate-resilient water storage measures on select school buildings will lead to continued sanitation services as well as the improved provision of and access to clean drinking water during and immediately following extreme climate events. This will have considerable health benefits for all users of these buildings and reduce the risk of waterborne diseases such as hepatitis A, cholera and typhoid fever that often result from storm or flood events.

- Increasing the water storage capacity of select school buildings will increase national water supply during drought events and therefore reduce the adverse impacts of such events on vulnerable communities.
- Strengthening the technical and institutional capacity of the local workforce on how to support the installation, operation and maintenance of climate change adaptation solutions that will be installed on select school buildings will contribute to new technical skills, the growth of the renewable energy and energy efficiency sector, and increased job security. This will, in turn, contribute to improved livelihood security as well as enable these individuals to apply similar interventions at scale in their private capacity, which will further increase national/company/household resilience to the impacts of high-intensity storms and hurricanes.
- Climate change knowledge products disseminated to all user groups will lead to improved preparedness before the onset of extreme climate events.

Environmental benefits

Increasing the climate resilience of the participating school buildings through implementing climate-resilient water harvesting and renewable energy measures will yield several environmental co-benefits. These are listed below.

- Increasing the water harvesting capacity of school buildings will provide an additional source of freshwater for local communities. This will alleviate pressure on natural water resources by reducing the need for extraction from groundwater and surface reserves.
- Improving the water harvesting capacity of school buildings will reduce stormwater runoff from school buildings. This will result in reduced peak flow volume and velocity of stormwater runoff, therefore, contributing to reduced flood impacts and erosion.
- Currently, electricity is supplied by fuel-powered power plants in Antigua and St. Lucia and by diesel generators in Barbuda. The installation of rooftop solar PV systems as an alternative renewable energy source in select school buildings will consequently reduce dependency on fossil fuel energy sources and minimize the overall emission of GHGs.

Gender-sensitive development impact

Climate-proofing of select educational buildings in Antigua and Barbuda, as well as St. Lucia will help to limit the disruptions to education services following extreme climate events. Given the gendered demographics of the employees and users of these institutions, as well as gendered vulnerability to climate impacts, this will induce a gender-sensitive development impact, as described below.

- Although certain institutions are predominantly operated and inhabited by men, women often dominate the users and employees of — or more critically dependent upon — the public buildings targeted for climate-proofing interventions. By reducing the disruptions to the functioning of these buildings and delivery of primary services, the project will ensure both women and men's economic and household activities can resume without unnecessary delay, following an extreme climate event.
- A project gender action plan has been developed that outlines actions to ensure project implementation does not perpetuate or worsen gender inequality, by aiming to: i) promote women's inclusion in all project aspects, including training and employment opportunities; ii) pursue representative participation in all consultations and workshop events; iii) advance gender diversity and challenging negative stereotyping in public awareness activities; and iv) design and implement gender-sensitive training that considers the different learning methods and training accessibility of men and women. Through these measures, the project disrupts underlying factors

contributing to gender inequality in the country, thereby contributing to gender-sensitive sustainability beyond the projects' timeline.

- The Antigua and Barbuda Gender Assessment and Action Plan Report, and St. Lucia Draft Gender Assessment Report can be found in Annexes 7 and 8, respectively.

E. Cost-effectiveness

In recent years, Antigua and Barbuda, as well as St. Lucia have experienced several hurricanes, resulting in significant damages to the built infrastructure including schools.

An initial cost-effectiveness analysis that compares the estimated costs of business as usual with the costs of the proposed adaptation measures is presented below, with aims of performing a more in-depth analysis at the inception of the project.

In the **business-as-usual scenario,** the government responds to damages incurred from extreme weather events in the same manner as it has in the past by making repairs to the same standard. This means buildings are repaired using conventional methods and reliance on centralized energy and water supply is maintained.

In the **resiliency building scenario** as proposed, the government retrofits select schools to resist Category 5 hurricanes, and water and energy supply is decentralized to allow for multiple supply options. Technical capacity is built in the public and private sector.

While the initial cost of upgrading a school to make it resilient to Category 5 hurricanes is greater than the one-off expense of repairing a school to its previous standard after an extreme weather event, the comparison must take into account that schools will need repeated, and increasingly so, repairs that can safely be assumed to be more significant cumulatively than the cost of the adaptation measures.

Additionally, by installing localized water and energy sources there will be cost savings realized as expenses for water and energy will be reduced.

Furthermore, in the business-as-usual approach there are productivity losses incurred when a school can no longer provide education services to the students and communities.

As such, the comparison makes clear that over the long term it is more cost efficient to build resiliency of the school systems than it is to continue a business-as-usual basis.

The proposed project requests grant finance from the Adaptation Fund to enhance the resilience of Antigua and Barbuda's and St. Lucia's education system to extreme climate events. Grants from the Adaptation Fund will be used to fund the climate-proofing investments that are required to adapt to climate change resulting from extreme climate events. With the support of Adaptation Fund grant funding, the proposed project will deliver several adaptation benefits that will contribute to each country shifting towards a climate-resilient sustainable development pathway. The funds will be used efficiently and effectively to: i) strengthen the enabling environment for adaptation planning in each country and the region to enable the public and private sector to take early action and rapid response to climate threats; ii) mainstream climate change adaptation into the education sector; and iii) increase the climate resilience of school buildings.

Also, by taking a regional approach, cost and operational efficiencies will be realized through efficiencies in planning, managing, and implementing the project. In addition, regional collaboration will improve the knowledge transfer process contributing to the regionally developed guidelines, policies standards, procedures and lessons learned from this project will also lead to efficiencies in upscaling this project across the region.

The procurement of all materials required of the project will be conducted according to the respective guidelines of each country to ensure that any procured items and services are done so transparently and at the lowest possible cost.

F. Consistency with national sustainable development strategies.

This project strongly aligns with the national sustainable development strategies of both countries as presented below.

Antigua and Barbuda

Antigua and Barbuda's Medium-Term Development Strategy (MTDS) outlines the strategies and actions to be undertaken to meet the national goal of becoming a developed country. The MTDS is currently being updated[4]. However, the new strategy will build upon ongoing developmental initiatives laid out in the 2016-2020 strategy and will actively incorporate building resilience to climate change in the nation's development agenda. Seven Flagship Priorities were emphasized in the MTDS, with two of these directly relating to improved buildings and infrastructure. The technical and institutional capacity of the local workforce, as well as private sector consumers and producers[5] will be built through developing and delivering training programmes under Output 2 of the project. These training programmes will focus on the application of the updated Building Code as well as on effective techniques for implementing, monitoring, and maintaining climate change adaptation measures on infrastructure[6]. This output aligns closely with the MTDS, which focuses on *inter alia* the renewal and maintenance of critical infrastructure.

The Nationally Determined Contribution (NDC) of 2021. The NDC targets included in this submission are based on the 1.5°C mitigation goal and adaptation goals that assume a 3.4°C increase in global temperatures (based on projections from the assessments of the INDCs). The targets are aligned with the Government of Antigua and Barbuda's goal of net-zero by 2040. These targets are intended to be met by using relevant technologies, policies such as land use planning and updated building codes, with financial instruments such as catastrophic insurance instruments for extreme weather events. The targets are set to be conditional or unconditional, based on information and assumptions available about technology costs as well as transitional risks. Considering the climate impacts over the first five years of the INDC, the next 10 years may result in over USD 0.5 billion of climate damage in the country. The approach is, therefore, an urgency to become resilient as fast as possible to reduce the cost of these impacts and reduce the transitional risks related to climate change, goals perfectly aligned with the proposal.

4 Medium-Term Development Strategy 2016 to 2020 (MTDS). 2015. Government of Antigua and Barbuda.

5 Private sector consumers include business owners and homeowners, while private sector consumers refer to architects, engineers and private contractors.

6 Such measures include climate-resilient water harvesting and decentralized renewable energy.

Antigua and Barbuda's Green Climate Fund Country Programme. This Country Programme will help the country integrate adaptation into development processes, thereby avoiding lock-in of long-lived, climate-vulnerable infrastructure. Specifically, the Country Programme identifies the building, water and energy sectors as priority sectors to receive GCF support to increase their climate resilience. The proposed project is strongly aligned with these priorities in that it focuses on increasing the resilience of priority buildings to extreme climate events, and decentralizing power and water supply to ensure continued provision of power and water during and immediately after an extreme event. Moreover, these interventions have been designed to be scalable and replicable both nationally and regionally, therefore, enhancing the adaptation impact of the interventions.

National Comprehensive Disaster Management (CDM) Policy and Strategy for Antigua and Barbuda: This policy calls for the modification of The Disaster Management Act (2002) to link and promote the coordination of all related national environmental policy and secondary legislation into a legislative framework that supports and promotes the implementation of CDM. The governance structure of the national disaster management programme and of NODS will be streamlined to enable more efficient decision making and guidance.

Sustainable Island Resource Management Zoning Plan 2012 (SIRMZP): The Physical Planning Act of 2003 describes the intention for a Development Plan for any part of Antigua and Barbuda. The SIRMZP was commissioned as the national physical development plan and approved in 2012. This land use and zoning plan presents a development framework which labels the northwest coast of Antigua as a "settlement expansion zone", several school sites are located inside this zone.

National Poverty Strategy 2011-2015: The National Poverty Strategy 2011- 2015 has as one of its strategies, "Building Resilience through Environmental Sustainability – by making disaster risk reduction a feature of the planning process in the light of the high environmental risks that the country faces from hurricanes, earthquakes, and now sea rise, as a result of global warming."

National Youth Policy, 2007: The National Youth Policy identifies factors that are critical to youth empowerment and identifies eight key focus areas; including strengthening social environments, education and training, employment and sustainable livelihoods, health, participation and empowerment, care and protection, crime, violence and rehabilitation and gender equality and gender relations.

By installing resiliency measures and especially solar panels in schools, the project will reach young women and young men, and could build valuable skill sets for young professionals. This project directly impacts five of the eight focus areas listed within the National Youth Policy: strengthening social environments, education and training, employment and sustainable livelihoods, health and participation and empowerment.

Saint Lucia

The National Adaptation Plan 2018-2028 establishes as goals for the educational sector: 1. Enhanced enabling environment for climate adaptation education, 2. Improved and expanded climate change education as the basis for effective adaptation, 3. Professional capacities built for leading future climate adaptation planning implementation, and 4. Strengthened preparedness to climate variability and extremes, which are all goals addressed by Component 2.

The Medium-Term Development Strategy (MTDS) for the period 2020- 2023 seeks to achieve growth that is Accelerated, Resilient, Inclusive, Sustainable and Equitably shared (A.R.I.S.E.). The MTDS is aligned with the Sustainable Development Goals and the strategic priorities of key development partners. The MTDS serves as the primary policy document that informs the country's Public Sector Investment Programme. The MTDS has six key result areas at its core: 1. Healthcare, 2. Education, 3. Citizen Security, 4. Agriculture, 5. Infrastructure and 6. Tourism; and the iterative process of issue prioritization and the development of solutions based and actionable implementation programmes within these areas. The MTDS will guide the implementation of a strategic long-term vision (via the National Development Plan or NDP) with a goal of delivering a more sustainable and inclusive Saint Lucia by 2022. The project proposal aligns with the MTDS by promoting inclusion in Component 2, building resilience with Component 3, and selecting schools in a way that promotes equity.

Saint Lucia is also in the process of formulating a longer-term **National Development Plan (NDP)**. The lead phase of the plan's development will be underpinned by the following seven broad pillars: 1. Building Productive Capacity and Expanding Growth Opportunities, 2. Building Strong Institutions, 3. Infrastructure, Connectivity and Energy, 4. Adaptation for Environmental Sustainability and Climate Change, 5. Social Transformation, Building Social Resilience and Social Capital, 6. Enhancing the Labour Force, and 7. Promoting Physical Health and Wellness. All three project components respond to the NDP's pillars, including capacity building and stronger institutions.

Several key policies have recently been developed to facilitate the mainstreaming of disaster and climate risk analysis and consideration in infrastructure design and implementation, as well as decision-making, including in planning and budgetary processes and public investment projects including the following:

The National Land Policy guides risk-informed land use planning and mitigates development in disaster-prone locations. The strategic objectives of the National Land Policy that relate to the proposal are:

- Facilitate the provision of adequate public services to all, notably in health, education, public utilities, recreation, and transportation.
- Provide opportunities for all to access adequate shelter.
- Minimize the risk of loss of life, degradation of land resources, etc., from the impacts of disasters.
- Develop and promote a positive cultural relationship between people and the land.

The Nationally Determined Contribution (NDC) 2020 updated version. In regard to **mitigation**, it should be noted that Saint Lucia's greenhouse gas (GHG) emissions are minuscule in global terms, with the country having contributed approximately 0.0015% of global emissions in 2016 at a per capita rate of 3.88 tCO2-eq. Notwithstanding this low contribution to the climate change phenomenon, the country is committed to global efforts to reduce GHG emissions to levels, which will restrict global temperature increase to well below 1.5°C above pre-industrial levels. Saint Lucia's NDC is mitigation-centric and the NDC's target is 7% GHG emissions reduction in the energy sector relative to 2010, by 2030. Saint Lucia's target is a sector-wide emissions reductions target using 2010 as the base, covering Intergovernmental Panel on Climate

Change's (IPCC) energy (electricity generation and transportation) sector, and three gasses: Carbon Dioxide, Methane, and Nitrous Oxide.

The NDC target is a continuation and expansion of efforts listed in the first NDC to meet the targets for 2025 and 2030. Saint Lucia has already begun to implement these targets. It is worth noting that Saint Lucia is in the process of exploring a national REDD+ program and is implementing efforts to maintain its current forest cover, as well as undertaking efforts to protect watersheds through forest protection measures.

In regard to adaptation, the GoSL included an Adaptation component as part of updated NDC which is mitigation focused to demonstrate its commitment to achieve the targets of the Paris Agreement as well as having in place better mechanisms for the adaptation to climate change impacts. According to the IPCC, adaptation and mitigation can be understood as complementary components of countries' response to climate change and adaptation generates larger benefits to small islands when delivered in conjunction with other development activities.

Saint Lucia has committed to prioritizing cross-sectoral and sectoral adaptation measures for eight key sectors/thematic areas and a segment on the 'limits to adaptation'. Priority sectors for adaptation action include: water; infrastructure and spatial planning; resilient ecosystems; education; and health, which align with the proposal.

St. Lucia Green Climate Fund Country Programme draws on St Lucia's NDC and National Adaptation Plan (NAP) processes, among others, to identify the country's priority sectors, consistent with the whole of Government approach. The sectors and areas it touches that relate to the proposal are water, infrastructure and spatial planning, resilient ecosystems, education, health, energy efficiency, and electricity generation.

The Climate Change Adaptation Policy (CCAP) outlines the general strategy for understanding and addressing the risks posed by climate change. It seeks to "ensure that Saint Lucia and its people, their livelihoods, social systems, and environment are resilient to the risks and impacts of climate change." The Policy endorses the principles of a cross sectoral approach to climate adaptation and concretely addresses: 1) adaptation facilitation (appropriate policy, legislative and institutional environment); 2) adaptation financing (measures to ensure adequate and predictable financial flows), and 3) adaptation implementation (concrete actions to prepare for, or respond to, the impacts of climate change).

The CCAP includes activities geared towards building the resilience of households, communities, vulnerable groups, enterprises, sectors and ultimately, the nation, with efforts directed towards achieving the following objectives by 2022: a) Priority adaptation measures to the adverse effects of climate change developed and implemented at all levels; b) Identification of vulnerable priority areas and sectors and appropriate adaptation measures using available and appropriate information, recognizing that such information may be incomplete; c) Adaptation measures in vulnerable priority areas; and d) Appropriate adaptation measures integrated into national and sectoral development strategies and linked as far as national circumstances will allow, to the national budgeting process.

In terms of facilitation, the CCAP proposes actions related to strengthening inter-agency and inter-sectoral collaboration, for example, identifying a suitable mechanism for strengthening the nexus

between climate change adaptation and disaster risk reduction. Importantly, while focused on addressing climate change adaptation, the CCAP recognizes that some mitigation activities provide meaningful adaptation co-benefits and increase resilience.

Regional

OECS Climate Change Adaptation Strategy and Action Plan is being developed. Its overarching goal is to provide the regional level of intervention and driving force, within the OECS, on adaptation policies and measures to respond to climate change impacts to support Members States efforts.

OECS Eastern Caribbean Regional Climate Change Implementation Plan. The aim of the project was to provide strategic support to the OECS to help develop, prepare to implement, and finance an Eastern Caribbean Climate Change Implementation Plan. This initial project was seen as the first building block.

The Model School Safety Programme for Caribbean Schools: The goal of the Model Safe School Programme of CDEMA is to create safe, secure/protective and green educational institutions from pre-primary to tertiary levels, including private and public institutions through the development of simple, applicable and adaptable tools. This policy, along with the assessment tools provide the framework for the development of procedures to enhance school safety throughout the region. To address some of the evident vulnerabilities of the education sector, the toolkit was developed by CDEMA to guide governments on the development of National Safe School Policies, and to offer tools for assessing the level of safety and greening of schools.

The Caribbean Safe School Initiative (CSSI): During the Caribbean Safe Schools Ministerial Forum of 2017, regional commitment to disaster risk management in the education sector was reaffirmed resulting in the Antigua and Barbuda Declaration on School Safety and the Caribbean Road Map on Schools Safety.

The Antigua and Barbuda Declaration on School Safety, which was ratified by a group of Caribbean Ministers of Education, guides the CSSI for the upcoming years through specific actions that are presented in the **Caribbean Road Map on School Safety**. The priority areas of the CSSI to be pursued are: 1. Develop enabling policies and national plans and strategies; 2. Secure human and financial resources; 3. Enhance and implement a standardized schools safety assessment; 4. Develop a safe school standard; 5. Review and develop multi-hazard school safety plans and guiding documents; 6. Improve coordination among stakeholders; 7. Review and update disaster risk management components in the curriculum; and 8. Train school staff, families and the community in disaster risk management.

OECS Building Codes: In 2015, the OECS Secretariat, with the assistance of the United Nations Development Programme (UNDP) and through the UNCHS/UNDP Project for Programme Support to the Human Settlements Sector in the OECS (CAR/89/006), updated the standard building codes and guidelines which speak directly to the specific requirement of each OECS country. The codes and guidelines are based on the Caribbean Uniform Building Code (CUBiC) and other regional codes such as the Bahamas Building Code, the draft Jamaica National Building Code and the Turks and Caicos Islands Building Code. Key to these updated codes is the recognition “that the damage caused by these extreme natural events affect the poor to a significant extent and have placed emphasis on the development of building standards which would prevent or mitigate the damage so caused. The Governments are also revising existing

planning and building regulations to be more responsive to the current needs, and to ensure to do so that all buildings are constructed in a "safe" manner and resistant to the natural hazards."

CARICOM Renewable Energy Building Codes: The 2018 CARICOM Regional Energy Efficiency Building Code (CREEBC) is an adaptation of the International Energy Conservation Code, 2018 Edition, published by the International Code Council. This CREEBC is meant to specifically meet the needs of the Caribbean and other countries in a tropical environment. It establishes minimum energy efficiency requirements inclusive of those for building envelopes, cooling system, ventilation, pumping, lighting and the service of water-heating systems in buildings. The technical requirements of this code are the product of both regional and international expertise. The government is committed to strengthening the national capacity and capability to implement CDM. This will be done through the elaboration of a series of interlocking complementary policies and strategic actions in areas identified below.

G. Compliance with relevant national technical standards

Regional Technical Standards

The Organization of Eastern Caribbean States (OECS) Building Codes: This updated code recognizes that the damage caused by extreme natural events disproportionately affect the poor and emphasizes the development of building standards that will prevent or mitigate damage. The Governments in the region are also revising existing planning and building regulations to be more responsive to the current needs, and to ensure that all buildings are constructed in a "safe" manner and resistant to the natural hazards.

The design and implementation of retrofitting activities of this project will be conducted to align with the OECS building codes standards. Furthermore, the capacity development activities of the project will be developed to also align with the OECS regional standards to ensure climate change resiliency.

CARICOM Renewable Energy Building Codes (CREEBC): The CREEBC is designed to specifically meet the needs of the Caribbean. It establishes minimum energy efficiency requirements inclusive of those for the building envelope, cooling system, ventilation, pumping, lighting and the service water-heating systems in buildings. The technical requirements of this code are the product of both regional and international expertise.

The design and installation of renewable energy systems of this project will be conducted to align with the CREEBC standards. Furthermore, the capacity development activities of the project will align to CREEBC standards.

OECS Guidelines for the Locating and Designing of Disaster Resilient Schools: This forthcoming document will produce standards for locating and designing schools to be resilient to natural disasters.

H. Duplication with other funding sources

The proposed project will avoid overlap with other projects, use lessons learned where possible and seek to catalyze a paradigm shift within Antigua and Barbuda's, and St. Lucia's approaches to the building and renovating of schools away from conventional development practices to an approach that prioritizes the adoption of innovative climate-resilient solutions and early action.

The project will establish a standard for the adoption of climate-resilient interventions that can be readily scaled up and replicated across the country's public building portfolio[7] as well as within the private sector.

Through the implementation of these transformative adaptation interventions, the project will facilitate the wide-scale replication of climate-resilient practices nationally and across the Eastern Caribbean region.

Baseline projects in Antigua and Barbuda

Considerable baseline investments are being made through public expenditure and donor-funded initiatives to increase the resilience of Antigua and Barbuda's built environment to extreme climate events.

Lessons learned and best practices from these investments have been incorporated into the design of the proposed project to replicate successful adaptation techniques and ensure that there is complementarity between the project and existing actions. The most relevant baseline investments that will be complemented by the proposed project interventions are as follows:

- The GoAB is currently implementing a project entitled **Building climate resilience through innovative financing mechanisms for climate change adaptation** which is funded by the Special Climate Change Fund (SCCF). Among its four primary focuses are: i) developing innovative financing mechanisms to fund adaptation interventions through the Sustainable Island Resource Framework Fund (SIRF Fund), including for the building sector; and ii) strengthening national policies and plans to promote adaptation to climate change through *inter alia* updating the national building code, which includes considerations for Category 4 and 5 hurricanes. The proposed project will complement this SCCF-funded project by building the physical resilience of select school buildings, building the capacity of involved and affected stakeholders to understand climate risks and build adaptive capacity, and contributing to policy development at national and regional levels.
- The GoAB is currently implementing the **"Resilience to hurricanes in the building sector in Antigua and Barbuda"** project, submitted to the Green Climate Fund (GCF), presented to the GCF board in 2020 and with a value of 32.7m USD grant in financing and 13.4m USD co-financing (total project cost 46.1m USD). This project seeks to build the climate resilience of Antigua and Barbuda's building sector by: 1. Climate-proofing interventions implemented in critical public service and community buildings to improve resilience to, and recovery from, extreme climate events, 2. Mainstreaming climate change adaptation into the building sector and relevant financial mechanisms, and 3. Strengthening climate information services to facilitate early action within the building sector to respond to extreme climate events. The project aligns to the first and second aspect of the project, but is focused specifically on the education sector.

7 This portfolio identifies 200 public buildings for implementation of climate-resilient measures.

- The GoAB is implementing a **Grid-interactive Solar PV Systems for Schools and Clinics** project. The overall goal of this project "is to ensure that during a drought or a hurricane, schools in the country will still be fully functional, better known as climate-resilient. Using clean technology will contribute to the national commitment of reducing our CO2 emissions" (Dept. of the Environment). Reducing electricity usage, while increasing the trainees and trainers' awareness of environmental management and renewable energy both at the Center and in the surrounding communities will be a vital outcome. The proposed project will build off this project by installing climate-resilient Solar PV Systems in select schools.
- **Improving Resilience of the Education system to climate change impacts in the Eastern Caribbean region for Saint Lucia and Antigua and Barbuda.** The main aim of this Technical Assistance is to enable the GoAB and GoSL to strategically assess the climate risk of school emergency shelters and appraise improvement measures required. This information will enable these governments to seek funding to implement these measures.

Best practices and lessons learned

Best practices from the OECS Building Code and the Caribbean Disaster Mitigation project will inform the design of climate-proofing interventions to be implemented under the proposed concept. Lessons learned from numerous baseline investments into climate change adaptation in both countries will also inform the design of all project interventions. Such lessons include appropriate mechanisms for ensuring that project activities are implemented in a participatory, gender-inclusive and sustainable way.

Best practices from CDEMA also inform this project as taken from the Model Safe School Programme (MSSP) toolkit. The toolkit guides governments on the development of National Safe School Policies and offers tools for assessing the level of safety and greening of schools.

Moreover, international best practices and lessons learned that have informed the project design include:

- using climate-resilient materials for increasing the structural integrity of school buildings.
- ensuring that designs of buildings under future climate change conditions, do not include long overhangs, which are at risk to high-intensity storms.
- incorporating traditional knowledge into training for engineers, architects, draftsmen on how to design and implement climate-resilient solutions in the building sector.
- increasing compliance with the standards and guidelines stipulated in the national building code.
- updating the national and local policy framework for the building sector to ensure that future development adopts changes in international standards regarding the technical specifications required by all buildings under changing climate conditions.
- drawing on regional experiences and resources to increase capacity to respond to the impacts of extreme events.
- developing appropriate strategies for securing financial resources for project development and implementation.
- undertaking regular monitoring and evaluation of climate-adaptive interventions to ensure that the most effective and appropriate solutions are being implemented under future conditions of climate change.

- engaging and collaborating extensively with all relevant project stakeholders will encourage buy-in from national- and local-level decision-makers therefore contributing to the sustainability of proposed adaptation interventions over the long term; and
- implementing effective financial and project management strategies to ensure the efficient use of financial resources and avoid delays during the implementation phase.

I. Learning and Knowledge Management

To support the shift away from the current paradigm of reactive development and recovery, climate change adaptation for the education sector will be mainstreamed broadly into the public and private sectors that are touched by the education sector. The envisioned activities of capacity building and enhancing the enabling environment will foster a proactive approach to climate-resilient planning and development by the GoAB and the GoSL, private sectors and households.

The uptake and sustainability of climate-resilient adaptation solutions beyond the project to other schools, public and private buildings as well as homes will be driven through awareness campaigns that highlight the benefits associated with investing in climate-resilient practices. These benefits include:

- better ability to stay safe (e.g., in terms of school/house design) in the face of climate change impacts,
- reductions in the economic losses caused by extreme climate events as a result of the improved structural integrity of structures (public and private sector buildings and homes),
- continuity of operations of businesses and schools,
- ability to continue living in homes, avoiding being displaced to shelters or otherwise,
- reductions in insurance premiums as a result of reduced risk to climate-proofed buildings.

Efficient and effective knowledge transfer through the aforementioned awareness campaigns will not only improve the uptake of climate-resilient building practices but will also improve the preparedness of schools and other critical public services, local communities, households, business owners, and other private sector stakeholders for the onset of extreme climate events.

In addition to facilitating the uptake of climate-resilient building practices, the project will shift disaster response by the GoAB and GoSL from a reactive approach towards proactive climate-responsive planning. This will be focused on increased preparedness for extreme climate events such as hurricanes and tropical storms.

Knowledge management will be strongly embedded in the project and will take the approach of learning and disseminating information relevant to scaling this project to other schools and other countries. Knowledge products (lessons learned, data, and information on the processes) will be created, made publicly available and widely disseminated via social media, participating organization newsletters, etc., to inform policymakers, administrators and others.

Additionally, a localized approach will be taken to inform local communities and individuals about the importance and value of enhancing the resilience of their physical structures and building their capacity to climate-proof their structures. Information products will be designed specifically for these stakeholders and disseminated providing clear and practical information on how to retrofit structures (or when building new), to be resilient to Category 4 and 5 hurricanes. Included will be

lessons and information related to the use and implementation of innovative, low-cost water and renewable energy supply techniques and management.

At a regional level, the OECS will develop a knowledge and management plan to capture knowledge and develop it into actionable information that will be shared with other OECS member states. Lessons learned, especially what worked and what did not, will be captured through monitoring of all project sub-interventions. This information will inform the replication / upscaling guidelines for use in planning and rolling across the region.

J. Consultative process

During the development of this project, due to travel restrictions from both countries and from the UN, UN-Habitat was unable to visit the two countries. Instead, virtual consultations were conducted regularly. Beginning June 2021, recurring weekly calls took place with representatives from each country. Meetings alternated from being focused on each country to then having both countries and regional partners OECS and CDEMA all together on the call every other week. These weekly project planning calls included a range of senior Government stakeholders.

At the community level, thorough consultations were conducted through a Climate Technology Centre and Network (CTCN) - UNIDO Consultancy Project, during the month of June 2021. The CTCN team is located in St. Lucia, and it also traveled to Antigua and Barbuda, where it collected the views, insights and recommendations of identified stakeholders. A Consultation Report, available and may be shared upon request, was used as the base for this section. The purpose of the consultations was to:

- Obtain from beneficiaries (schools and communities) their specific needs and potential concerns
- Identify gaps in capacities of key stakeholders, communities and vulnerable groups to implement project activities
- Identify possible concerns related to potential risks and impacts.
- Familiarize stakeholders with the project - its goals, design and expected outcomes.
- Solicit stakeholder views, concerns, and recommendations on how to improve the resilience of schools and their host communities to climate change impacts and
- Introduce stakeholders to Disaster Risk Reduction Education (DRRE) and sensitize them to its importance in promoting school safety.

This was all part of assessing climate risk to the educational system and appraising improvement measures that will allow the governments of Antigua and Barbuda and St. Lucia to submit a funding proposal to potential funding sources to implement these measures. The methodology involved collection of qualitative data and narrative as well as thematic analysis of the data. The main methods for collecting data were interviews - one-on-one conversations, group discussions, and self-administered questionnaires. In-person and virtual modalities facilitated the conversations and the discussions.

The findings from the consultations are captured under the following headings and indicated below, for a detailed list of consultation attendants please see Annex 3:

- Specific Needs and Potential Concerns Related to Potential Risks and Impacts.

- Gaps in Capacities of Key Stakeholders, Communities, and Vulnerable Groups.
- Views on Approaches for including DRRE in Schools.

Specific needs and potential concerns related to potential risks and impacts raised by stakeholders.

A. Principals, staff, and students at Bexon Combined School (BCS) and Vieux Fort Primary School (VFPS), St. Lucia.

- Potential risks and impacts by neighboring constructions. The immediate environments of some schools' compounds contain threats including poor draining which causes stagnant water to accumulate, creating breeding grounds for mosquitoes which infest the school. To worsen the situation, contiguous drainage between the schools and the ongoing construction projects are inadequate, posing a direct threat in rainy seasons.

- In order to reduce the risks, some schools would face in the event of droughts such as the closure due to lack of water to practice proper hygiene, sanitation, and drinking, it was recommended that efforts be made to collaborate with the Water Resource Management Agency and the Ministry of Agriculture in providing technical guidance and support to establish a 20,000-gallon facility at the school.

- Various potential risks and impacts on the school and its users have been identified, with the main one cited as flooding and strong winds. Some schools are easily flooded during heavy rains because its location is below sea level.

- Some schools are also impacted by strong winds as there are no wind barriers within its vicinity. The schools and its users were severely impacted by Hurricane Tomas in 2010 and the tropical wave in 2013. This resulted in the closure of schools for a significant period of time on both occasions.

- Because of their close proximity to the sea, some schools' infrastructures are constantly impacted by sea blast which has resulted in the deterioration of ventilation and other fixtures. This situation exposes the school plants and its users to risk in the event of high winds and rains. In addition, water gets into classrooms due to leaks in the roofing. There is no guttering to capture and dispose of water from the roof. Therefore, it is necessary to introduce appropriate technology to address defects caused by sea blast.

- The school is designated as an emergency shelter; however, its status is compromised due to defects caused by the recent hazards mentioned above. There are no back generators for providing power in the event of loss of power supply. In addition, the emergency plan has not been rehearsed for quite some time. There is a need to enhance the physical image of the school to reflect its status as a designated Emergency Shelter.

- Lack of community cohesion was cited as a main reason for weak community adaptive capacity. It was reported that advocates of climate change and climate resilience face challenges

in mobilizing parents and members of the immediate communities to participate in sensitization campaigns. However, it was also noted that community members tend to spring into action after a disaster and provide support to victims as part of the response effort. There is a need to build and sustain community social capital as a climate resilience tool which can be utilized for any community mobilizing effort.

B. Ministry of Education – Policy and Implementation, St. Lucia

- The biggest challenge for future maintenance based on interventions is the availability of finances. Currently, schools are provided with a subsidy for minor maintenance and repair works. However, this has proven inadequate given the nature and extent of defects that have to be addressed. The Ministry of Education, Innovation, Gender Relations and Sustainable Development (MEIGRSD) is limited to works that can be done by funds allocated in its annual budget. It was felt that interventions by the Ministry may need to be prioritized and better recommendations made to make the most efficient use of limited financial resources.

C. Ministry of Education – School Management – Principals, District Education Officers, St. Lucia.

- Support was unanimous on the recommendation to prepare a handbook for teachers and principals to integrate Disaster Risk Reduction (DRR) informally into regular classroom instruction and co-curricular activities for schools in the project. Stakeholders welcomed the development of a road map through which the introduction of DRR will be incorporated into schools.

- Some schools have a good relationship with some corporate citizens especially in the urban areas like Castries Central and Vieux Fort town, surrounding business places, and constituency councils. In this regard, it was agreed that schools are community assets and play a vital role in enhancing community vitality. Consequently, every effort must be made to make them resilient to climate change.

D. Institutional Stakeholders

- In pursuing rainwater harvesting (RWH) as an option to maintain an adequate supply of water at the schools, it was observed that most RWH plants at schools meet the required environmental standards, that is, they meet the required capacity for the functioning of the school on a daily basis. However, it was pointed out that if the school is to function efficiently as an educational institution and as an emergency shelter, then its water capacity must be augmented in order to meet water requirements after a disaster when the school is in emergency shelter operational mode. This means that days of storage and gallons per person should inform the capacity required to meet the needs of the school as an educational institution in times of drought and as an emergency shelter after a disaster. It was noted that the current storage standard is 8,000 gallons and 12,000 gallons for primary and secondary schools, respectively. The water

would need to turn over and should not be simply sitting in the rainwater tanks until a disaster. However, the quantity for minimum reserves has not yet been considered.

Gaps in capacities of key stakeholders, communities, and vulnerable groups.

A. Principals, staff, and students at Bexon Combined School (BCS) and Vieux Fort Primary School (VFPS), St. Lucia.

- An important aspect of resilience is maintenance capacity. All schools have resident security personnel who are also expected to repair minor defects which require basic plumbing and carpentry skills to be accomplished. However, it was noted that as caretakers, they have not received any formal training in the repair of minor defects. In addition, defects are not attended to in a timely and efficient manner due to the unavailability of repair material when it is required. The recommendation put forward is that all security personnel and caretakers at all schools should undergo training in various aspects of defects identification and safety and security skills. The necessary resources (including material and technology) should be provided to those individuals that would enable them to perform their duties in a timely and efficient manner.

B. Ministry of Education – Policy and Implementation, St. Lucia.

- One of the biggest challenges that the Ministry faces in ensuring successful adaptive capacity is the unavailability of the required quantum of financial resources needed to undertake current and future maintenance requirements. Schools are allocated an annual maintenance subvention to undertake minor defects, but the magnitude and frequency of interventions render the subvention inadequate. It has been observed that minor defects left unattended result in major defects over time and consequently require highly technical assessment and the associated high costs for repair, rehabilitation, or replacement. Additional financial resources need to be secured in order to address the various major school plant defects which pose a risk to users of the facility.

C. Ministry of Education – School Management – Principals, District Education Officers, St. Lucia.

- As it relates to capacity of the school as an institution engaging in adaptive capacity activities, the following were highlighted as critical needs:

i. Maintenance knowledge for principals and all staff (teaching and ancillary – caretakers, security personnel) and parents should be provided to enable early identification of defects in school infrastructure for follow-up assessments by the Ministry of Education's Building Officers.

ii. All teachers and District Education Officers should be trained in conducting basic defects assessments in order to facilitate early warning of situations that require urgent and immediate attention. The training would also include knowledge and application of strategies to identify requirements for maintenance initiatives.

iii. Training for District Education Officers, Principals, and staff in the use of an app which has been developed by CDEMA that provides guidance on maintenance needs, categorizing items and identifying critical ones for necessary and urgent action.

iv. Training for teachers in DRR knowledge and skills so that they can deliver the curriculum effectively.

v. Regarding community adaptive capacity, there are several community-based groups/organizations in the schools' host communities. However, the lack of community cohesion has been identified as a factor which inhibits the ability of the respective communities to engage in collective action. This represents, to some extent, a tragedy of the commons which needs to be addressed through strengthening community social capital-building networks, creating horizontal bridges between groups/organizations, as well as strengthening vertical links between community-based groups/organizations and resource agencies external to the community.

vi. Opportunities should be created for capacity building in community leadership, community mobilization and community organizing, and climate change and resilience knowledge to enable the community to prepare, respond and recover from climate change impacts. A gender transformative approach focused on increasing male participation in the everyday life of the community is critical to enhancing the adaptive capacity of the community. As a "best" practice, Parent Teacher Associations should be engaged before work starts, to ensure they are aware, and disseminate info into the community.

D. Institutional Stakeholders

- Discussions in this group revealed the following gaps in the capacities of stakeholders:

i. non-teaching staff lack maintenance knowledge.

ii. parents and students may not be able to identify and have basic information about physical defects in a school.

iii. some communities do not have strong social capacity – social capital, social networks, collective psychological capacity (individual and household positive adaptation behavior).

iv. inadequate community awareness of climate change and potential for climate resilience.

Views on approaches for including DRRE in schools.

A. Principals, staff, and students at Bexon Combined School (BCS) and Vieux Fort Primary School (VFPS), St. Lucia.

- The staff welcomed the idea of the formal incorporation of DRRE in the primary school curriculum. The idea of a Handbook to guide teachers on the content and methods of instruction

was well received. However, they expressed apprehension on how soon this becomes a reality as they have been subjected to many unfulfilled promises in the past. Contributions from a few students provided insights on their understanding of DRRE. Student A said, “learning about disasters and what they can do to us is a good thing because it can help to be prepared when they come”.

- The teachers welcomed the idea of a Handbook on DRRE in the schools as an important resource and tool in imparting knowledge on climate change and resilience. To the staff and students, this is a timely initiative given recent experiences with hazards such as high winds and flooding which have negatively impacted the school. More importantly, the teachers viewed this initiative as having a multiplier effect as a result of knowledge and behavior transfer from school to friends, and family/households. This intended outcome was clearly expressed by student A who said, “I want my friends, family, and neighbors to know what I have learnt about climate change”.

B. Ministry of Education – Policy and Implementation, St. Lucia

- On the incorporation of DRR into the school curriculum, there was unanimous agreement from the participants who accepted the view that DRRE was critical in building climate change and resilience awareness among students, school staff, parents, and the community. It was further agreed that the MEIGRSD should consider incorporation of DRRE as a new policy initiative which would, inter alia, require a review of the current approaches to the informal approach to instruction in DRR via subjects including Social Studies, Geography and Education for Democratic Citizenship and its subsequent gradual incorporation into the formal school curriculum.

C. Ministry of Education – Heads (Teachers) of School Health and Safety Committees, St.Lucia.

- The teachers indicated that while there is disaster related content in the present school curriculum it is insufficient to prepare children to respond adequately to hazardous threats posed by climate change and other catastrophic events. One of the main justifications for inclusion of DRRE was that children will grow with the knowledge of how climate change affects their lives thus enabling them to become more environmentally aware and, in a position, to be able to make informed decisions and right choices.

D. Antigua and Barbuda Stakeholders

- On the approach to DRRE implementation, there were two contending views. On the one hand, it was felt that a distinct and concentrated attention on DRRE should be pursued while on the other hand it was felt that the integrated approach would be the most effective form of DRRE implementation. Nonetheless, participants agreed on the importance of developing children’s awareness, dispositions, knowledge, and skills to build resilience and expressed support for the proposed Framework for the Inclusion of Disaster Risk Reduction Education in the School Curriculum.

E. Institutional Stakeholders

- The idea of teaching DRR in schools was viewed as a step in the right direction. The group felt strongly that the community, students, and principals should be aware of DRR and climate change so that steps can be taken to make themselves safer. The plan to incorporate DRRE in the school curriculum and the development of a handbook to guide its delivery were well received. It was recommended that other stakeholders such as NEMO and Red Cross be involved in such an initiative as they are key actors in the DRR sector and in a position to support an experiential approach in the delivery of the DRRE curriculum.

- The consultations and meetings with stakeholders achieved the objective of highlighting various current and potential climate change risks and impacts which the beneficiary schools face. These range from exposure to natural hazards such as strong wind, floods and climate induced conditions such as drought, to a lack of adequate knowledge in disaster risk reduction. Several enabling factors that contribute to this situation were identified including human action which generates noise, poor air quality, and access challenges. Weak social and adaptive capacity at the community level constraints community participation in resilience building efforts. However, the views, insights, and recommendations provided by the stakeholders to address the issue and concerns raised provide promise and should be considered as vital input to the preparation of proposals to access funding to undertake climate change resilience building of schools and communities in Saint Lucia and Antigua and Barbuda.

K. Justification for funding requested

As SIDS, both Antigua and Barbuda and St. Lucia are particularly vulnerable to extreme climate events such as tropical storms and hurricanes. Over the period of 1999–2018 Antigua and Barbuda ranked 47th and St. Lucia 51st on the Global Climate Risk Index. Additionally, over that same period, Antigua ranked 6th and St Lucia 17th in terms of Losses per unit GDP in %.[8]

The primary reasons for both country's vulnerability, which is typical of Eastern Caribbean nations, are: i) inefficient planning and management of the built environment; ii) high costs of repairing damage caused by recurrent extreme climate events; iii) the composition of the economies; iv) high population density in the coastal zones; and v) limited availability of freshwater resources. Moreover, both countries have limited financing options due to their high public debt. Existing high budget costs for disaster recovery are grossly inadequate for expected future adaptation investments. Hence, grant financing from the Adaptation Fund is needed to fund this project.

The frequency of high-intensity tropical storms and hurricanes that make landfall in the Eastern Caribbean, including Antigua and Barbuda and St. Lucia, is expected to increase under future climate change conditions. High-intensity storms and hurricanes have severe impacts on the region and countries, including loss of life, economic losses and damage to infrastructure. For example, in 2017, Hurricane Irma resulted in about 129 fatalities across the Caribbean and south-eastern region of the United States. The impacts of these extreme climate events are further

8 Germanwatch. 2019. Global Climate Risk Index.

exacerbated by both countries's economic composition. For example, tourism makes up the largest proportion of each country's GDP (about 60% for Antigua and Barbuda and 42% for St. Lucia) and accounts for the highest overall investment. The onset and aftermath of extreme events, including those events that had regional impacts, but did not directly hit either country, still significantly reduces tourist activity in each country. This not only affects revenue generation, but also leads to increased unemployment in the tourism sector. Such unemployment results from the closure of tourism-driven businesses and a subsequent reduction in employment demand in the sector. In addition, both countries are heavily reliant on imports of basic supplies, including food, medicine and building materials. Extreme climate events have major impacts on these imports as shipping routes become unsafe and insurance premiums for shipping companies increase.

GDP per capita and the Human Development Index (HDI) are both relatively high in each country with Antigua and Barbuda at about US$16,727[9] and 0.78[10], respectively, and St. Lucia at about US$10,566[11] and 0.75, respectively. However, these countries have small tax and market bases as well as high public debt — constraining each government's ability to allocate funding from the national budget for adaptation. Moreover, limited opportunities exist for the public and private sector to access financial resources for addressing climate change impacts. External investment is therefore critical to increase the resilience of both countries to climate change.

L. Sustainability

The proposed project is based on the premise that to sustain the project outcomes over the long term requires linking the initiatives and lessons to national and regional policies and strategies as well as institutional frameworks.

Given that there is strong political commitment from the Ministries of Education of both countries and OECS States for building resilience of school infrastructure to climate-induced extreme weather events, there is a pathway for sustaining the adaptation measures beyond the life of the project.

The proposed project will assist these countries to take a more proactive, impactful and sustained approach to climate change adaptation planning in the education sector.

The proposed project interventions have been designed to deliver maximum adaptation benefits to vulnerable communities beyond the project lifetime. These benefits are centered around increasing the climate resilience of the educational facilities and system and will be highlighted during numerous workshops that will be conducted during the implementation phase. Uptake of climate resilience technologies within the education sector requires buy-in and commitment from all project partners to ensure that adaptation solutions continue to provide benefits to the population over the long term.

The project has been developed through a participatory and consultative process, which has allowed relevant stakeholders to contribute to this conceptual design of the project interventions.

9 World Bank. 2018. Available at: https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=AG

10 UNDP. 2017. Inequality-adjusted Human Development Index. Available at: http://hdr.undp.org/en/composite/IHDI

11 World Bank. 2018. Available at: https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=AG

Undertaking the development of the project in this way has promoted a country-driven approach to the project in both Antigua and Barbuda, and St. Lucia, which will be key to ensuring the sustainability of project interventions over the long term.

Another key design feature of the project to drive sustainability over the long term and encourage scaling up and replication of these innovative solutions within each country and across the Eastern Caribbean is the efficient and effective transfer of knowledge. Additionally, public and private sector stakeholders will be trained on climate-resilient adaptation solutions for the school buildings, incorporating a train-the-trainers approach to ensure that knowledge of these solutions is maintained regardless of staff turnover. Technical staff from the relevant Ministries (e.g., building inspectors and building maintenance teams) will be trained on how to effectively implement, operate, maintain, and monitor climate-adaptive measures installed on buildings.

Consumers and producers within the private sector will also be targeted to receive training on the design, use and maintenance of climate resilience measures including: i) private user groups — for example, business owners and homeowners; and ii) private sector service providers — for example, architects, engineers, and private contractors.

The sustainable operation and management of construction-related project interventions will be conducted by key government institutions to oversee specific project activities, with a commitment from both Governments to finance all ongoing operations and maintenance activities.

Interventions focused on increasing the structural integrity of schools are expected to deliver adaptation benefits for 50 years, while the installation of solar PV panels and climate-resilient water harvesting solutions on targeted buildings are expected to deliver adaptation benefits for 20 years.

Furthermore, site-specific operational procedures will be developed for long-term maintenance of climate-proofing interventions for each school building, and these procedures will be integrated into the project operations and maintenance framework. The maintenance plans and costs for the climate change adaptation measures to be installed on priority buildings are presented below.

The sustainability of the climate-resilient adaptation solutions will be enhanced through awareness campaigns that highlight the benefits associated with investing in climate-resilient practices. These benefits include: i) reductions in insurance premiums because of a reduced risk to climate-proofed structures; and ii) reductions in the economic losses caused by extreme climate events as a result of improved structural integrity of critical buildings. Efficient and effective knowledge transfer through the aforementioned awareness campaigns will not only improve the uptake of climate-resilient building practices, but will also improve the preparedness of schools, local communities, business owners and other stakeholders for the onset of extreme climate events.

In addition to facilitating the uptake of climate-resilient building practices, the project will shift disaster response by the GoAB and the GoSL from a reactive approach towards a proactive climate-responsive planning which has sustained long-term benefits.

M. Environmental and social impacts and risks.

The environmental and social risk associated with this proposed project were evaluated in accordance with Adaptation Fund's Environmental and Social Policy, UN-Habitat's Environmental and Social Safeguards System (ESSS) as well as with the environmental, social, and economic policies of Antigua and Barbuda, and St Lucia. Environmental and Social Impact Assessments and Management Plans were completed. The project is categorized as a Category B project (Medium Risk) due to the results envisioned in environmentally and socially vulnerable areas, and potential impacts of policy changes. (See Annex 1 and 2)

Overall, the environmental and social impacts and risks assessed to be present in this project are moderate and attributable with activities whereby climate-proofing interventions are implemented in school buildings.

The project is designed to generate positive economic, environmental and social impacts, and will encourage inputs and participation from women, and disabled persons from within the host communities.

Environmental impacts

All potential environmental impacts associated with the project are linked with the renovation of school buildings and public infrastructure and include the generation and subsequent disposal of waste from demolition processes and construction activities as well as concerns regarding the sourcing of materials. Because the majority of construction will focus on upgrading of existing in-place facilities — as opposed to the breaking of new ground — many of the potential environmental impacts that are normally associated with construction activities are not applicable. Additionally, because the required construction activities are relatively small in scale, require limited landscaping and will be implemented within urban or peri-urban vicinities, impacts on biodiversity, critical ecosystems and soils are considered minor and limited in scale.

Social impacts

As previously stated, the main social impacts associated with the project are temporary restrictions on access to school buildings and services. Where services provided by these buildings are critical — construction activities will be implemented in a phased approach to ensure that limited services can still be provided during construction. Additionally, advance notice of closures will be provided to the communities. Also, several minor social risks that have been identified and are associated with construction activities. These include labor practices, construction site safety and social disruptions adjacent to construction sites. These additional minor impacts are all temporary and can be mitigated through regular monitoring and management. No long-term social impacts are associated with the project.

A checklist of environmental and social impacts and risks is provided in Table 4 and elaborated in the text that follows.

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
Compliance with the Law	X	
Access and Equity		X
Marginalized and Vulnerable Groups	X	
Human Rights	X	
Gender Equity and Women's Empowerment		X
Core Labour Rights		X
Indigenous Peoples	X	
Involuntary Resettlement	X	
Protection of Natural Habitats		
Conservation of Biological Diversity	X	
Climate Change	X	
Pollution Prevention and Resource Efficiency		
Public Health	X	
Physical and Cultural Heritage	X	
Lands and Soil Conservation		

Table 4: Checklist of Environmental and Social Principles and Risks.

Compliance with the Law

The proposed project is designed to comply with all relevant regional and national laws, especially those cited under Section G of this document. To ensure that no legal issues arise and that all relevant legal requirements are met, relevant authorities in both countries will be consulted during the development of the full project proposal.

Access and Equity

UN-Habitat promotes equal access to benefits in its projects and programmes and considers that addressing environmental and social risks and impact management plays a key role in seeking spatial justice. Thus, by addressing the principles of "do even better" and "leave no one behind" in the fight against spatial injustice, it is crucial to ensure access to benefits, justice and non-discrimination across all projects and programmes. The proposed project is designed to ensure that there is equal access to infrastructure and services by: (i) including in the impact assessment analysis the process of allocating and distributing environmental and social project/programme benefits and show how this process ensures fair and impartial access to these benefits; (ii) Explicitly stating that there will be neither environmental or social discrimination nor favoritism in accessing project/programme benefits; and (ii) Defining a Stakeholder Engagement Plan to ensure equal access to the process of participation and consultation for all stakeholders.

Marginalized and vulnerable groups

The design and implementation of the proposed project should not have any negative impacts on marginalized and vulnerable groups.

Human Rights

The proposed project is designed to respect and adhere to the requirements of all relevant conventions on human rights.

Gender Equity and Women's Empowerment

UN-Habitat aims at mainstreaming gender equality and the empowerment of women, though the integration of gender equality as a cross-cutting issue in all projects, programmes and policies. The proposed project is designed to ensure that gender considerations are included in all project interventions by: (i) Collecting gender-disaggregated data to perform the environmental and social impact assessment; (ii) Identifying potential risks and impacts for women and girls from a project or a programme, with special focus on those that could particularly and/or disproportionally affect this group; (iii) In case impacts and risks cannot be avoided, defining pertinent measures in order to address these risks and impacts; (iv) Promoting and creating conditions for the participation of women and girls in the project/programme activities and stakeholder consultations; and (v) Including in the description of the project/programme how gender equality and women's empowerment have been promoted by the project/programme.

Core Labor Rights

UN-Habitat greatly values its workforce and the workforce employed for projects and programmes, and it is committed to complying with the international conventions of the International Labour Organization (ILO) and the United Nations. UN-Habitat promotes efforts to go beyond protecting workers' fundamental rights, by providing a sound worker management relationship. Activities to retrofit buildings will create employment. The relevant national labor laws guided by the ILO labor standards will be followed throughout project implementation.

Indigenous Peoples

No indigenous groups are expected to be impacted by the implementation of the proposed project concept.

Involuntary Resettlement

No involuntary resettlement is foreseen in any circumstance during project implementation.

Protection of Natural Habitats and Conservation of Biological Diversity

While damage to natural habitats and threats to biological diversity are unlikely, there is a possibility that construction work may temporarily adversely impact local biodiversity. Efforts will be made to prevent damage, and actions will be taken to restore any damaged natural habitats to their original condition. This will be further assessed in the full proposal stage.

Climate Change

No mal-adaptation activities are foreseen as the project will not provide or install infrastructure or appliances that result in increased greenhouse gasses (GHG) emissions. The project will install

renewable energy solutions that reduce GHG emissions.

Pollution Prevention and Resource Efficiency

As per above, the installation of localized renewable energy solutions will reduce pollution levels and will lead to resource efficiencies.

Public Health

No public health issues are foreseen as a risk. The project expects to improve public health by preventing or reducing injuries from climatic events.

Physical and Cultural Heritage

No physical or cultural heritage impacts are foreseen. No heritage sites have been identified during the screening risks of proposed interventions in target areas.

Lands and Soil Conservation

Efforts will be made to minimize the disturbance of land and soil while renovation/retrofitting school buildings. Any damage that is done to land and soil will be restored to its original state. Additionally, the project will seek to protect risk areas and critical natural habitats from damage and protective measures for land erosion control will be conducted as required.

PART III: IMPLEMENTATION ARRANGEMENTS

A. Project implementation

The following mechanisms for project execution, coordination and oversight have been agreed to as per **Antigua and Barbuda's** Department of Environment, Ministry of Health and Environment, and **St. Lucia's Department** of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development. Both organizations serve as the National Designated Authorities to the Adaptation Fund.

PSC - Project Steering Committee – The PSC is an Executive body, made up of eight members, that will include key personnel from the executing entities, government, as well as civil society, representing interests from all levels of society. The PSC will be responsible for policy guidance, and for management decisions of the project, playing a critical role in project by providing technical inputs to ensure smooth implementation of the project from start to completion, including providing advice on how to deliver project outputs and the achievement of project outcomes in a timely matter in line with national and subnational strategies and technical standards. The PSC will also be responsible for evaluations for performance improvement, accountability, lesson learning, coordination with relevant ministries and authorities, approve annual work plans and review key project periodical reports; reviewing any deviations and consider amendments to work plans and contractual arrangements

RPSU - Regional Project Supervision Unit – At the regional level, project implementation will be supported through a RPSU. This Unit will be responsible for project supervision / oversight, including coordination with and between the national **Project Management Committee (PMC)** of each country. The RPSU will also be responsible for ensuring project compliance with Adaptation Fund and UN-Habitat policies and reporting requirements, and for contracting the Project Executing Entities.

NPCU - National Project Coordination Units – At the national level, project implementation will be supported through NPCUs. These Units will be responsible for daily project coordination in both countries, including coordination of execution of the project activities with the Project Execution Entities as well as coordination with the RPSU.

PD - Project Director – The PD is to be appointed by the Project Steering Committee and will serve as the designated Project Executing Entity lead officer and focal point for the project. The PD will report to UN-Habitat and serve as liaison between the Steering Committee and the PC and the RPM, supporting the coordination of the various project components.

RPM - Regional Project Manager – a UN-Habitat liaison project manager for the duration of the project. The Regional Project Manager's primary responsibility will be to ensure the project is run in accordance with Adaptation Fund and UN-Habitat guidelines within specified time constraints and cost.

NPC – National Project Coordinator – at the local level the coordinator will facilitate the drawing up of the scope and standards of the project's components and the production of the expected outputs as specified in the project documentation. Responsible for stakeholder management and for providing guidance and supervision to the Project Implementation team.

MO – Monitoring Officer – Under guidance of the RPM, supported by the NPC, Monitoring Officers will monitor the status of financial and project management risks, including those measures required to avoid, minimize, or mitigate these risks, throughout the project (please see also Section Part III.D).

PEE – Project Execution Entities – Both countries have selected local ministries as Project Executing Entities, which are responsible for carrying out the project's activities and reporting to the NPCU and PSC.

Legal and Financial Arrangements – UN-Habitat will sign a joint Memorandum of Understanding with both countries as a legal commitment to implement the project. UN-Habitat will also enter into an Agreement of Cooperation with both countries. This is the legal basis to transfer funds to be invested under the project. The national entities will authorize the payments against the contractual agreements, upon recommendations from the project manager.

Project Assurance – UN-Habitat, as the Multilateral Implementing Entity (MIE), will provide project management support and oversight, and will act as the secretariat of the PSC. In this role it will provide project oversight, supervision and coordination. It will ensure compliance with the Adaptation Fund and UN-Habitat policies, and reporting/M&E requirements (including safeguarding systems).UN-Habitat will also be part of the team that implements the project, where it will provide technical knowledge and expertise based on its experience implementing other climate change projects in each country, across the Caribbean region, and around the world. UN-Habitat will further oversee compliance with its Environmental and Social Safeguard System and the Environmental and Social Safeguard Policy of the Adaptation Fund.

Management Structure

Regional level: at the regional level, project implementation will be supported through a Regional Project Supervision Unit (RPSU). This Unit will be responsible for project supervision / oversight, including coordination with and between National Project Coordination Units (NPCUs), the Regional-level Project Steering Committee (PSC) and the Project Execution Entities (PEE). The RPSU will be responsible for ensuring project compliance with the Adaptation Fund and UN-Habitat policies and reporting requirements by the PEE and it will chair the RPSU. This RPSU will be responsible for steering the project from start to completion.

National level: at the national level, project implementation will be supported through National Project Coordination Units (NPCUs). These Units will be responsible for daily project coordination, including coordination on execution of the project activities with the Project Execution Entities. The Units will also be members of the national-level Project Steering Committees (PSCs) in Antigua and Barbuda and St. Lucia. These PSCs will be responsible for steering the country-specific project activities from start to completion.

Local level: at the local level, project implementation will be supported through the National Project Coordination Units (NPCUs), and coordinated by the NPCs. NPCUs will be responsible for day-to-day project coordination and execution of project activities in partnership with the PEE and RPSU. The national-level Project Steering Committees (PSCs) will include government representatives from the sub-national level, including from the target municipalities.

Launch of the project

At the launch of the project, UN-Habitat's Regional Office for Latin America and the Caribbean (ROLAC), together with OECS and CDEMA will organize an inception workshop inviting members of the Regional-level Project Steering Committees, Execution Partners and other key stakeholders. The project approach and the proposed outputs and outcomes of the project will be presented and discussed with the purpose to solicit feedback and inputs in a participatory manner. Comments and feedback will be incorporated in project frameworks and work-plans. The inception workshop aims to: (i) Enhance participants' understanding of the project objectives and activities and take ownership of the project; (ii) Discuss and confirm the organizational structure of the project, including roles and responsibilities; (iii) Confirm / agree upon project monitoring framework and workplan; (iv) Confirm / agree upon project risks management framework; (v) Discuss and agree upon project knowledge management framework and plan; (vi) Confirm / agree upon the project Environmental and social Risks Management Plan; and (vii) Agree on the annual work plan for year one. The inception workshop will be organized within three months after signing the project agreement between the Adaptation Fund and UN-Habitat.

B. Measures for financial and project risk management.

Table 5 provides an overview of potential project management and financial risks, an assessment of the significance of the risks in terms of likelihood and impact, and measures that have been embedded in the project design in order to manage and/or mitigate these risks.

	Category and Risk	Rating: Impact/ Probability 1: Low 5: High	Management/Mitigation Measure	Indicator to verify
1.	Environmental/ social: Climate hazard events result in delays in physical work	Impact: 3 Prob: 1	Current climatic seasonal risks have been considered in the planning and design of project activities	Work plans avoiding critical concrete works being planned in storm season.
2.	Institutional: Loss of government support (including regional) for the project (activities and outputs) may result in lack of prioritization of Adaptation Fund project activities.	Impact: 4 Prob: 1	Establishment of a project management committee and the overall participatory and inclusive project design will improve national, municipal and beneficiary level ownership throughout and thus enhance government support for project implementation. Government staff working on climate change, environment, disaster management, land use, and education will be strongly integrated into the project's structure	Confirming steering committee members and roles and responsibilities during inception workshop Government focal point to coordinate steering committee will be appointed at inception workshop
3.	Institutional: Capacity constraints of local institutions may limit the effective implementation of	Impact: 2 Prob: 1	The project has a strong capacity building and training component, designed to promote effectiveness and sustainability.	Capacity building indicators to be established Institutional staff that are part of project staff

	interventions and maintenance			
4.	Institutional/social Lack of commitment/buy-in from local communities may result in delay at intervention sites.	Impact: 2 Prob: 1	Community stakeholders have been consulted during the full project development phase to ensure their buy-in into the Adaptation Fund project. A bottom-up approach integrating the community into the Adaptation Fund project's implementation phases – including community contracting - will be followed. Where possible, the community will have an active role that ensures ownership of the project, particularly through community participation in project implementation and monitoring	Capacity building indicators to be established Institutional staff that are part of project staff
5.	Institutional/social: Disagreement amongst stakeholders with regards to adaptation measures.	Impact: 3 Prob: 2	Adaptation measures and locations have been selected using extensive and detailed criteria, and through in-depth consultations There will be a participatory approach to all aspects of the project.	The inception workshop was organized within three months of the signed project agreement between UN-Habitat and the Adaptation Fund

6.	Institutional: Local school administrators and communities may not agree on the ongoing maintenance requirements.	Impact: 2 Prob: 2	The maintenance requirements will be institutionalized within the ministries, local government and communities to ensure sustainable delivery of ongoing maintenance activities . Officials will support the participating communities beyond the project implementation ensuring community level governance support as well as support for maintenance. Capacity building and training of communities will be undertaken to improve their awareness and understanding of the benefits of the activities, including infrastructure maintenance. Communities will be involved in project implementation/decision making throughout the project.	Institution's staff and community members that are part of project staff
7.	Institutional: Delays in project implementation, and particularly in the development of infrastructure interventions	Impact: 1 Prob: 2	The ownership by both Governments has been high during the project preparation phase which will reduce this risk. Partnerships with key government agencies and infrastructure and community resilience project planning will start early on – in tandem with the community action planning. Institutional arrangements will be put in place well before the finalization of community action plans.	Execution entities to start the interventions within six months after the inception workshop

8.	Institutional: A lack of coordination between and within national government Ministries and Departments as well as regional partners	Impact: 1 Prob: 2	The Project Management Committee will ensure coordination with support from UN-Habitat.	Confirming steering committee members and roles and responsibilities during inception workshop

Table 5: Overview of potential project management and financial risks

C. Measures for the management of environmental and social risks

The proposed project seeks to fully align with the Adaptation Fund's Environmental and Social Policy (ESP). For that purpose, environmental and social risks and impacts of the project and related activities will be identified and addressed so that the project does not unnecessarily harm the environment, public health or vulnerable communities. Systematic screening and assessment has been done based on broad consultation with national and local government stakeholders, target communities, and a wide range of other concerned stakeholders. The project design has benefitted from this process.

To ensure that risks are well managed, the project management, governance and monitoring and evaluation seek to fully account for the management of environmental and social risks. Additionally, an Environmental and Social Management Plan (ESMP) has been developed to ensure full compliance with the Adaptation Fund's Environmental and Social and Gender Policies. (See Annexes 1 and 2)

The ESMP for this project identifies measures and actions that reduce potentially adverse environmental and social impacts to acceptable levels. Specifically, the ESMP:

(i) Identifies and summarizes all anticipated adverse environmental and social impacts in line with the Adaptation Fund's ESP principles;
(ii) Describes mitigation measures, both from the perspective of mitigating risks at each activity and from the perspective of upholding all ESP principles;
(iii) Describes a process which supports the screening and assessment of all project activities and the conditions under which screening and mitigation action is required;
(iv) Clearly assigns responsibilities for screening, assessment, mitigation actions and approval and monitoring;
(v) Considers, and is consistent with, other technical standards required for the project, in particular, those that relate to national law.

For the activities under the three components of the project, the ESP will be upheld by ensuring that:

(i) All MoUs and Agreements of Cooperation with the Executing Entity will include detailed reference to the ESMP and the 15 ESP Principles.
(ii) The Terms of Reference of Committees and Advisory Groups, project personnel and focal points will include detailed references to the ESMP and the 15 ESP Principles.
(iii) The Executing Entities and other relevant government agencies will receive training/capacity development to understand the 15 ESP Principles, the ESMP and their responsibilities. This will include members of the Project Management Committee, the Local Committees and the Communities.
(iv) A Monitoring and Evaluation Framework will be developed by the project management team and presented for approval to the Project Management Committee.
(v) All project monitoring will have the 15 ESP Principles, and the ESMP Strategy mainstreamed into it. In addition to upholding the ESP of the Adaptation Fund and familiarizing all project stakeholders with the 15 ESP Principles, this will also ensure that all stakeholders fully take ownership of the environmental and social safeguards procedures of the project and that any activity that may have been altered or not yet assessed in detail is captured.

(vi) A grievance mechanism is also part of the plan. This will allow any affected stakeholder to raise concerns, anonymously if they wish, to the community leaders on the local coordinating committee, the project team, or the PMC. The primary means for affected beneficiaries and/or community members to raise grievances will be through a confidential telephone number shared with stakeholders. In addition to this grievance mechanism, local staff will be trained to have an 'open-door' policy with communities, so that communities can discuss any aspect of the project at any time. This less formal mechanism will also enable project staff to listen to communities' concerns or ideas and promote them in the implementation of the project. More formal consultations and workshops held at local and national levels throughout the project implementation will also serve as a means for stakeholders to raise concerns or suggestions with the project's implementation.

D. Arrangements for monitoring, reporting and evaluation

The Monitoring and Evaluation (M&E) arrangements for this regional project will be in compliance with the Adaptation Fund M&E guidelines, ESP and gender policy (GP), and with UN-Habitat M&E policies and guidelines. At a minimum, the following will be monitored and evaluated: (1) baseline data and targets; (2) project milestones; (3) financial data; (4) procurement data; (5) risk assessment; (6) ESP compliance; (7) GP compliance; (8) project indicators; and (9) lessons learnt and project Results. Moreover, it will follow the principles for M&E as outlined in UN-Habitat's Evaluation Policy (2013) and Evaluation Manual (2018), adhering to the UN system standards and norms for evaluation, which are in line with the OECD/DAC criteria for evaluation.

The M&E of progress in achieving project results will be based on targets and indicators (also for gender) established in the Project Results Framework (see Part III.E).

The annual project performance reports (PPRs) will include a section on the status of implementation of any environmental and social management plan, including those measures required to avoid, minimize, or mitigate environmental and social risks. The PPRs shall also include, if necessary, a description of any corrective actions deemed necessary. The terminal project performance report will include an evaluation of the project's performance with respect to environmental and social risks.

UN-Habitat will ensure timely and high-quality M&E by keeping oversight of the process by providing guidance to the Project Execution Entities and national government partners through full briefing of M&E requirements. Where possible, the M&E process will be participatory, involving key stakeholders at national, municipal and community levels. Project activities will be monitored by the Regional Project Supervision Unit (RPSU) and National Project Coordination Units (NPCUs) with dedicated monitoring staff, which will require having expertise of M&E compliance to the Adaptation Fund ESP and GP. The M&E framework and plan will also be endorsed by the Regional-level Project Steering Committee. Audits of the project's financial management will follow Adaptation Fund regulations and rules and applicable audit policies. The M&E plan will be implemented as proposed in Table 6 below.

Type of M&E activities	Responsible Parties	Time Frame	Reporting
Inception workshop and Steering Committee Meetings	● Project Coordinator ● National Project Team ● UN-Habitat ROLAC ● OECS ● CDMA	Inception workshop within first 6 months and bi-annual steering committee meetings	Inception Report, including confirming of 1st year workplan, monitoring framework and plan; project risks management framework and plan; environmental and social risks management framework and plan; knowledge management strategy
Project Monitoring and Quality Assurance, including progress and financial reporting, and risk management	● Project Coordinator ● National Project Team ● UN-Habitat ROLAC	Quarterly, half-yearly and annually as needed	Annual, Mid-term and Final Report
Compliance with ESP and GP	● Project Coordinator ● National Project Team ● UN-Habitat	Annually	Annual, Mid-term and Final Report
Annual and Terminal Project Performance Reports	● Independent evaluator	No later than 1 month after end of year or project completion	Annual and Terminal Project Performance Reports
Mid-term and Final evaluations	● Project Coordinator ● Project Team ● UN-Habitat ROLAC ● Project EEs ● OECS ● CDMA	At midpoint and then no later than 3 months upon termination of the project	Mid-term and Final evaluations Report
Community consultations/ workshops/ trainings	● Project Coordinator ● Project Team ● OECS ● CDMA	Quarterly, half-yearly and annually as needed	Documentation
Visit to field sides	● UN-Habitat ROLAC ● Project Coordinator ● National Project Team	Quarterly, half-yearly and annually as needed	Field Visit Report

Table 6: Monitoring and Evaluation (M&E) Plan

For the M&E budget and a breakdown of how MIE fees will be utilized in the supervision of the M & E function, please see the detailed budget (Part III.G). For related data, targets, and indicators, please see the project proposal results framework (Part III.E).

M&E Activities

a) Inception workshop and Project Steering Committee meetings

During the first Regional-level Project Steering Committee meeting, which will be organized in conjunction with the project Inception Workshop, the Committee will monitor / review project progress and provide technical guidance. During the first Regional-level Project Steering Committee meeting, the following will be reviewed: the project organizational structure, including roles and responsibilities, the project monitoring framework and workplan, the project risk management framework, the project knowledge management framework and plan, the project Environmental and Social Risks Management Plan and the annual work plan for year one. The Regional-level Project Steering Committee will meet every year, the National Project Steering Committees will meet every six months, and ad-hoc meetings will be held as needed.

b) Periodic project monitoring and terminal project performance reporting

Annual project performance monitoring will be conducted using the Adaptation Fund PPRs template. This will include monitoring of project: milestones; financial data; procurement data; risks assessment; ESP compliance; GP compliance; project indicators; lessons learned; and project results.

c) ESMP and GP implementation monitoring

The implementation of the project Environment and Social Management Plan (ESMP) as described in Annexes 1 and 2 will be monitored. The ESMP includes monitoring indicators and responsibilities for identified potential risks, impacts and mitigation measures. A dedicated budget for monitoring the compliance to the Adaptation Fund ESP and GP has been included in Part III.G.

d) Terminal Project Performance report

No later than one month after project completion, a performance report will be conducted following Adaptation Fund and UN-Habitat policies and guidelines. It will be conducted by an independent evaluator.

e) Mid-term and Final Evaluation

No later than three months after project midpoint and completion, evaluations will be conducted following Adaptation Fund and UN-Habitat policies and guidelines. Evaluations will be conducted by an independent team of international and national experts in consultation with executing entities and national stakeholders as a participatory process.

f) Community Level Participatory Monitoring

Part of the detailed project monitoring framework and plan will be identified through activities to involve Project Execution Entities and beneficiaries at the community level in monitoring activities. This would include community-level monitoring of Gender and Youth responsiveness and impact of the project.

g) Periodic Project Site Visits

Members of the Regional-level Project Steering Committee and representatives of UN-Habitat will visit project sites and hold meetings with the local stakeholders to monitor the implementation of project activities.

Reporting

a) Inception Workshop and Report

One month after the inception workshop, an Inception Report will be submitted to the Adaptation Fund and project steering committees' members. Reports will include: (i) agreement on organizational structure of the project, including roles and responsibilities; (ii) monitoring framework and workplan; (iii) project risks management framework; (iv) knowledge management framework and plan; (v) Environmental and social Risks Management Plan; and (vi) the year one work plan.

b) Annual project performance reports, including final report

The Annual project performance reports, which will be submitted to the Adaptation Fund, will include:

(1) Milestones
(2) Financial data
(3) Procurement data
(4) Risks assessment
(5) ESP Compliance
(6) GP Compliance
(7) Project indicators
(8) Lessons learned
(9) Project Results

c) Community Level Meeting /Workshop / Training Reports and site visit

Reports on all community-level meetings, workshops, and training will be prepared by Project Execution Entities within one month of the event. Photo documented site visit reports, also to monitor women participation, will also be prepared by Project Execution Entities.

d) Final Evaluation Report

Independent consultants will prepare the Final Evaluation report in line with Adaptation Fund and UN-Habitat evaluation policies and guidelines and norms and standards for evaluation in the UN system.

M&E Budget

The allocated budget for M&E activities, and entities responsible, are summarized in Table 7 below, for full budget of implementation, execution and monitoring and evaluation, please see section G.

Type of M&E Activity	Activity	Entity	Total (USD)	Y1	Y2	Y3	Y4
Measurements of verification (baseline assessment and M&E plans) as part of inception	Inception workshop	UN-H National Office	12,000	12,000	-	-	-
	Report preparation	UN-H	-	See overall project monitoring and evaluation (From cycle Management Fees)			
Direct Project Monitoring and Quality Assurance including annual progress and financial reporting, project revisions, technical assistance and ESP and GP compliance (from execution fee M&E safeguards)	M&E UN-H Offices	UN-H National Office	95,500	40,500	20,000	20,000	15,000
Overall project monitoring and evaluation (from cycle management fees)		UN-H ROLAC	23,971	7,000	5,000	5,000	6,971
Audits	rolling project and programme audits	OIOS BOA	-	-	-	-	-
Terminal external evaluations		UNON	40,000	-	-	-	40,000
TOTAL			171,471	59,500	25,000	25,000	61,971

From Project Execution Fee			135,500	123,000	125,000	125,000	55,000
From Project Cycle Management Fee			23,971	7,000	5,000	5,000	6,971

*OIOS: United Nations Office for Internal Oversite
BOA: Board of Auditors
ROLAC: Regional Office for Latin America and the Caribbean
UNON: United Nations Office in Nairobi

Table 7: Monitoring and Evaluation (M&E) Budget

E. Project alignment with the Adaptation Fund Results Framework

Project Outcome	Project Objective Indicator(s)	Baseline	Target	Fund Outcome	Adaptation Fund Core Indicator	Fund Outcome Indicator	Grant Amount (USD)
Outcome 1. Strengthen the enabling environment for adaptation planning within the education sector at the national and regional level	No. of Model Safe School Policy updates.	0	2 (1 policy update per country)	Outcome 7: Improved policies and regulations that promote and enforce resilience measures	Assets produced, developed, improved, or strengthened	7.1. No. of policies introduced or adjusted to address climate change risks (by sector) 7.2. No. of targeted development strategies with incorporated climate change priorities enforced	380,000
Outcome 2. Strengthen the capacity of schools, businesses, communities, and households to understand climate risks, adaptation options, and cope	No. of workshops to educate communities on the risks of climate change-related hazards and how to react in case of a disaster No. of capacity building workshops for schools to improve knowledge of Site Environmental Management	0 0	6 (Participation goals) Women: >40% Youth: >15%) 15 (Participation goals) Women: >40% Youth: >15%)	Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and	Number of beneficiaries (direct and indirect) Assets produced, developed, improved, or strengthened	2.1. Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased 3.1. Percentage of targeted population aware of	979,000

with socio-emotional impacts	Plans and calls for proposal submitted No. of awareness campaigns No. of schools to integrate disaster risk reduction and resilience education into their curriculum No. of self-assessments surveys for climate resiliency at homes and buildings within target school communities distributed.	0 0 0	2 (1 campaign per country) 23 (15 in A&B 8 in SL) 30% of families of target school	environmental losses Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level		predicted adverse impacts of climate change, and of appropriate responses 3.2. Percentage of targeted population applying appropriate adaptation responses	
Outcome 3. Climate proofing interventions implemented for select school buildings to improve climate resilience.	No. of manuals for site-specific operational procedures for long-term maintenance distributed. No. of schools with a defined monitoring framework for climate-proofing measures No. of schools' infrastructures improved. No. of weather stations installed at select schools	0 0 0 0	23 (15 in A&B 8 in SL) 23 (15 in A&B 8 in SL) 23 (15 in A&B 8 in SL) 2	Outcome 4: Increased adaptive capacity within relevant development and natural resource sectors	Number of beneficiaries (direct and indirect) Number of Early Warning Systems Assets produced, developed, improved, or strengthened	4.2. Physical infrastructure improved to withstand climate change and variability-induced stress	10,315,500

F. Detailed budget

Outcomes	Output	Activities	Total Budget (USD)	Year 1	Year 2	Year 3	Year 4
Outcome 1: Strengthen the enabling environment for adaptation planning within the education sector at the national and regional level.	**Output 1.1:** Policies, plans and lessons learned strengthened in alignment with the Caribbean Disaster Emergency Management Agency (CDEMA) Model Safe School Programme, to incorporate and mainstream comprehensive risk and disaster management considerations in education sector policies, planning and operations	Activity 1.1.1 Annual regional meetings with CDEMA, OECS, SL and A&B and other key stakeholders. (both)	$120,000	$40,000	$40,000	$40,000	
		Activity 1.1.2 Biannual (2x per year) national review meetings in each country. (both)	$90,000	$30,000	$30,000	$30,000	
		Activity 1.1.3 Conduct Gap Analysis and stakeholder engagements to determine areas in need of improvement of the Model Safe School Policy for each country (both)	$40,000	$40,000			
		Activity 1.1.4 Develop an updated toolkit and action plan to guide the integration of climate resilience design and OECS guidelines into the Model Safe School Policy in each country (both)	$50,000	$50,000			
		Activity 1.1.5 Develop and validate an updated Model Safe School Policy and Toolkit for each country (both)	$40,000	$40,000			

Outcomes	Output	Activities	Total Budget (USD)	Year 1	Year 2	Year 3	Year 4
		Activity 1.1.6 Collect data and capture lessons learned for the preparation of report (both)	$20,000			$20,000	
		Activity 1.1.7 OECS and CDEMA produce a joint lessons learned report with data analysis included based on the experiences of the project (both)	$20,000			$20,000	
		Component 1 Total	**380,000**	**200,000**	**70,000**	**110,000**	**0**
Outcome 2: Strengthen the capacity of schools, businesses, communities and households to understand climate risks and adaptation options, and cope with socio-emotional impacts	**Output 2.1:** Schools, communities and households' capacity building to increase resilience to climate change	Activity 2.1.1. Annual capacity building workshops to educate communities on the risks of climate change-related hazards and how to react in case of a disaster. (A&B)	$60,000	$15,000	$15,000	$15,000	$15,000
		Activity 2.1.2. Develop learning materials relating to climate change adaptation, resilience, and disaster recovery for integration into the Ministry of Education's Social Science Programme. (A&B)	$80,000	$80,000			
		Activity 2.1.3. Plan and host technology expos to improve knowledge-sharing of new and	$30,000	$10,000	$10,000	$5,000	$5,000

Outcomes	Output	Activities	Total Budget (USD)	Year 1	Year 2	Year 3	Year 4
		innovative technologies. (A&B)					
		Activity 2.1.4. Sensitize the public on resilience, recovery and adaptation efforts through awareness campaigns at Arbour month events. (A&B)	$30,000	$10,000	$10,000	$5,000	$5,000
		Activity 2.1.5. Integrate disaster risk reduction and resilience education into the school curriculum (A&B)	$30,000	$10,000	$10,000	$10,000	
		Activity 2.1.6 Demonstrations conducted by schools' industrial arts departments on adaptation and resilience-building benefits, as a part of School Based Assessment (SBA) projects (A&B)	$150,000	$37,500	$37,500	$37,500	$37,500
		Activity 2.1.7. Conduct capacity-building workshops for schools to improve knowledge of Site Environmental Management Plans and call for proposals (CFP) application capacity (A&B)	$18,000	$18,000			
		Activity 2.1.8. Conduct training of internal Ministry of Environment teams and	$6,000	$6,000			

Outcomes	Output	Activities	Total Budget (USD)	Year 1	Year 2	Year 3	Year 4
		technical evaluation committee teams to evaluate submissions of call for proposals (A&B).					
		Activity 2.1.9. Develop proposals for climate-proofing school facilities (Linked to Sub-activity 3.2.1.) (A&B)	$150,000	$50,000	$50,000	$50,000	
		Activity 2.1.10. Develop Site Environmental Management Plans for 15 participating schools (A&B)	$30,000	$30,000			
		Activity 2.1.11 Design and conduct educational campaigns for 15 participating schools (A&B)	$30,000	$7,500	$7,500	$7,500	$7,500
		Activity 2.1.12 Develop Site Environmental Management Plans for additional schools (A&B)	$200,000		$66,666	$66,667	$66,667
		Activity 2.1.13 Participation of primary, secondary and tertiary students in DoE's annual Ecozone Summer Camp. (A&B)	$75,000	$18,750	$18,750	$18,750	$18,750
		Activity 2.1.14 Develop information products for conducting self-assessments for climate resiliency at homes and buildings within target school communities (A&B)	$50,000	$50,000			

Outcomes	Output	Activities	Total Budget (USD)	Year 1	Year 2	Year 3	Year 4
		Activity 2.1.15 Student home climate resiliency self-assessment surveys conducted (A&B)	$10,000	$10,000			
		Activity 2.1.16 Design and conduct school programme for the enhancement of the resiliency and building of the adaptive capacity of students, parents, teachers, and school personnel to help them cope with the social-emotional impacts caused by exposure to extreme weather events, including hurricanes. (A&B)	$30,000	$7,500	$7,500	$7,500	$7,500
		Component 2 Total	**$979,000**	**360,250**	**232,916**	**222,917**	**162,917**
Outcome 3: Climate-proofing interventions implemented in select school buildings to improve resilience to, and recovery from, extreme climate events.	**Output 3.1: Conduct Safe School assessments with adaptation needs and maintenance plans costed.**	Activity 3.1.1. Conduct baseline audits of school buildings in alignment with and in support of the Model Safe School Programme toolkit and OECS's Guidelines for the Locating and Designing of Disaster Resilient Schools (A&B)	$300,000	150,000	150,000		
		Activity 3.1.2. Develop site-specific operational procedures for long-term maintenance, and a monitoring framework, of climate-proofing measures for each priority building (both)	$140,000		70,000	70,000	

Outcomes	Output	Activities	Total Budget (USD)	Year 1	Year 2	Year 3	Year 4
	Outcome 3.2: Improve the resilience of priority buildings through adaptation interventions	Activity 3.2.1 Implement climate-proofing measures to improve priority buildings climate resilience including engineering design & supervision (A&B)	$3,480,000	1,160,000	1,160,000	1,160,000	
		Activity 3.2.2 Implement climate-proofing measures to improve priority buildings climate resilience including engineering design & supervision (SL)	$6,295,500	2,098,500	2,098,500	2,098,500	
		Activity 3.2.3 Design, procure and install weather stations at select schools (A&B)	100,000		50,000	50,000	
		Component 3 Total	**10,315,500**	**3,408,500**	**3,528,500**	**3,378,500**	**0**
	Total Components	**$11,674,500**					
	Project Execution costs (9.5%)	$1,225,500					
	Total Project Cost	**$12,900,000**					
	Implementing Entity Fee (8.5%)	$1,096,500					
	TOTAL FINANCING REQUESTED	**$13,996,500**					

G. Implementation, Execution and Monitoring and Evaluation Breakdown

Total Components			TOTAL	Y1	Y2	Y3	Y4
			11,674,500	3,968,750	3,831,417	3,711,416	162,917
PROJECT EXECUTION COSTS							
Project execution	Antigua & Barbuda	Project Manager - Regional Project Coordination (international P3)	432,000	144,000	144,000	144,000	-
		Admin / financial procurement (national)	100,000	30,000	30,000	30,000	10,000
		Safeguarding system (AF) compliance (national)	30,000	12,500	10,000	7,500	-
		M & E and communication (national)	47,500	10,000	10,000	12,500	15,000
	Saint Lucia	National Project coordination (national)	288,000	96,000	96,000	96,000	-
		Admin / financial procurement (national)	105,000	30,000	30,000	30,000	15,000
	Travel	Travel	36,000	10,000	10,000	10,000	6,000
	Operations	Vehicle Operations & Maintenance	31,000	12,000	10,000	9,000	-
		Office Rent	84,000	24,000	24,000	24,000	12,000
		Communication / publication / printing	18,000	3,000	5,000	5,000	5,000
		Office Supplies, Stationary, Computers	14,000	8,000	2,000	2,000	2,000
	Final Evaluation	Independent (lump sum)	40,000				40,000
TOTAL Execution Costs	9.50%		1,225,500	379,500	371,000	370,000	105,000
TOTAL Project Activities + Project Execution Cost (A+B)			12,900,000	4,348,250	4,202,417	4,081,416	267,917
Project cycle management fee costs							
	1.50%	UN-H ROLAC overall project supervision and M &E, incl. AF and UN-H policies (esp ESP and GP) and regulations compliance (Senior Human Settlements officer 5% + PMO 5% + PMA 25 % + M & E)	156,870	49,747	54,165	38,918	14,040
		UN-H ROLAC Travel	23,971	7,000	5,000	5,000	6,971
	7%	UN-H HQ Overall project supervision, incl .compliance to UN-H policies (gender, human rights, climate change, etc.)	915,659	308,350	298,311	288,773	20,225
Total management fee C	8.50%		1,096,500	365,097	357,476	332,691	41,236
Total amount of financing requested			13,996,500	4,713,347	4,559,893	4,414,107	309,153

H. Disbursement Schedule

Schedule date	Upon Signing	One year after project inception	Two years after project inception	Three years after project inception	Grand Total
A. Project Funds (US $)	5,468,750	5,331,417	711,416	162,917	11,674,500
B. Programme Execution (US $)	379,500	371,000	370,000	105,000	1,225,500
C. Programme Cycle Managment (US $)	365,097	357,476	332,691	41,236	1,096,500
Grand Total	4,713,347	4,559,893	1,414,107	309,153	13,996,500

PART IV: ENDORSEMENT BY GOVERNMENTS AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government[12]

Antigua and Barbuda Diann Black-Layne Director Department of Environment within the Ministry of Health, Wellness and the Environment	13 Jul 2022
Saint Lucia Ms. Caroline Eugene Permanent Secretary Department of Sustainable Development Ministry of Education, Innovation, Gender Relations and Sustainable Development	29 Nov 2021

12 6. Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

GOVERNMENT OF ANTIGUA AND BARBUDA

Department of Environment
Ministry of Health, Wellness the Environment
#1 Victoria Park, Botanical Garden
P.O. Box W693
St. John's Antigua,
W.I.
Tel: (268) 462-4625
Tel: (268) 462-6265
Email:doe@ab.gov.ag

13th July 2022

REF: DOE/38/Donor Agencies

The Adaptation Fund Board c/o
Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for UN-Habitat submission *"Increasing Resilience of the Education System to Climate Change Impacts in the Eastern Caribbean region"*

In my capacity as designated authority for the Adaptation Fund in Antigua and Barbuda, I confirm that the above regional project proposal is in accordance with our government's national and regional priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Antigua and Barbuda, and in the OECS region.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project/programme will be implemented by UNHabitat and executed by the Department of the Environment, Ministry of Health, Wellness, and the Environment.

Sincerely,

.....

Ambassador Diann Black-Layne
Chief Environment Officer
Department of Environment
Ministry of Health, Wellness and the Environment

MINISTRY OF EDUCATION, SUSTAINABLE DEVELOPMENT, INNOVATION,SCIENCE,TECHNOLOGY AND VOCATIONAL TRAINING

Department of Sustainable Development

Communication on this subject should be addressed to:
The Permanent Secretary

Georgianna Court
John Compton Highway
Castries
SAINT LUCIA, W.I.
Tel No: (758) 468-5863
Email : sustainable.devt@govt.lc

July 22, 2022

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for Increasing Resilience of the EducationSector to Climate Change Impacts in the Eastern Caribbean Region

In my capacity as designated authority for the Adaptation Fund in , I confirm that the above regional project/programme proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Saint Lucia and the Caribbean or region.

Accordingly, I am pleased to endorse the above project/programme proposal with support from the Adaptation Fund. If approved, the project/programme will be implemented by UN-Habtat and executed by Ministry of Education, Sustainable Development, Innovation, Science, Technology and Vocational Training.

Sincerely,

Anita Montoute
Permanent Secretary

B. Implementing Entity certification

Implementation Entity certification

I certify that this proposal has been prepared in accordance with guidelines by the Adaptation Fund, and prevailing National Development and Adaptation Plans in Antigua and Barbuda and St. Lucia, and subjected to the approval by the Adaptation Fund Board, commit to implementing the programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this programme.
Rafael Tuts Director, Global Solutions Division | Officer-in-Charge, Office of the Deputy Executive Director | United Nations Human Settlements Programme Tel +254 20 7623726 | Cell +254 713 601 278 | Email raf.tuts@un.org Signature:    Implementing Entity Coordinator
Date: 5 August 2022
Project Contact Person: **Bernhard Barth**, Subprogramme Coordinator (a.i.) Climate Change and Urban Environment United Nations Human Settlements Programme (UN-Habitat) I Global Solutions Division I Programme Development Branch; Email Bernhard.Barth@un.org

ANNEXES

Disclaimer: The annexes presented below are abbreviated sections of larger official reports. In an effort to limit the size of the annexes, key portions of the reports are provided in the Annexes (i.e., text is copied and pasted) rather than providing the entire reports. The full reports are available upon request.

Content:

Annex 1. Environmental and Social Impact Assessment and Management Plan – Saint Lucia.

- **Written by:** ECMC St. Lucia.
- **Exact title of report**: Environmental and Social Impact Assessment and Management Plan.
- **Date of report:** August 20, 2021.

Executive Summary

ES1. Project Rationale

Saint Lucia is a Small Island Development State (SIDS) that is highly vulnerable to natural hazards. Hazard impacts are already being magnified by the effects of climate change, including more frequent and severe extreme weather events. These hazards negatively impact the educational system and thus children and youth. The associated vulnerabilities will increase unless the capacity of the population and the education sector to anticipate, prepare, adapt and become more resilient to such events improves.

The Government of Saint Lucia (GOSL) proposes to increase the resilience of schools to climate and other natural hazards, as well as man-made hazards.

The Climate Technology Centre and Network (CTCN) is supporting this technical assistance (TA) to assess the climate risk and the related negative impacts to the educational system and appraise improvement measures for preparation of a project proposal. The main aim of this TA is to enable the GOSL to strategically assess climate risks to the educational system and to appraise measures required. This will inform a funding proposal to be developed for presentation to potential funding sources to support these improvements. Immediate emergency improvements will be achieved through structural reinforcement of the schools. Actions proposed should also increase resilience of local communities and human settlements to climate change by assessing and planning the implementation of technology and design options for the improvement of critical infrastructure, focusing specifically on increasing the resilience of the education system for short and medium-term multi-hazard risk cycle phases, and reducing dual use conflicts.

ES2. Project Scope

The twelve schools targeted through this initiative are:

1. Ave Maria Infant	7. Fond Assau Combined
2. Ave Maria Primary	8. Micoud Primary
3. Balata Combined	9. Patience Combined
4. Bexon Primary	10. Saltibus Combined
5. Corinth Secondary	11. Vieux-Fort Infant
6. Desruisseaux Combined	12. Vieux-Fort Primary

The project considers the following hazards:

1) hurricanes,

2) droughts,

3) floods,

4) Sea-Level rise,

5) Landslides.

This report is an Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP) for the proposed project activities. The ESIA/ESMP is to ensure that significant environmental and social impacts, both beneficial and adverse, of each of the proposed interventions at the twelve targeted schools have been considered and assessed, and that gender-sensitive mitigation and enhancement measures are outlined where necessary inclusive of an initial assessment of costs and responsibilities for their implementation. This is required to be in line with national requirements, Adaptation Fund Environmental and Social Policy and Gender Policy, and CTCN procedures and guidelines on gender mainstreaming.

ES4. The School Environments

The targeted 12 schools are distributed across the island, in locations ranging from urban, low lying areas to sloping, rural areas. All are impacted by climate and climate change, with climate hazard vulnerability varying with location. Typically, those in low lying areas are more vulnerable to flooding and sometimes sea level rise, while those on slopes are more landslide prone. Exposure to high wind speeds also varies with location.

As hurricanes become more intense with climate change, climate hazard risks will also increase, other factors remaining equal. All schools will be vulnerable to island-wide drying over time, as this has the potential to adversely affect water supplies for drinking and hygiene, and for irrigation of school gardens used to supplement school meals and for the study of agriculture. As temperatures and the number of hot days increase, all schools will also become less comfortable for occupants, unless they are retrofitted with cooling devices.

Ambient noise levels vary with location. Air quality at the schools is assumed to be roughly proportional to traffic volumes in the vicinity.

Some of these schools are accessed by only one motorable access road. All of these schools have waste collection, water, electricity and internet services, with onsite wastewater management.

The natural environment immediately surrounding those schools in urban areas is not significant. Schools in more rural settings have some flora and fauna in close proximity.

Most of the materials required are readily available locally, although, for some, materials may have to be transported significant distances between material sources and school locations. Some materials may have to be ordered from overseas suppliers for the projects.

ES5. The Proposed Projects

The proposed works at each of the twelve schools include some or all of the following interventions:

1. Structural retrofitting of elements or the entire structure

2. Retrofit and repairs to the roof structure

3. Retrofit and repairs of door and window systems

4. External works (including retaining walls, access roads, septic tank repairs, drainage, tree removal)

5. Water storage, plumbing and accessories (including rainwater harvesting)

6. Electrical energy improvement (including solar PV systems, standby generation, improved lighting and re-wiring)

7. Air conditioning systems

8. Installation of intercom systems

9. Installation of fire protection systems (detectors, alarms, suppression and safety)

10. Disability access

Project impacts are determined not likely to be diverse, widespread or irreversible, and may be readily mitigated. As such, the proposed project interventions are categorized as Category B. For Category B projects, the assessment is required to consider all potential direct, indirect, transboundary, and cumulative impacts and risks that could result from the proposed project/programme; assess alternatives to the project/programme; and assess possible measures to avoid, minimize, or mitigate environmental and social risks of the proposed project. The assessment is to be accompanied by an environmental and social management plan that identifies those measures necessary to avoid, minimize, or mitigate the potential environmental and social risks, and this is to inform the monitoring and reporting plan for that project.

ES6. Potential Environmental and Social Impacts Identified

As these projects are typically limited mainly to upgrading existing school plots, there will be very little impact of the proposed works on flora and fauna, eco-systems or bio-corridors, archeological and cultural resources and natural drainage systems. No land acquisition is envisaged. However, potentially significant social issues include the following:

- *Access and equity.*
- *Gender Equity and Women's Empowerment*
- *Core Labour Rights*

Environmental and social issues considered but with a much lower chance of becoming an actual conflict include during construction:

- Safety and convenience of facility and area users (school populations, area drivers, area pedestrians including the differently able, residents and workers in the vicinity) because of construction traffic and equipment operation; storage of materials, equipment and wastes, and public diversion.
- Noise and vibration from equipment operation.
- Pollution from construction equipment emissions, dust, chemical and fuel spills and surface runoff.
- Occupational safety and health of project staff.
- Disruption of normal traffic by construction traffic within narrow community roads.
- Provision of employment.
- Disruption of classes depending on the nature of the intervention.
- Transfer of knowledge regarding infrastructural defects to staff.
- Threat of communicable disease including COVID-19 as workers occupy the various sites.

During operation:

- Improved performance and safety of school plots through extreme events and as shelters.
- Reduced frequency and/or duration of interruptions to school operations due to water shortages or other extreme events.
- Reduced flooding in school compounds and environs.
- Changes in government maintenance programme costs and implications for the national budget.
- Enhanced school and community aesthetics.
- Appreciation of the school as a community asset and a place to facilitate community engagement.
- Help in building community social capital.
- Could experience vandalism and theft.
- Greater ability to identify infrastructural defects.
- Greater awareness and appreciation through instruction in formal Disaster Risk Reduction Education (DRRE).
- Greater collaboration between school and community as adaptive capacity is enhanced.
- The school assumes a leadership role in climate change knowledge sharing through its staff and students.
- A more empowered staff and host community.
- Students and staff become champions and advocates for climate resilience.

ES7. Recommended Mitigations

Mitigations recommended are for best practice to be required of contractors through the contractual requirements and supervision of compliance. This will protect the surrounding air, land and water from pollution, noise and dust; the water bodies from sedimentation; the workers from occupational health and safety issues; and surrounding communities from traffic, health and safety impacts.

ES8. Framework for Implementation

The approach to management of environmental and social impacts is premised on the assumption that environmental management is integrated into the overall project management framework, and that environmental management skills and commitments are worked into the contractual requirements of contractors at the procurement stage. There are lead roles described for the following:

1. Ministry of Education (MOE) and Sustainable Development and Environment Department (SDED)

2. Construction Supervision Consultants

With support from the following agencies with statutory responsibilities:

1. Ministry of Physical Development
2. Ministry of Infrastructure
3. Fire Service
4. Department of Labor
5. Environmental Health Department (EHD) of the Ministry of Health
6. Water Resources Management Agency (WRMA)

In the operational phase, lead responsibility will be that of the MOE.

ES9. Conclusions

It is concluded that this project will yield significant benefits to the education sector and the communities where the schools are located, reducing levels of climate risk and increasing school building resilience, resilience of the education system, and shelter performance.

The projects are individually and collectively assessed to be Category B, with impacts that are not likely to be diverse, widespread, or irreversible, and may be readily mitigated. Appropriate mitigation will be achieved primarily through a requirement for compliance with the law and best practice on the part of the contractor.

Building resilience in the education system has several short, medium, and long-term benefits for the users of the school, in particular the staff and students. Apart from infrastructural improvement, climate reliant schools foster pride among students and members of the community. The conducive and safe environment will reduce exposure to hazard impacts and will induce greater motivation among those involved in the teaching learning process. The project is a timely initiative that will contribute to Saint Lucia's fulfillment of the Sustainable Development Goals aligned to education, climate change, poverty reduction, gender equality, health, safety, and security, and leaving no one behind. Most importantly it is a fulfillment of the right to education as enshrined in the Constitution of Saint Lucia.

Annex 2. Environmental and Social Impact Assessment and Management Plan – Antigua and Barbuda.

- **Written by:** The Project Management Unit (PMU) of the Department of Environment, Ministry of Health, Wellness and the Environment.
- **Exact title of report**: Environmental and Social Impact Assessment and Management Plan.
- **Date of report:** September 9, 2021.

Executive Summary

ES1. Policies and Definitions

This Environmental and Social Impact Assessment and Management Plan has been developed in accordance with the Adaptation Fund's Environmental and Social Safeguards (ESS) and Gender Policies and the Department of Environment ESS and Gender Policies. For the purposes of this project, "climate proofing" is understood to be the application of adaptation measures so as to achieve a predetermined level of resilience to various slow-onset and extreme hydro-meteorological events, events which are deemed to have become more intense and extreme due to the onset of climate change and are projected to intensify in the future according to the best available climate science.

The schools under this project are considered "climate-proofed" when they can withstand a predetermined Category of hurricane (preferably 5) and a 3-year extended meteorological drought as well as to continue operating at adequate levels.

The environmental, social and gender risks assessed under this project were assessed and the project rated as a category B project – i.e., risks are limited to adverse environmental or social risks and/or impacts that are few in number, generally site-specific, largely reversible, and readily addressed through mitigation measures.

ES2.Summary of Environmental, Social and Gender Risks

The environmental, social and gender risks assessed under this project were assessed and the project rated as a category B project i.e. risks are limited adverse environmental or social risks and/or impacts that are few in number, generally site-specific, largely reversible, and readily addressed through mitigation measures**.**

The Environmental and Social Management Plan identifies mitigation measures, including:

- to appoint an accident prevention officer at each Site, responsible for maintaining safety and protection against accident;
- contractor requirements for security, safety of the Facilities, gate control, sanitation, medical care, and fire prevention;
- operations and maintenance schedules;
- construction insurance policies;
- a project Sustainable Procurement Plan to ensure that building aggregates are sustainably sourced;

- a requirement for site-specific Environmental Management Systems (ISO 14001), and registering their EMS Plans in the Environment Registry;
- Develop project partnerships for technical capacity around hazardous waste management; and clear responsibility and;
- budgeted costs for proper disposal of solid waste generated through project interventions.
- Implement the gender action plan based on the baseline gender assessment including the design of gender sensitive capacity building and awareness programmes, continuous engagement with vulnerable communities, extension of opportunities for the inclusion of women in technology fields through project partnerships

Environmental Social Management Plan

The Environmental and Social Management Plan for the Project is presented below:

Table 1: Environmental and Social Management Plan for the Project

Impact areas	Desired outcome	Mitigation measures and monitoring performance indicators	Timeframe	Responsible party	Incremental budget (USD)	Capacity building and training requirements
. POSITIVE – OPPORTUNITIES						
Employment opportunities, including for women, youth and disadvantaged groups	Fair access via contracts awarded	● Open and competitive bidding and selection ● Gender-disaggregated M&E of beneficiaries ● Contractor is required to subcontract local certified installer(s) and engineers ● Department of Environment (DOE) Internship and Apprenticeship Programme	During the procurement phase	● DOE Procurement Unit ● DOE Data Management Unit ● Contract	USD 150/week internship stipend	Training in procurement for local firms
Capacity Building and Awareness of Climate Risks	Students, Teachers, Parents and members of the community are socially and technically aware of methods for preparing for extreme weather events	● Students, Parents, teachers and community members benefit from gender sensitive awareness activities on climate risks, particularly extreme weather events ● Students, Parents, teachers and community members can conduct self-assessments of climate resilience on their homes and buildings	Mid-project	● Partner with local training institutions and professionals	TBC	
Participatory and	Dissemination of information for increasing	● Train DOE project staff in interfacing with the community (ongoing)	Quarterly	● Integrated Health Outreach	USD 10,000	Photography Website and graphics

Impact areas	Desired outcome	Mitigation measures and monitoring performance indicators	Timeframe	Responsible party	Incremental budget (USD)	Capacity building and training requirements
consultative approach	public awareness creating the local ownership and buy in for this project	● Implement the stakeholder engagement plan (Section 8) ● Host Information Days for students, parents, teachers and community members around climate-proofing buildings	Annual	● Project Coordinator ● Public Awareness and Community Liaison Officer		
B. NEGATIVE – IMPACTS						
Construction phase	Worker and community health and safety concerns	● Appointment of an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents ● Development of an emergency preparedness and response system for construction ● Contractor is required to deliver Site regulations, to include security, safety of the Facilities, gate control, sanitation, medical care, and fire prevention ● Installation of proper signage and interpretation where necessary ● Contractor is required to secure permits, approvals and licenses	Within twenty-eight (28) days after the Effective Date of the contract	● Contractor ● Public Awareness and Community Liaison Officer ● DOE Complaints Officer ● Monitoring and Evaluation Officer (specialist in ESS and Gender impacts)	N/A (included in Tender document)	Training/briefings on ESS and gender impacts

Impact areas	Desired outcome	Mitigation measures and monitoring performance indicators	Timeframe	Responsible party	Incremental budget (USD)	Capacity building and training requirements
		● Conduct workshops with workers on the DOE Complaints and Grievance Mechanism				
Noise Pollution	Better management of noise and vibrations by minimizing disturbances to residents, businesses and the general public	● Provide notice of works to nearby residents and the public ● Avoid scheduling the noisiest civil works activities during sensitive day or early evening hours, where possible ● Maintain machinery to a high standard to reduce noise levels ● Use main roads to transport materials to and from the construction zone ● Enclose stationary small plant and equipment (generators) to reduce noise ● Equip motorized vehicles and equipment with noise reduction parts ● Conduct workshops with workers on the DOE Complaints and Grievance Mechanism ● Conduct community outreach on DOE complaints mechanism	Throughout construction period Stakeholder engagement plan	● Public Awareness and Community Liaison Officer ● DOE Complaint Officer ● Contractor ● Monitoring and Evaluation Officer (specialist in ESS and Gender impacts)	N/A (included in Tender document)	Training/briefings on ESS and gender impacts

Impact areas	Desired outcome	Mitigation measures and monitoring performance indicators	Timeframe	Responsible party	Incremental budget (USD)	Capacity building and training requirements
		● Respond to noise complaints reported during construction				
Ecological impacts referred to will entail impacts on fauna, flora and changes in the micro climate of some sites as well as transfer of pests and diseases.	Minimisation of ecological impacts caused by construction	● No unnecessary clearing of natural vegetation will be encouraged. Where the vegetation must be cleared for, re-vegetation will be encouraged after work is completed. ● Works undertaken in protected areas will be supervised by the Forestry Division. As much as is possible, impact on fauna and flora must be minimized. ● Areas known to be frequent crossing for wildlife should be identified and signs erected to warn drivers. ● No hunting of birds or other wildlife will be permitted by employees ● There must be minimal impact to flora and fauna in the forest area. Policies, rules and regulations of all recognized natural habitats, wetlands and protected areas must be observed and consultation with the Forestry Division and	Throughout construction period Stakeholder engagement plan	● Contractor ● Public Awareness and Community Liaison Officer ● DOE Complaint Officer ● Monitoring and Evaluation Officer (specialist in ESS and Gender impacts)	N/A (included in Tender document)	Training/briefings on ESS and gender impacts

Impact areas	Desired outcome	Mitigation measures and monitoring performance indicators	Timeframe	Responsible party	Incremental budget (USD)	Capacity building and training requirements
		the DOE Nursery staff should be undertaken **prior to construction.** ● No soil must be transported from this area to other areas so as to curtail the spread of the Giant African Snail. ● The wheels of all vehicles involved in soil excavation must be washed of all soils material to curb the transfer of this snail to other areas. ● Landscaping of the roads especially the tourism routes will be encouraged. As much as possible, the use of local plant will be encouraged ● Conduct workshops with workers on the DOE Complaints and Grievance Mechanism ● Conduct community outreach on DOE complaints mechanism				
Increase in greenhouse gas emissions	Minimization of emissions from construction activities	● Supervision of the number of trips scheduled for transporting materials ● Ensure that all construction machinery and vehicles (gasoline and diesel)	Throughout construction period	● Contractor ● Public Awareness and Community Liaison Officer	N/A (included in Tender document)	Training/briefings on ESS and gender impacts

Impact areas	Desired outcome	Mitigation measures and monitoring performance indicators	Timeframe	Responsible party	Incremental budget (USD)	Capacity building and training requirements
		are properly operated and maintained to minimise smoke emissions that result from their use ● Repair malfunctioning equipment immediately or remove from the site ● Construction Supervision Plan, including the number of expected trips needed to transport ● road material ● Maintenance plan for vehicles ● Train workers on management of air pollution from vehicles and machinery ● Conduct workshops with workers on the DOE Complaints and Grievance Mechanism	Stakeholder engagement plan	● DOE Complaint Officer ● Monitoring and Evaluation Officer (specialist in ESS and Gender Impacts)		
Air pollution: Dust nuisance to motorists, pedestrians, businesses, and surrounding properties	To prevent and reduce air pollution	● Train workers on dust minimisation techniques ● Controlled water spraying/sprinkling to active construction areas to suppress dust ● Avoid creating runoff with the application of water at the site(s)	Throughout construction period Stakeholder engagement plan	● Contractor ● Public Awareness and Community Liaison Officer ● DOE Complaint Officer ● Monitoring and Evaluation Officer (specialist	N/A (included in Tender document)	Training/briefings on ESS and gender impacts

Impact areas	Desired outcome	Mitigation measures and monitoring performance indicators	Timeframe	Responsible party	Incremental budget (USD)	Capacity building and training requirements
		● Reduce vehicle speeds per hour on unpaved surfaces ● Do not carry out dust generating activities (excavation, handling and transport of soils) during times of strong winds ● Suspend earthworks operations when visible dust is affecting properties adjoining the road ● Cover inactive areas or rubble to reduce the potential for wind transporting dust ● Stabilize and restore disturbed areas following the completion of project activities ● Record any complaints received regarding dust ● Seal road surface as soon as possible ● Remove loose dirt from construction equipment before it leaves the site ● Vehicles delivering soil materials or transporting them offsite shall be covered to		in ESS and Gender Impacts		

Impact areas	Desired outcome	Mitigation measures and monitoring performance indicators	Timeframe	Responsible party	Incremental budget (USD)	Capacity building and training requirements
		reduce spills and windblown dust ● Vehicle speeds shall be limited to minimize the generation of dust on site and on diversion and access roads ● Conduct workshops with workers on the DOE Complaints and Grievance Mechanism ● Conduct community outreach on DOE complaints mechanism				
Operational phase	Access to water for cleaning panels Maintenance plans including budgets Asset protection during hurricanes	● Contractor is required to deliver Operations and Maintenance Schedules, and Training to be submitted with the Guarantee Test results ● Contractor is required to deliver Insurance Policies including details on the identity of the insurers and the form of the policies	Within ten (10) months	● Contractor ● Regulatory Authority	N/A (included in Tender document)	Sensitize insurance companies about grid-interactive RE systems
Solid waste and hazardous pollution	Imported assets (solar PV and batteries) are properly disposed of or recycled at	● Provisions for proper disposal and/or recycling of solar PV and batteries reflected in Tender documents and legal agreements	During the procurement phase Post-implementation	● Project Coordinator ● DOE legal unit and procurement unit ● Public Awareness and	USD 5,000 per facility	Life cycle analysis Hazardous waste disposal or recycling

Impact areas	Desired outcome	Mitigation measures and monitoring performance indicators	Timeframe	Responsible party	Incremental budget (USD)	Capacity building and training requirements
	their end of life (life cycle analysis)	● Develop partnerships for technical capacity around hazardous waste management ● Facilities develop their Environmental Management Systems (EMS) per the EPMA, 2019 ● Facilities to register EMS Plans in the Environment Registry (EPMA, 2019)	Stakeholder engagement plan	Community Liaison Officer ● Beneficiary facilities ● DOE Project Coordinator for Solar project (Shema Roberts)		Environment Registry Environment Management Systems (ISO 14000)
Public disclosure of ESIA and ESMP	An informed and empowered stakeholder group	● Publish ESIA on DOE website ● Inform beneficiaries of DOE Complaints Mechanism and CDB Complaints Mechanism ● Training to DOE Project Management Unit (PMU) staff who will interface with community members	Within 30 days of CDB No Objection of ESIA Annual	● DOE Project Coordinator	USD 5,000 for training	N/A
Compliance with Building Code	Facilities are in compliance with the Building Code	● Permissions from the Development Control Authority (DCA) for any alterations to buildings to include accessibility for persons with disabilities	During the procurement phase	● DOE Project Coordinator	None	None

Annex 3. Consultations Report – Antigua and Barbuda and St. Lucia.

- **Written by:** ECMC St. Lucia.
- **Exact title of report**: Consultations Report.
- **Date of report:** July 23, 2021.

Executive Summary

This consultation report is a collection of views, insights and recommendations provided by stakeholders identified under the project. Special thanks to all those who participated and shared their experiences.

The purpose and objectives of the consultations were to: (i) obtain from beneficiaries (schools and communities) their specific needs, and potential concerns; (ii) identify gaps in capacities of key stakeholders, communities and vulnerable groups to implement project activities and (iii) identify possible concerns related to potential risks and impacts.

The objectives of the meetings and discussions were to: (i) familiarize stakeholders with the project: its goals, design and expected outcomes; (ii) solicit stakeholder views, concerns, and recommendations on how to improve the resilience of schools and their host communities to climate change impacts, and (iii) introduce stakeholders to Disaster Risk Reduction Education (DRRE) and sensitize them to its importance in promoting school safety. This was all part of assessing climate risk to the educational system and appraising improvement measures that will allow the governments of Antigua and Barbuda and Saint Lucia to submit a funding proposal to potential funding sources to implement these measures.

The methodology involved collection of qualitative data and simple narrative analysis as well as thematic analysis of the data. The main methods for collecting data were interviews - one-on-one conversations, group discussions, and self-administered questionnaires. In-person and virtual modalities facilitated the conversations and the discussions. Twelve (12) schools were selected by the Ministry of Education as potential schools to be ranked, based on vulnerability assessment outcomes and priority of stakeholders:

Infant/Primary - Fond Assau Combined School, Ave Maria Infant School, Ave Maria Primary School, Vieux Fort Infant School, Vieux Fort Primary School, Bexon Primary School, Micoud Primary School, Desruisseaux Combined School, Balata Combined School, Saltibus Combined School, Patience Combined School.

Secondary - Corinth Secondary School.

The findings are captured under the following headings: (i) Specific Needs and Potential Concerns Related to Potential Risks and Impacts; (ii) Gaps in Capacities of Key Stakeholders, Communities, and Vulnerable Groups; and (iii) Views and approaches for DRRE in Schools.

Summary of Findings

Topics	Stakeholders			
	Principals, staff & students Bexon and Vieux Fort Schools	**Ministry of Education - Policy and Implementation**	**Ministry of Education - Management**	**Institutional Partners**
Specific Needs and Potential Concerns Related to Potential Risks and Impacts	Establish standards for school infrastructure and physical plant to comply with certification requirements under the Schools Safety Programme. Collaborate with the Water Resource Management Agency and the Ministry of Agriculture to provide technical guidance and support in the establishment of water storage facilities. Introduce appropriate technology to address defects caused by sea blast. There is a need to enhance the physical image of the school to reflect its status as designated Emergency Shelter. There is a need to get male parents involved in the affairs of the school. Build and sustain community social capital as a climate resilience tool which can be utilized for any community mobilizing effort.	Issued its no objection to the priority ranking of schools recommended by ECMC Ltd. Interventions may need to be prioritized to make the most efficient use of limited financial resources. Before the school can be assigned as a shelter, a complete SCA would need to be conducted.	Establish viable communication links between the contractor and school principal prior to and during works. Because schools are community assets and play a vital role in enhancing community vitality, every effort must be made to make them resilient to climate change. Several schools have potential risks related to access. Consultation with affected parties is required to inform them of mitigation measures.	Fire safety and hazards, compliance with the regulations contained in Sections 233 to 235 of the Labour Code, and the Fire Safety Act. E.g., Fire safety inspections which should be done every 24 months. Establish the quantity for minimum reserves in water storage facilities in schools to serve the school as an institution and as an emergency shelter.
Gaps and Capacities	The necessary resources (including material and technology) should be provided to security and caretaker personnel to enable them to perform their duties in a timely and efficient manner.	Additional financial resources need to be secured in order to address the various major school plant defects which pose a risk to users of the facility.	To address lack of maintenance knowledge training should be provided to principals and all staff (teaching and ancillary – caretakers, security personnel) and parents to enable early identification of defects in school infrastructure for follow-up assessments by the Ministry of Education's Building Officers.	Some communities do not have strong social capacity – social capital, social networks, collective psychological capacity (individual and household positive adaptation behaviour). Training to acquire maintenance knowledge and skills in defects

Topics	Stakeholders			
	Principals, staff & students Bexon and Vieux Fort Schools	**Ministry of Education - Policy and Implementation**	**Ministry of Education - Management**	**Institutional Partners**
			Provide training for teachers in DRR knowledge and skills so that they can deliver the curriculum effectively. In enhancing community adaptive capacity, opportunities should be created for capacity building in community leadership, community mobilization and community organizing, and climate change and resilience knowledge to enable the community to prepare, respond and recover from climate change impacts. A gender transformative approach focused on increasing male participation in the everyday life of the community is critical to enhancing the adaptive capacity of the community.	identification should be provided to staff and students. A rapid assessment of community social capacity should be undertaken; the results of which can inform social impact analysis.
Views and approaches for DRRE	Teachers viewed this initiative as having a multiplier effect due to knowledge and behaviour transfer from school to friends, and family/households. This intended outcome was clearly expressed by student A who said, *"I want my friends, family, and neighbours to know what I have learnt about climate change…"*	The Ministry should consider incorporation of DRRE as a new policy initiative which would inter alia require a review of the current approaches to the informal approach to instruction in DRR via subjects including Social Studies, Geography, and Education for Democratic Citizenship, and its subsequent gradual incorporation into the formal school curriculum.	Heads (Teachers) of School Health and Safety Committees, Saint Lucia. ▪ a unanimous call for including DRRE in schools in Saint Lucia. Participants in the focus group conveyed a clear enthusiasm for including DRRE in the school instructional programme and supported the recommendation for a Teachers' Handbook. ▪ Two major concerns are a) the potential difficulty in integrating DRRE at the secondary level where teachers work in separate departments and do not have control of the class timetable and b) inadequate training and resources for	Stakeholders such as NEMO and Red Cross should be involved in such an initiative as they are key actors in the DRR sector and in a position to support an experiential approach in the delivery of DRRE curriculum.

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Topics	Stakeholders			
	Principals, staff & students Bexon and Vieux Fort Schools	**Ministry of Education - Policy and Implementation**	**Ministry of Education - Management**	**Institutional Partners**
			teachers when new knowledge is introduced to the curriculum. Antigua/Barbuda Stakeholders • two views - distinct and concentrated attention on DRRE should be pursued as opposed to the integrated approach. • a major concern is the lack of consideration given to children with special needs when curricula are being designed. • a key recommendation is that DRRE must be active and relevant by ensuring that students have opportunities to take the lead in building resilience to disasters and climate change.	

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Appendix 1 – List of Stakeholders Consulted

Saint Lucia Stakeholder Meeting and Consultations Held

Category of stakeholders	Stakeholders (Agency, Group, Individual, Participants)	Modality	Date
Ministry of Education Innovation Gender Relations and Sustainable Development (MEIGRSD) – **Policy and Implementation**	***Attendance at Presentation by ECMC Ltd*** Bernez Khodra – MEIGRSD, GOSL/National Designated Entity (NDE) – Health & Safety Officer (HSO) Fiona Phillip-Mayer – MEIGRSD, GOSL/NDE – Chief Education Officer Kendall Khodra – MEIGRSD, GOSL/NDE – Deputy Chief Education Officer Dawson Ragunanan – MEIGRSD, GOSL/NDE – Assessment Officer Kay Clarke Nicholas – MEIGRSD, GOSL/NDE – District VII Education Officer Steven Auguste – MEIGRSD, GOSL/NDE – District VI Education Officer Francellette Laurencin – MEIGRSD, GOSL/NDE – District III Education Officer Keifa Breen – MEIGRSD, GOSL/NDE – Corporate Planning Tracy Dolcy – MEIGRSD, GOSL/NDE – Corporate Planning Adey Paul – MEIGRSD, GOSL/NDE – Principal of Ciceron Secondary School (District IV Education Officer Representative) Alison King – Climate Change/Vulnerability & Disaster Risk Assessment Expert Ezra Jn. Baptiste, PhD. – Gender and Environmental & Social Risks and Impacts Expert Marietta Edward, PhD. – National Strategies (Policies and Plans) Development Expert John Francis – John C. Francis and Associates (JCFA) – Fire Protection Expert Egbert Louis – ECMC – Senior Advisor Catherine Edmund – ECMC – Staff Engineer	Meeting via Web Conferencing	June 1, 2021
(MEIGRSD) – **School Management**	***Attendance at Presentation by ECMC Ltd*** Bernez Khodra – NEMO – School Safety Officer/Liaison Officer Cyrus Cepal – MEIGRSD, GOSL/NDE – District I Education Officer	Meeting via Web Conferencing	June 7, 2021

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Category of stakeholders	Stakeholders (Agency, Group, Individual, Participants)	Modality	Date
	Steven Auguste – MEIGRSD, GOSL/NDE – District VI Education Officer Wayne Benti – MEIGRSD, GOSL/NDE – Babonneau Primary School Vice Principal (District I) Sandy Louisy – MEIGRSD, GOSL/NDE – Fond Assau Combined Principal (District I) Avril Emanus – MEIGRSD, GOSL/NDE – Ave Maria Girl's Infant School Principal (District III) Valerie St. Helen-Henry – MEIGRSD, GOSL/NDE – Ave Maria Girl's Primary School Principal (District III) Marcellina Newton – MEIGRSD, GOSL/NDE – Mon Repos/Patience Combined School Principal Kevin Mathurin – MEIGRSD, GOSL/NDE – Mon Repos/Patience Combined School (District V) Fern Dornelly – MEIGRSD, GOSL/NDE – Micoud Primary School Principal (District V) Examin Philbert – MEIGRSD, GOSL/NDE – Augier Secondary School Principal (District V) Tiffany Auguste – MEIGRSD, GOSL/NDE – Vieux Fort Primary School (District VI) Jacqueline Inglis – MEIGRSD, GOSL/NDE – Desruisseaux Combined Principal (District VI) Joyceline Charles – MEIGRSD, GOSL/NDE – Saltibus Combined Principal (District VII) Peter Daniel – MEIGRSD, GOSL/NDE – Balata Combined Principal (District I) Ayesha Auguste – MEIGRSD, GOSL/NDE – Garcelle Edward – MEIGRSD, GOSL/NDE – Emmanuel Osman – MEIGRSD, GOSL/NDE – Corporate Planning Samanthia Justin – Department of Sustainable Development - Critical Focal Point to CTCN ***In attendance:*** Alison King – Climate Change/Vulnerability & Disaster Risk Assessment Expert Ezra Jn. Baptiste, PhD. – Gender and Environmental & Social Risks and Impacts Expert Marietta Edward, EdD. – National Strategies (Policies and Plans) Development Expert		

Category of stakeholders	Stakeholders (Agency, Group, Individual, Participants)	Modality	Date
	John Francis – John C. Francis and Associates (JCFA) – Fire Protection Expert Egbert Louis – ECMC – Senior Advisor, Moderator Catherine Edmund – ECMC – Staff Engineer		
MEIGRSD - Heads of School Health and Safety Committees	**Teachers present at discussion on Including Disaster Risk Reduction in Schools** Andre Henry – Vieux Fort Infant Aprylle Mitchell – Micoud Primary Avril Emanus – Ave Maria Girls Infant Embert Ricardo Placide – Ave Maria Girls Primary Emmanuel Osman – Saltibus Combined Marcia Francis – Desruisseaux Combined Margarita Mc Farlane – Balata Primary Soloman Alexander – Fond Assau Primary Sophia Mitchell – Corinth Secondary ***In attendance:*** Bernez Khodra – NEMO – School Safety Officer/Liaison Officer Dr. Mariette Edwards – Moderator	In-person Focus Group held at the MEIGRSD Conference Room	June 7, 2021
Institutional	***Attendance at Presentation by ECMC Ltd*** Bernez Khodra – National Emergency Management Offices (NEMO) – School Safety Officer/Liaison Officer Mabius Francis – St. Lucia Fire Service Cheryl St. Romaine – MEIGRSD, GOSL/NDE – Environmental Health Department Serona Leonce – GOSL/NDE – Ministry of Infrastructure, Ports, Energy, and Labour - Department of Labour Alison King – Climate Change/Vulnerability & Disaster Risk Assessment Expert Ezra Jn. Baptiste, PhD. – Gender and Environmental & Social Risks and Impacts Expert Marietta Edward, EdD. – National Strategies (Policies and Plans) Development Expert Egbert Louis – ECMC – Senior Advisor Catherine Edmund – ECMC – Staff Engineer	Meeting via Web Conferencing	June 10, 2021

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Category of stakeholders	Stakeholders (Agency, Group, Individual, Participants)	Modality	Date
Principal – Patience Primary School	Principal – Ms. Marcellina Newton ***In attendance:*** Ezra Jn. Baptiste, Alison King-Joseph, Marietta Edward, Egbert Louis	In-person key informant interview	September 11, 2020
Principal and Staff – Micoud Primary School	Principal – Ms. Fern Dornelly, some staff members ***In attendance:*** Ezra Jn. Baptiste, Alison King-Joseph, Marietta Edward, Egbert Louis	In-person focus group	September 11, 2020
Principal and Staff – Desruisseaux Combined School	Principal – Ms. Jacqueline Inglis ***In attendance:*** Ezra Jn. Baptiste, Alison King-Joseph, Marietta Edward, Egbert Louis	In-person key informant interview	September 11, 2020
Principal, Staff, and Students – Bexon Combined School	Principal – Ms. Ancie Albert	In-person interview with Principal	September 8, 2020
	Principal and some Staff Members Selected Students: **Males:** Dacius Prince, Jiovanni Clericin, Danzy DuPlessis, Jean Quan Peter **Females:** Shaynia Paul, Chardia Duplessis, Laria Ferdinand, Christa Belony Teachers: Ancie Albert-St. Hill (Principal), Sharon Alfred, Glenda Khodra-Momorelle, Kirby Joseph ***In attendance:*** Mariette Edwards, Alison King, Bernez Khodra, Ezra Jn. Baptiste	In-person focus group	June 10, 2021
Principal, Staff, and Students – Vieux Fort Primary School	Principal – Mr. Francis Moonie Some Staff Members and some students. ***In attendance:*** Mariette Edwards, Alison King, Bernez Khodra, Ezra Jn. Baptiste, Egbert Louis	In-person focus group	June 11, 2021
Principal – Vieux Fort Infant School	Principal – Ms. Olivia Marcellin (was not available) Staff Member representing the Principal – Mr. Jeaneau Martelli ***In attendance:*** Ezra Jn. Baptiste, Alison King-Joseph, Marietta Edward	In-person interview with a staff member on behalf of the Principal	June 11, 2021

Category of stakeholders	Stakeholders (Agency, Group, Individual, Participants)	Modality	Date
		Virtual interview conducted on November 27, 2020	
Vice-Principal – Corinth Secondary School	Vice-Principal – Ms. Albertha Gilliard ***In attendance:*** Alison King, Ezra Jn. Baptiste, Catherine Edmund	Virtual interview	November 26, 2020
Principal – Saltibus Combined School	Principal – Ms. Joyceline Charles ***In attendance:*** Alison King, Ezra Jn. Baptiste, Catherine Edmund	Virtual interview	November 26, 2020
Principal – Ave Maria Primary School;	Principal – Ms. Valerie St. Hill ***In attendance:*** Alison King, Ezra Jn. Baptiste, Catherine Edmund	Virtual Interview	November 26, 2020
Principal – Ave Maria Infant School	Principal (Ag) – Ms. Avril Emmanus ***In attendance:*** Alison King, Ezra Jn. Baptiste, Catherine Edmund	Virtual Interview	November 27, 2020
Principal – Fond Assau Primary School	Principal – Ms. S. Louisy ***In attendance:*** Alison King-Joseph, Marietta Edwards, Egbert Louis, Ezra Jn. Baptiste	In-person interview	September 8, 2020
Principal – Balata Primary School	Principal – Peter Daniel ***In attendance:*** Alison King-Joseph, Marietta Edwards, Egbert Louis, Ezra Jn. Baptiste	In-person interview	September 8, 2020

Appendix 2 - Antigua & Barbuda Stakeholder Meetings and Discussion

Attendance Register – June 29, 2021		
Name	**Designation**	**Contact**
Marietta Edward	DRR Component Lead, ECMC Ltd.	edwardmarietta@gmail.com
Christa-Joy Burton	Project Development Lead/Project Officer, DOE	Christajoy.burton@ab.gov.ag
Craig Cole	Technical Officer, DOE	Craig.cole@ab.gov.ag
Shania Bejai	Lead for School Assessments/Intern, DOE	Shaniabejai1299@gmail.com
Randell Pyle	Ministry of Works/Safe Schools Committee	Randell.pyle@ab.gov.ag
E. Jonah Greene	Ministry of Education/Safe Schools Committee	ejonah.greene@ab.gov.ag
	Jennings Primary School	Jps_school@hotmail.com
Rolston Nickeo	Chairman, National Safe Schools Committee/Ministry of Education	rnickeo@yahoo.com
Kelly Hedges	Principal, Victory Centre	kellylynnhedges@gmail.com
Kadian Camacho	Ministry of Education/Safe Schools Committee	kadiancamacho@yahoo.com
Allison Ledeatte	Teacher Zone Two, New Field/Safe School Committee	alybaba24@msn.com
Jose Joseph	Bendalls Primary	bendalsprimaryschool@yahoo.com
Alvacea Burton	Ministry of Education	alvaceaburton@gmail.com
Anthea Anthony	Teacher Zone Four/Safe School Committee	m.e.p.school@hotmail.com antheaanthony468@gmail.com
Sonilda Burton	Zone Three Teacher/Safe Schools Committee	sonildab@yahoo.com
Carol Lashley	Principal, Sea View Farm primary	seaviewfarmprimary@gmail.com
Denese Parker	Denese Parker	urlingsprimaryschool@gmail.com
Mignon Joseph	Principal, Greenbay Preschool	mignonjoseph61@gmail.com
Jasinter Athill	Principal, Potters Primary	pottersprimary@gmail.com
Shyka Lucky-Hannays	Principal, St. John's Catholic Primary	sjcpsprimary@gmail.com
Foster Roberts	Principal, Ottos Comprehensive Secondary/Safe Schools Committee	fosterroberts@yahoo.com

Attendance Register – June 29, 2021		
Donald Joshua	Principal, Parham Primary	parhamprimary@gmail.com
Chaka Grant	Zone Two Teacher, Willikies School/Safe Schools Committee	chakagrant@yahoo.com
Delia Auguiste-Laville	Supervisor, St John's Catholic Pre-school	d.auguiste-laville@sjcp.edu.ag
Diana Edwards-Martin	National PTA/Safe Schools Committee	diandivine@gmail.com
Joycelyn James	ABUT/Safe Schools Committee	stress_release@yahoo.com
Dion Tuitt	Apprentice, DOE	diontuitt@gmail.com
Jessie Purcell	Ministry of Education/Safe Schools Committee	jessiegeorge98@hotmail.com
Desiree Antonio	Ministry of Education/Safe Schools Committee	Zone3education@gmail.com
Stacey Mascall	Ministry of Education/Safe Schools Committee	stacymascall@hotmail.com

Antigua & Barbuda Attendance Register – July 6, 2021		
Name	**Designation**	**Contact**
Shara Quinn	Principal, Piggot's Primary	pigottsprimaryschool@yahoo.com
Rolston Nickeo	Chairman, National Safe Schools Committee/Ministry of Education	rnickeo@yahoo.com
Dion Tuitt	Apprentice, DOE	diontuitt@gmail.com
Collin Greene	Principal, Princess Margaret Secondary	pmschool1955@gmail.com
Mervin Browne	Board of Education/Safe Schools Committee	mbrowne@apuainet.ag
Mr. Hodge	Principal, All Saints Secondary	allsaintssecondaryschool@gmail.com
Christa-Joy Burton	Project Development Lead/Project Officer, DOE	Christajoy.burton@ab.gov.ag
Marietta Edward	DRR Component Lead, ECMC Ltd.	edwardmarietta@gmail.com
Shanice Richards	Intern, DOE	Shanicerichards97@gmail.com
Rannardo Douglas	Intern, DOE	rannardo@gmail.com
Letitia Harris-Lawrence	Principal, Pares Secondary	paressecondaryschool@gmail.com
Leah Robinson	Principal, C.T. Samuel Primary	2013ctsamuelprimaryschool@gmail.com

Kaye Tomlinson	Ministry of Health	dmonkay@yahoo.com
Denise Solomon	Principal, Jennings Primary School	Jps_school@hotmail.com
Jacqueline Azille-Joseph	TBA	TBA
Eloise Hughes	Ministry of Education, Safe Schools Committee	esilston@hotmail.com
Ms. Andrea Richards	Principal, Adele School	specialadele@gmail.com
Sheresa Knowles	Teacher Zone Three: C.T Samuel Primary, Safe Schools Committee	gloriousme_454@hotmail.com

Annex 4. Schools' Work Packages – Antigua and Barbuda.

- **Written by:** The Project Management Unit (PMU) of the Department of Environment, Ministry of Health, Wellness and the Environment.
- **Exact title of report**: Consultations Report.
- **Date of report:** July 13, 2022.

As part of the effort of the Department of Environment of Antigua and Barbuda related to the country's school system, 15 work packages comprising interventions to increase the schools' resilience and capacity to function as emergency shelters were developed, moving forward the possible interventions, prior to a grant process opening once funds are made available.

School		Total (USD)
Jennings Primary	$	332,406.28
Piggots Primary	$	307,589.45
Parham Primary	$	170,150.43
Grace Christian Academy	$	257,549.20
Christ the King High School	$	287,428.25
St. John's Catholic Primary	$	335,240.03
St. John's Catholic Pre-School	$	127,182.91
Villa Pre-school	$	77,892.25
Simon Bolivar Pre-School	$	90,916.69
Early Learning Centre	$	96,581.46
Bright Beginnings Pre-school	$	90,111.14
Princess Margaret Secondary	$	376,734.54
Salvation Army	$	135,915.50
Beacon Light Nazarene Academy	$	151,906.41
Montessori Preschool	$	143,557.32
Total	**$**	**2,981,161.85**

Jennings Primary

Task no.	Description Intervention/Improvement	Unit	Quantity	Unit Rate (USD)	Total (USD)
DC-01	**Alternative Energy**	**sum**	**1**	**$ 130,000.00**	**$130,000.00**
	Perform Energy audit				
	PV System design and scaling				
	Procurement and install PV system components and battery				
	Routine repairs and maintenance of system				
DC-02	**HVAC Systems**	**sum**	**5**	**$ 1,700.00**	**$ 8,500.00**
	Allow for supply and installation of inverter AC units and LED				
	Allow for routine maintenance and servicing of AC units				
	Allow for the supply and installation of ceiling fans				
DC-03	**Information Technology**	**sum**	**1**	**$ 3,200.00**	**$ 3,200.00**
	Install an intercom system for each school				
DC-04	**Construction of timber hip roof; framed with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board and covered with trapezoidal 24 gauge galvanized sheets with hurricane clips at every connection at the eaves, hips, ridges and rafters of hip roof for the resistance of hurricane force winds**	**m2**	**364**		**$ 57,593.78**
	Develop site-specific for roof design capable of resisting category 5 hurricanes	sum	1	$ 2,028.28	$ 2,028.28
	Demolition and Removal of Existing Roof Gable Roof	sum	1	$ 15,000.00	$ 15,000.00
	Construct Frame for timber hip roof; with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board with hurricane clips at every connection	m2	364	$ 95.50	$ 34,762.00
	Procure and install waterproofing membrane	m2	362	$ 2.50	$ 905.00
	Securing 24 gauge ridge capping	m	41	$ 8.50	$ 348.50
	Securing roof deck and replace roof covering gauge 24 sheets as a minimum	m2	364	$ 12.50	$ 4,550.00
	4				
DC-05	**Doors, Windows & Shutters**	**sum**	**1**		**$125,027.50**
	Removal of windows and doors to be replaced	sum	1	$ 10,000.00	$ 10,000.00
	Installation of 36" x 36" high-impact hurricane resistant casement windows	ea	45	$ 930.50	$ 41,872.50
	Installation of 36" x 78" high-impact hurricane swing door	ea	14	$ 2,800.00	$ 39,200.00
	Installation of 36" x 36" accordion shutters	ea	45	$ 375.00	$ 16,875.00
	Installation of 36" x 78" inverted manual rollershutter	ea	14	$ 1,220.00	$ 17,080.00
DC-06	**Water Harvesting & Water Storage**	**sum**	**1**		**$ 8,085.00**
	Design water harvesting and water storage solutions	sum	1		$ 1,000.00
	Remove damaged PVC roof spouting, brackets, downpipes, running outlet, stop and replace with square shaped 24 gauge glavanize spouting and metal fittings	m	79	$ 65.00	$ 5,135.00
	Procurement and installation of additional potable water storage 1000 gallon tanks	nr	2	$ 975.00	$ 1,950.00
DC-07	Design Site Environment Management Plan (SEMP) Reports	sum	1	$ 2,000.00	$ 2,000.00
	Design and conduct education campaigns		1	$ 2,500.00	$ 2,500.00
				Total	**$332,406.28**

Piggots Primary

Task no.	Intervention/Improvement	Unit	Quantity	Unit Rate (USD)	Total (USD)
DC-01	**Alternative Energy**	sum	1	$ 150,000.00	**$ 150,000.00**
	Perform Energy audit				
	PV System design and scaling				
	Procurement of PV system components and battery				
	Installation of PV systems with battery backup				
	Routine repairs and maintenance of system				
DC-02	**HVAC Systems**	sum	5	$ 2,700.00	**$ 13,500.00**
	Allow for supply and installation of inverter AC units and LED				
	Allow for routine maintenance and servicing of AC units				
	Allow for the supply and installation of ceiling fans				
DC-03	**Information Technology**		1	$ 3,200.00	**$ 3,200.00**
	Install an intercom system for each school				
DC-04	**Construction of timber hip roof; framed with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board and covered with trapezoidal 24 gauge galvanized sheets with hurricane clips at every connection at the eaves, hips, ridges and rafters of hip roof for the resistance of hurricane force winds**	**m2**	**297**		**$ 49,753.95**
	Develop site-specific for roof design capable of resisting category 5 hurricanes		1	$ 1,654.95	$ 1,654.95
	Demolition and Removal of Existing Roof Gable Roof	sum	1	$ 15,000.00	$ 15,000.00
	Construct Frame for timber hip roof; with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board with hurricane clips at every connection	m2	297	$ 95.50	$ 28,363.50
	Procure and install waterproofing membrane	m2	297	$ 2.50	$ 742.50
	Securing 24 gauge ridge capping	m	33	$ 8.50	$ 280.50
	Securing roof deck and replace roof covering gauge 24 sheets as a minimum	m2	297	$ 12.50	$ 3,712.50
DC-05	**Doors, Windows & Shutters**	**sum**	**1**		**$ 82,595.50**
	Removal of windows and doors to be replaced	sum	1	$ 10,000.00	$ 10,000.00
	Installation of 24" x 24" high-impact hurricane resistant awning window	ea	6	$ 700.00	$ 4,200.00
	Installation of 36" x 48" high-impact hurricane resistant sing-hung window	ea	11	$ 1,080.00	$ 11,880.00
	Installation of 36" x 36" high-impact hurricane resistant casement window	ea	20	$ 930.50	$ 18,610.00
	Installation of 36" x 78" high-impact hurricane swing door	ea	6	$ 2,800.00	$ 16,800.00
	Installation of 24" x 24" accordion shutters	ea	6	$ 185.00	$ 1,110.00
	Installation of 36" x 48" accordion shutters	ea	11	$ 470.50	$ 5,175.50
	Installation of 36" x 36" accordion shutters	ea	20	$ 375.00	$ 7,500.00
	Installation of 36" x 78" inverted manual rollershutter	ea	6	$ 1,220.00	$ 7,320.00
DC-06	**Water Harvesting & Water Storage**	**sum**	**1**		**$ 8,540.00**
	Design water harvesting and water storage solutions	sum	1	$ 1,000.00	$ 1,000.00
	Remove damaged PVC roof spouting, brackets, downpipes, running outlet, stop and replace with square shaped 24 gauge glavanize spouting and metal fittings	m	86	$ 65.00	$ 5,590.00
	Procurement and installation of additional potable water storage 1000 gallon tanks	nr	2	$ 975.00	$ 1,950.00
DC-07	Design Site Environment Management Plan (SEMP) Reports		1	2000	**$ 2,000.00**
	Design and conduct education campaigns		1	2000	**$ 2,000.00**
				Total	**$ 307,589.45**

Parham Primary

Task no.	Intervention/Improvement	Unit	Quantity	Unit Rate (USD)	Total (USD)
DC-01	**HVAC Systems**	sum	10	$ 2,700.00	**$ 27,000.00**
	Allow for supply and installation of inverter AC units and LED				
	Allow for routine maintenance and servicing of AC units				
	Allow for the supply and installation of ceiling fans				
DC-02	**Information Technology**	sum	1	$ 3,200.00	**$ 3,200.00**
	Install an intercom system for each school				
DC-03	**Construction of timber hip roof; framed with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board and covered with trapezoidal 24 gauge galvanized sheets with hurricane clips at every connection at the eaves, hips, ridges and rafters of hip roof for the resistance of hurricane force winds**	**m2**	**396**		**$ 66,240.43**
	Develop site-specific for roof design capable of resisting category 5 hurricanes		1	$ 2,201.93	$ 2,201.93
	Demolition and Removal of Existing Roof Gable Roof	sum	1	$ 20,000.00	$ 20,000.00
	Construct Frame for timber hip roof; with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board with hurricane clips at every connection	m2	396	$ 95.50	$ 37,818.00
	Procure and install waterproofing membrane	m2	396	$ 2.50	$ 990.00
	Securing 24 gauge ridge capping	m	33	$ 8.50	$ 280.50
	Securing roof deck and replace roof covering gauge 24 sheets as a minimum	m2	396	$ 12.50	$ 4,950.00
DC-04	**Doors, Windows & Shutters**	**sum**	**1**		**$ 64,780.00**
	Removal of windows and doors to be replaced	sum	1	$ 5,000.00	$ 5,000.00
	Installation of 36" x 72" high-impact hurricane resistant casement windows	ea	8	$ 1,370.00	$ 10,960.00
	Installation of 36" x 78" high-impact hurricane swing door	ea	11	$ 2,800.00	$ 30,800.00
	Installation of 36" x 72" accordion shutters	ea	8	$ 575.00	$ 4,600.00
	Installation of 36" x 78" inverted manual rollershutter	ea	11	$ 1,220.00	$ 13,420.00
DC-05	**Water Harvesting & Water Storage**	**sum**	**1**		**$ 8,930.00**
	Design water harvesting and water storage solutions	sum	1	$ 1,000.00	$ 1,000.00
	Remove damaged PVC roof spouting, brackets, downpipes, running outlet, stop and replace with square shaped 24 gauge glavanize spouting and metal fittings	m	92	$ 65.00	$ 5,980.00
	Procurement and installation of additional potable water storage 1000 gallon tanks	nr	2	$ 975.00	$ 1,950.00
DC-06	Design Site Environment Management Plan (SEMP) Reports	sum	1	$ 2,000.00	$ 2,000.00
	Design and conduct education campaigns		1	$ 2,500.00	$ 2,500.00
				Total	**$ 170,150.43**

Christ the King High School

Task no.	Intervention/Improvement	Unit	Quantity	Unit Rate (USD)	Total (USD)
DC-01	**Alternative Energy**		1	$ 150,000.00	**$ 150,000.00**
	Perform Energy audit				
	PV System design and scaling				
	Procurement of PV system components and battery				
	Installation of PV systems with battery backup				
	Routine repairs and maintenance of system				
DC-02	**HVAC Systems**		8	$ 2,700.00	**$ 21,600.00**
	Allow for supply and installation of inverter AC units and LED				
	Allow for routine maintenance and servicing of AC units				
	Allow for the supply and installation of ceiling fans				
DC-03	**Information Technology**		1	$ 3,200.00	**$ 3,200.00**
	Install an intercom system for each school				
DC-04	**Construction of timber hip roof; framed with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board and covered with trapezoidal 24 gauge galvanized sheets with hurricane clips at every connection at the eaves, hips, ridges and rafters of hip roof for the resistance of hurricane force winds**	**m2**	**315**		**$ 56,860.25**
	Develop site-specific for roof design capable of resisting category 5 hurricanes		1	$ 1,755.25	$ 1,755.25
	Demolition and Removal of Existing Roof Gable Roof	sum	1	$ 20,000.00	$ 20,000.00
	Construct Frame for timber hip roof; with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board with hurricane clips at every connection	m2	315	$ 95.50	$ 30,082.50
	Procure and install waterproofing membrane	m2	315	$ 2.50	$ 787.50
	Securing 24 gauge ridge capping	m	35	$ 8.50	$ 297.50
	Securing roof deck and replace roof covering gauge 24 sheets as a minimum	m2	315	$ 12.50	$ 3,937.50
DC-05	**Doors, Windows & Shutters**	**sum**	**1**		**$ 46,968.00**
	Removal of windows and doors to be replaced	sum	1	$ 10,000.00	$ 10,000.00
	Installation of 36" x 48" high-impact hurricane resistant casement windows	ea	16	$ 930.50	$ 14,888.00
	Installation of 36" x 78" high-impact hurricane swing door	ea	4	$ 2,800.00	$ 11,200.00
	Installation of 36" x 48" accordion shutters	ea	16	$ 375.00	$ 6,000.00
	Installation of 36" x 78" inverted manual rollershutter	ea	4	$ 1,220.00	$ 4,880.00
DC-06	**Water Harvesting & Water Storage**	**sum**	**1**		**$ 8,800.00**
	Design water harvesting and water storage solutions	sum	1	$ 1,000.00	$ 1,000.00
	Remove damaged PVC roof spouting, brackets, downpipes, running outlet, stop and replace with square shaped 24 gauge glavanize spouting and metal fittings	m	90	$ 65.00	$ 5,850.00
	Procurement and installation of additional potable water storage 1000 gallon tanks	nr	2	$ 975.00	$ 1,950.00
DC-07	Design Site Environment Management Plan (SEMP) Reports	sum	1	$ 2,000.00	$ 2,000.00
	Design and conduct education campaigns		1	$ 2,500.00	$ 2,500.00
				Total	**$ 287,428.25**

Grace Christian Academy

Task no.	Intervention/Improvement	Unit	Quantity	Unit Rate (USD)	Total (USD)
DC-01	**Alternative Energy**	sum	1	$ 100,000.00	**$ 100,000.00**
	Perform Energy audit				
	PV System design and scaling				
	Procurement of PV system components and battery				
	Installation of PV systems with battery backup				
	Routine repairs and maintenance of system				
DC-02	**HVAC Systems**	sum	8	$ 2,700.00	**$ 21,600.00**
	Allow for supply and installation of inverter AC units and LED				
	Allow for routine maintenance and servicing of AC units				
	Allow for the supply and installation of ceiling fans				
DC-03	**Information Technology**	sum	1	$ 3,200.00	**$ 3,200.00**
	Install an intercom system for each school				
DC-04	**Construction of timber hip roof; framed with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board and covered with trapezoidal 24 gauge galvanized sheets with hurricane clips at every connection at the eaves, hips, ridges and rafters of hip roof for the resistance of hurricane force winds**	**m2**	**338**		**$ 59,448.50**
	Develop site-specific for roof design capable of resisting category 5 hurricanes		1	$ 1,878.50	$ 1,878.50
	Demolition and Removal of Existing Roof Gable Roof	sum	1	$ 20,000.00	$ 20,000.00
	Construct Frame for timber hip roof; with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board with hurricane clips at every connection	m2	338	$ 95.50	$ 32,279.00
	Procure and install waterproofing membrane	m2	338	$ 2.50	$ 845.00
	Securing 24 gauge ridge capping	m	26	$ 8.50	$ 221.00
	Securing roof deck and replace roof covering gauge 24 sheets as a minimum	m2	338	$ 12.50	$ 4,225.00
DC-05	**Doors, Windows & Shutters**	**sum**	**1**		**$ 58,717.50**
	Removal of windows and doors to be replaced	sum	1	$ 10,000.00	$ 10,000.00
	Installation of 36" x 36" high-impact hurricane resistant casement windows	ea	25	$ 930.50	$ 23,262.50
	Installation of 36" x 78" high-impact hurricane swing door	ea	4	$ 2,800.00	$ 11,200.00
	Installation of 36" x 36" accordion shutters	ea	25	$ 375.00	$ 9,375.00
	Installation of 36" x 78" inverted manual rollershutter	ea	4	$ 1,220.00	$ 4,880.00
DC-06	**Water Harvesting & Water Storage**	**sum**	**1**		**$ 14,583.20**
	Design water harvesting and water storage solutions	sum	1	$ 1,000.00	$ 1,000.00
	Remove damaged PVC roof spouting, brackets, downpipes, running outlet, stop and replace with square shaped 24 gauge glavanize spouting and metal fittings	m	80	$ 169.79	$ 13,583.20
DC-07	Design Site Environment Management Plan (SEMP) Reports	sum	1	$ 2,000.00	$ 2,000.00
	Design and conduct education campaigns		1	$ 2,500.00	$ 2,500.00
				Total	**$ 257,549.20**

St. John's Catholic Primary

Task no.	Intervention/Improvement	Unit	Quantity	Unit Rate (USD)	Total (USD)
DC-01	**Alternative Energy**	sum	1	$ 100,000.00	**$ 100,000.00**
	Perform Energy audit				
	PV System design and scaling				
	Procurement of PV system components and battery				
	Installation of PV systems with battery backup				
	Routine repairs and maintenance of system				
DC-02	**HVAC Systems**	sum	6	$ 1,700.00	**$ 10,200.00**
	Allow for supply and installation of inverter AC units and LED				
	Allow for routine maintenance and servicing of AC units				
	Allow for the supply and installation of ceiling fans				
DC-03	**Information Technology**	sum	1	$ 3,200.00	**$ 3,200.00**
	Install an intercom system for each school				
DC-04	**Construction of timber hip roof; framed with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board and covered with trapezoidal 24 gauge galvanized sheets with hurricane clips at every connection at the eaves, hips, ridges and rafters of hip roof for the resistance of hurricane force winds**	**m2**	**459**		**$ 83,710.65**
	Develop site-specific for roof design capable of resisting category 5 hurricanes		1	$ 2,557.65	$ 2,557.65
	Demolition and Removal of Existing Roof Gable Roof	sum	1	$ 30,000.00	$ 30,000.00
	Construct Frame for timber hip roof; with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board with hurricane clips at every connection	m2	459	$ 95.50	$ 43,834.50
	Procure and install waterproofing membrane	m2	459	$ 2.50	$ 1,147.50
	Securing 24 gauge ridge capping	m	51	$ 8.50	$ 433.50
	Securing roof deck and replace roof covering gauge 24 sheets as a minimum	m2	459	$ 12.50	$ 5,737.50
DC-05	**Doors, Windows & Shutters**	**sum**	**1**		**$ 114,465.00**
	Removal of windows and doors to be replaced	sum	1	$ 15,000.00	$ 15,000.00
	Installation of 36" x 36" high-impact hurricane resistant casement windows	ea	30	$ 930.50	$ 27,915.00
	Installation of 36" x 78" high-impact hurricane swing door	ea	15	$ 2,800.00	$ 42,000.00
	Installation of 36" x 36" accordion shutters	ea	30	$ 375.00	$ 11,250.00
	Installation of 36" x 78" inverted manual rollershutter	ea	15	$ 1,220.00	$ 18,300.00
DC-06	**Water Harvesting & Water Storage**	**sum**	**1**		**$ 23,664.38**
	Design water harvesting and water storage solutions	sum	1	$ 1,000.00	$ 1,000.00
	Remove damaged PVC roof spouting, brackets, downpipes, running outlet, stop and replace with square shaped 24 gauge glavanize spouting and metal fittings	m	122	$ 169.79	$ 20,714.38
	Procurement and installation of additional potable water storage 1000 gallon tanks	nr	2	$ 975.00	$ 1,950.00
DC-07	Design Site Environment Management Plan (SEMP) Reports	sum	1	$ 2,000.00	$ 2,000.00
	Design and conduct education campaigns		1	$ 2,500.00	$ 2,500.00
				Total	**$ 335,240.03**

St. John's Catholic Pre-School

Task no.	Intervention/Improvement	Unit	Quantity	Unit Rate (USD)	Total (USD)
DC-01	**Alternative Energy**	sum	1	$ 50,000.00	$ 50,000.00
	Perform Energy audit				
	PV System design and scaling				
	Procurement of PV system components and battery				
	Installation of PV systems with battery backup				
	Routine repairs and maintenance of system				
DC-02	**HVAC Systems**	sum	2	$ 1,700.00	$ 3,400.00
	Allow for supply and installation of inverter AC units and LED				
	Allow for routine maintenance and servicing of AC units				
	Allow for the supply and installation of ceiling fans				
DC-03	**Information Technology**				$ -
	Install an intercom system for each school				
DC-04	**Construction of timber hip roof; framed with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board and covered with trapezoidal 24 gauge galvanized sheets with hurricane clips at every connection at the eaves, hips, ridges and rafters of hip roof for the resistance of hurricane force winds**	**m2**	**144**		**$ 26,868.25**
	Develop site-specific for roof design capable of resisting category 5 hurricanes		1	$ 803.25	$ 803.25
	Demolition and Removal of Existing Roof Gable Roof	sum	1	$ 10,000.00	$ 10,000.00
	Construct Frame for timber hip roof; with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board with hurricane clips at every connection	m2	144	$ 95.50	$ 13,752.00
	Procure and install waterproofing membrane	m2	144	$ 2.50	$ 360.00
	Securing 24 gauge ridge capping	m	18	$ 8.50	$ 153.00
	Securing roof deck and replace roof covering gauge 24 sheets as a minimum	m2	144	$ 12.50	$ 1,800.00
DC-05	**Doors, Windows & Shutters**	**sum**	**1**		**$ 36,746.00**
	Removal of windows and doors to be replaced	sum	1	$ 5,000.00	$ 5,000.00
	Installation of 36" x 36" high-impact hurricane resistant casement windows	ea	12	$ 930.50	$ 11,166.00
	Installation of 36" x 78" high-impact hurricane swing door	ea	4	$ 2,800.00	$ 11,200.00
	Installation of 36" x 36" accordion shutters	ea	12	$ 375.00	$ 4,500.00
	Installation of 36" x 78" inverted manual rollershutter	ea	4	$ 1,220.00	$ 4,880.00
DC-06	**Water Harvesting & Water Storage**	**sum**	**1**		**$ 10,168.66**
	Design water harvesting and water storage solutions	sum	1	$ 1,000.00	$ 1,000.00
	Remove damaged PVC roof spouting, brackets, downpipes, running outlet, stop and replace with square shaped 24 gauge glavanize spouting and metal fittings	m	54	$ 169.79	$ 9,168.66
DC-07	Design Site Environment Management Plan (SEMP) Reports	sum	1	$ 2,000.00	$ 2,000.00
	Design and conduct education campaigns		1	$ 2,500.00	$ 2,500.00
				Total	**$ 127,182.91**

Villa Pre-school

Task no.	Intervention/Improvement	Unit	Quantity	Unit Rate (USD)	Total (USD)
DC-01	**HVAC Systems**	sum	5	$ 1,700.00	**$ 8,500.00**
	Allow for supply and installation of inverter AC units and LED				
	Allow for routine maintenance and servicing of AC units				
	Allow for the supply and installation of ceiling fans				
DC-02	**Information Technology**				$ -
	Install an intercom system for each school				
DC-03	**Construction of timber hip roof; framed with 2"x 8" rafters, 2" x 10" double plated ridge board, 2" x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board and covered with trapezoidal 24 gauge galvanized sheets with hurricane clips at every connection at the eaves, hips, ridges and rafters of hip roof for the resistance of hurricane force winds**	**m2**	**225**		**$ 41,328.75**
	Develop site-specific for roof design capable of resisting category 5 hurricanes		1	$ 1,253.75	$ 1,253.75
	Demolition and Removal of Existing Roof Gable Roof	sum	1	$ 15,000.00	$ 15,000.00
	Construct Frame for timber hip roof; with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board with hurricane clips at every connection	m2	225	$ 95.50	$ 21,487.50
	Procure and install waterproofing membrane	m2	225	$ 2.50	$ 562.50
	Securing 24 gauge ridge capping	m	25	$ 8.50	$ 212.50
	Securing roof deck and replace roof covering gauge 24 sheets as a minimum	m2	225	$ 12.50	$ 2,812.50
DC-04	**Doors, Windows & Shutters**	**sum**	**1**		**$ 20,563.50**
	Removal of windows and doors to be replaced	sum	1	$ 2,500.00	$ 2,500.00
	Installation of 36" x 36" high-impact hurricane resistant casement window	ea	7	$ 930.50	$ 6,513.50
	Installation of 24" x 24" high-impact hurricane resistant awning window	ea	1	$ 700.00	$ 700.00
	Installation of 36" x 78" high-impact hurricane swing door	ea	2	$ 2,800.00	$ 5,600.00
	Installation of 36" x 36" accordion shutters	ea	7	$ 375.00	$ 2,625.00
	Installation of 24" x 24" accordion shutters	ea	1	$ 185.00	$ 185.00
	Installation of 36" x 78" inverted manual rollershutter	ea	2	$ 1,220.00	$ 2,440.00
DC-06	**Water Harvesting & Water Storage**	**sum**	**1**		**$ 7,500.00**
	Design water harvesting and water storage solutions	sum	1	$ 1,000.00	$ 1,000.00
	Remove damaged PVC roof spouting, brackets, downpipes, running outlet, stop and replace with square shaped 24 gauge glavanize spouting and metal fittings	m	70	$ 65.00	$ 4,550.00
	Procurement and installation of additional potable water storage 1000 gallon tanks	nr	2	$ 975.00	$ 1,950.00
DC-07	Design Site Environment Management Plan (SEMP) Reports	sum	1	$ 2,000.00	$ 2,000.00
	Design and conduct education campaigns		1	$ 2,500.00	$ 2,500.00
				Total	**$ 77,892.25**

Simon Bolivar Pre-School

Task no.	Intervention/Improvement	Unit	Quantity	Unit Rate (USD)	Total (USD)
DC-01	**Alternative Energy**	sum	1	$ 30,000.00	**$ 30,000.00**
	Perform Energy audit				
	PV System design and scaling				
	Procurement of PV system components and battery				
	Installation of PV systems with battery backup				
	Routine repairs and maintenance of system				
DC-02	**HVAC Systems**	sum	2	$ 1,700.00	**$ 3,400.00**
	Allow for supply and installation of inverter AC units and LED				
	Allow for routine maintenance and servicing of AC units				
	Allow for the supply and installation of ceiling fans				
DC-03	**Information Technology**				**$ -**
	Install an intercom system for each school				
DC-05	**Doors, Windows & Shutters**	**sum**	**1**		**$ 53,950.00**
	Removal of windows and doors to be replaced	sum	1	$ 10,000.00	$ 10,000.00
	Installation of 24" x 24" high-impact hurricane resistant single hung window	ea	21	$ 700.00	$ 14,700.00
	Installation of 36" x 78" high-impact hurricane swing door	ea	7	$ 2,800.00	$ 19,600.00
	Installation of 24" x 24" accordion shutters	ea	6	$ 185.00	$ 1,110.00
	Installation of 36" x 78" inverted manual rollershutter	ea	7	$ 1,220.00	$ 8,540.00
DC-06	**Water Harvesting & Water Storage**	**sum**			**$ 3,566.69**
	Design water harvesting and water storage solutions	sum	1	$ 1,000.00	$ 1,000.00
	Procurement and installation of additional potable water storage 1000 gallon tanks	ea	1	2566.69	**$ 2,566.69**
DC-07	Design Site Environment Management Plan (SEMP) Reports	sum	1	$ 2,000.00	$ 2,000.00
	Design and conduct education campaigns		1	$ 2,500.00	$ 2,500.00
				Total	**$ 90,916.69**

Early Learning Centre

Task no.	Intervention/Improvement	Unit	Quantity	Unit Rate (USD)	Total (USD)
DC-01	**Alternative Energy**	sum	1	$ 30,000.00	**$ 30,000.00**
	Perform Energy audit				
	PV System design and scaling				
	Procurement of PV system components and battery				
	Installation of PV systems with battery backup				
	Routine repairs and maintenance of system				
DC-02	**HVAC Systems**	sum	1	$ 1,700.00	**$ 1,700.00**
	Allow for supply and installation of inverter AC units and LED				
	Allow for routine maintenance and servicing of AC units				
	Allow for the supply and installation of ceiling fans				
DC-03	**Information Technology**				**$ -**
	Install an intercom system for each school				
DC-04	**Construction of timber hip roof; framed with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board and covered with trapezoidal 24 gauge galvanized sheets with hurricane clips at every connection at the eaves, hips, ridges and rafters of hip roof for the resistance of hurricane force winds**	**m2**	**56**		**$ 11,568.80**
	Develop site-specific for roof design capable of resisting category 5 hurricanes		1	$ 312.80	$ 312.80
	Demolition and Removal of Existing Roof Gable Roof	sum	1	$ 5,000.00	$ 5,000.00
	Construct Frame for timber hip roof; with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board with hurricane clips at every connection	m2	56	$ 95.50	$ 5,348.00
	Procure and install waterproofing membrane	m2	56	$ 2.50	$ 140.00
	Securing 24 gauge ridge capping	m	8	$ 8.50	$ 68.00
	Securing roof deck and replace roof covering gauge 24 sheets as a minimum	m2	56	$ 12.50	$ 700.00
DC-05	**Doors, Windows & Shutters**	**sum**	**1**		**$ 41,746.00**
	Removal of windows and doors to be replaced	sum	1	$ 10,000.00	$ 10,000.00
	Installation of 36" x 36" high-impact hurricane resistant casement windows	ea	12	$ 930.50	$ 11,166.00
	Installation of 36" x 78" high-impact hurricane swing door	ea	4	$ 2,800.00	$ 11,200.00
	Installation of 36" x 36" accordion shutters	ea	12	$ 375.00	$ 4,500.00
	Installation of 36" x 78" inverted manual rollershutter	ea	4	$ 1,220.00	$ 4,880.00
DC-06	**Water Harvesting & Water Storage**	**sum**	**1**		**$ 11,566.66**
	Design water harvesting and water storage solutions	sum	1	$ 1,000.00	$ 1,000.00
	Remove damaged PVC roof spouting, brackets, downpipes, running outlet, stop and replace with square shaped 24 gauge glavanize spouting and metal fittings	m	32	$ 169.79	$ 5,433.28
	Procurement and installation of additional potable water storage 1000 gallon tanks	nr	2	$ 2,566.69	$ 5,133.38
DC-07	Design Site Environment Management Plan (SEMP) Reports	sum	1	$ 2,000.00	$ 2,000.00
	Design and conduct education campaigns		1	$ 2,500.00	$ 2,500.00
				Total	**$ 96,581.46**

Bright Beginnings Pre-school

Task no.	Intervention/Improvement	Unit	Quantity	Unit Rate (USD)	Total (USD)
DC-01	**Alternative Energy**	sum	1	$ 30,000.00	**$ 30,000.00**
	Perform Energy audit				
	PV System design and scaling				
	Procurement of PV system components and battery				
	Installation of PV systems with battery backup				
	Routine repairs and maintenance of system				
DC-02	**HVAC Systems**	sum	1	$ 1,700.00	**$ 1,700.00**
	Allow for supply and installation of inverter AC units and LED				
	Allow for routine maintenance and servicing of AC units				
	Allow for the supply and installation of ceiling fans				
DC-03	**Information Technology**				$ -
	Install an intercom system for each school				
DC-04	**Construction of timber hip roof; framed with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board and covered with trapezoidal 24 gauge galvanized sheets with hurricane clips at every connection at the eaves, hips, ridges and rafters of hip roof for the resistance of hurricane force winds**	**m2**	**63**		**$ 12,389.90**
	Develop site-specific for roof design capable of resisting category 5 hurricanes		1	$ 351.90	$ 351.90
	Demolition and Removal of Existing Roof Gable Roof	sum	1	$ 5,000.00	$ 5,000.00
	Construct Frame for timber hip roof; with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board with hurricane clips at every connection	m2	63	$ 95.50	$ 6,016.50
	Procure and install waterproofing membrane	m2	63	$ 2.50	$ 157.50
	Securing 24 gauge ridge capping	m	9	$ 8.50	$ 76.50
	Securing roof deck and replace roof covering gauge 24 sheets as a minimum	m2	63	$ 12.50	$ 787.50
DC-05	**Doors, Windows & Shutters**	**sum**	**1**		**$ 35,115.00**
	Removal of windows and doors to be replaced	sum	1	$ 10,000.00	$ 10,000.00
	Installation of 36" x 36" high-impact hurricane resistant casement windows	ea	10	$ 930.50	$ 9,305.00
	Installation of 36" x 78" high-impact hurricane swing door	ea	3	$ 2,800.00	$ 8,400.00
	Installation of 36" x 36" accordion shutters	ea	10	$ 375.00	$ 3,750.00
	Installation of 36" x 78" inverted manual rollershutter	ea	3	$ 1,220.00	$ 3,660.00
DC-06	**Water Harvesting & Water Storage**	**sum**	**1**		**$ 10,906.24**
	Design water harvesting and water storage solutions	sum	1	$ 1,000.00	$ 1,000.00
	Remove damaged PVC roof spouting, brackets, downpipes, running outlet, stop and replace with square shaped 24 gauge glavanize spouting and metal fittings	m	34	$ 169.79	$ 5,772.86
	Procurement and installation of additional potable water storage 1000 gallon tanks	nr	2	$ 2,566.69	$ 5,133.38
DC-07	Design Site Environment Management Plan (SEMP) Reports	sum	1	$ 2,000.00	$ 2,000.00
	Design and conduct education campaigns		1	$ 2,500.00	$ 2,500.00
				Total	**$ 90,111.14**

Princess Margaret Secondary

Task no.	Intervention/Improvement	Unit	Quantity	Unit Rate (USD)	Total (USD)
DC-01	**Alternative Energy**	sum	1	$ 200,000.00	**$ 200,000.00**
	Perform Energy audit				
	PV System design and scaling				
	Procurement of PV system components and battery				
	Installation of PV systems with battery backup				
	Routine repairs and maintenance of system				
DC-02	**HVAC Systems**	sum	10	$ 1,700.00	**$ 17,000.00**
	Allow for supply and installation of inverter AC units and LED				
	Allow for routine maintenance and servicing of AC units				
	Allow for the supply and installation of ceiling fans				
DC-03	**Information Technology**	sum	1	$ 3,200.00	**$ 3,200.00**
	Install an intercom system for each school				
DC-04	**Construction of timber hip roof; framed with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board and covered with trapezoidal 24 gauge galvanized sheets with hurricane clips at every connection at the eaves, hips, ridges and rafters of hip roof for the resistance of hurricane force winds**	**m2**	**288**		**$ 53,700.80**
	Develop site-specific for roof design capable of resisting category 5 hurricanes		1	$ 1,604.80	$ 1,604.80
	Demolition and Removal of Existing Roof Gable Roof	sum	1	$ 20,000.00	$ 20,000.00
	Construct Frame for timber hip roof; with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board with hurricane clips at every connection	m2	288	$ 95.50	$ 27,504.00
	Procure and install waterproofing membrane	m2	288	$ 2.50	$ 720.00
	Securing 24 gauge ridge capping	m	32	$ 8.50	$ 272.00
	Securing roof deck and replace roof covering gauge 24 sheets as a minimum	m2	288	$ 12.50	$ 3,600.00
DC-05	**Doors, Windows & Shutters**	**sum**	**1**		**$ 82,438.00**
	Removal of windows and doors to be replaced	sum	1	$ 2,500.00	$ 2,500.00
	Installation of 36" x 48" high-impact hurricane resistant casement windows	ea	36	$ 1,080.00	$ 38,880.00
	Installation of 36" x 78" high-impact hurricane swing door	ea	6	$ 2,800.00	$ 16,800.00
	Installation of 36" x 48" accordion shutters	ea	36	$ 470.50	$ 16,938.00
	Installation of 36" x 78" inverted manual rollershutter	ea	6	$ 1,220.00	$ 7,320.00
DC-06	**Water Harvesting & Water Storage**	**sum**	**1**		**$ 20,395.74**
	Design water harvesting and water storage solutions	sum	1	$ 1,000.00	$ 1,000.00
	Remove damaged PVC roof spouting, brackets, downpipes, running outlet, stop and replace with square shaped 24 gauge glavanize spouting and metal fittings	m	84	$ 169.79	$ 14,262.36
	Procurement and installation of additional potable water storage 1000 gallon tanks	nr	2	$ 2,566.69	$ 5,133.38
DC-07	Design Site Environment Management Plan (SEMP) Reports	sum	1	$ 2,000.00	$ 2,000.00
	Design and conduct education campaigns		1	$ 2,500.00	$ 2,500.00
				Total	**$ 376,734.54**

Salvation Army

Task no.	Intervention/Improvement	Unit	Quantity	Unit Rate (USD)	Total (USD)
DC-01	**Alternative Energy**	sum	1	$ 100,000.00	**$ 100,000.00**
	Perform Energy audit				
	PV System design and scaling				
	Procurement of PV system components and battery				
	Installation of PV systems with battery backup				
	Routine repairs and maintenance of system				
DC-02	**HVAC Systems**	sum	1	$ 1,700.00	**$ 1,700.00**
	Allow for supply and installation of inverter AC units and LED				
	Allow for routine maintenance and servicing of AC units				
	Allow for the supply and installation of ceiling fans				
DC-03	**Information Technology**				**$ -**
	Install an intercom system for each school				
DC-05	**Doors, Windows & Shutters**	**sum**			**$ 34,215.50**
	Removal of windows and doors to be replaced	sum	1	$ 2,500.00	$ 2,500.00
	Installation of 36" x 48" high-impact hurricane resistant single hung window	ea	11	$ 1,080.00	$ 11,880.00
	Installation of 24" x 24" high-impact hurricane resistant single hung window	ea	10	$ 525.00	$ 5,250.00
	Installation of 24" x 24" high-impact hurricane resistant awning window	ea	4	$ 700.00	$ 2,800.00
	Installation of 36" x 78" high-impact hurricane swing door	ea	1	$ 2,800.00	$ 2,800.00
	Installation of 36" x 48" accordion shutters	ea	11	$ 470.50	$ 5,175.50
	Installation of 24" x 24" accordion shutters	ea	14	$ 185.00	$ 2,590.00
	Installation of 36" x 78" inverted manual rollershutter	ea	1	$ 1,220.00	$ 1,220.00
DC-06	**Water Harvesting & Water Storage**	**sum**			**$ 6,133.38**
	Design water harvesting and water storage solutions	sum	1	$ 1,000.00	$ 1,000.00
	Procurement and installation of additional potable water storage 1000 gallon tanks	nr	2	$ 2,566.69	$ 5,133.38
DC-07	Design Site Environment Management Plan (SEMP) Reports	sum	1	$ 2,000.00	$ 2,000.00
	Design and conduct education campaigns		1	$ 2,500.00	$ 2,500.00
				Total	**$ 135,915.50**

Beacon Light Nazarene Academy

Task no.	Intervention/Improvement	Unit	Quantity	Unit Rate (USD)	Total (USD)
DC-01	**Alternative Energy**	sum	1	$ 50,000.00	**$ 50,000.00**
	Perform Energy audit				
	PV System design and scaling				
	Procurement of PV system components and battery				
	Installation of PV systems with battery backup				
	Routine repairs and maintenance of system				
DC-02	**HVAC Systems**	sum	3	$ 1,700.00	**$ 5,100.00**
	Allow for supply and installation of inverter AC units and LED				
	Allow for routine maintenance and servicing of AC units				
	Allow for the supply and installation of ceiling fans				
DC-03	**Information Technology**				**$ -**
	Install an intercom system for each school				
DC-04	**Construction of timber hip roof; framed with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board and covered with trapezoidal 24 gauge galvanized sheets with hurricane clips at every connection at the eaves, hips, ridges and rafters of hip roof for the resistance of hurricane force winds**	**m2**	**224**		**$ 41,114.55**
	Develop site-specific for roof design capable of resisting category 5 hurricanes		1	$ 1,243.55	$ 1,243.55
	Demolition and Removal of Existing Roof Gable Roof	sum	1	$ 15,000.00	$ 15,000.00
	Construct Frame for timber hip roof; with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board with hurricane clips at every connection	m2	224	$ 95.50	$ 21,392.00
	Procure and install waterproofing membrane	m2	224	$ 2.50	$ 560.00
	Securing 24 gauge ridge capping	m	14	$ 8.50	$ 119.00
	Securing roof deck and replace roof covering gauge 24 sheets as a minimum	m2	224	$ 12.50	$ 2,800.00
DC-05	**Doors, Windows & Shutters**	**sum**	**1**		**$ 39,031.50**
	Removal of windows and doors to be replaced	sum	1	$ 10,000.00	$ 10,000.00
	Installation of 36" x 36" high-impact hurricane resistant casement windows	ea	13	$ 930.50	$ 12,096.50
	Installation of 36" x 78" high-impact hurricane swing door	ea	3	$ 2,800.00	$ 8,400.00
	Installation of 36" x 36" accordion shutters	ea	13	$ 375.00	$ 4,875.00
	Installation of 36" x 78" inverted manual rollershutter	ea	3	$ 1,220.00	$ 3,660.00
DC-06	**Water Harvesting & Water Storage**	**sum**	**1**		**$ 16,660.36**
	Design water harvesting and water storage solutions	sum	1	$ 1,000.00	$ 1,000.00
	Remove damaged PVC roof spouting, brackets, downpipes, running outlet, stop and replace with square shaped 24 gauge glavanize spouting and metal fittings	m	62	$ 169.79	$ 10,526.98
	Procurement and installation of additional potable water storage 1000 gallon tanks	nr	2	$ 2,566.69	$ 5,133.38
DC-07	Design Site Environment Management Plan (SEMP) Reports	sum	1	$ 2,000.00	$ 2,000.00
	Design and conduct education campaigns		1	$ 2,500.00	$ 2,500.00
				Total	**$ 151,906.41**

Montessori Preschool

Task no.	Intervention/Improvement	Unit	Quantity	Unit Rate (USD)	Total (USD)
DC-01	**Alternative Energy**	sum	1	$ 50,000.00	**$ 50,000.00**
	Perform Energy audit				
	PV System design and scaling				
	Procurement of PV system components and battery				
	Installation of PV systems with battery backup				
	Routine repairs and maintenance of system				
DC-02	**HVAC Systems**	sum	2	$ 1,700.00	**$ 3,400.00**
	Allow for supply and installation of inverter AC units and LED				
	Allow for routine maintenance and servicing of AC units				
	Allow for the supply and installation of ceiling fans				
DC-03	**Information Technology**				$ -
	Install an intercom system for each school				
DC-04	**Construction of timber hip roof; framed with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board and covered with trapezoidal 24 gauge galvanized sheets with hurricane clips at every connection at the eaves, hips, ridges and rafters of hip roof for the resistance of hurricane force winds**	**m2**	**162**		**$ 28,956.70**
	Develop site-specific for roof design capable of resisting category 5 hurricanes		1	$ 902.70	$ 902.70
	Demolition and Removal of Existing Roof Gable Roof	sum	1	$ 10,000.00	$ 10,000.00
	Construct Frame for timber hip roof; with 2"x 8" rafters, 2" x 10" double plated ridge board, 2"x 10" double plated hip ridge, 2"x 4" purlins and 2"x 10" Fascia Board with hurricane clips at every connection	m2	162	$ 95.50	$ 15,471.00
	Procure and install waterproofing membrane	m2	162	$ 2.50	$ 405.00
	Securing 24 gauge ridge capping	m	18	$ 8.50	$ 153.00
	Securing roof deck and replace roof covering gauge 24 sheets as a minimum	m2	162	$ 12.50	$ 2,025.00
DC-05	**Doors, Windows & Shutters**	**sum**	**1**		**$ 45,559.00**
	Removal of windows and doors to be replaced	sum	1	$ 10,000.00	$ 10,000.00
	Installation of 36" x 36" high-impact hurricane resistant casement windows	ea	18	$ 930.50	$ 16,749.00
	Installation of 36" x 78" high-impact hurricane swing door	ea	3	$ 2,800.00	$ 8,400.00
	Installation of 36" x 36" accordion shutters	ea	18	$ 375.00	$ 6,750.00
	Installation of 36" x 78" inverted manual rollershutter	ea	3	$ 1,220.00	$ 3,660.00
DC-06	**Water Harvesting & Water Storage**	**sum**	**1**		**$ 15,641.62**
	Design water harvesting and water storage solutions	sum	1	$ 1,000.00	$ 1,000.00
	Remove damaged PVC roof spouting, brackets, downpipes, running outlet, stop and replace with square shaped 24 gauge glavanize spouting and metal fittings	m	56	$ 169.79	$ 9,508.24
	Procurement and installation of additional potable water storage 1000 gallon tanks	nr	2	$ 2,566.69	$ 5,133.38
DC-07	Design Site Environment Management Plan (SEMP) Reports	sum	1	$ 4,000.00	$ 4,000.00
	Design and conduct education campaigns		1	$ 2,500.00	$ 2,500.00
				Total	**$ 143,557.32**

Annex 5. Schools' Work Packages – Saint Lucia.

- **Written by:** ECMC St. Lucia.
- **Exact title of report**: Appendix 5 of the Technical Assessment and Technology Options Report.
- **Date of report:** June 7, 2021.

As part of the twelve work packages comprising interventions to increase the schools' resilience and functioning as emergency shelters were developed. The estimated cost of the work packages ranged from USD 474,124 to USD 1,569,761 (excluding design and project management cost). The total cost of the twelve packages (inclusive of all costs) is estimated at USD 11,826,061. To ensure that disaster risk resilience is featured prominently in the curriculum of the schools, the work packages include an allowance of USD 3,200 for each school for this aspect. All schools' work packages include fire detection and alarm systems and fire suppression and safety measures to address the issue of fire safety based on recommendations by the Saint Lucia Fire Service. The summary table indicating work package costs is indicated below.

No.	School	Costs in USD					
		Base Cost	Demolition of Defective Works	Prelims	Contingency	Value Added Tax	Total
1	Ave Maria Infant	317,831	9,535	23,837	70,241	52,680	474,124
2	Ave Maria Primary	372,373	11,171	27,928	82,294	61,721	555,488
3	Balata Combined	466,214	13,986	34,966	103,033	77,275	**695,474**
4	Bexon Primary	572,938	17,188	42,970	126,619	94,965	854,681
5	Corinth Secondary	812,138	24,364	60,910	179,483	134,612	1,211,507
6	Fond Assau Combined	431,873	12,956	32,390	95,444	71,583	644,247
7	Piatience Combined	415,474	12,464	31,161	91,820	68,865	619,783
8	Micoud Primary	636,568	19,097	47,743	140,682	105,511	949,601
9	Desruisseaux Combined	1,052,295	31,569	78,922	232,557	174,418	1,569,761
10	Vieux Fort Primary	774,490	23,235	58,087	171,162	128,372	**1,155,345**
11	Vieux Fort Infant	437,270	13,118	32,795	96,637	72,477	652,297
12	Saltibus Combined	344,546	10,336	25,841	76,145	57,109	**513,977**
	Base Cost	**6,634,011**	**199,020**	**497,551**	**1,466,116**	**1,099,587**	**9,896,286**
Allow 15% detailed engineering design and supervision		995,102	29,853	74,633	219,917	164,938	1,484,443
Allow 10% of engineering fees as reimbursable cost		99,510	2,985	7,463	21,992	16,494	148,444
Project Administration cost - 3% of base cost		199,020	5,971	14,927	43,983	32,988	296,889
	Total	**7,927,643**	**237,829**	**594,573**	**1,752,009**	**1,314,007**	**11,826,061**

Ave Maria Infant

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
AMI-01	**Condition of the building - as per Engineer's drawings and specifications**				
	Allow for scaling off the rust on the structural beams and columns, applying a rust inhibitor and repainting	sum	1		2,500.00
AMI-02	**Exterior Doors, Exits and Entrances**				
	Install thresholds on external doors as required.	nr	20	100.00	2,000.00
	Install a third hinge at mid-height of all the doors - minimum 100 mm hinges to be used.	nr	34	25.00	850.00
	Fasten door frames into concrete surrounds with bolts or screws	nr	20	60.00	1,200.00
	Replace exterior doors with impact resistant doors suitable for use in HVHZ	nr	24	1,000.00	24,000.00
	Install panic bar locks in the library, computer room and music room which are likely to have occupants while the doors are closed	nr	1	950.00	950.00
AMI-03	**Windows and shutters**				
	Install 150 mm concrete surround having minimum cube strength of 21 MPa at 28 day to all windows to ensure adequate anchorage.	sum	1	5,040.00	5,040.00
	Install insect screens	m²	86	20.00	1,722.00
	Install hurricane shutters which are able to resist the impact of flying objects where standard windows are used	m²	86	600.00	51,660.00
AMI-04	**Safety of roofing**				
	Allow for replacing deteriorated sections or all of the fascia boards	lm	142	8.50	1,207.00
	Install additional fasteners at every trough at the eaves, hips, ridges and edges of gable roofs for the resistance of hurricane force winds.	nr	300	1.00	300.00
	Replace all fasteners and comply with OECS-BC 7th Edition	m²	817	16.00	13,070.40
AMI-05	**Parapets and other outside Elements (railings, ornaments)**				
	Cover open concrete drains	lm	20	145.00	2,900.00
AMI-06	**Internal walls**				
	Repainting of building internal and external walls after completion of works	m²	1,206	10.00	12,063.00
	Replace all termite infested timber	sum	1	2,500.00	2,500.00
	Undertake termite treatment of buildings and compound	sum	1	1,500.00	1,500.00
AMI-07	**Safety of stairways and Ramps**				
	install handrails along stairways	lm	15	275.00	4,125.00
AMI-08	**Disabiliy Accessibility**				
	Equip washrooms with adequate handicap access	sum	1	2,500.00	2,500.00
	All ground floor class rooms to be made wheel-chair accessible	sum	1	8,500.00	8,500.00
	Increase all exit doors to match the requirements of the OECS Building Code	sum	1	9,000.00	9,000.00
	To Collection				**147,587.40**

Ave Maria Infant

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
AMI-09	**Water Reserves**				
	Allow for supply and installation of rainwater harvesting system with pump and first flush system	litres	6,750	0.75	5,062.50
AMI-10	**Water Distribution System**				
	Re-plumbing of buildings to facilitate dual water use - potable and rain water harvesting	sum	1	9,045.00	9,045.00
	Remove and replace all faucets in the lavatory sinks low volume water fixtures	nr	15	500.00	7,500.00
	Replace water closets with vandal-proof low-flush systems	nr	15	800.00	12,000.00
AMI-11	**Wastewater System**				
	Clean septic tank and inspect condition. Repair as necessary.	sum	1	2,500.00	2,500.00
AMI-12	**Storm Drainage System - roof and gutters**				
	Allow for supply and replacement of damaged sections of roof gutters	lm	142	50.00	7,075.00
AMI-13	**Alternate Sources of Electricity**				
	Allow for supply and installation of a 15 KVA solar photovoltaic system as alternative power supply	sum	1	36,000.00	36,000.00
	Allow for supply and installation of a 15 KVA generator with accessories	sum	1	25,000.00	25,000.00
	Fuel Reserve - Procure and develop stores of fuel	sum	1	6,000.00	6,000.00
AMI-14	**Safety of Electrical Equipment**				
	Re-inspection and re-certification of building as required	sum	1	2,110.50	2,110.50
	Improve electrical systems; undertake up to 50% rewiring of the building as required	m²	302	35.00	10,552.50
	Install waterproof switches	nr	9	18.75	168.75
	Install waterproof outlets	nr	10	25.00	250.00
	Replace/Service all ceiling fans	nr	20	640.00	12,800.00
	Make provision for protection of emergency lighting	sum	1	500.00	500.00
	Perform routine repairs and maintenance - Energy supply	sum	1	5,000.00	5,000.00
AMI-15	**Lighting System**				
	Improve the lighting in all areas based on the international standard for light levels.	m²	603	5.00	3,017.25
	Install emergency lighting with battery power packs; includes 4 signs and 5 lights	nr	9	100.00	900.00
AMI-16	**Safety of HVAC Components**				
	Perform routine servicing of all split units	nr	1	80.00	80.00
AMI-17	**Information Technology**				
	Install an intercom system for the school	sum	1	1,400.00	1,400.00
	To Collection				**146,961.50**

Ave Maria Infant

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
AMI-18	**Fire Protection**				
	Procure and install smoke detectors	nr	6	120.00	720.00
	Procure and install fire alarm system; includes Manual Call Points (7), Wall mounted ringers (4), fire alarm control panels to suit 240V/1Ph/50Hz power supply and accessories.	sum	1	3,700.00	3,700.00
	Install a 5lb. (Dry Chemical Type) should be installed centrally on each block, upstairs and downstairs.	nr	4	113.70	454.80
	Install a 5lb. (Carbon Dioxide Type) should be installed near the exit of the ICT/Resource Room	nr	4	216.30	865.20
	Service the extinguisher in the Principal's Office	sum	1	44.75	44.75
	Fire proof steel beams and columns	sum	1		-
	Install permanent exits signage around the compound	sum	1	200.00	200.00
	Make provision for an emergency plan to be developed and approved by the Fire Service.	sum	1	500.00	500.00
AMI-19	**Including DRR Education in the School Curriculum**				
	The inclusion of DRR Education at the school level through the integration of DRR topics and themes in regular classroom teaching and engaging students in DRR community outreach initiatives through co and extra-curricular activities.	sum	1	3,200.00	3,200.00
AMI-15	**Lighting System**				
	Improve the lighting in all areas based on the international standard for light levels.	m²	603	5.00	3,017.25
	Install emergency lighting with battery power packs; includes 4 signs and 5 lights	nr	9	100.00	900.00
AMI-16	**Safety of HVAC Components**				
	Perform routine servicing of all split units	nr	1	80.00	80.00
AMI-17	**Information Technology**				
	Install an intercom system for the school	sum	1	1,400.00	1,400.00
AMI-19	**Including DRR Education in the School Curriculum**				
	The inclusion of DRR Education at the school level through the integration of DRR topics and themes in regular classroom teaching and engaging students in DRR community outreach initiatives through co and extra-curricular activities.	sum	1	3,200.00	3,200.00
AMI-20	**ESIA Recommendations**				
	Allow a provisional sum to address recommendations made under the ESIA as it particularly relates to physical improvements at the school				5,000.00
	Collection				23,282.00
		Page 1			147,587.40
		Page 2			146,961.50
		Page 3			23,282.00
	Base Cost				**317,830.90**
	Allowance for Demolition of works to be repaired - 3% of Base Cost				9,534.93
	Allowance for preliminaries - 7.5% of Base Cost				23,837.32
	Sub-total				**351,203.14**
	Allow 20% contingencies due to the nature of repairs and retrofit works				70,240.63
	Total				**421,443.77**
	Value Added Tax - 12.5% of Total				52,680.47
	Total Construction cost of repairs and retrofit works - Ave Maria Infant School				**474,124.25**

Ave Maria Primary

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
AMP-01	**Condition of the building - as per Engineer's drawings and specifications**				
	Allow for scaling off the rust on the structural beams and columns, applying a rust inhibitor and repainting	sum	1	2,500.00	2,500.00
AMP-02	**Safety of Foundations - as per Engineer's details and specifications**				
	Reconstruct severely damaged foundation walls, strip and spread footings for the walkway	m²	20	116.00	2,320.00
AMP-03	**Disabiliy Accessibility**				
	Equip washrooms with adequate handicap access	sum	1	2,500.00	2,500.00
	All ground floor class rooms to be made wheel-chair accessible	sum	1	10,500.00	10,500.00
	Increase all exit doors to match the requirements of the OECS Building Code	sum	1	5,250.00	5,250.00
AMP-04	**Exterior Doors, Exits and Entrances**				
	Install thresholds on external doors as required.	nr	30	100.00	3,000.00
	Install a third hinge at mid-height of all the doors - minimum 100 mm hinges to be used.	nr	40	25.00	1,000.00
	Fasten door frames into concrete surrounds with bolts or screws	nr	40	60.00	2,400.00
	Replace exterior doors with impact resistant doors suitable for use in HVHZ	nr	40	1,000.00	40,000.00
	Install panic bar locks in the library, computer room and music room which are likely to have occupants while the doors are closed	nr	3	950.00	2,850.00
AMP-05	**Windows and shutters**				
	Install 150 mm concrete surround having minimum cube strength of 21 MPa at 28 day to all windows to ensure adequate anchorage.	sum	1	7,210.00	7,210.00
	Install insect screens	m²	234	20.00	4,685.80
	Install hurricane shutters which are able to resist the impact of flying objects where standard windows are used	m²	170	600.00	101,868.00
AMP-06	**Safety of roofing**				
	Install additional fasteners at every trough at the eaves, hips, ridges and edges of gable roofs for the resistance of hurricane force winds.	nr	300	1.00	300.00
	Replace all fasteners and comply with OECS-BC 7th Edition	m²	628	16.00	10,048.00
AMP-07	**Parapets and other outside Elements (railings, ornaments)**				
	Cover open concrete drains	lm	20	145.00	2,900.00
AMP-08	**Internal walls**				
	Repainting of building internal and external walls after completion of works	m²	1,276	5.00	6,380.00
	Replace all termite infested timber	sum	1	2,500.00	2,500.00
	Undertake termite treatment of buildings and compound	sum	1	1,500.00	1,500.00
AMP-09	**Safety of stairways and Ramps**				
	Install handrails along stairways	lm	20	275.00	5,500.00
	Repair/Retrofit the stairwell on the western side	sum	1		-
AMP-10	**Water Reserves**				
	Allow for supply and installation of rainwater harvesting system with pump and first flush system	litres	71,415	0.75	53,561.25
	To Collection				**268,773.05**

Ave Maria Primary

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
AMP-11	**Alternate water supply to regular water supply**				
	Re-plumbing of buildings to facilitate dual water use - potable and rain water harvesting	sum	1	5,415.00	5,415.00
AMP-12	**Wastewater System**				
	Clean septic tank and inspect condition. Repair as necessary.	sum	1	2,500.00	2,500.00
AMP-13	**Storm Drainage System - roof and gutters**				
	Allow for supply and replacement of damaged sections of roof gutters	lm	122	50.00	6,100.00
AMP-14	**Alternate Sources of Electricity**				
	Allow for supply and installation of a 15 KVA solar photovoltaic system as alternative power supply	sum	1	36,000.00	36,000.00
	Allow for supply and installation of a 15 KVA generator with accessories	sum	1	15,000.00	15,000.00
	Fuel Reserve - Procure and develop stores of fuel	sum	1	6,000.00	6,000.00
AMP-15	**Safety of Electrical Equipment**				
	Re-inspection and re-certification of building as required	sum	1	1,263.50	1,263.50
	Improve electrical systems; undertake up to 50% rewiring of the building as required	m^2	181	35.00	6,317.50
	Replace broken outlets and secure all exposed wires using trunking	sum	1	129.67	129.67
	Perform routine repairs and maintenance - Energy supply	sum	1	5,000.00	5,000.00
AMP-16	**Lighting System**				
	Improve the lighting in all areas based on the international standard for light levels.	nr	90	20.00	1,800.00
	Install emergency lighting with battery power packs; includes 4 signs and 8 lights	nr	12	100.00	1,200.00
	Make provision for protection of emergency lighting	sum	1	500.00	500.00
AMP-17	**Safety of HVAC Components**				
	Perform routine servicing of all split units	nr	2	80.00	160.00
AMP-18	**Information Technology**				
	Install an intercom system for the school	sum	1	1,400.00	1,400.00
AMP-19	**Fire Protection**				
	Procure and install smoke detectors	nr	7	120.00	840.00
	Procure and install fire alarm system; includes Manual Call Points (8), Wall mounted ringers (4), fire alarm control panels to suit 240V/1Ph/50Hz power supply and accessories.	sum	1	3,760.00	3,760.00
	Install 10lb. (Carbon Dioxide Type) should be installed in the kitchen, ICT/Resource room, Library and Principals Office.	nr	4	253.70	1,014.80
	Install a 5lb. (Dry Chemical Type) should be installed centrally in a cabinet centrally along the upper and lower floors of each block	nr	4	113.70	454.80
	Service all extinguishers	sum	1	44.75	44.75
	Fire proof steel beams and columns	sum	1		-
	Make provision for an emergency plan to be developed and approved by the Fire Service.	sum	1	500.00	500.00
	To Collection				**95,400.02**

Ave Maria Primary

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
AMP-20	**Including DRR Education in the School Curriculum** The inclusion of DRR Education at the school level through the integration of DRR topics and themes in regular classroom teaching and engaging students in DRR community outreach initiatives through co and extra-curricular activities.	sum	1	3,200.00	3,200.00
AMP-21	**ESIA Recommendations** Allow a provisional sum to address recommendations made under the ESIA as it particularly relates to physical improvements at the school	sum	1	5,000.00	5,000.00
	To Collection				**8,200.00**
	Collection				
		Page 1			268,773.05
		Page 2			95,400.02
		Page 3			8,200.00
	Base Cost				**372,373.07**
	Allowance for Demolition of works to be repaired - 3% of Base Cost				11,171.19
	Allowance for preliminaries - 7.5% of Base Cost				27,927.98
	Sub-total				**411,472.24**
	Allow 20% contingencies due to the nature of repairs and retrofit works				82,294.45
	Total				**493,766.69**
	Value Added Tax - 12.5% of Total				61,720.84
	Total Construction cost of repairs and retrofit works -Ave Maria Primary School				**555,487.53**

Balata Combined

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
BC-01	**Condition of the building - as per Engineer's drawings and specifications**				
	Repair cracks in reinforced concrete floor slab surface	sum	1	650.00	650.00
	Repair and increase strength of concrete columns	sum	1	9,000.00	9,000.00
	Repair cracks in concrete walls and structural elements	sum	1	500.00	500.00
	Repair beams and columns with heavy spalling and honeycombing	lm	24	150.00	3,600.00
	Undertake design check and retrofit beams with excessive deflection	sum	1		-
	Floor Construction- Introducing additional supports to repair damaged floor	sum	1		-
	Undertake detailed structural condition assessment before zoning as disaster shelter	sum	1	1,500.00	1,500.00
BC-02	**Disability Access**				
	Equip washrooms with adequate handicap access	sum	1	2,500.00	2,500.00
	All ground floor class rooms to be made wheel-chair accessible	sum	1	5,000.00	5,000.00
BC-03	**Exterior Doors, Exits and Entrances**				
	Install thresholds on external doors as required.	nr	14	100.00	1,400.00
	Install a third hinge at mid-height of all the doors - minimum 100 mm hinges to be used.	nr	14	25.00	350.00
	Fasten door frames into concrete surrounds with bolts or screws	nr	14	60.00	840.00
	Replace exterior doors with impact resistant doors suitable for use in HVHZ	nr	14	1,000.00	14,000.00
	Install panic bar locks in the library, computer room and music room which are likely to have occupants while the doors are closed	nr	3	950.00	2,850.00
BC-04	**Windows and shutters**				
	Install insect screens	m^2	126	20.00	2,520.00
	Install hurricane shutters which are able to resist the impact of flying objects where standard windows are used	m^2	126	600.00	75,780.00
	Install 150 mm concrete surround having minimum cube strength of 21 MPa at 28 day to all windows to ensure adequate anchorage.	sum	1	3,010.00	3,010.00
BC-05	**Safety of roofing**				
	~~Make up slopes on concrete roofs and apply waterproofing membrane~~	m^2		135.00	-
	Remove and reconstruct entire roof truss system	m^2	328	200.00	65,580.00
BC-06	**Parapets and other outside Elements (railings, ornaments)**				
	Improve access to school entrance - roadway and gate	sum	1	3,000.00	3,000.00
	Install handrails along stairs on the western side of the compound	lm	12	275.00	3,300.00
	Cover all open concrete drains	lm	100	145.00	14,500.00
BC-07	**Internal walls**				
	Repainting of building internal and external walls after completion of works	m^2	643	10.00	6,425.80
	Replace all termite infested timber	sum	1	5,000.00	5,000.00
	Undertake termite treatment of buildings and compound	sum	1	1,500.00	1,500.00
BC-08	**Water Reserves**				
	Procurement and installation of additional potable water storage tanks	litres	100,837	0.75	75,627.53
	Removal of tanks from the roof could be considered. Construct ground slab and install a solar powered water pump.	sum	1	2,500.00	2,500.00
	To Collection				**300,933.33**

INCREASING RESILIENCE OF THE EDUCATION SYSTEM TO CLIMATE CHANGE IN SAINT LUCIA

Balata Combined

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
BC-09	**Alternate water supply to regular water supply**				
	Allow for supply and installation of rainwater harvesting system with pump and first flush system	litres	30,251	0.75	22,688.26
BC-10	**Water Distribution System**				
	Re-plumbing of buildings to facilitate dual water use - potable and rain water harvesting	sum	1	5,167.50	5,167.50
	Remove and replace all faucets in the lavatory sinks low volume water fixtures	nr	13	500.00	6,500.00
	Replace water closets with vandal-proof low-flush systems	nr	14	800.00	11,200.00
BC-11	**Wastewater System**				
	Clean septic tank and inspect condition. Repair as necessary.	sum	1	2,500.00	2,500.00
BC-12	**Storm Drainage System - site**				
	Improve and introduce drainage of the school compound	lm	63	110.00	6,930.00
	Allow for routine maintenance and cleaning of site storm water management system	sum	1	5,000.00	5,000.00
BC-13	**Alternate Sources of Electricity**				
	Allow for supply and installation of a 15 KVA solar photovoltaic system as alternative power supply	sum	1	36,000.00	36,000.00
	Allow for supply and installation of a 15 KVA generator with accessories	sum	1	15,000.00	15,000.00
	Fuel Reserve - Procure and develop stores of fuel	sum	1	6,000.00	6,000.00
BC-14	**Safety of Electrical Equipment**				
	Re-inspection and re-certification of building as required	sum	1	2,411.50	2,411.50
	Improve electrical systems; undertake up to 50% rewiring of the building as required	m^2	345	35.00	12,057.50
	Install waterproof outlets in classrooms with open blockwork	nr	4	55.60	222.40
	Install waterproof switches in classrooms with open blockwork	nr	4	54.40	217.60
	Perform routine repairs and maintenance - Energy supply	sum	1	5,000.00	5,000.00
BC-15	**Lighting System**				
	Improve the lighting in all areas based on the international standard for light levels.	m^2	689	5.00	3,443.00
	Replace all damaged lighting fixtures in the corridors	nr	10	92.00	920.00
	Replace all damaged lighting fixtures in the classrooms	nr	60	55.56	3,333.60
	Replace all damaged ceiling fans	nr	4	360.00	1,440.00
	Install emergency lighting with battery power packs	nr	10	100.00	1,000.00
	Make provision for protection of emergency lighting	sum	1	500.00	500.00
BC-16	**Safety of HVAC Components**				
	Routine servicing of all split units	nr	7	$ 80.00	560.00
	Replace broken isolators	nr	1	$ 80.00	80.00
BC-17	**Information Technology**				
	Install an intercom system for the school	sum	1	1,400.00	1,400.00
	To Collection				**149,571.36**

Balata Combined

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
BC-18	**Fire Protection**				
	Procure and install smoke detectors	nr	6	120.00	720.00
	Procure and install fire alarm system; includes Manual Call Points, Wall mounted ringer, fire alarm control panels to suit 240V/1Ph/50Hz power supply and accessories.	sum	1	3,940.00	3,940.00
	Install 10lb (Carbon Dioxide Type) fire extinguishers at strategic locations throughout school	nr	4	253.70	1,014.80
	Servicing of fire extinuishers	nr	3	44.75	134.25
	Install permanent exit signage around the compound including indications of stairways, exists and muster points	nr	6	200.00	1,200.00
	Make provision for an emergency plan to be developed and approved by the Fire Service.	sum	1	500.00	500.00
BC-19	**Including DRR Education in the School Curriculum**				
	The inclusion of DRR Education at the school level through the integration of DRR topics and themes in regular classroom teaching and engaging students in DRR community outreach initiatives through co and extra-curricular activities.	sum	1	3,200.00	3,200.00
BC-20	**ESIA Recommendations**				
	Allow a provisional sum to address recommendations made under the ESIA as it particularly relates to physical improvements at the school	sum	1	5,000.00	5,000.00
	To Collection				**15,709.05**
	Collection				
		Page 1			300,933.33
		Page 2			149,571.36
		Page 3			15,709.05
	Base Cost				**466,213.73**
	Allowance for Demolition of works to be repaired - 3% of Base Cost				13,986.41
	Allowance for preliminaries - 7.5% of Base Cost				34,966.03
	Sub-total				**515,166.17**
	Allow 20% contingencies due to the nature of repairs and retrofit works				103,033.23
	Total				**618,199.41**
	Value Added Tax - 12.5% of Total				77,274.93
	Total Construction cost of repairs and retrofit works - Balata Combined School				**695,474.34**

Bexon Primary

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
BP-01	**Condition of the building - as per Engineer's drawings and specifications**				
	Floor Construction- Introducing additional supports to repair damaged floor	sum	1		5,000.00
	Undertake detailed structural condition assessment of Bexon school before zoning as disaster shelter	sum	1	15,000.00	15,000.00
	Repair cracks in the walls in the electricla room and other areas in the building	sum	1	500.00	500.00
BP-02	**Disability Accessibility**				
	Equip washrooms with adequate handicap access	sum	1	2,500.00	2,500.00
	All ground floor class rooms to be made wheel-chair accessible	sum	1	10,000.00	10,000.00
BP-03	**Structural Integrity of Roofs**				
	Allowance for investigating the structural capacity of roof and to undertake any retrofit	Sum			20,000.00
BP-04	**Exterior Doors, Exits and Entrances**				
	Install thresholds on external doors as required.	nr	63	100.00	6,300.00
	Install a third hinge at mid-height of all the doors - minimum 100 mm hinges to be used.	nr	63	25.00	1,575.00
	Fasten door frames into concrete surrounds with bolts or screws	nr	63	60.00	3,780.00
	Replace exterior doors with impact resistant doors suitable for use in HVHZ	nr	63	1,000.00	63,000.00
	Install panic bar locks in the library, computer room and music room which are likely to have occupants while the doors are closed	nr	3	950.00	2,850.00
	Increase all exit doors to match requirements of the OECS Building Code	nr	83	250.00	20,750.00
BP-05	**Windows and shutters**				
	Install 150 mm concrete surround having minimum cube strength of 21 MPa at 28 day to all windows to ensure adequate anchorage.	sum	1	6,300.00	6,300.00
	Install insect screens	m^2	210	20.00	4,200.00
	Install hurricane shutters which are able to resist the impact of flying objects where standard windows are used	m^2	210	600.00	126,240.00
BP-06	**Safety of roofing**				
	Allow a provision sum to address leaking roof and any repairs to roof slab soffit	sum			15,000.00
BP-07	**Parapets and other outside Elements (railings, ornaments)**				
	Improve access to school entrance - roadway and gate	sum	1	3,000.00	3,000.00
	Install illuminated exit signs at strategic locations	nr	39	200.00	7,800.00
BP-08	**Internal walls - concrete masonry units finishd with mortar plastering**				
	Repainting of building internal and external walls after completion of works	m^2	1,236	10.00	12,360.00
	Replace all termite infested timber	sum	1	2,500.00	2,500.00
	Undertake termite treatment of buildings and compound	sum	1	1,200.00	1,200.00
BP-09	**Safety of stairways and Ramps**				
	Reconstruction of external staircase	sum	1	15,000.00	15,000.00
BP-10	**Water Reserves**				
	Procurement and installation of additional potable water storage tanks	litres	54,016	0.75	40,511.63
	To Collection				**385,366.63**

Bexon Primary

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
BP-11	**Alternate water supply to regular water supply**				
	Allow for supply and installation of rainwater harvesting system with pump and first flush system	litres	16,205	0.75	12,153.49
BP-12	**Water Distribution System**				
	Re-plumbing of buildings to facilitate dual water use - potable and rain water harvesting	sum	1	6,495.00	6,495.00
	Remove and replace all faucets in the lavatory sinks low volume water fixtures	nr	36	500.00	18,000.00
	Replace water closets with vandal-proof low-flush systems	nr	30	800.00	24,000.00
BP-13	**Wastewater System**				
	Clean septic tank and inspect condition. Repair as necessary.	sum	1	2,500.00	2,500.00
BP-14	**Storm Drainage System - site**				
	Improve and introduce drainage of the school compound	lm	128	110.00	14,025.00
	Allow for routine maintenance and cleaning of site storm water management system	sum	1	3,000.00	3,000.00
BP-15	**Alternate Sources of Electricity**				
	Allow for supply and installation of a 15 KVA solar photovoltaic system as alternative power supply	sum	1	36,000.00	36,000.00
	Allow for supply and installation of a 15 KVA generator with accessories	sum	1	15,000.00	15,000.00
	Fuel Reserve - Procure and develop stores of fuel	sum	1	6,000.00	6,000.00
BP-16	**Safety of Electrical Equipment**				
	Re-inspection and re-certification of building as required	sum	1	10,000.00	10,000.00
	Improve electrical systems; undertake up to 50% rewiring of the building as required	m^2	433	35.00	15,155.00
	Perform routine repairs and maintenance - Energy supply	sum	1	5,000.00	5,000.00
BP-17	**Lighting System**				
	Improve the lighting in all areas based on the international standard for light levels.	m^2	866	5.00	4,329.50
	Install emergency lighing with battery power packs	nr	9	100.00	900.00
	Make provision for protection of emergency lighting	sum	1	500.00	500.00
BP-18	**Information Technology**				
	Install an intercom system for the school	sum	1	1,400.00	1,400.00
BP-19	**Fire Protection**				
	Procure and install smoke detectors	nr	1	120.00	120.00
	Procure and install fire alarm system; includes Manual Call Points, Wall mounted ringer, fire alarm control panels to suit 240V/1Ph/50Hz power supply and accessories.	sum	1	3,520.00	3,520.00
	Install 5 lb. (Dry Chemcial Type) fire extinguisher near the exit of the Principal's Office, the Lab and the ground floor corridor	nr	3	113.70	341.10
	Install 5 lb. (Carbon DioxideType) fire extinguisher in the kitchen and near the canteen exit	nr	2	216.30	432.60
	Make provision for an emergency plan to be developed and approved by the Fire Service.	sum	1	500.00	500.00
	To Collection				**179,371.69**

Bexon Primary

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
BP-20	**Including DRR Education in the School Curriculum**				
	The inclusion of DRR Education at the school level through the integration of DRR topics and themes in regular classroom teaching and engaging students in DRR community outreach initiatives through co and extra-curricular activities.	sum	1	3,200.00	3,200.00
BP-21	**ESIA Recommendations**				
	Allow a provisional sum to address recommendations made under the ESIA as it particularly relates to physical improvements at the school	sum	1	5,000.00	5,000.00
	To Collection				**8,200.00**
	Collection				
		Page 1			385,366.63
		Page 2			179,371.69
		Page 3			8,200.00
	Base Cost				**572,938.31**
	Allowance for Demolition of works to be repaired - 3% of Base Cost				17,188.15
	Allowance for preliminaries - 7.5% of Base Cost				42,970.37
	Sub-total				**633,096.84**
	Allow 20% contingencies due to the nature of repairs and retrofit works				126,619.37
	Total				**759,716.20**
	Value Added Tax - 12.5% of Total				94,964.53
	Total Construction cost of repairs and retrofit works - Bexon Primary School				**854,680.73**

Corinth Secondary

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
CS-01	**Condition of the building - as per Engineer's drawings and specifications**				
	Allow for scaling off the rust on the structural beams and columns, applying a rust inhibitor and repainting	sum	1		1,000.00
CS-02	**Safety of Foundations - as per Engineer's details and specifications**				
	Retrofit the severely damaged foundation walls / strip and spread footings.	sum	1	9,400.00	9,400.00
CS-03	**Disability Accessibility**				
	Equip washrooms with adequate handicap access	sum	1	2,500.00	2,500.00
	All ground floor class rooms to be made wheel-chair accessible	sum	1	17,000.00	17,000.00
	Increase all exit doors to match the requirements of the OECS Building Code	sum	1	27,000.00	27,000.00
					-
CS-04	**Structural Integrity of Roofs**				
	Replacement of metal purlins and roofing; Block A&B	m²	409	68.00	27,778.00
CS-05	**Exterior Doors, Exits and Entrances**				
	Install thresholds on external doors as required.	nr	52	100.00	5,200.00
	Install a third hinge at mid-height of all the doors - minimum 100 mm hinges to be used.	nr	96	25.00	2,400.00
	Fasten door frames into concrete surrounds with bolts or screws	nr	74	60.00	4,440.00
	Replace exterior doors with impact resistant doors suitable for use in HVHZ	nr	96	2,500.00	240,000.00
	Install panic bar locks in the library, computer room and music room which are likely to have occupants while the doors are closed	nr	5	950.00	4,750.00
CS-06	**Windows and shutters**				
	Install 150 mm concrete surround having minimum cube strength of 21 MPa at 28 day to all windows to ensure adequate anchorage.	sum	1	4,200.00	4,200.00
	Install insect screens	m²	474	20.00	9,484.00
	Install hurricane shutters which are able to resist the impact of flying objects where standard windows are used	m²	237	600.00	142,200.00
CS-07	**Other Elements of the Building Envelope**				
	Replace all termite infested timber	sum	1		-
	Undertake termite treatment of buildings and compound	sum	1	1,200.00	1,200.00
CS-08	**Safety of roofing**				
	Install additional fasteners at every trough at the eaves, hips, ridges and edges of gable roofs for the resistance of hurricane force winds.	nr	400	1.00	400.00
	Replace all fasteners and comply with OECS-BC 7th Edition	m²	1,007	16.00	16,105.60
CS-09	**Internal walls - concrete masonry units finishd with mortar plastering**				
	Repainting of building internal and external walls after completion of works	m²	1,596	10.00	15,962.00
	False or Suspended Ceilings				
	Replace and/or patch the leaking ceilings	sum	1	5,000.00	5,000.00
CS-10	**Alternate water supply to regular water supply**				
	Allow for supply and installation of rainwater harvesting system with pump and first flush system	litres	87,063	0.75	65,297.54
	To Collection				**601,317.14**

Corinth Secondary

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
CS-11	**Water Distribution System**				
	Re-plumbing of buildings to facilitate dual water use - potable and rain water harvesting	sum	1	7,411.50	7,411.50
	Remove and replace all faucets in the lavatory sinks low volume water fixtures	nr	26	500.00	13,000.00
	Replace water closets with vandal-proof low-flush systems	nr	30	800.00	24,000.00
CS-12	**Wastewater System**				
	Clean septic tank and inspect condition. Repair as necessary.	sum	1	2,500.00	2,500.00
CS-13	**Storm Drainage System - site**				
	Improve and introduce drainage of the school compound	lm	50	110.00	5,500.00
	Allow for routine maintenance and cleaning of site storm water management system	sum	1	5,000.00	5,000.00
CS-14	**Storm Drainage System - roof and gutters**				
	Allow for supply and replacement of damaged sections of roof gutters	lm	157	50.00	7,862.50
CS-15	**Alternate Sources of Electricity**				
	Allow for supply and installation of a 15 KVA solar photovoltaic system as alternative power supply	sum	1	36,000.00	36,000.00
	Allow for supply and installation of a 15 KVA generator with accessories	sum	1	15,000.00	15,000.00
	Fuel Reserve - Procure and develop stores of 500-litres fuel	sum	1	6,000.00	6,000.00
CS-16	**Safety of Electrical Equipment**				
	Re-inspection and re-certification of the building as required.	sum	1	4,214.00	4,214.00
	Improve electrical systems; undertake up to 50% rewiring of the building as required	m²	1,204	35.00	42,140.00
	Replace waterproof light switches in the corridors	nr	18	18.75	337.50
	Perform routine repairs and maintenance - Energy supply	sum	1	3,000.00	3,000.00
CS-17	**Lighting System**				
	Improve the lighting in all areas based on the international standard for light levels.	m²	1,204	5.00	6,020.00
	Repairs to damage light fixtures and replace cover to panel in science lab	sum	1	1,000.00	1,000.00
	Install emergency lighting with battery power packs	nr	23	100.00	2,300.00
	Make provision for protection of emergency lighting	sum	1	500.00	-
CS-18	**Safety of HVAC Components**				
	Perform major repairs and maintenance - Pipes and Insulation	sum	1	480.00	480.00
	Increase capacity of system - Cooling generating systems	sum	1		-
	Allow for supply and installation of new individual AC units	nr	4	1,500.00	6,000.00
CS-19	**Information Technology**				
	Install an intercom system for the school	sum	1	1,400.00	1,400.00
	To Collection				**189,165.50**

Corinth Secondary

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
CS-20	**Fire Protection**				
	Procure and install smoke detectors	nr	14	120.00	1,680.00
	Procure and install fire alarm system; includes Manual Call Points, Wall mounted ringer, fire alarm control panels to suit 240V/1Ph/50Hz power supply and accessories.	sum	1	4,420.00	4,420.00
	Procure and install 5lb (Carbon dioxide type) fire extinguishers in the canteens and staffroom	nr	3	216.20	648.60
	Procure and install 10lb (Carbon dioxide type) fire extinguishers in the Recourse room. IT room and F&N Room	nr	3	253.70	761.10
	Recharge and service all fire extinguishers	nr	5	44.75	223.75
	Service and replace all fire hose reel cases	nr	5	444.44	2,222.20
	Install illuminated exit signs at strategic locations	nr	15	200.00	3,000.00
	Make provision for an emergency plan to be developed and approved by the Fire Service.	sum	1	500.00	500.00
CS-21	**Including DRR Education in the School Curriculum**				
	The inclusion of DRR Education at the school level through the integration of DRR topics and themes in regular classroom teaching and engaging students in DRR community outreach initiatives through co and extra-curricular activities.	sum	1	3,200.00	3,200.00
CS-22	**ESIA Recommendations**				
	Allow a provisional sum to address recommendations made under the ESIA as it particularly relates to physical improvements at the school	sum	1		5,000.00
	To Collection				**21,655.65**
	Collection				
		Page 1			601,317.14
		Page 2			189,165.50
		Page 3			21,655.65
	Base Cost				**812,138.29**
	Allowance for Demolition of works to be repaired - 3% of Base Cost				24,364.15
	Allowance for preliminaries - 7.5% of Base Cost				60,910.37
	Sub-total				**897,412.81**
	Allow 20% contingencies due to the nature of repairs and retrofit works				179,482.56
	Total				**1,076,895.38**
	Value Added Tax - 12.5% of Total				134,611.92
	Total Construction cost of repairs and retrofit works - Corinth Secondary School				**1,211,507.30**

Fond Assau Combined

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
FAC-01	**Disability Accessibility**				
	Equip washrooms with adequate handicap access	sum	1	2,500.00	2,500.00
	All ground floor class rooms to be made wheel-chair accessible	sum	1	10,000.00	10,000.00
	Increase all exit doors to match the requirements of the OECS Building Code	sum	1	17,750.00	17,750.00
FAC-02	**Exterior Doors, Exits and Entrances**				
	Install thresholds on external doors as required.	nr	71	100.00	7,100.00
	Install a third hinge at mid-height of all the doors - minimum 100 mm hinges to be used.	nr	70	25.00	1,750.00
	Fasten door frames into concrete surrounds with bolts or screws	nr	71	60.00	4,260.00
	Replace exterior doors with impact resistant doors suitable for use in HVHZ	nr	71	1,000.00	71,000.00
FAC-03	**Windows and shutters**				
	Install 150 mm concrete surround having minimum cube strength of 21 MPa at 28 day to all windows to ensure adequate anchorage.	sum	1	6,300.00	6,300.00
	Install insect screens	m^2	186	20.00	3,714.00
	Install hurricane shutters which are able to resist the impact of flying objects where standard windows are used	m^2	186	600.00	111,420.00
FAC-04	**Other Elements of the Building Envelope**				
	Replace all termite infested timber	sum	1	3,750.00	3,750.00
	Undertake termite treatment of buildings and compound	sum	1	1,200.00	1,200.00
FAC-05	**Safety of roofing**				
	Allow for replacing deteriorated sections or all of the fascia boards	lm	49	16.00	787.20
	Install additional fasteners at every trough at the eaves, hips, ridges and edges of gable roofs for the resistance of hurricane force winds.	nr	300	1.00	300.00
	Replace all fasteners and comply with OECS-BC 7th Edition	m^2	145	16.00	2,320.00
FAC-06	**Internal walls**				
	Repainting of building internal and external walls after completion of works	m^2	247	8.50	2,096.10
FAC-07	**Alternate water supply to regular water supply**				
	Allow for supply and installation of rainwater harvesting system with pump and first flush system	litres	19,170	0.75	14,377.50
FAC-08	**Water Distribution System**				
	Re-plumbing of buildings to facilitate dual water use - potable and rain water harvesting	sum	1	10,335.00	10,335.00
	Remove and replace all faucets in the lavatory sinks low volume water fixtures	nr	26	500.00	13,000.00
	Replace water closets with vandal-proof low-flush systems	nr	30	800.00	24,000.00
FAC-09	**Wastewater System**				
	Clean septic tank and inspect condition. Repair as necessary.	sum	1	2,000.00	2,000.00
	Storm Drainage System - roof and gutters				
	Allow for supply and replacement of damaged sections of roof gutters	lm	123	60.00	7,398.00
	To Collection				**317,357.80**

Fond Assau Combined

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
FAC-10	**Alternate Sources of Electricity**				
	Allow for supply and installation of a 15 KVA solar photovoltaic system as alternative power supply	sum	1	36,000.00	36,000.00
	Allow for supply and installation of a 15 KVA generator with accessories	sum	1	15,000.00	15,000.00
	Fuel Reserve - Procure and develop stores of fuel	sum	1	6,000.00	6,000.00
FAC-11	**Safety of Electrical Equipment**				
	Re-inspection and re-certification of building as required	sum	1	2,880.50	2,880.50
	Improve electrical systems; undertake up to 50% rewiring of the building as required	m^2	689	35.00	24,097.50
	Replace corroded electrical panel and covers for junction boxes	sum	1	809.15	809.15
	Upgrade the size of the transformer to 5KVA	nr	1	2,785.71	2,785.71
	Perform routine repairs and maintenance - Energy supply	sum	1	5,000.00	5,000.00
FAC-12	**Lighting System**				
	Improve the lighting in all areas based on the international standard for light levels.	m^2	689	5.00	3,443.50
	Install emergency lighting with battery power packs; 3 exit signs, 7 lights	nr	10	100.00	1,000.00
	Make provision for protection of emergency lighting	sum	1	500.00	500.00
FAC-13	**Safety of HVAC Components**				
	Perform routine serviceing of all spilt units	nr	4	80.00	320.00
FAC-14	**Information Technology**				
	Install an intercom system for the school	sum	1	1,400.00	1,400.00
FAC-15	**Fire Protection**				
	Procure and install smoke detectors	nr	10	120.00	1,200.00
	Procure and install fire alarm system; includes Manual Call Points (7), Wall mounted ringers (7), fire alarm control panels to suit 240V/1Ph/50Hz power supply and accessories.	sum	1	4,060.00	4,060.00
	Procure and install 10lb (Dry Chemical) fire extinguisher should be installed centrally on each block	nr	4	$ 162.22	648.88
	Procure and install a 5lb, (Carbon Dioxide) fire extinguisher should be installed near the exit of the Principal's Offcie	nr	1	$ 216.30	216.30
	Procure and install 10lb (Carbon Dioxide) fire extinguisher should be installed near the exit of the IT Lab	nr	1	$ 253.70	253.70
	Install permanent exits signage around the compund including indications of stairways, exits, and muster points.	nr	1	200.00	200.00
	Make provision for an emergency plan to be developed and approved by the Fire Service.	sum	1	500.00	500.00
FAC-16	**Including DRR Education in the School Curriculum**				
	The inclusion of DRR Education at the school level through the integration of DRR topics and themes in regular classroom teaching and engaging students in DRR community outreach initiatives through co and extra-curricular activities.	sum	1	3,200.00	3,200.00
	To Collection				**109,515.24**

Fond Assau Combined

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
	ESIA Recommendations				
	Allow a provisional sum to address recommendations made under the ESIA as it particularly relates to physical improvements at the school				5,000.00
	To Collection				**5,000.00**
	Collection				
		Page 1			317,357.80
		Page 2			109,515.24
		Page 3			5,000.00
	Base Cost				**431,873.04**
	Allowance for Demolition of works to be repaired - 3% of Base Cost				12,956.19
	Allowance for preliminaries - 7.5% of Base Cost				32,390.48
	Sub-total				**477,219.71**
	Allow 20% contingencies due to the nature of repairs and retrofit works				95,443.94
	Total				**572,663.65**
	Value Added Tax - 12.5% of Total				71,582.96
	Total Construction cost of repairs and retrofit works - Fond Assau Combine School				**644,246.61**

Patience Combined

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
PC-01	**Condition of the building - as per Engineer's drawings and specifications**				
	Undertake design check and retrofit beams with excessive deflection	sum	1		5,000.00
PC-02	**Disability Accessibility**				
	Equip washrooms with adequate handicap access	sum	1	2,500.00	2,500.00
	All ground floor class rooms to be made wheel-chair accessible	sum	1	11,000.00	11,000.00
	Increase all exit doors to match the requirements of the OECS Building Code	sum	1	14,000.00	14,000.00
PC-03	**Structural Integrity of Roofs**				
	Replacement of metal purlins and roofing	m^2	836	68.00	56,827.60
PC-04	**Exterior Doors, Exits and Entrances**				
	Install thresholds on external doors as required.	nr	20	100.00	2,000.00
	Install a third hinge at mid-height of all the doors - minimum 100 mm hinges to be used.	nr	45	25.00	1,125.00
	Fasten door frames into concrete surrounds with bolts or screws	nr	10	60.00	600.00
	Replace exterior doors with impact resistant doors suitable for use in HVHZ	nr	56	1,000.00	56,000.00
PC-05	**Windows and shutters**				
	Install 150 mm concrete surround having minimum cube strength of 21 MPa at 28 day to all windows to ensure adequate anchorage.	sum	1	780.00	780.00
	Install insect screens	m^2	175	20.00	3,502.00
	Install hurricane shutters which are able to resist the impact of flying objects where standard windows are used	m^2	46	600.00	27,840.00
PC-06	**Safety of roofing**				
	Allow for replacing deteriorated sections or all of the fascia boards	lm	170	8.50	1,447.47
	Install additional fasteners at every trough at the eaves, hips, ridges and edges of gable roofs for the resistance of hurricane force winds.	nr	300	1.00	300.00
	Replace all fasteners and comply with OECS-BC 7th Edition	m^2	836	16.00	13,376.00
PC-07	**Internal walls**				
	Repainting of building internal and external walls after completion of works	m^2	1,528	10.00	15,279.00
PC-08	**Alternate water supply to regular water supply**				
	Allow for supply and installation of rainwater harvesting system with pump and first flush system	litres	39,015	0.75	29,261.25
PC-09	**Water Distribution System**				
	Re-plumbing of buildings to facilitate dual water use - potable and rain water harvesting	sum	1	8,460.00	8,460.00
	Remove and replace all faucets in the lavatory sinks low volume water fixtures	nr	24	500.00	12,000.00
	Replace water closets with vandal-proof low-flush systems	nr	36	800.00	28,800.00
PC-10	**Storm Drainage System - site**				
	Improve and introduce drainage of the school compound	lm	50	110.00	5,500.00
	To Collection				**295,598.32**

Patience Combined

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
PC-11	**Storm Drainage System - roof and gutters**				
	Allow for supply and replacement of damaged sections of roof gutters	lm	51	60.00	3,060.00
PC-12	**Alternate Sources of Electricity**				
	Allow for supply and installation of a 15 KVA solar photovoltaic system as alternative power supply	sum	1	36,000.00	36,000.00
	Allow for supply and installation of a 15 KVA generator with accessories	sum	1	15,000.00	15,000.00
	Replace the electric water heater with solar water heater properly fixed to the roof framing	sum	1	2,500.00	2,500.00
	Fuel Reserve - Procure and develop stores of fuel	sum	1	6,000.00	6,000.00
PC-13	**Safety of Electrical Equipment**				
	Re-inspection and re-certification of building as required	sum	1	4,942.00	4,942.00
	Improve electrical systems; undertake up to 50% rewiring of the building as required	m^2	564	35.00	19,740.00
	Replace corroded outlets	nr	20	25.00	500.00
	Perform routine repairs and maintenance - Energy supply	sum	1	5,000.00	5,000.00
PC-14	**Lighting System**				
	Improve the lighting in all areas based on the international standard for light levels.	m^2	564	5.00	2,817.50
	Properly mount all lights that have come loose	nr	10	25.00	250.00
	Install emergency lighting with battery power packs.	nr	15	100.00	1,500.00
	Make provision for protection of emergency lighting	sum	1	500.00	500.00
PC-15	**Safety of HVAC Components**				
	Perform routine sevicing of all spilt units	nr	4	80.00	320.00
PC-16	**Information Technology**				
	Install an intercom system for the school	sum	1	1,400.00	1,400.00
PC-17	**Fire Protection**				
	Procure and install smoke detectors	nr	14	120.00	1,680.00
	Procure and install fire alarm system; includes Manual Call Points (6), Wall mounted ringers (8), fire alarm control panels to suit 240V/1Ph/50Hz power supply and accessories.	sum	1	4,120.00	4,120.00
	Repair or replace damaged fire hose reels and cases	nr	8	444.44	3,555.52
	Procure and install One 10 lbs. (Dry Chemical Type) on every floor, on every block (A,B,C and D) near the manual call points to be installed	nr	6	162.22	973.32
	One 5 lbs. (Carbon Dioxide Type) should be placed near the exit of the Science Lab, IT Lab, Staffroom and Principal's Office	nr	4	215.93	863.72
	One 10 lbs. (Carbon Dioxide Type) should be placed near the kitchen, along with a fire blanket.	nr	1	253.70	253.70
	Fire proof steel beams and columns	sum	1		-
	Install permanent exits signage around the compund includiing indications of stairways, exits, and muster points.	sum	1	200.00	200.00
	Make provision for an emergency plan to be developed and approved by the Fire Service.	sum	1	500.00	500.00
PC-18	**Including DRR Education in the School Curriculum**				
	The inclusion of DRR Education at the school level through the integration of DRR topics and themes in regular classroom teaching and engaging students in DRR community outreach initiatives through co and extra-curricular activities.	sum	1	3,200.00	3,200.00
	To Collection				**114,875.76**

Patience Combined

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
PC-19	**ESIA Recommendations**				
	Allow a provisional sum to address recommendations made under the ESIA as it particularly relates to physical improvements at the school				5,000.00
	To Collection				**5,000.00**
	Collection				
		Page 1			295,598.32
		Page 2			114,875.76
		Page 3			5,000.00
	Base Cost				**415,474.08**
	Allowance for Demolition of works to be repaired - 3% of Base Cost				12,464.22
	Allowance for preliminaries - 7.5% of Base Cost				31,160.56
	Sub-total				**459,098.85**
	Allow 20% contingencies due to the nature of repairs and retrofit works				91,819.77
	Total				**550,918.62**
	Value Added Tax - 12.5% of Total				68,864.83
	Total Construction cost of repairs and retrofit works - Patience Combined School				**619,783.45**

Micoud Primary

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
MP-01	**Condition of the building - as per Engineer's drawings and specifications**				
	Repair cracks in concrete walls and structural elements	sum	1	5,000.00	5,000.00
	Allow for scaling off the rust on the structural beams and columns, applying a rust inhibitor and repainting	sum	1		-
MP-02	**Disability Accessibility**				
	Equip washrooms with adequate handicap access	sum	1	2,500.00	2,500.00
	All ground floor class rooms to be made wheel-chair accessible	sum	1	33,000.00	33,000.00
	Increase all exit doors to match the requirements of the OECS Building Code	sum	1	17,500.00	17,500.00
MP-03	**Exterior Doors, Exits and Entrances**				
	Install thresholds on external doors as required.	nr	70	100.00	7,000.00
	Install a third hinge at mid-height of all the doors - minimum 100 mm hinges to be used.	nr	48	25.00	1,200.00
	Fasten door frames into concrete surrounds with bolts or screws	nr	35	60.00	2,100.00
	Replace exterior doors with impact resistant doors suitable for use in HVHZ	nr	70	1,000.00	70,000.00
	Install panic bar locks in the library, computer room and music room which are likely to have occupants while the doors are closed	nr	4	650.00	2,600.00
MP-04	**Windows and shutters**				
	Install 150 mm concrete surround having minimum cube strength of 21 MPa at 28 day to all windows to ensure adequate anchorage.	sum	1	4,200.00	4,200.00
	Install insect screens	m^2	366	20.00	7,310.00
	Install hurricane shutters which are able to resist the impact of flying objects where standard windows are used	m^2	339	600.00	203,520.00
	Remove and replace the welded wire mesh openings with operable windows	nr	20	1,200.00	24,000.00
MP-05	**Safety of roofing**				
	Install additional fasteners at every trough at the eaves, hips, ridges and edges of gable roofs for the resistance of hurricane force winds.	nr	300	1.00	300.00
	Securing roof deck and replace roof covering gauge 24 sheets as a minimum	m^2	163	68.00	11,063.60
	Replace all fasteners and comply with OECS-BC 7th Edition	m^2	789	16.00	12,621.12
MP-06	**Alternate water supply to regular water supply**				
	Allow for supply and installation of rainwater harvesting system with pump and first flush system	litres	57,240	0.75	42,930.00
MP-07	**Water Distribution System**				
	Re-plumbing of buildings to facilitate dual water use - potable and rain water harvesting	sum	1	9,590.00	9,590.00
	Remove and replace all faucets in the lavatory sinks low volume water fixtures	nr	30	500.00	15,000.00
	Replace water closets with vandal-proof low-flush systems	nr	25	800.00	20,000.00
MP-08	**Storm Drainage System - roof and gutters**				
	Allow for supply and replacement of damaged sections of roof gutters	lm	169	60.00	10,167.60
MP-09	**Alternate Sources of Electricity**				
	Allow for supply and installation of a 15 KVA solar photovoltaic system as alternative power supply	nr	1	36,000.00	36,000.00
	Allow for supply and installation of a 15 KVA generator with accessories	nr	1	15,000.00	15,000.00
	Fuel Reserve - Procure and develop stores of fuel	sum	1	6,000.00	6,000.00
	To Collection				**558,602.32**

Micoud Primary

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
MP-10	**Safety of Electrical Equipment**				
	Re-inspection and re-certification of building as required	sum	1	7,605.50	7,605.50
	Improve electrical systems; undertake up to 50% rewiring of the building as required	m^2	959	35.00	33,565.00
	Replace/repair broken outlets and light switches	sum	1	197.51	197.51
	Replace outdated panel (6 Way 1Ph, 4 breakers)	sum	1	2,524.00	2,524.00
	Perform routine repairs and maintenance - Energy supply	sum	1	5,000.00	5,000.00
MP-11	**Lighting System**				
	Improve the lighting in all areas based on the international standard for light levels.	m^2	959	5.00	4,794.53
	Install emergency lighting with battery power packs	nr	18	100.00	1,800.00
	Replace all broken 4ft. LED Single Fixture	nr	12	49.60	595.20
	Replace all broken 4ft. LED Single Fixture (Waterbroof)	nr	11	111.11	1,222.21
	Replace all broken 4ft. LED Double Fixture	nr	1	56.91	56.91
	Change all necessary bulbs (4ft. LED Bulbs)	nr	21	27.78	583.38
	Make provision for protection of emergency lighting	sum	1	500.00	500.00
MP-12	**Safety of HVAC Components**				
	Perform major repairs and maintenance - Pipes and Insulation	sum	1	500.00	350.00
	Routine servicing of all spilt units	nr	3	80.00	240.00
	Increase capacity of system - Cooling generating systems	sum	1		-
MP-13	**Information Technology**				
	Install an intercom system for the school	sum	1	1,400.00	1,400.00
MP-14	**Fire Protection**				
	Procure and install smoke detectors	nr	7	120.00	840.00
	Procure and install fire alarm system; includes Manual Call Points (8), Wall mounted ringers (7), fire alarm control panels to suit 240V/1Ph/50Hz power supply and accessories.	sum	1	4,120.00	4,120.00
	Procure and install one 5lbs. (Dry Chemical Type) fire extinguisher in the Staffroom exit, Kitchen exit, Principal's Office, the reception area, Panel room and the Lab	nr	6	113.70	682.20
	Procure and install one 5lbs. (Carbon Dioxide Type) fire extinguisher in the Library	nr	1	216.30	216.30
	Procure and install one 10lbs. (Dry Chemical Type) fire extinguisher near the staircase landing on each block	nr	6	162.22	973.32
	Fire proof steel beams and columns	sum	1		-
	Install illuminated exit signs at strategic locations	nr	10	200.00	2,000.00
	Make provision for an emergency plan to be developed and approved by the Fire Service.	sum	1	500.00	500.00
MP-15	**Including DRR Education in the School Curriculum**				
	The inclusion of DRR Education at the school level through the integration of DRR topics and themes in regular classroom teaching and engaging students in DRR community outreach initiatives through co and extra-curricular activities.	sum	1	3,200.00	3,200.00
	To Collection				**72,966.06**

Micoud Primary

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
MP-16	**ESIA Recommendations**				
	Allow a provisional sum to address recommendations made under the ESIA as it particularly relates to physical improvements at the school				5,000.00
	To Collection				**5,000.00**
	Collection				
		Page 1			558,602.32
		Page 2			72,966.06
		Page 3			5,000.00
	Base Cost				**636,568.38**
	Allowance for Demolition of works to be repaired - 3% of Base Cost				19,097.05
	Allowance for preliminaries - 7.5% of Base Cost				47,742.63
	Sub-total				**703,408.05**
	Allow 20% contingencies due to the nature of repairs and retrofit works				140,681.61
	Total				**844,089.67**
	Value Added Tax - 12.5% of Total				105,511.21
	Total Construction cost of repairs and retrofit works - Micoud Primary School				**949,600.87**

Desruisseaux Combined

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
DC-01	**Condition of the building - as per Engineer's drawings and specifications**				
	Repair and increase strength of concrete columns	nr	10	300.00	3,000.00
	Repair cracks in reinforced concrete floor slab surface	sum	1	1,000.00	1,000.00
	Repair cracks in concrete walls and structural elements	sum	1	1,000.00	1,000.00
	Repair beams and columns with heavy spalling and honeycombing	sum	1	2,000.00	2,000.00
	Undertake design check and retrofit beams with excessive deflection	sum	1	2,500.00	2,500.00
DC-02	**Safety of Foundations - as per Engineer's details and specifications**				
	Retrofit the severely damaged foundation walls / strip and spread footings.	sum	1	7,050.00	7,050.00
DC-03	**Disability Accessibility**				
	Equip washrooms with adequate handicap access	sum	1	2,500.00	2,500.00
	All ground floor class rooms to be made wheel-chair accessible	sum	1	15,000.00	15,000.00
	Increase all exit doors to match the requirements of the OECS Building Code	sum	1	5,500.00	5,500.00
DC-04	**Structural Integrity of Roofs**				
	Remove and reconstruct entire roof truss system	m²	282	200.00	56,328.48
	Securing roof deck and replace roof covering gauge 24 sheets as a minimum	m²	282	68.00	19,151.68
DC-05	**Exterior Doors, Exits and Entrances**				
	Install thresholds on external doors as required.	nr	22	100.00	2,200.00
	Install a third hinge at mid-height of all the doors - minimum 100 mm hinges to be used.	nr	19	25.00	475.00
	Fasten door frames into concrete surrounds with bolts or screws	nr	22	60.00	1,320.00
	Replace exterior doors with impact resistant doors suitable for use in HVHZ	nr	22	1,000.00	22,000.00
DC-06	**Windows and shutters**				
	Install 150 mm concrete surround having minimum cube strength of 21 MPa at 28 day to all windows to ensure adequate anchorage.	sum	1	2,940.00	2,940.00
	Install insect screens	m²	826	20.00	16,516.00
	Install hurricane shutters which are able to resist the impact of flying objects where standard windows are used	m²	1,059	600.00	635,364.00
	Remove and replace the welded wire mesh openings with operable windows	nr	24	1,200.00	28,800.00
DC-07	**Other Elements of the Building Envelope**				
	Repainting of building internal and external walls after completion of works	m²	853	10.00	8,529.48
	Replace all termite infested timber	sum	1	2,000.00	2,000.00
	Undertake termite treatment of buildings and compound	sum	1	1,200.00	1,200.00
DC-08	**Safety of roofing**				
	Allow for replacing deteriorated sections or all of the fascia boards; 50%	lm	99	8.50	838.95
	Install additional fasteners at every trough at the eaves, hips, ridges and edges of gable roofs for the resistance of hurricane force winds.	nr	400	1.00	400.00
	Replace all fasteners and comply with OECS-BC 7th Edition	m²	768	16.00	12,288.00
DC-09	**Parapets and other outside Elements (railings, ornaments)**				
	Cut and dispose of the pine trees and their roots close to Block C	sum	1	500.00	500.00
	Create an alternative exit on the eastern side of the perimeter	sum	1		20,000.00
	To Collection				**870,401.59**

INCREASING RESILIENCE OF THE EDUCATION SYSTEM TO CLIMATE CHANGE IN SAINT LUCIA

Desruisseaux Combined

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
DC-10	**Internal walls - concrete masonry units finishd with mortar plastering**				
	Replace badly damaged bifold doors separating the classrooms.	nr	3	850.00	2,550.00
DC-11	**Safety of stairways and Ramps**				
	Reconstruction of external staircase	sum	1	2,485.00	2,485.00
DC-12	**Alternate water supply to regular water supply**				
	Allow for supply and installation of rainwater harvesting system with pump and first flush system	litres	33,750	0.75	25,312.50
DC-13	**Water Distribution System**				
	Re-plumbing of buildings to facilitate dual water use - potable and rain water harvesting	sum	1	7,680.00	7,680.00
	Remove and replace all faucets in the lavatory sinks low volume water fixtures	nr	11	500.00	5,500.00
	Replace water closets with vandal-proof low-flush systems	nr	16	800.00	12,800.00
DC-14	**Wastewater System**				
	Clean septic tank and inspect condition. Repair as necessary.	sum	1	2,500.00	2,500.00
	Storm Drainage System - roof and gutters				
	Allow for supply and replacement of damaged sections of roof gutters	lm	99	60.00	5,922.00
DC-15	**Alternate Sources of Electricity**				
	Allow for supply and installation of a 15 KVA solar photovoltaic system as alternative power supply	nr	1	36,000.00	36,000.00
	Allow for supply and installation of a 15 KVA generator with accessories	nr	1	15,000.00	15,000.00
	Fuel Reserve - Procure and develop stores of fuel	sum	1	6,000.00	6,000.00
DC-16	**Safety of Electrical Equipment**				
	Re-inspection and re-certification of building as required	sum	1	5,383.00	5,383.00
	Improve electrical systems; undertake up to 50% rewiring of the building as required	m²	768	35.00	26,873.00
	Replace out dated electrical panel (6 way 1Ph, 3 breakers)	sum	1	2,118.00	2,118.00
	Replace broken outlets and switches	sum	1	43.20	43.20
	Perform routine repairs and maintenance - Energy supply	sum	1	5,000.00	5,000.00
DC-17	**Lighting System**				
	Improve the lighting in all areas based on the international standard for light levels.	m²	529	5.00	2,647.00
	Install emergency lighting with battery power packs	nr	16	100.00	1,600.00
	Make provision for protection of emergency lighting	sum	1	500.00	500.00
DC-18	**Safety of HVAC Components**				
	Perform routine servicing of all split units	nr	4	80.00	320.00
DC-19	**Information Technology**				
	Install an intercom system for the school	sum	1	1,400.00	1,400.00
	To Collection				**167,633.70**

Desruisseaux Combined

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
DC-20	**Fire Protection**				
	Procure and install smoke detectors	sum	5	120.00	600.00
	Procure and install fire alarm system; includes Manual Call Points (6), Wall mounted ringers (6), fire alarm control panels to suit 240V/1Ph/50Hz power supply and accessories.	sum	1	3,880.00	3,880.00
	Procure and install one 5lbs. (Carbon Dioxide Type) near the exit of the Resource Room	nr	1	216.30	216.30
	Procure ans install one 10bs. (Carbon Dioxide Type) near the exit of the IT Lab.	nr	1	253.70	253.70
	Procure and install one 10bs. (Dry Chemical Type) near the staircase landing on each floor of each block.	nr	5	113.70	568.50
	Service the disharged 5lbs Fire extinguisher found in the Principal's Office	nr	1	41.45	41.45
	Make provision for an emergency plan to be developed and approved by the Fire Service.	sum	1	500.00	500.00
DC-21	**Including DRR Education in the School Curriculum**				
	The inclusion of DRR Education at the school level through the integration of DRR topics and themes in regular classroom teaching and engaging students in DRR community outreach initiatives through co and extra-curricular activities.	sum	1	3,200.00	3,200.00
DC-22	**ESIA Recommendations**				
	Allow a provisional sum to address recommendations made under the ESIA as it particularly relates to physical improvements at the school	sum	1		5,000.00
	To Collection				**14,259.95**
	Collection				
		Page 1			870,401.59
		Page 2			167,633.70
		Page 3			14,259.95
	Base Cost				**1,052,295.24**
	Allowance for Demolition of works to be repaired - 3% of Base Cost				31,568.86
	Allowance for preliminaries - 7.5% of Base Cost				78,922.14
	Sub-total				**1,162,786.24**
	Allow 20% contingencies due to the nature of repairs and retrofit works				232,557.25
	Total				**1,395,343.49**
	Value Added Tax - 12.5% of Total				174,417.94
	Total Construction cost of repairs and retrofit works -Desruisseaux Combined School				**1,569,761.43**

Vieux Fort Primary

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
VFP-01	**Condition of the building - as per Engineer's drawings and specifications**				
	Allow for scaling off the rust on the structural beams and columns, applying a rust inhibitor and repainting	sum	1		7,500.00
VFP-02	**Disability Accessibility**				
	Equip washrooms with adequate handicap access	sum	1	2,500.00	2,500.00
	All ground floor class rooms to be made wheel-chair accessible	sum	1	13,500.00	13,500.00
	Increase all exit doors to match the requirements of the OECS Building Code	sum	1	15,750.00	15,750.00
VFP-03	**Structural Integrity of Roofs**				
	Replacement of metal purlins and roofing	m^2	1,537	68.00	104,516.00
VFP-04	**Exterior Doors, Exits and Entrances**				
	Install thresholds on external doors as required.	nr	63	100.00	6,300.00
	Install a third hinge at mid-height of all the doors - minimum 100 mm hinges to be used.	nr	63	25.00	1,575.00
	Fasten door frames into concrete surrounds with bolts or screws	nr	63	60.00	3,780.00
	Replace exterior doors with impact resistant doors suitable for use in HVHZ	nr	63	1,000.00	63,000.00
	Install panic bar locks in the library, computer room and music room which are likely to have occupants while the doors are closed	nr	4	650.00	2,600.00
VFP-05	**Windows and shutters**				
	Install 150 mm concrete surround having minimum cube strength of 21 MPa at 28 day to all windows to ensure adequate anchorage.	sum	1	490.00	490.00
	Install insect screens	m^2	460	20.00	9,203.20
	Install hurricane shutters which are able to resist the impact of flying objects where standard windows are used	m^2	460	600.00	276,096.00
VFP-06	**Other Elements of the Building Envelope**				
VFP-07	**Safety of roofing**				
	Allow for replacing deteriorated sections or all of the fascia boards	lm	199	8.50	1,693.20
	Install additional fasteners at every trough at the eaves, hips, ridges and edges of gable roofs for the resistance of hurricane force winds.	nr	500	1.00	500.00
	Replace all fasteners and comply with OECS-BC 7th Edition	m^2	1,537	16.00	24,592.00
VFP-08	**Alternate water supply to regular water supply**				
	Allow for supply and installation of rainwater harvesting system with pump and first flush system	litres	60,750	0.75	45,562.50
VFP-09	**Water Distribution System**				
	Re-plumbing of buildings to facilitate dual water use - potable and rain water harvesting	sum	1	7,690.00	7,690.00
	Remove and replace all faucets in the lavatory sinks low volume water fixtures	nr	22	500.00	11,000.00
	Replace water closets with vandal-proof low-flush systems	nr	28	800.00	22,400.00
VFP-10	**Wastewater System**				
	Clean septic tank and inspect condition. Repair as necessary.	sum	1	2,000.00	2,000.00
VFP-11	**Storm Drainage System - site**				
	Improve and introduce drainage of the school compound	lm	50	110.00	5,500.00
	Allow for routine maintenance and cleaning of site storm water management system	sum	1	5,000.00	5,000.00
VFP-12	**Storm Drainage System - roof and gutters**				
	Allow for supply and replacement of damaged sections of roof gutters; 100%	lm	398	60.00	23,904.00
	To Collection				**656,651.90**

Vieux Fort Primary

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
VFP-13	**Alternate Sources of Electricity**				
	Allow for supply and installation of a 15 KVA solar photovoltaic system as alternative power supply	sum	1	36,000.00	36,000.00
	Allow for supply and installation of a 15 KVA generator with accessories	sum	1	15,000.00	15,000.00
	Fuel Reserve - Procure and develop stores of fuel	sum	1	6,000.00	6,000.00
VFP-14	**Safety of Electrical Equipment**				
	Re-inspection and re-certification of building as required	sum	1	5,379.50	5,379.50
	Improve electrical systems; undertake up to 50% rewiring of the building as required	m^2	769	35.00	26,915.00
	Replace corroded outlets and switches	sum	1	80.16	80.16
	Replace the outdated main switch with Main Panel	sum	1	1,000.00	1,000.00
	Perform routine repairs and maintenance - Energy supply	sum	1	3,000.00	3,000.00
VFP-15	**Lighting System**				
	Improve the lighting in all areas based on the international standard for light levels.	m^2	769	5.00	3,842.50
	Replace/Repair all broken 2ft. LED Single Fixture	nr	1.00	25.93	25.93
	Replace/Repair all broken 4ft. LED Single Fixture	nr	3.00	49.57	148.71
	Replace all broken 4ft. LED Double Fixture	nr	21.00	56.91	1,195.11
	Change all necessary bulbs (4ft. LED Bulbs)	nr	20.00	27.78	555.60
	Install emergency lighting with battery power packs	nr	8.00	100.00	800.00
	Make provision for protection of emergency lighting	sum	1	500.00	500.00
VFP-16	**Safety of HVAC Components**				
	Perform major repairs and maintenance - Pipes and Insulation	sum	1	200.00	200.00
VFP-17	**Information Technology**				
	Install an intercom system for the school	sum	1	1,400.00	1,400.00
VFP-18	**Fire Protection**				
	Procure and install smoke detectors	nr	8	120.00	960.00
	Procure and install fire alarm system; includes Manual Call Points (4), Wall mounted ringers (4), fire alarm control panels to suit 240V/1Ph/50Hz power supply and accessories.	sum	1	3,520.00	3,520.00
	Procure and install one 5lbs.(Carbon Dioxide Type) near the exit of the canteen, Principal's Office, Staffroom and Library	nr	4	216.30	865.20
	Fire proof steel beams and columns	sum	1		-
	Install illuminated exit signs at strategic locations	nr	8	200.00	1,600.00
	Redesign the layout of the the stoves and gas tanks in the cramped area in the canteen or properly store the LPG Gas tanks to an acceptable distance away from the stoves	sum	1	150.00	150.00
	Make provision for an emergency plan to be developed and approved by the Fire Service.	sum	1	500.00	500.00
VFP-19	**Including DRR Education in the School Curriculum**				
	The inclusion of DRR Education at the school level through the integration of DRR topics and themes in regular classroom teaching and engaging students in DRR community outreach initiatives through co and extra-curricular activities.	sum	1	3,200.00	3,200.00
	To Collection				**112,837.71**

Vieux Fort Primary

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
VFP-20	**ESIA Recommendations**				
	Allow a provisional sum to address recommendations made under the ESIA as it particularly relates to physical improvements at the school				5,000.00
	To Collection				**5,000.00**
	Collection				
		Page 1			656,651.90
		Page 2			112,837.71
		Page 3			5,000.00
	Base Cost				**774,489.61**
	Allowance for Demolition of works to be repaired - 3% of Base Cost				23,234.69
	Allowance for preliminaries - 7.5% of Base Cost				58,086.72
	Sub-total				**855,811.02**
	Allow 20% contingencies due to the nature of repairs and retrofit works				171,162.20
	Total				**1,026,973.22**
	Value Added Tax - 12.5% of Total				128,371.65
	Total Construction cost of repairs and retrofit works - Vieux-Fort Primary School				**1,155,344.88**

Vieux Fort Infant

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
VFI-01	**Condition of the building - as per Engineer's drawings and specifications**				
	Demolish and reconstruct entire school Block; Blocks B and C	m²	119	1,720.00	204,267.20
VFI-02	**Safety of Foundations - as per Engineer's details and specifications**				
	Retrofit the severely damaged foundation walls / strip and spread footings.	sum	1	9,400.00	9,400.00
VFI-03	**Disability Accessibility**				
	Equip washrooms with adequate handicap access	sum	1	2,500.00	2,500.00
	All ground floor class rooms to be made wheel-chair accessible	sum	1	6,500.00	6,500.00
	Increase all exit doors to match the requirements of the OECS Building Code	sum	1	2,250.00	2,250.00
VFI-04	**Exterior Doors, Exits and Entrances**				
	Install thresholds on external doors as required.	nr	9	100.00	900.00
	Fasten door frames into concrete surrounds with bolts or screws	nr	9	60.00	540.00
	Replace exterior doors with impact resistant doors suitable for use in HVHZ	nr	9	1,000.00	9,000.00
VFI-05	**Windows and shutters**				
	Install 150 mm concrete surround having minimum cube strength of 21 MPa at 28 day to all windows to ensure adequate anchorage.	sum	1	1,680.00	1,680.00
	Install insect screens	m²	60	20.00	1,204.00
	Install hurricane shutters which are able to resist the impact of flying objects where standard windows are used	m²	60	600.00	36,120.00
VFI-06	**Safety of roofing**				
	Install additional fasteners at every trough at the eaves, hips, ridges and edges of gable roofs for the resistance of hurricane force winds.	nr	200	1.00	200.00
	Replace all fasteners and comply with OECS-BC 7th Edition	m²	632	16.00	10,118.72
VFI-07	**Internal walls - concrete masonry units finishd with mortar plastering**				
	Repainting of building internal and external walls after completion of works	m²	984	10.00	9,838.00
VFI-08	**Alternate water supply to regular water supply**				
	Allow for supply and installation of rainwater harvesting system with pump and first flush system	litres	13,500	0.75	10,125.00
VFI-09	**Water Distribution System**				
	Re-plumbing of buildings to facilitate dual water use - potable and rain water harvesting	sum	1	6,003.70	6,003.70
	Remove and replace all faucets in the lavatory sinks low volume water fixtures	nr	12	500.00	6,000.00
	Replace water closets with vandal-proof low-flush systems	nr	16	800.00	12,800.00
VFI-10	**Wastewater System**				
	Clean septic tank and inspect condition. Repair as necessary.	sum	1	2,000.00	2,000.00
VFI-11	**Storm Drainage System - roof and gutters**				
	Allow for supply and replacement of damaged sections of roof gutters	lm	109	60.00	6,561.60
	To Collection				**338,008.22**

Vieux Fort Infant

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
VFI-12	**Alternate Sources of Electricity**				
	Allow for supply and installation of a 15 KVA solar photovoltaic system as alternative power supply	sum	1	36,000.00	36,000.00
	Allow for supply and installation of a 15 KVA generator with accessories	sum	1	15,000.00	15,000.00
	Fuel Reserve - Procure and develop stores of fuel	sum	1	6,000.00	6,000.00
VFI-13	**Safety of Electrical Equipment**				
	Re-inspection and re-certification of building as required	sum	1	3,795.40	3,795.40
	Improve electrical systems; undertake up to 50% rewiring of the building as required	m²	542	35.00	18,970.00
	Replace all damaged outlets and switches	sum	1	49.36	49.36
	Perform routine repairs and maintenance - Energy supply	sum	1	3,000.00	3,000.00
VFI-14	**Lighting System**				
	Improve the lighting in all areas based on the international standard for light levels.	m²	542	5.00	2,711.00
	Change all necessary bulbs	nr	21	27.78	583.38
	Install emergency lighting with battery power packs	nr	10	100.00	1,000.00
	Make provision for protection of emergency lighting	sum	1	500.00	500.00
VFI-15	**Safety of HVAC Components**				
	Perform routine servicing of all split units	nr	3	80.00	240.00
VFI-16	**Information Technology**				
	Install an intercom system for the school	sum	1	1,400.00	1,400.00
VFI-17	**Fire Protection**				
	Service Fire Alarm System to ensure early detection	sum	1	500.00	500.00
	Procure and install one 5lbs. (Carbon Dioxide Type) fire extinguisher in the kitchen	nr	1	216.30	216.30
	Procure and install one 5lbs. (Dry Chemical Type) fire extinguisher in the electrical room	nr	1	113.70	113.70
	Procure and install one 10lbs. (Dry Chemical Type) fire extinguisher at the top of the staircase landing on the eastern side	nr	1	162.22	162.22
	Procure and install one 10lbs. (Carbon Dioxide Type) fire extinguisher in the IT Room	nr	1	253.70	253.70
	Service the 10lb. (Dry Chemical Type) extinguisher that was discharged and relocate the 10lbs. (Dry Chemical Type) fire extinguisher in the staffroom to the alternative exit in that room.	sum	1	66.44	66.44
	Fire proof steel beams and columns	sum	1		-
	Make provision for an emergency plan to be developed and approved by the Fire Service.	sum	1	500.00	500.00
VFI-18	**Including DRR Education in the School Curriculum**				
	The inclusion of DRR Education at the school level through the integration of DRR topics and themes in regular classroom teaching and engaging students in DRR community outreach initiatives through co and extra-curricular activities.	sum	1	3,200.00	3,200.00
	To Collection				**94,261.50**

Vieux Fort Infant

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
VFI-19	**ESIA Recommendations**				
	Allow a provisional sum to address recommendations made under the ESIA as it particularly relates to physical improvements at the school				5,000.00
	To Collection				**5,000.00**
	Collection				
		Page 1			338,008.22
		Page 2			94,261.50
		Page 3			5,000.00
	Base Cost				**437,269.72**
	Allowance for Demolition of works to be repaired - 3% of Base Cost				13,118.09
	Allowance for preliminaries - 7.5% of Base Cost				32,795.23
	Sub-total				**483,183.04**
	Allow 20% contingencies due to the nature of repairs and retrofit works				96,636.61
	Total				**579,819.65**
	Value Added Tax - 12.5% of Total				72,477.46
	Total Construction cost of repairs and retrofit works - Vieux Fort Infant School				**652,297.10**

Saltibus Combined

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
SC-01	**Exterior Doors, Exits and Entrances**				
	Install thresholds on external doors as required.	nr	44	100.00	4,400.00
	Install a third hinge at mid-height of all the doors - minimum 100 mm hinges to be used.	nr	31	25.00	775.00
	Fasten door frames into concrete surrounds with bolts or screws	nr	44	60.00	2,640.00
	Replace exterior doors with impact resistant doors suitable for use in HVHZ	nr	44	1,000.00	44,000.00
SC-02	**Windows and shutters**				
	Install 150 mm concrete surround having minimum cube strength of 21 MPa at 28 day to all windows to ensure adequate anchorage.	sum	1	1,610.00	1,610.00
	Install insect screens	m²	229	20.00	4,570.00
	Install hurricane shutters which are able to resist the impact of flying objects where standard windows are used	m²	116	600.00	69,300.00
	Remove & replace the welded wire mesh openings with operable windows	nr	8	1,200.00	9,600.00
SC-3	**Safety of roofing**				
	Securing roof deck and replace roof covering gauge 24 sheets as a minimum	m²	167	68.00	11,383.20
SC-04	**Parapets and other outside Elements (railings, ornaments)**				
	Improve access to school entrance - roadway and gate	sum	1	5,000.00	5,000.00
SC-05	**Internal walls - concrete masonry units finishd with mortar plastering**				
	Repainting of building internal and external walls after completion of works	m²	1,125	10.00	11,251.00
	Replace all termite infested timber	sum	1		-
	Undertake termite treatment of buildings and compound	sum	1	1,200.00	1,200.00
SC-06	**Water Reserves**				
	Procurement and installation of additional potable water storage tanks	litres	37,773	0.75	28,329.71
	Removal of tanks from the roof could be considered. Construct ground slab and install a solar powered water pump.	sum	1	2,500.00	2,500.00
SC-07	**Alternate water supply to regular water supply**				
	Allow for supply and installation of rainwater harvesting system with pump and first flush system with capacity equivalent to 30% of building consumption	litres	11,332	0.75	8,498.91
SC-08	**Water Distribution System**				
	Re-plumbing of buildings to facilitate dual water use - potable and rain water harvesting	sum	1	3,250.00	3,250.00
	Remove and replace all faucets in the lavatory sinks low volume water fixtures	nr	10	500.00	5,000.00
	Replace water closets with vandal-proof low-flush systems	nr	15	800.00	12,000.00
SC-09	**Wastewater System**				
	Clean septic tank and inspect condition. Repair as necessary.	sum	1	2,000.00	2,000.00
SC-10	**Alternate Sources of Electricity**				
	Allow for supply and installation of a 15 KVA solar photovoltaic system as alternative power supply	sum	1	36,000.00	36,000.00
	Allow for supply and installation of a 15 KVA generator with accessories	sum	1	15,000.00	15,000.00
	Fuel Reserve - Procure and develop stores of fuel	sum	1	6,000.00	6,000.00
	To Collection				**284,307.82**

Saltibus Combined

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
SC-11	**Safety of Electrical Equipment**				
	Re-inspection and re-certification of building as required	sum	1	2,271.50	2,271.50
	Improve electrical systems; undertake up to 50% rewiring of the building as required	m²	325	35.00	11,357.50
	Replace broken 4ft LED Single Fixtures and change bulbs	nr	4	77.35	309.40
	Perform routine repairs and maintenance - Energy supply	sum	1	3,000.00	3,000.00
SC-12	**Lighting System**				
	Improve the lighting in all areas based on the international standard for light levels.	m²	649	5.00	3,245.00
	Install emergency lighting with battery power packs; Includes 6 exit signs and 5 lights	sum	1	1,100.00	1,100.00
	Make provision for protection of emergency lighting	sum	1	500.00	500.00
SC-13	**Safety of HVAC Components**				
	Perform routine servicing of all split units	nr	5	80.00	400.00
SC-14	**Information Technology**				
	Install an intercom system for the school	sum	1	1,400.00	1,400.00
SC-15	**Fire Protection**				
	Procure and install smoke detectors	nr	10	120.00	1,200.00
	Procure and install fire alarm system; includes Manual Call Points (5), Wall mounted ringers (5), fire alarm control panels to suit 240V/1Ph/50Hz power supply and accessories.	sum	1	3,700.00	3,700.00
	Procure and install one 5lbs. (Dry Chemical Type) fire extinguisher near the exit of the kitchen, library and staffroom.	nr	3	113.70	341.10
	Procure and install one 10lbs. (Dry Chemical Type) fire extinguisher near the top and bottom of the staircase landing of each block and at each end of the infant block.	nr	7	216.30	1,514.10
	Install permanent exit signage around the compound including indications of stairways, exists and muster points	sum	1	200.00	200.00
	Make provision for an emergency plan to be developed and approved by the Fire Service.	sum	1	500.00	500.00
SC-16	**Disability Accessibility**				
	Equip washrooms with adequate handicap access	sum	1	2,500.00	2,500.00
	All ground floor class rooms to be made wheel-chair accessible	sum	1	7,500.00	7,500.00
	Increase all exit doors to match the requirements of the OECS Building Code	sum	1	11,000.00	11,000.00
SC-17	**Including DRR Education in the School Curriculum**				
	The inclusion of DRR Education at the school level through the integration of DRR topics and themes in regular classroom teaching and engaging students in DRR community outreach initiatives through co and extra-curricular activities.	sum	1	3,200.00	3,200.00
	To Collection				**55,238.60**

Saltibus Combined

Task No.	Interventions/Improvements	Unit	Quantity	Unit Rate (USD)	Total (USD)
SC-18	**ESIA Recommendations**				
	Allow a provisional sum to address recommendations made under the ESIA as it particularly relates to physical improvements at the school				5,000.00
	To Collection				**5,000.00**
	Collection				
		Page 1			284,307.82
		Page 2			55,238.60
		Page 3			5,000.00
	Base Cost				**344,546.42**
	Allowance for Demolition of works to be repaired - 3% of Base Cost				10,336.39
	Allowance for preliminaries - 7.5% of Base Cost				25,840.98
	Sub-total				**380,723.79**
	Allow 20% contingencies due to the nature of repairs and retrofit works				76,144.76
	Total				**456,868.55**
	Value Added Tax - 12.5% of Total				57,108.57
	Total Construction cost of repairs and retrofit works - Saltibus Combined School				**513,977.12**

Annex 6. Rapid Climate Vulnerability Assessment for Twelve Schools – Saint Lucia.

- **Written by:** ECMC St. Lucia.
- **Exact title of report**: Rapid Climate Vulnerability Assessment for Twelve Schools.
- **Date of report:** July 22, 2021.

Executive Summary

The vulnerability of Saint Lucia and Antigua and Barbuda to climate-related shocks is likely to increase unless their education sectors improve their capacity to anticipate, prepare, adapt and become more resilient to such events. Some of the public schools designated as emergency shelters in these two Small Island Development States (SIDS) are considered insufficient in terms of structural capacity to withstand a Category 5 Hurricane as well as ensuring minimum disruption to the populations' education system. Therefore, it is necessary to implement a new approach to increase the resilience of those schools, particularly as they are often designated as emergency shelters for the communities in which they are located.

As part of this project – Increasing Resilience of the Education System to Climate Change in Saint Lucia and Antigua and Barbuda, ECMC was required to perform a Rapid Climate Vulnerability Assessment of 12 schools and associated areas in Saint Lucia. The report provides a geospatial hazard assessment for each of the identified schools. The geographic coordinates of each school are provided together with a general description of the school plant, site plans and relative locations.

The twelve schools are located throughout Saint Lucia. Based on their geographic coordinates, the northernmost school is Corinth Secondary and Southernmost, Vieux Fort Primary. Ave Maria Infant and Primary schools are at the lowest elevation of 5.0 meters while Saltibus Combined is at the highest estimated to be at 278.0 meters.

ECMC team of experts visited the selected schools and conducted in-depth site reconnaissance to obtain a clearer appreciation of the locations as well as the environmental and topographic conditions likely to contribute to the climate change impacts. To facilitate submission of the early Deliverables, a rapid condition assessment of the school plants was performed by the engineers on the reconnaissance team. At these visits, and as a means of stakeholder engagement, the schools' principals or their representatives were consulted to obtain information on priority issues and their assessment of adaptive capacities at a school, community, Ministry and national level.

Officials of the National Designated Entity of Saint Lucia – the Ministry of Education, Innovation, Gender Relations and Sustainable Development revealed that there are no mandated design standards for schools in the country. However, as part of the consultancy, the document "Guidelines for Locating and Designing of Disaster Resilient Schools for the Organization of Eastern Caribbean States" (OECS Schools Guidelines) was reviewed and a separate report prepared with reviewed criteria, cross-referenced with OECS Schools Guidelines. However, it was agreed with the Client that this report (Deliverable 2.2) be combined with this Rapid Climate Vulnerability Assessment (CVA) Report. Whereas, the document suggests that schools are "specialized multi-functional facilities" which often operate as emergency shelters, and as such, must be designed to "accommodate a wide range of occupants", it was brief on the necessary guidelines.

On the issue of landslides, the OECS Schools Guidelines recommend the use of landslide hazard maps during the preliminary design phase of structures and that the exposure to landslides be considered in the design of roads and civil infrastructure used to access schools. On the issue of floods, which is one of the critical climatic hazards, the OECS Guidelines provide a list of reference documents, loads and return periods to be considered in the drainage design. Both fluvial and coastal flooding are discussed. As it specifically relates to designing for high winds, the OECS Schools Guidelines indicate that considerations should be given to designing schools in the OECS to resist high-speed wind loads due to the frequency and occurrence of intense hurricanes in the Islands. The document does not make any specific reference to design criteria and loads which need to be used.
Based on the review of the suggested OECS Schools Guidelines document, it is our view that, regarding the primary building code, designers should be referencing the OECS Building Code 7th Edition and that the ASCE/SEI 7-16 standard be used to guide the analysis and design of the structures at a minimum. ASCE 7-16 Chapter C1 notes that risk categories are used to relate the criteria for maximum environmental loads or distortions specified in the standard to the consequence of the loads being exceeded for the structure and its occupants. It is recommended that schools in Saint Lucia be classified as Risk Category III buildings and that schools that will be designated as emergency shelters should be classified as essential facilities.

The relative vulnerability of the twelve schools was established using the five stipulated hazards, namely; Landslides; Fluvial flooding; Coastal flooding and sea level rise; Droughts; and Wind speed/Hurricanes. Hazard mapping was obtained from the Caribbean Handbook on Risk and Information Management (CHARIM) GeoNode[1] in the case of landslides and fluvial flooding. Hazard mapping for high winds and coastal flooding was obtained from the Department of Physical Planning. However, in the case of the drought hazard, there was a paucity of data that was further exacerbated by less than timely responses from the sole producer of water in Saint Lucia. In that regard, the consulting team decided to undertake a qualitative assessment based on information from senior officers of the Water and Sewerage Company Inc and the knowledge of the Senior Advisor on the team. The following hazard maps were produced:

- National overview hazard maps for Wind, Drought, Flood, Landslide and general overview:
- Landslide hazard maps for each school (Appendix B);
- Flood hazard maps for each school (Appendix C);
- Wind hazard maps for north and south Saint Lucia (Appendix D).

Hazard risk scores were derived for each school and a summary table developed providing an overview of the hazard sensitivity associated with each school. The combined relative climate change vulnerability of each of the schools, resulted in an average score, giving rise to the eventual ranking of the schools.

The results indicate that Vieux Fort Primary School ranked number one as being the most susceptible to climate change impacts while Desruisseaux Combined and Corinth Secondary Schools ranked the least - number 11. Saltibus ranked as the second most susceptible followed by the Ave Maria and Balata Combined schools which jointly ranked the third most susceptible.

Table 6: Summary of Hazard Sensitivity Associated with Each School

School	Landslide	Fluvial Flooding	Wind Speed	Drought	Sea Level Rise	Average Score	School Average Hazard Rank	Comments (provided by ECMC based on local knowledge)
Ave Maria Infant	1	5	3	1	3	2.6	3	In centre of Castries which is known to flood. Located in fairly open country
Ave Maria Primary	1	5	3	1	3	2.6	3	In centre of Castries which is known to flood, located in a fairly open area
Balata Combined	3	3	2	2	1	2.6	3	Very inland and near a river
Bexon Primary	3	3	1	1	1	2.2	7	Known to be in a flood plain. The hill to the east can be a concern
Corinth Secondary	1	5	3	1	1	1.8	11	In a low-lying area, near a river, and is known to have drainage issues. Located in open country
Desruisseaux Combined	1	1	4	2	1	1.8	11	In the South, elevated and exposed. Water shortage is a known concern
Fond Assau Combined	1	1	4	3	1	2	9	Within an agricultural zone and on the upper slopes of a narrow valley
Micoud Primary	3	1	4	2	1	2.2	7	In the southeast and elevated topography. Supply of water is known to be an issue
Patience Combined	3	1	4	3	1	2.4	6	In the southeast and elevated topography. Supply of water is known to be an issue
Saltibus Combined	5	1	4	4	1	3	2	At a high elevation, with the Saltibus River being a water source
Vieux-Fort Infant	1	1	4	1	1	2	9	In the south of the island which is extremely flat and known to have water problems
Vieux-Fort Primary	1	1	4	3	5	3.6	1	In the south of the Island which is extremely flat and known to have water supply problems

Adaptive Capacity Assessment

There are varying definitions of adaptive capacity. One is the ability of a system to evolve to accommodate climate change or to cope with an expanded range of vulnerabilities. Another is the degree to which a system can currently cope and accommodate change caused by exposure to a climate hazard within existing resources and constraints. Low adaptive capacity enhances vulnerability and reduces resilience to climate change. Adaptive capacity of SIDS is generally low due to their physical size, limited access to capital and technology, shortage of human resource skills and limited access to resources for construction. SIDS adaptation costs are high relative to GDP. Saint Lucia, like most SIDS, is reliant on the international community to obtain the financial and technological resources necessary to achieve a resilient and sustainable low-carbon economy. Notably, too, a high adaptive capacity may not translate into effective adaptation if there is no commitment to sustained action.

The quality of the physical plant is quite variable from school to school. Generally, the more aged the structure, the greater the sensitivity to high wind speeds and other hazards. Wind speeds used for design have increased over time, making the older schools under-designed for cyclonic events unless they have been retrofitted to respond to updated design criteria. Similarly, drainage capacities may have been designed for peak flows that are now too low due to increased development of surroundings combined with higher rainfall intensities attributed to climate change. The materials in place in older schools are more likely to have reached or exceeded their design lives and therefore to be of significantly lower strength now than at the time of their installation.

Hazard vulnerability of some schools may be increased in locations where access/egress options available are limited, increasing the risk of isolation during or after an extreme event.

Opportunities to develop additional access/egress routes may be limited in some locations due to terrain or constraints imposed by adjacent existing development. Some schools have water storage on site, some of which are harvested rainwater storage. Some have limited water storage capacity overall, while others do not have any rainwater storage.

Some schools do not have roof guttering, which makes it relatively more expensive to invest in rainwater harvesting. Current applications of harvested rainwater vary from irrigation of the school's market garden only to those that also include flushing of toilets. In most instances, storage capacity of harvested rainwater could be increased and optimized to better use this resource, particularly in schools with chronic public water supply issues. Schools, like most (if not all) public buildings, are not insured.

During the reconnaissance site visits and subsequent stakeholder discussions, the consulting team structured their interviews to deliberately gather information on the existing adaptive management capabilities within the school and the immediate community to reduce the impact of climate-induced hazards. The discussions also allowed the schools' principals to advance opinions and suggestions for improving adaptive capacity.

Measures to increase the adaptive capacity of schools will require closer examination of features at the Ministry and school levels, such as infrastructure, technology, resources for emergency management, capability/skills of staff and students, knowledge and information dissemination, evacuation plans, and leadership. Features at the household level include parents' participation in school disaster preparedness and response protocols; sharing of responsibilities among adults in the household; provision of shelter and protection and meeting basic needs. Features at the community/district level include socio-economic and environmental conditions (poverty, level of educational attainment, functional literacy); infrastructure (mass transit, roads and bridges, utilities); voluntary support (school-based groups) and institutional support (community-based groups, private sector, public sector agencies, corporate partners). These features need to be examined in the context of the school's specific hazard exposures to identify the gaps and most effective approaches to enhance adaptive capacity. A gender sensitive and responsive approach is fundamental to guarantee gender equity as an outcome of enhanced adaptive capacity.

The Ministry of Education manages and maintains all public-school plants in Saint Lucia. Some conclusions based on a review of available information and stakeholder feedback are that:

- The annual budget made available to schools for a day-to-day routine maintenance is too low, with a fixed amount of $6,000.00 per year provided to every school. There is no consideration of school age, vulnerabilities, size, population, community shelter requirements, etc. in determining this amount. Most schools are forced to seek out sponsorship from the corporate sector and support from parents and the community to supplement these funds and undertake basic maintenance activities.
- The schools report maintenance requirements classified as significant to the Ministry; however, these issues may not be attended to for extended periods. Reasons for the delay or lack of attention to maintenance requests likely include one or more of the following:

    a. perceived priority and importance levels;

    b. funding constraints;

    c. human resource availability.

- Maintenance of current school emergency management plans and routine engagement of the school population in emergency drills do not appear to be a strict requirement of the Ministry. Some schools engaged indicated one or more of the following: a. their emergency management committee within the school was not operational; b. their emergency management

plans were not up to date; c. they had not conducted emergency drills with the school population in the recent past.

In relation to the schools functioning as emergency shelters:

- Some school personnel consulted were not aware if the school was designated as an emergency shelter. This has implications for preparedness of the broader community pre-and post-hazard events.
- Most schools, even if designated as emergency shelters, do not have any shelter supplies on compound.
- Despite being designated emergency shelters; many schools do not have a direct relationship with the National Emergency Management Organization (NEMO) or the District Disaster Committees (DDC) in their area.

The extent of community-level support across schools is highly variable. Some schools reported having highly engaged and active parent-teacher associations (PTA) and/or neighbors, while others reported very little community and/or PTA support. This spirit of volunteerism and ownership has implications for a school's recovery capacity in the aftermath of a disaster. Level of support may be influenced by factors such as:

- limited means or interest of a parent body derived mainly from depressed neighborhood(s);
- distant relationship between school senior management and adjacent community; and
- an inactive PTA.

To facilitate an evaluation of adaptive capacity at each of the schools, qualitative definitions have been developed:

- Low Adaptive Capacity – The school and/or community do not possess the ability to influence the impact of hazards with current resources available.
- Medium Adaptive Capacity – The school's operations can be adjusted to reduce impact with current resources, but the facility will still adversely be affected.
- High Adaptive Capacity – The school has the resources and redundancy to continue operating without being adversely affected by hazards.

The analysis assumes that the adaptive capacity of the Ministry is constant and does not vary from school to school. Closer examination of the quality of Ministry resources available at a district level could warrant a review of this assumption. The following indicators are considered in the assessment of adaptive capacity in Table 7 below:

- Quality of physical plant - a function of school age and sufficiency of available maintenance budget among other things.
- Adequacy of surrounding infrastructure (roads, drainage, redundancy of access, proximity of emergency services).
- Availability of community support (PTA, corporate entities).
- Ability to continue operations in drought conditions for relatively longer periods (based on availability of public supply, on site potable water storage capacity, and capacity to harvest and store rainwater).
- Emergency response capacity (currency and adequacy of the emergency response plan for relevant hazards; drills, engagement with national/community disaster managers; proximity of emergency services).

Significant improvements can be made to adaptive capacities at both the national - Ministry of Education and National Emergency Management Office (NEMO) - and school levels, thereby further reducing vulnerability of the education system. At the national level, the support for maintenance required at schools should be improved in terms of level of resources made available, management of maintenance works and response time. Communication between schools' management and the Ministry of Education should be improved. This may require strengthening or restructuring of the Building Unit within the Ministry. For example:

- Standards for typical maintenance works should be developed and used both to specify requisite works and to verify that works completed are compliant with the requisite standards.
- Contractors should be pre-qualified to ensure that they have the capacity to properly undertake the contracted works.
- Managers of the schools should be more involved in scoping the required maintenance works to better ensure that the planned works will resolve the issues faced.
- Third-party service providers require better supervision. Managers of the schools should be aware of what third-party service providers have been contracted to do and should be consulted before final payments are made, to ensure that the issues have been satisfactorily addressed.

Table 7: Schools Adaptive Capacity

School	Quality of Physical Plant	Adequacy of surrounding Infrastructure	Community Support	Ability to continue operations in drought conditions	Emergency Response Capacity	Overall Ranking	Overall Adaptive Capacity
Ave Maria Infant	Medium	High	Medium	High	High	4	**High**
Ave Maria Primary	Medium	High	Medium	High	High	4	**High**
Balata Combined	Low	Low	Low	Medium	Medium	2	**Low**
Bexon Primary	Low	Low	Low	High	Medium	2	**Low**
Corinth Secondary	High	High	High	High	High	5	**High**
Desruisseaux Combined	Low	Medium	Medium	Medium	Medium	3	**Medium**
Fond Assau Combined	High	Medium	Low	Medium	High	3	**Medium**
Micoud Primary	Medium	Low	Low	Medium	High	3	**Medium**
Patience Combined	Medium	Medium	Low	Medium	Medium	3	**Medium**
Saltibus Combined	Medium	Low	Medium	Low	Low	2	**Low**
Vieux-Fort Infant	Low	Medium	Medium	Low	High	3	**Medium**
Vieux-Fort Primary	Low	Medium	Medium	Low	High	3	**Medium**

Quantifying the ranking: - High =5, Medium = 3, Low = 1
Overall Adaptive Capacity – Average of all five parameters: - High = 4.0 to 5.0; Medium = < 4.0 and ≥ 2.5 and Low: < 2.5

The capacity to harvest, store and optimally use rainwater should be enhanced in most schools, to facilitate continued school (or emergency shelter) operation through drought conditions or service interruptions that may be triggered by adverse weather or other events. A formula to determine requirements based on school population/shelter capacity and other relevant factors could be derived.

Caretakers employed at the schools should be trained and assessed by the Ministry in job requirements that are designed to increase school resilience, such as proper maintenance of drains and guttering, identification of signs of early deterioration of school plant to be dealt with before they escalate, management of water storage, management of vegetation to reduce erosion and landslide risk, etc. Some of these requirements will apply to all schools, while others will be site specific.

Requirements for maintenance of emergency response plans and emergency drills should be more structured. This will likely require a higher level of training, monitoring, engagement, and support by the Ministry. Performance appraisals of Principals and other responsible staff could include consideration of the extent to which these requirements have been met.

There should be greater collaboration with and support from NEMO at a national level and DDCs at a district level, to ensure schools are adequately prepared to meet community emergency shelter responsibilities. All programmes developed to improve resilience through building adaptive capacity need to be sustained, in recognition of the fact that staff changes, people need to be continuously motivated and informed, and the guidance itself is likely to be amended over time as knowledge grows.

Vulnerability Assessment

For Saint Lucia's schools to become more resilient to climate change, an appreciation of the potential impacts and associated implications in the short, medium, and long term is required, both within the individual schools and at the policy making levels of government. Physical improvements planned through this, and similar programmes can go a long way toward reducing vulnerability of schools by lowering their sensitivity to the various hazards.

Vulnerability of all schools should be assessed in a structured way, and measures to upgrade to requisite standards for increased resilience identified and prioritized. A detailed risk assessment of vulnerable assets will guide development of appropriate adaptations and of an implementation plan that prioritizes recommended interventions based on asset importance and vulnerability. It is also important to increase adaptive capacity within each school and of the education system as recommended in the foregoing section, to further reduce hazard vulnerability.

The table below presents an assessment of the vulnerability of each school to the hazards under consideration. This combines information on sensitivity to these hazards at each location with knowledge of the adaptive capacities of the schools and the Ministry of Education.

Table 8: Summary of Vulnerability Assessment

Schools	Landslide	Fluvial Flooding	Wind Speed	Drought	Sea Level Rise/Coastal Hazards
Ave Maria Infant	NA	High	Medium	High	High
Ave Maria Primary	NA	High	Medium	High	High
Balata Combined	Low	Medium	High	Medium	NA
Bexon Primary	Low	High	High	Medium	NA
Corinth Secondary	NA	Medium	High	High	NA
Desruisseaux Combined	Medium	NA	Medium	High	NA
Fond Assau Combined	Low	NA	Medium	Medium	NA
Micoud Primary	NA	NA	Medium	Medium	NA
Patience Combined	Medium	Low	Medium	Medium	NA
Saltibus Combined	High	NA	Medium	High	NA
Vieux-Fort Infant	NA	High	High	High	High
Vieux-Fort Primary	NA	High	High	High	High

Conclusions of Hazard Vulnerability Assessment

This study presents a rapid assessment of natural hazard vulnerability for 12 schools in Saint Lucia for landslides, fluvial flooding, drought, wind speed and sea level rise. Maps at national and school levels have been prepared which provide information on the specific hazard exposures at, and in the vicinity of the schools. A summary table synthesizing the hazard exposure for each school has been prepared. It is anticipated that this information will support planners in the identification and prioritization of measures to reduce the exposure of these schools to natural hazards to an acceptable level. The acceptable level of exposure should be determined by planners (for example linking flood zones to adaptation measures).

The results show that the hazard profile of each school is distinct, based on its location and provide a basis for prioritizing those schools for which further detailed investigation of hazard exposure and development of mitigation measures where appropriate. An average hazard score for each school has been used to rank the schools from most to least exposed across all the hazards considered in this study. Whilst this aggregate ranking is useful as an overview it is important to note that each school is unique in terms of hazard impacts and mitigation measures required.

Annex 7. Gender Assessment and Action Plan Report – Antigua and Barbuda.

- **Written by:** ECMC St. Lucia.
- **Exact title of report**: Environmental and Social Impact Assessment and Management Plan.
- **Date of report:** August 20, 2021.
- **Chapters:** 3-4

3. GENDER ASSESSMENT AND ANALYSIS

3.1. BASELINE GENDER CONDITIONS IN ANTIGUA AND BARBUDA

3.1.1. Gender policy development and implementation in Antigua and Barbuda is led by the Directorate of Gender Affairs in the Ministry of Social Transformation, Human Resource Development, Youth and Gender Affairs. The Department of the Environment's (DOE) gender approach is focused specifically on issues related to the impact of climate change and environmental policy on gender and the specific policy and project design that can be used to respond to these gender differences. This approach is believed to improve project quality, reduce risk and increase changes of support from the most beneficiaries.

3.1.2. In order to design a gender-responsive project, the following section assesses the available data disaggregated by gender, where possible, to understand how men and women may be differently affected by the project, with the aim of promoting gender equality.

3.1.3. The Gender Assessment and Action Plan was completed with the ESIA and ESMP for the project and as such, utilises the approach and methodology undertaken for the ESIA and ESMP. This is found in **SECTION 3 of the ESIA and ESMP**.

3.1.4. The Gender Assessment and Action Plan follows the ***Adaptation Fund's Guidance Document for Implementing Entities on Compliance with the Adaptation Fund Gender Policy*** by assessing:

- the differentiated climate change impacts on men and women
- differentiated capabilities to address the climate change impacts
- access to resources for men and women
- the gendered division of labour and the gender-based power structure

3.2. COMPARATIVE SUMMARY OF KEY GENDER EQUALITY INDICATORS

TABLE 1: KEY GENDER EQUALITY INDICATORS FOR ANTIGUA AND BARBUDA ARE DESCRIBED BELOW

Country	Total pop.	Population 0-14 years old	Population 15-24 years old	Population 64 years and	Life Expectancy at Birth	%/Number of male or female-headed	Maternal Mortality Rate	Infant Mortality Rate	Labour Force Participation	Unemployment Rate	Enrolment in Primary Schools	Enrolment in Secondary	Enrolment in Tertiary Education	No. of males/ females in Parliament	Gender-based Violence (GBV)
Antigua & Barbuda	M-40,007 (48%) F-43,271 (52%) T-83,278 (100%) (GOAB Census, 2011)	M-11,333 (51%) F-10,979 (49%) T-22,312 or 24% of total pop. (CIA, 2013)	M-7,465 (49.5%) F-7,622 (50.5%) T-15,087 or 16.7% of total population (CIA, 2013)	M-2,771 (43%) F-3,659 (57%) T-6,430 or 7.1% of total population (CIA, 2013)	M-73.9 years F-78.1 years T-75.9 years	M-56.5% (2001) F-43.5% (2001) (GOAB Census, 2001)	0.81 (CARICOM, 2010)	10.9 (Health Information Division, Ministry of Health Antigua and Barbuda)	M-18,602 (47%) F-21,341 (53%) T-39,943 (Kairi, CPA 2005/2006)	T-12% (estimate) GOAB, 2012	M-100% F-88.1% T-94.0% (GOAB, Ministry of Education, 2009-2010)	M-78.9% F-82.1% T-80.5% (CEPAL, 2011)	M-689 (34.8%) F-1291 (65.2%) T-1980 (100%) (OECS, 2010-2011)	H.O.R/ Lower House M-16 (89.9%) F-2 (11.1%) T-18 (100%) Senate/Upper House M-10 (58.8%) F-7 (41.2%) T-17 (100%) (IPU 2014)	T-216 victims (DOGA, 2011)

3.3. GENDER RELATED POLICY AND LEGAL FRAMEWORK

3.3.1. The following laws, policies and international conventions encapsulated in the table below are applicable to the DOE's commitment to gender equality and transformation and this project in particular.

TABLE 2: LAWS AND POLICIES OF THE GOVERNMENT OF ANTIGUA AND BARBUDA

LEGISLATION	DESCRIPTION AND RELEVANCE TO THE PROJECT
NATIONAL LEGISLATION	
Constitution of Antigua and Barbuda, 1981	The Antigua and Barbuda Constitution prohibits discrimination on the grounds of sex, which refers specifically to the biological differences that determines an individual as male or female. Article 14 (3) states, "In this section, the expression "discriminatory" means affording different treatment to different persons attributable wholly or mainly to their respective descriptions by race, place of origin, political opinions or affiliations, colour, creed, or sex whereby persons of one such description are subjected to disabilities or restrictions to which persons of another such description are not made subject or are accorded privileges or advantages that are not accorded to persons of another such description".
Physical Planning Act (2003)	This Act sets the standards for construction in Antigua and Barbuda. The current Building Code regulates the construction of buildings to withstand a Category 3 – 4 hurricanes.
Environmental Protection and Management Act (2019)	The EPMA serves as the principal guiding policy for the Department of the Environment. It establishes and consolidates the implementation of the Multilateral Environmental Agreements in one legal regime and provides the financial framework for implementation. It governs sustainable environmental protection and management to establish effective allocation of administrative responsibilities for environment management, coordination of environmental management, and the incorporation of international treaty obligations with respect to the environment into national and law related matters.
Childcare and Protection Act, 2004	The CPA establishes a Child Protection Agency in Antigua and Barbuda and provides safety, care and protection for all children. It also provides standards for child-care facilities including reporting abuse or neglect of children and requirements of children's homes. It also ensures that child labour is not allowed.
Disabilities and Equal Opportunities Bill, 2017	An Act to make provision for the protection of the rights of persons with disabilities and for connected matters. The objectives of this Act are as follows— a) to improve the general standard of living for persons with disabilities b) to provide a clear and comprehensive national mandate to facilitate the elimination of existing cases of discrimination against persons with disabilities, and to put safeguards in place to prohibit further discrimination against such persons; c) to promote on a national level, the principle that a person with a disability is entitled to the same fundamental rights as a person who does not have a disability; and d) to ensure full and effective participation in all aspects of society for a person with a disability on an equal basis with a person who does not have a disability. The project should assess access for persons with disabilities in the schools
Disaster Management Act, 2002	This Act provides for the effective organization of the preparedness, management, mitigation of, response to and recovery from emergencies and disasters natural and man-made in Antigua and Barbuda.
Antigua and Barbuda Labour Code	The Act stipulates that no employer shall discriminate with respect to any person's hire, tenure, wages, hours, or any other condition of work, by reason of race, colour, creed, sex, age or political beliefs.

NATIONAL POLICIES	
Antigua and Barbuda Interconnection Policy, 2015	Antigua and Barbuda Interconnection Policy was updated in 2015 provides for Net Billing for systems between 0 – 5 kW for resident and commercial facilities. For systems between 5 – 50 kW, the Policy mandates a Feed-in Tariff (buy-all, sell-all) at the avoided cost of fuel (XCD 0.45).
National Poverty Strategy 2011-2015	The National Poverty Strategy 2011- 2015 has as one of its strategies, "Building Resilience through Environmental Sustainability – by making disaster risk reduction a feature of the planning process in the light of the high environmental risks that the country faces from hurricanes, earthquakes, and now sea rise, as a result of global warming."
National Youth Policy, 2007	The National Youth Policy identifies factors that are critical to youth empowerment and identifies eight key focus areas; including strengthening social environments, education and training, employment and sustainable livelihoods, health, participation and empowerment, care and protection, crime, violence and rehabilitation and gender equality and gender relations.
INTERNAL POLICIES	
Department of Environment Gender Policy	The Department of Environment Gender Policy formalizes the DOE's commitment to mainstreaming gender into its work programme and project portfolio. Gender is defined as "the social attributes and opportunities associated with being male and female and the relationships between women and men and girls and boys, as well as the relations between women and those between men. These attributes, opportunities and relationships are socially constructed and are learned through socialization processes. They are context/ time- specific and changeable. Gender is part of the broader socio-cultural context and intersects with other important criteria for socio-cultural analysis including class, race, poverty level, ethnic group and age. As such, the DOE's Gender policy sets out the principles on which the approach to environmental social safeguards and gender review and management by the DOE is based and the and requirements that are applicable to each project.
Department of Environment Environmental Social Safeguard Policy	The DOE operates within three modalities, namely legislative, institutional, and departmental operational. Within the context of these modalities, the Environmental and Social Safeguards Policy formalizes the DOE's commitment to promote environmental and socially sustainable projects. As such, its Environmental and Social Safeguards Policy ("ESS Policy") sets out the principles on which the approach to environmental and social safeguard review and management by the DOE is based and the environmental and social safeguard requirements that are carefully applied to each project.
MULTILATERAL AGREEMENTS, TREATIES AND CONVENTIONS	
Sustainable Development Goals	In September 2015, the General Assembly adopted the 2030 Agenda for Sustainable Development that includes 17 Sustainable Development Goals (SDGs). The project will contribute to the implementation of the following SDGs: **<u>GOAL 3: Good Health and Well-being</u>** ▪ SDG 4 — Quality education; ▪ SDG 5 — Gender equality; ▪ SDG 6 — Clean water and sanitation; ▪ SDG 7 — Affordable and clean energy; ▪ SDG 9 — Industry, innovation and infrastructure; ▪ GOAL 11: Sustainable Cities and Communities ▪ GOAL 13: Climate Action
Convention on the Rights of the Child	A United Nations Treaty outlining the rights of children in the following areas: civil, political, economic, social, cultural, health. Adopted by RES/44/25 at the 44th Session of the United Nations General Assembly in 1989
United Nations Framework Convention on Climate Change (UNFCCC), 1992	The UNFCCC, which entered into force in 1994, provides a framework for intergovernmental efforts addressing climate change and its effects. Member States of the UN meet and share data on greenhouse gas emissions, national policies and best practices, with the goal of developing and implementing strategies for tackling emissions and providing financial and technical assistance for developing countries. The UNFCCC aims for gender balance in bodies established pursuant to the Convention and the Kyoto Protocol, to improve women's participation and inform more effective climate change policy that addresses the needs of women and men equally. The UNFCCC called for the national

	adaptation plan (NAP) process to be gender-sensitive and calls on the Green Climate Fund (GCF) to promote environmental, social, economic, and development co-benefits and take a gender-sensitive approach. Each country formulates its Nationally Determined Contributions (INDC) to the UNFCCC. By 2030, one of Antigua and Barbuda's climate action target includes preparing buildings for extreme climate events, including drought, flooding and hurricanes, which is aligned to targets for this project.
Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW)	CEDAW is the principal instrument utilized by the UN to protect the rights of women and eliminate all forms of discrimination against them. Adopted by the United Nations General Assembly (UNGA) in 1979, CEDAW was ratified by the Government of Antigua and Barbuda in 1989 and its Optional Protocol signed in 1996. This convention mandates states to ensure that women equally represented their governments and international organizations; have equal rights to bank loans, mortgages and other forms of financial credit; (i) participate in and benefit from rural development; (ii) participate in development planning at all levels; (iii) obtain training, education, and extension services; (iv) have access to agricultural credit and loans, marketing facilities and appropriate technology; and (v) are treated equally in land, agrarian reform, and land resettlement schemes.
Beijing Declaration and Platform for Action from the Fourth World Conference on Women	This landmark declaration and Platform for Action (PoA) called for actively involving women in environmental decision making at all levels, integrating gender concerns and perspectives in policies and programs for sustainable development, and strengthening or establishing mechanisms at the national, regional and international levels to assess the impact of development and environmental policies on women.
Commission on the Status of Women (CSW)	*The 52nd session of the Commission on the Status of Women (2008) identified gender perspectives on climate change as its key emerging issue.* The CSW, which is convened annually at United Nations Headquarters in New York, urged Member States to integrate gender into the design, implementation, monitoring and evaluation and reporting of national environmental policies; as well as to strengthen mechanisms and provide adequate resources to ensure women's full and equal participation in decision making at all levels on environmental issues, with particular emphasis on strategies related to climate change and the lives of women and girls.
UN Convention on the Rights of Persons with Disabilities (CRPD)	The Convention is intended as a human rights instrument with an explicit, social development dimension. It adopts a broad categorization of persons with disabilities and reaffirms that all persons with all types of disabilities must enjoy all human rights and fundamental freedoms. It clarifies and qualifies how all categories of rights apply to persons with disabilities and identifies areas where adaptations have to be made for persons with disabilities to effectively exercise their rights and areas where their rights have been violated, and where protection of rights must be reinforced.
United Nations Conference on Sustainable Development (Rio+20) outcome document	Rio+20 affirms that green economy policies in the context of sustainable development and poverty eradication should enhance the welfare of women, mobilize their full potential and ensure the equal contribution of both women and men. *"The Future We Want" was adopted in Rio de Janeiro in June 2012.* It resolves to unlock the potential of women as drivers of sustainable development, including through the repeal of discriminatory laws and the removal of formal barriers. It also commits to actively promote the collection, analysis and use of gender sensitive indicators and sex-disaggregated data.
UNFCCC Gender Action Plan	The UNFCCC Gender Action Plan aims to increase the participation of women in all UNFCCC processes. It also seeks to increase awareness of and support for the development and effective implementation of gender-responsive climate policy at the regional, national and local levels. The purpose of this gender assessment is to provide the context of gender in Antigua and Barbuda.

3.4. GENDER ISSUES RELEVANT TO THE PROPOSED PROJECT

This project forms part of the DOE project pipeline which includes projects focused on increasing the resilience of public infrastructure as well as the use of renewable energy in the educational and healthcare sector among other essential services.

FIGURE 3: SUMMARY OF DOE COMPLIMENTARY CLIMATE CHANGE PROGRAMME

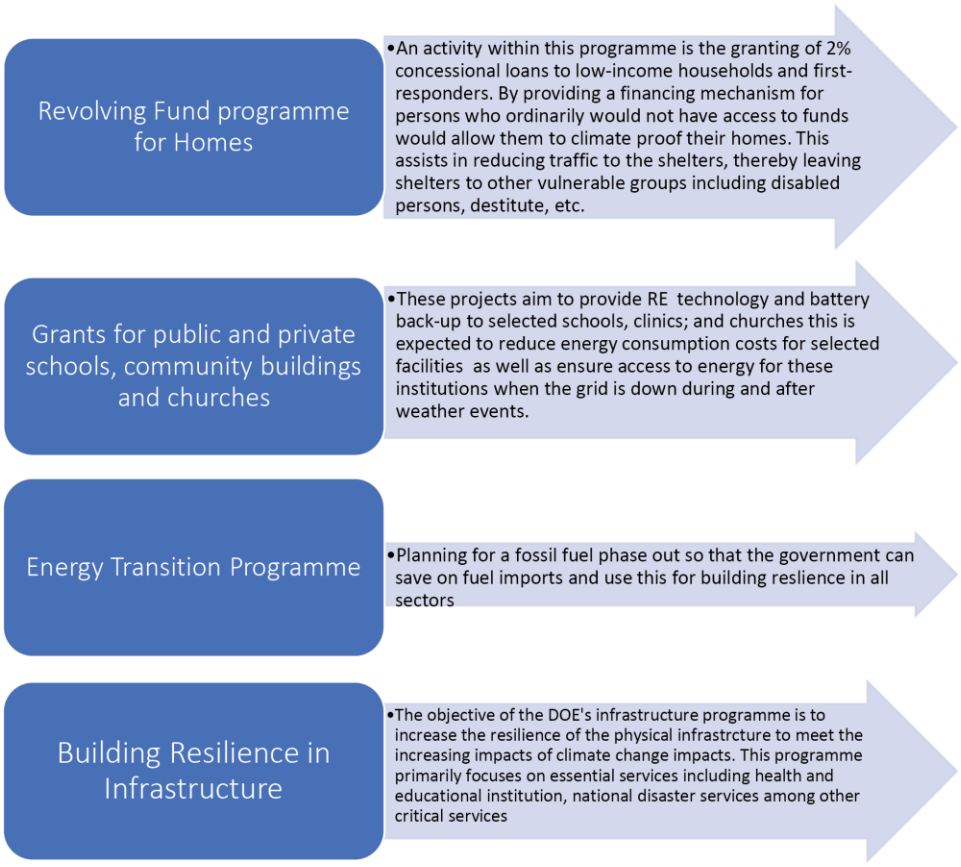

TABLE 3:GENDER ANALSIS FOR PROJECT PREPARATON STAGE

	Row Number	Questions	Data/Information Collected	References
What is the Context? Context of Antigua and Barbuda	**One**	**Demographic and socioeconomic data, disaggregated by sex and income**	- See **TABLE 6** Socio-demographic groups in Antigua and Barbuda that are vulnerable to poverty and unemployment include: youth, adolescent mothers, working class men, the homeless, the disabled, older men and women.	• Rawwida Baksh and Associates, 2014. Country Gender Assessment (CGA) Antigua and Barbuda Report) • (Health Information Division, Ministry of Health Antigua, and Barbuda)
	Two	**% of households that are headed by women/men**	- On a national level, an equal percentage of men and women considered themselves head of their respective households, with men noted in higher percentages as head of household for nuclear families while women were noted as head of household in higher percentages for single-parent families. - This however was not replicated when surveying local urban and rural communities where men overall were noted in higher percentages as head of household - While the National Gender Assessment Survey does not specify the rationale for the difference in the head of households for national vs community, the Country Gender Assessment for Antigua and Barbuda note that differential declaration of head of household status by women and men may be attributed to the country's patriarchal social organization. This is premised on conservative interpretations of religious texts found commonly in Christian societies.	• Project Management Unit. Rep. *National Gender Assessment Survey: The Economic Impact of Climate Change on Men and Women in Antigua and Barbuda*. St. John's: Department of Environment, 2021. • Rawwida Baksh and Associates, 2014. Country Gender Assessment (CGA) Antigua and Barbuda Report)
	Three	**What are the main sources of income for households (disaggregated by sex)?**	- The largest occupational category continues to be the service and sales sector followed by clerical support work. Elementary occupations are the largest followed by professional and technical and associate professionals. - Men typically dominate the following sectors: construction, agriculture, forestry and fishing, transportation. - Women typically dominate the following sectors: services (accommodation, tourism), education, social work, financial and insurance activities - In its 2018 report, the Antigua and Barbuda Labour survey noted a higher unemployment rate for women, particularly young women, compared to men: The higher unemployment rate for women indicates that a larger proportion of women in the labour force were without a job and seeking employment.	• Rawwida Baksh and Associates, 2014. Country Gender Assessment (CGA) Antigua and Barbuda Report) • Government of Antigua and Barbuda, 2018. Antigua and Barbuda Labour Force Survey Force
	Four	**What are the uses/needs of women and men when it comes to critical services in Antigua and Barbuda i.e. health, education, disaster response, emergency and security?**	- Within the educational sector, public institutions account for 50% in the primary level and 55% in the secondary level. Delays to the commencement of the school year caused by hurricane/other damages to the infrastructure or the use of schools are shelters predominately affected women as women are noted as counting for the completing childcare within the home at a higher percentage than men in both the national and community level. This thus impacts the ability of women to return to work/livelihood or contribute to rebuilding after a storm, particularly if the child is primary-school aged or younger - Educators have noted that the closure of educational services, while affecting both boys and girls, may have a greater impact on boys who already reportedly struggle academically within the schools and require more consistent monitoring for schooling than female pupils	• Project Management Unit. Rep. *National Gender Assessment Survey: The Economic Impact of Climate Change on Men and Women in Antigua and Barbuda*. St. John's: Department of Environment, 2021. • Kairi Consultants Ltd in Association with the National Assessment Team of Antigua and Barbuda, 2007. Living Conditions in Antigua and Barbuda: Poverty in a Services Economy in Transition • Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020, June/July 2021 and September 2021 and October 2021) • Government of Antigua and Barbuda, 2015. Antigua and Barbuda Education Statistical Digest: Statistics on Education in Antigua and Barbuda 2012 – 2015 **(Table B2: Number of Primary, Secondary and Post-Secondary Institutions as at 2014-15)**
	Five	**How do the current climate risks affect men and women?**	- Women, particularly single-parent female headed households will have their problems compounded with additional duties for childcare. This will limit their ability to return to revenue making activities or contribute to rebuilding efforts after a hurricane or extreme weather event - Boys, who reportedly struggle within the school system, are noted as particularly affected by school closures as they did not have access to rigorous educational monitoring - Drought can cause schools to close if there is not adequate water to the facilities. While over 90% of schools have some form of water reserve on property, during severe drought conditions, where a water reserve can run out, schools have had to reply on purchasing water in addition to paying their monthly utility bill, thus increasing costs of operations - The climate is getting hotter which can cause severe health impacts such as heat strokes on men and women. The educational sector has predominantly female workers who are affected by severe heat within the classroom, along with children.	• Kairi Consultants Ltd in Association with the National Assessment Team of Antigua and Barbuda, 2007. Living Conditions in Antigua and Barbuda: Poverty in a Services Economy in Transition • Project Management Unit. Rep. *National Gender Assessment Survey: The Economic Impact of Climate Change on Men and Women in Antigua and Barbuda*. St. John's: Department of Environment, 2021.
	Six	**Are there any legal barriers to women in the project-relevant sector?**	- No legal barriers have been identified at this stage	• (Laws, policies, and ratified international conventions in **(See SECTION 3.3 of Gender Assessment and Action Plan)**

	Seven	**Describe any community beliefs about the specific roles of women and men.**	- Community beliefs tend to assign heavy labour tasks and leadership roles to men and tasks associated with childcare and domestic duties to women. This is further evidenced by 2021 research where a higher percentage of men were noted as man breadwinners and completing outdoor chores while women were noted in higher percentages as completing childcare and indoor chores. - This is also further evidenced by the different roles of men and women in the labour force where men are more involved in construction, energy, heavy duty labour etc and women in education and service jobs. The roles of women and men have evolved. - However, some community beliefs on the role of women have been broken in recent years. For example, while traditional community beliefs identify men in leadership roles, women were noted in a higher percentage for persons who managed household finances; in addition, in the employment sector, there is relative gender parity among men and women whereby female managers represented 9.2% of the female employed population while male managers represented 8.2% of the male employed population	• Project Management Unit. Rep. *National Gender Assessment Survey: The Economic Impact of Climate Change on Men and Women in Antigua and Barbuda*. St. John's: Department of Environment, 2021. • Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020, June/July 2021 and September 2021 and October 2021) • Government of Antigua and Barbuda, 2018. Antigua and Barbuda Labour Force Survey Force
Services and Infrastructure: Access and Benefits:	**Eight**	**Who owns the land and other project assets?**	- Assets belonging to the public schools belong to the Government of Antigua and Barbuda while assets belonging to the private schools are the property of the private school owners. All private schools assessed by the DOE are operated by churches who serve as major community leaders	• Funding Proposal, Increasing the Resilience of the Education System to Climate Change Impacts in the Eastern Caribbean, 2022
	Nine	**Describe household energy access and sources.**	- Electricity Generation is an essential service provided through a utility company with a monopoly in Antigua and Barbuda. Antigua and Barbuda is reported to have achieved universal access to electricity - Around 30% of households in Antigua were reported to have back-up energy supply	• Antigua and Barbuda The Public Utilities Act • Draft Department of Environment Gender Chapter for Antigua and Barbuda's 4th National Communications Report
	Ten	**How much do households spend on services under this project?**	- 48% of children attend public primary school and 54% public secondary school education. Majority of children attend private daycare and preschools with private daycare and preschools accounting for the vast majority of daycare and preschools on island. There are three government supported preschools that operate in vulnerable communities, but this represents a very small number of children. - The average household in Antigua and Barbuda is reported to spend 7-10% of their household income on electricity costs with with share spent on electricity decreasing as household income rose, thus providing greater benefits for richer households than for poorer households. Around 10% of households reportedly spend more than 20% of their household income on electricity - While government institutions do not face the immediate repercussions of high electricity costs, private institutions noted the high costs of electricity. Further, for both public and private schools, 80% of schools surveyed were without back-up energy, thus compromising the delivery of quality education during power outages	• Project Management Unit. Rep. *National Gender Assessment Survey: The Economic Impact of Climate Change on Men and Women in Antigua and Barbuda*. St. John's: Department of Environment, 2021. • Global Green Growth Institute. Rep. *Acceptability and Affordability of Renewable Energy Household Survey Report*. St. John's, Antigua and Barbuda: Department of Environment, 2020

				• Department of Environment, 2021. Environmental Social Impact Assessment and Management Plan: *Increasing the Resilience of the Education System to Climate Change Impacts in the Eastern Caribbean* • Government of Antigua and Barbuda, 2015. Antigua and Barbuda Education Statistical Digest: Statistics on Education in Antigua and Barbuda 2012 – 2015 **(Table B2: Number of Primary, Secondary and Post-Secondary Institutions as at 2014-15)**
	Eleven	**Do men and women have bank accounts, and can they access finance to scale up this project to their homes?**	- Men and women, especially low-income households, save money through an informal savings club (box hand) and have accounts at credit unions where there are less rigid eligibility criteria as opposed to other traditional banks. The credit union also provides low interest loans compared to other banking institutions. On average women save more than men.	• Department of Environment, 2017. Environmental and Social Management System (EMS) and project risk management arrangements: "An integrated approach to physical adaptation and community resilience in Antigua and Barbuda's northwest McKinnon's watershed" **(Summary of Environmental, Social and Gender Impacts)**
	Twelve	**Do men and women benefit from construction sector, energy and educations services (or other project-relevant services)?**	- Women are underrepresented in the construction and energy sector, which composes of 96% of male workers compared to women. Women however are overrepresented in the educational sector as employees as well as supervisors	• Government of Antigua and Barbuda, 2018. Antigua and Barbuda 2015 Labour Force Survey Force
	Thirteen	**How do men and women access information? Do they have access to different technologies?**	- Men are reported to learn through mainly visual teaching tools - Women can learn equally from visual and written methods - Both men and women have access to information, but traditional education and communication systems may not be gender responsive - A high proportion of Antiguans and Barbudans have a cell phone, but older persons still use radio and TV as their main source of getting information rather than social media; - Low-income households and vulnerable groups may continue to struggle with internet access	• Department of Environment, 2017. Environmental and Social Management Plan (ESMP) and Gender and Social Inclusion Action Plan (GAP) for the Enhancing Direct Access pilot in the Eastern Caribbean

	Fourteen	**What are the levels of training / education?**	- A 2021 survey completed through the Department of Environment found near parity in university training for both men and women. However, a labour force survey found that Women in the labour force are on average better educated than their male counterparts. 58.1% of all labour force participants with a university degree were women.	• Project Management Unit. Rep. *National Gender Assessment Survey: The Economic Impact of Climate Change on Men and Women in Antigua and Barbuda*. St. John's: Department of Environment, 2021. • Government of Antigua and Barbuda, 2018. Antigua and Barbuda 2015 Labour Force Survey Force • Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020, June/July 2021 and September 2021 and October 2021)
Who does what? Roles and responsibilities	**Fifteen**	**How are men and women connected to markets / how do they participate in the economy?**	- As producers, both men and women sell and market their products. Women are often at the market and roadsides selling their products.	• Department of Environment, 2017. Environmental and Social Management Plan (ESMP) and Gender and Social Inclusion Action Plan (GAP) for the Enhancing Direct Access pilot in the Eastern Caribbean • Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020, June/July 2021 and September 2021 and October 2021)
	Sixteen	**Who is responsible for child/elderly care and household tasks?**	- Higher percentage of women than men are reported to take responsibility of child/elderly care and indoor household tasks. Men were noted in higher percentages for completed outdoor household chores	• Project Management Unit. Rep. *National Gender Assessment Survey: The Economic Impact of Climate Change on Men and Women in Antigua and Barbuda*. St. John's: Department of Environment, 2021. • Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019,

				12 – 16 August 2019, March 2020, June/July 2021 and September 2021 and October 2021)
	Seventeen	**(a) What would be the best times to hold trainings for women and men on the new systems/technologies or skills to be delivered through the project?** ***(b) how do men learn compared to women;*** ***(c) how do women learn compared to men;***	- For community members, after normal working hours, and on Sundays after church - The time of day is taken into consideration when planning to host consultations or training workshops. The most appropriate time is around 5PM and lasts no later than 7PM during week days. This allows consultations and trainings to reach a larger population who will be unable to attend earlier due to working hours. The consultations are regularly held in well-lit and central areas to ensure women/men feel safe traveling to and from the consultations.	• Department of Environment, 2017. Environmental and Social Management Plan (ESMP) and Gender and Social Inclusion Action Plan (GAP) for the Enhancing Direct Access pilot in the Eastern Caribbean • Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020, June/July 2021 and September 2021 and October 2021)
Who decides? Participation in decision-making	**Eighteen**	**Who are the community leaders? Are there any women leaders?**	- Antigua and Barbuda do not have community leader structures as other countries. Community leaders are normally church and political leaders. Women leaders are normally wives of the church pastors, nurses and teachers assigned to work in particular areas.	• Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020, June/July 2021 and September 2021 and October 2021)
	Nineteen	**Are there women's organizations that are active in the targeted project area or who the project can partner with?**	- There are not a lot of functional women or men's organisations. However, the Department has consulted with the few women's and men's organisations which do exist - Within the context of the project, the main body that supports both men and women are the labour unions, which negotiate for salary as well as good working conditions. These are very powerful bodies. Other projects representing vulnerable communities including persons with disabilities are also consulted	• Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020, June/July 2021 and September 2021 and October 2021)
	Twenty	**Do women and men participate (equally) in associations, management relevant to the project sector, and any other producer/user groups? Which ones?**	- Women and men do not generally participate equally in community meetings. In past community consultations, the Department has noted higher participation of women in consultation in comparison to men	• Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020, June/July 2021 and September 2021 and October 2021)
	Twenty One	**Who manages / makes decisions in the household, notably**	- Women are noted in higher percentages for persons who manage household finances and presumedly other matters within the home	- Project Management Unit. Rep. *National Gender Assessment Survey: The Economic Impact of Climate Change on Men and*

		around how money and time are spent?		*Women in Antigua and Barbuda*. St. John's: Department of Environment, 2021.
	Twenty Two	**Will both women and men be able to equally participate in using and learning about the new interventions in the proposed project as well as the training?**	- Both men and women will have equal access to participate in using and learning about the new interventions in the project as well as the training - To ensure that both men and women benefit equally based on different learning habits, the project will seek to design and implement gender responsive training for men and women	• Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020, June/July 2021 and September 2021 and October 2021)
Who benefits? Impacts	**Twenty Three**	**Will the services from the project interventions be freely available to men and women? Are there any risks/restrictions on movement (security or cultural)? Are there any discriminations/risks to certain community members in terms of accessing the project benefits?**	- Meetings held late at night are a risk; there must be adequate lighting for women and men to attend meetings - The services will be freely available to both men and women. As stated above, it is mandated by law that NGOs, civil society organizations, governments, private sector whether women/men must be involved in decision making as it relates to environmental projects. It is mandated by Law and is also stated within the Department of Environment environmental and social safeguards that the Department of Environment is mandated to ensure that all environmental projects being executed must conform and adhere to ESS and reduce the impacts of risks. Thus, no significant risks/restrictions as it relates to gender involvement have been identified	• Department of Environment, 2018. Environmental Social Safeguard Policy • Department of Environment, 2018. Gender Policy
	Twenty Four	How will men and women benefit from the project interventions?	- Identified benefits for men and women include the following ▪ Women, who account for most workers, as well as persons in supervisory positions within educational institutions are expected to directly benefit from the increased resilience of the educational institutions as persons stationed in the schools ▪ Women who are not employed within the sectors will also benefit from the project intervention. The increased resilience of educational facilities allow children to return to school at a faster pace and thus, families, particularly women, to return to work and recovery. Over 80% of the institutions selected are primary schools and pre-schools. ▪ Boys and girls will benefit from the reduced school delays caused by weather events. ▪ The project should provide increased construction and Renewable Energy jobs for construction and RE Companies. These are male dominated fields; as such, men are expected to benefit through the project ▪ Both men and women will be provided with access to participate in training and consultation programs. The DOE has committed to designing and implementing gender-responsive training which caters for the different learning patterns of men and women	• Project Management Unit. Rep. *National Gender Assessment Survey: The Economic Impact of Climate Change on Men and Women in Antigua and Barbuda*. St. John's: Department of Environment, 2021. • Draft Department of Environment Gender Chapter for Antigua and Barbuda's 4th National Communications Report • Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020, June/July 2021 and September 2021 and October 2021)

	Twenty Five	3. What will be the impact of the project interventions on women's workload and income?	- Early assessments do not indicate any workload changes for men and women because of the interventions. Construction and RE installations at the school sites will be scheduled in conjunction with the schools - Increased economic opportunities are expected workers in the construction and energy sector, which is male dominated; schools are expected to experience savings caused by reduced energy costs	• Department of Environment, 2020 "Environmental and Social Management Review: Grid Interactive Solar PV Systems for Schools and Clinics in Antigua"
	Twenty Six	4. Are there specific project impacts or benefits for women?	- As part of the Department of Environment project programme pipeline, the project will contribute to the training of women in construction and energy sectors through its established training programme.	• Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020, June/July 2021 and September 2021 and October 2021)
	Twenty Nine	6. Will the project contribute to strengthening women's participation in decision-making? How?	- Women in Antigua and Barbuda generally participate in decision making process. In the educational sector, for which the project interventions are geared, women generally hold leadership positions in this sector - At the DOE, women participate in the Project Management Committee, Technical Advisory Committee, Technical Evaluation Committee, Project Management Unit, community consultations and ad hoc consultation events.	• Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020, June/July 2021 and September 2021 and October 2021)

4. GENDER ACTION PLAN

Project Title: *Increased the Resilience of the Education System to Climate Change Impacts in the Eastern Caribbean*

A project/program-specific Gender and Social Inclusion Action Plan (GAP) is a tool used to ensure gender mainstreaming is clearly visible in project/program design and implementation[20]. This GAP will serve as a key guiding tool throughout the delivery of the project titled, "*Increased the Resilience of the Education System to Climate Change Impacts in the Eastern Caribbean*

The Gender Action Plan presented below identifies key project activities and indicative outputs through which gender specific strategies, actions and outcomes will be progressed and monitored. The Plan will be reviewed and refined during the inception phase, which will also ensure that all project stakeholders have the opportunity to identify issues and are aware of responsibilities for delivering and monitoring the Gender Action Plan. Implementation arrangements of the project include an ESS and Gender Expert as part of the Technical Evaluation Committee that will provide technical advice in the decision-making process of the project's sub-activities.

[20] GCF Gender Analysis/Assessment and Gender and Social Inclusion Action Plan Templates http://www.greenclimate.fund/documents/20182/574712/Form_09_-_Gender_Assessment_and_Action_Plan_Template.pdf/3f4b8173-fbb2-4bc7-9bff-92f82dadd5c0

TABLE 4: GENDER ACTION AND SOCIAL INCLUSION PLAN

ACTIVITIES	INDICATORS AND TARGETS	BUDGET	TIMELINE	RESPONSIBILITIES
Impact Statement: *To strengthen the climate resilience of educational systems in the Eastern Caribbean in the face of intensifying and increasing extreme weather impacts is a necessary adaptation.*				
Outcome Statement: Strengthen the enabling environment for adaptation planning within the education sector at the national and regional level.				
Output 1.1. Policies, plans and lessons learned strengthened in alignment with the CDEMA Model Safe School Programme				
Conduct consultations to include the equal participation of men and women as well as vulnerable groups into the updated toolkit and action plan	Equal participation of men and women in consultation 30% of participants represent vulnerable groups (persons with disabilities, single-parent female headed households, the youth Needs)	$5,000	During project implementation	ESS and Gender Expert PETI Unit
Output 2.1. Schools, communities and households' capacity building to increase resilience to climate change				
Contribute to the participation of the youth (persons aged 16 – 24 years) and women in the Department of Environment Apprenticeship Program for infrastructure and energy	Equal opportunities are provided for men and women to participate in the DOE Apprenticeship Program: Infrastructure and Energy	$10,000	During project implementation	ESS and Gender Expert
Design gender responsive communication tools to target men and women differently for the educational campaigns and environmental management plans	70% of persons in the educational sector in the sector that benefit from information on resilience in the educational sector as well as environmental management plan	$2,000 PETI Unit	During project implementation	ESS and Gender Expert PETI Unit
Develop gender responsive information products that include the promotion of women in infrastructure and energy	50% of men and women have increased knowledge and access to appropriate tools to address climate change impacts in construction of critical infrastructure and energy (regardless of their literacy levels)	$2,000 PETI Unit	During project implementation	ESS and Gender Expert PETI Unit
Output 3.2. Improve the resilience of priority buildings through adaptation interventions				
Conduct consultations to include the equal participation of men and women as well as vulnerable groups on the design of weather stations at select schools	Equal participation of men and women in consultation 30% of participants represent vulnerable groups (persons with disabilities, single-parent female headed households, the youth Needs)	$5,000	During project implementation	ESS and Gender Expert PETI Unit

Annex 8. Draft Gender Assessment Report – Saint Lucia.

- **Written by:** Ministry of Education, Innovation, Gender Relations and Sustainable Development of St. Lucia.
- **Exact title of report**: Links Between Gender and Climate Change In The Education Sector - A Gender Assessment.
- **Date of report:** July 16, 2021.
- **Chapters:** 3-4.

3.0 PRACTICAL CONSIDERATIONS FOR PRIORITIZING, IMPLEMENTING, MONITORING AND EVALUATING GENDER RESPONSIVE CLIMATE ACTIONS IN THE EDUCATION SECTOR

In developing a gender-responsive, Sectoral Adaptation Strategy and Action Plan (SASAP) the education sector is expected to take account of the following. *(NAP Global Network, 2019.*[7])

- Gender differences in adaptation needs and capacities;
- The extent of gender equitable participation and influence in decision-making processes for the development and implementation of adaptation plans and strategies; and
- Gender equitable access (of males and females) to financial resources and other benefits of investments in climate change adaptation.

This technical analysis examines the status of resources and capacity within and/or available to the Ministry of Education, Innovation and Gender Relations to ascertain the above and to factor the findings into priorities for climate change adaptation in education, in planning the strategic actions and their implementation and in developing appropriate indicators and mechanisms for monitoring and evaluation.

3.1 AVAILABILITY OF KEY DATA INCLUDING GENDER EQUALITY / GENDER DISAGGREGATED DATA

Gender and other demographic factors such as age, race, ethnicity, disability and class influence people's vulnerability to climate change and influence people's access to resources, information, opportunities and their adaptation needs and capacities. Awareness of the differences in the situation with respect to the socio-economic position, roles and responsibilities of different groups and how these shape how people experience the impacts of climate change, the types of adaptation measures that are appropriate to their needs and their ability/availability to participate in adaptation measures is necessary for responsive adaptation planning and implementation.

Gender disaggregated or gender specific data are a key tool in determining and assessing gender differences in adaptation needs and capacities. Data is therefore a necessary input for evidence-based, gender responsive planning.

3.1.1 GENDER AND SEX DISAGGREGATED DATA

Sex Disaggregated Data has been understood as the statistics and data gathered and broken down by sex in order to aid male-female comparison. This has generally been taken as a quantitative analysis. Gender statistics however, are more than data disaggregated by sex. Having data by sex

[7] Toolkit for a Gender Responsive Process to Formulate and Implement National Adaptation Plans; NAP Global Network 2019; page 11- Toolkit for a Gender-Responsive Process to Formulate and Implement National Adaptation Plans (NAPs) | NAP Global Network

does not guarantee, for example, that concepts, definitions and methods used in data production factor in such issues as gender roles, relations and inequalities in society.

Gender Disaggregation promotes a broader understanding of the types of data that can allow for deeper understanding of what is occurring with different groups in order to better inform what appropriate responses and supports might be required. Gender disaggregation implies going beyond who and how many to investigate 'why' - to assess the existence and the extent of differences in experiences, for example, in women's and men's time use, income differences, role differences etc. Such data allow for an examination of the qualitative and experiential issues that give rise to the numerical representation of males and females in any given scenario.

Looking at the number of people impacted by a disaster event based on sex tells one level of story. Looking at the different ways they are impacted and why, adds another level of analysis. In gathering such data a variety of tools and methods are important, including use of interviews, focus groups etc.

3.1.2 STATUS OF GENDER DATA

In a 2019 report[8] on its assessment of the production and management of gender disaggregated data in St. Lucia, the Economic Commission for Latin America and the Caribbean (ECLAC) noted that there is a lack of data disaggregated by gender, age, disability, race, and other criteria in the Caribbean, including in Saint Lucia (ECLAC 2019, page 7). The report states that the unavailability and under-utilisation of gender data undermines ability to adequately address gender inequalities and hinders the assessment of the impact and effectiveness of public policies and programmes. (Page 7). It points out that gaps in the collection and management of gender and other demographically disaggregated data are due to such factors as structural challenges, such as the low reflection of gender considerations in evidence-based decision-making, poor inter-agency coordinating mechanisms, and insufficient and inefficient use of human, physical, and financial resources. (Page 5)

In preparing this technical analysis, the consultants found that while the Ministry does collect some sex and gender disaggregated data at both the Ministry and School level (i.e. attendance data, enrolment data, dropouts and performance data) is gender disaggregated and housed both within the Ministry and via the Central Statistical Office, it was confirmed through a stakeholder consultation with the Education sector that gender desegrated data was often hard to produce. An OECS request for education data in the tertiary sector was given as an example of the Ministry's ability to source adequate segregated data in a timely fashion for contributions to regional data collection. (*must confirm with Ministry that this segregated TVET data was or was not available easily for OECS request)

[8] Gender Data Assessment in St. Lucia: Challenges and Recommendations; Samantha John-Aloye et al; United Nations ECLAC; 2019

Despite the systemic limitations and gaps, the desk review undertaken was able to unearth a range of relevant data sets of a general nature related to the education sector, labour market, poverty, environmental vulnerabilities etc. and for the situation with males, females and children based on multiple indicators, noting that in addition to gender and sex disegregated data it is also important to note that "while availability and presence of equity dimensions is the first step towards an understanding of disparities in education" that "even when such data are available, they are often left outside the main focus of analysis." Gender is "regularly included as explanatory, or "control" variables that help reduce variation and increase precision in analyses of impact of policies or interventions, but rarely [is] used to examine differences in impact effects". Source: Mainstreaming Equity in Education Issues Paper Commissioned by the International Education Funders Group September 2017 Carina Omoeva FHI 360 Education Policy and Data Center / Education Equity Research Initiative (needs citation)

The table below sets out some of the sources and types of data available for reference to inform the education sector's SASAP planning process.

Table 2: Available Data Sets by Source, Type and Key Information

Source	Type of data	Key information
GoSL Open Data web portal Saint Lucia Open Data (govt.lc)	13 data sets – Mapping, urban planning, economy, public safety, environment, finance and budgeting, transportation, government, health care, agriculture, tourism, demography, education Data sets from 16 GoSL Ministries, Departments and Agencies including: Central Statistical Office, Dept. of Education, Innovation and Gender Relations; Dept. of Finance; Dept. of Health & Wellness; Dept. of Physical Planning; Meteorological Services; National Emergency Management Organisation; Sustainable Development & Environment Division	Mapping – Search | Saint Lucia Open Data (govt.lc) Meteorology stations island wide St. Lucia communities – shape files St. Lucia Districts – census data St. Lucia Primary, Secondary and Tertiary education institutions Geodata. Urban Planning – Emergency shelters (2018) Emergency Shelters | Saint Lucia Open Data (govt.lc) Economy – Search | Saint Lucia Open Data (govt.lc) Sex and age disaggregated labour Force data Environment – historical weather observations Search | Saint Lucia Open Data (govt.lc)

		Finance & Budgeting Search | Saint Lucia Open Data (govt.lc) Economic & Social Review 2009-2014 including consumer price indices and mid-year population estimates by sex, age and districts; debt; government expenditure etc Demography – Population census 2010 – by district, sex and 5 year age group Census population | Saint Lucia Open Data (govt.lc) Educational Digest an annual publication of the Corporate Planning Unit of the Ministry of Education, Human Resource Development and Labour. highlights data on student enrolment, Dropouts, Repeaters and Graduates. Also included are data on teachers, local and regional examinations, education financing and student welfare programmes. Educational Digest | Saint Lucia Open Data (govt.lc)
GoSL – Central Statistical Office	Various by subjects including Education, Labour force, population, Vital statistics, Environment Subjects - The Central Statistical Office of Saint Lucia (stats.gov.lc)	Education Early Childhood Education, Primary Education, Secondary Education, Tertiary Education, Special Education, Government Spending on Education Labour Force Unemployment rate, composition of labour force etc. Population Population estimate, poverty rate, etc. Vital Statistics

	St. Lucia National Report of Living Conditions 2016 Saint-Lucia-National-Report-of-Living-Conditions-2016-Final_December-2018.pdf (stats.gov.lc) Summary report - https://www.stats.gov.lc/wp-content/uploads/2019/01/Summary-Report-Saint-Lucia-2016-National-Report-of-Living-Conditions_December-	Births, deaths, etc Environment Human settlements, land use, energy, solid waste etc. Comprehensive, sex, age and other demographically disaggregated data Summary data and recommendations for action
GoSL Department of Finance	Estimates of expenditure, description/reports of national programmes; procurement Acts/guidelines etc Department of Finance: Search Annual Economic and Social Review Project procurement documents e.g. for education Department of Finance: Search Economic Recovery and Resilience Plan components and their status. a. Disaster risk and climate change SLUERRP | Pillar 6 | Strategy 32	Current education programmes; frameworks
Ministry of Education, Innovation, Gender Relations and Sustainable Development	Publications Ministry of Education (govt.lc)	Relevant project documents for education or with education components
UNICEF/GoSl- Ministry of Social Transformation, Local Government and Community	'Saint Lucia Multiple Indicator Cluster Survey 2012: Final Report 2014.	Situation of women and children including gender parity index primary and secondary education; literacy rates women

Empowerment and Central Statistics Office	Saint Lucia 2012 MICS_English.pdf (mics-surveys-prod.s3.amazonaws.com) (Next scheduled MICS for St. Lucia is 2022, current status is survey design. Source: Surveys - UNICEF MICS	15-24; domestic violence – attitudes of women, men; access to mass media and information and communication technology – women 15-24 and 15-45; persons collecting drinking water by sex, age and urban/rural
GoSL Dep. Of Education, Innovation & Gender Relations	Beijing +25 National report 2019 Beijing +25 Report, Saint Lucia (cepal.org)	Status of implementation and achievement of the Beijing Programme of Action
UNDP LAC	Caribbean Human Development Report 2016 Caribbean Human Development Report (undp.org)	The 2016 report entitled *Multidimensional Progress*: *Human Resilience Beyond Income* provides information and gender and other demographically disaggregated data in such chapters as a. A new paradigm for assessing vulnerability: embracing human development b. Human vulnerability in the Caribbean: who are the most vulnerable and why An important chapter is on multidimensional policy solutions for multidimensional problems
UN Women - Caribbean	Caribbean Gender Profile web page on St. Lucia. Saint Lucia | UN Women – Multi-Country Office – Caribbean	Regional and international human rights Conventions signed and St. Lucia National reports; gender disaggregated data
UN ECLAC	Various publications Search | Economic Commission for Latin America and the Caribbean (cepal.org)	Gender data, climate change, sectoral reports, etc.
Map Access (an NGO)	Geo-spatial data on disaster impacts	31 data sets mapping various types of impacts from hurricane Tomas 2010 by district in St. Lucia

	Hurricane Tomas, St Lucia, November 2010 - MapAction	
CDB	Country Gender Assessment-St. Lucia; 2016 - Country Gender Assessment - Saint Lucia 2016 | Caribbean Development Bank (caribank.org)	Gender data for employment, poverty, climate change and disasters, education, health, agriculture, tourism, decision-making, etc.

3.2 EXTENT OF GENDER EQUITABLE PARTICIPATION AND INFLUENCE IN DECISION-MAKING PROCESSES FOR THE DEVELOPMENT AND IMPLEMENTATION OF ADAPTATION PLANS AND STRATEGIES

Women's representation in Parliamentary decision-making in St. Lucia was at 12% in 1997, rising to 16% since 2010 through to 2018 (World Bank data[9]). For comparison, the proportion in Barbados was approximately 11% in 1997 and improved to 20% in 2018, for Dominica, the data shows women occupying approximately 18% of Parliamentary seats in 2001 and 34% in 2020.

Data reported on by the Commonwealth Local Government Forum (CLGF), UK[10], indicates that there has been a small increase in the number of appointed women councillors from 60 of 136 (44.1%) in 2015/16 to 62 of 137 (45.3%) in 2016/17. The number of women mayors was reported to be two of four (50%); and a decrease was indicated in the number of female chairpersons from 5 of 11 (45.5%) in 2015/16 to 4 of 11 (36.4%) in 2016/17.

CLGF Table: Women Councillors and Mayors/Chairpersons 2014-2017

[9] World Bank Data, Proportion of Seats Held by Women in National Parliaments (%) – St. Lucia; Proportion of seats held by women in national parliaments (%) - St. Lucia | Data (worldbank.org)

[10] The Local Government System in St. Lucia – Country Profile 2017/18; Commonwealth Local Government Forum, UK Saint_Lucia.pdf (clgf.org.uk)

Election	2014/15		2015/16		2016/17	
Councillors	#	%	#	%	#	%
Female councillors	61	44.5	60	44.1	62	45.3
Male councillors	76	55.5	76	55.9	75	54.7
Total councillors	**137**	**100.0**	**136**	**100.0**	**137**	**100.0**
Mayors	#	%	#	%	#	%
Female mayors	na	na	2	50.0	2	50.0
Male mayors	na	na	2	50.0	2	50.0
Total mayors	**na**	**100.0**	**4**	**100.0**	**4**	**100.0**
Chairpersons	#	%	#	%	#	%
Female chairpersons	na	na	5	45.5	4	36.4
Male chairpersons	na	na	6	54.5	7	63.3
Total chairpersons	**na**	**100.0**	**11**	**100.0**	**11**	**100.0**

Source: Department for Local Government correspondence with CLGF

Equitable representation of women and demographically diverse groups in decision-making strengthens the range and quality of information that is taken into consideration. Inclusion of gender focal points from ministries and agencies/departments of the GoSL; non-government, gender actors and demographically representative community members in consultations is an important component of a robust planning process. Such inclusion in the SASAP process, demonstrates recognition of the need to understand and factor in gender and other demographic differences in climate change adaptation needs and capacities. Planning and decision-making processes can benefit significantly from gender equitable participation.

The GoSL has demonstrated commitment to inclusive decision-making. The NAP (2018, page 47) speaks to promoting gender equality in decision-making and there is a firm foundation to build on with St. Lucia's track record with participatory and inclusive climate change and disaster planning processes and mechanisms. These mechanisms include the National Climate Change Committee (NCCC), which is recognized under the Climate Change Adaptation Policy (CCAP) as the body in charge of coordinating and facilitating the implementation of climate change adaptation measures across sectors and agencies and at all levels of society. The NCCC comprises representatives of public, statutory, academic and private sector bodies and may appoint other members on an ad hoc basis.

Inclusive and equitable decision making is also supported by a National Mechanism for Gender Equality-named the Department of Gender, housed within the Ministry of Education, Innovation, and Gender Relations. The Department of Gender has the responsibility for other cross-cutting processes, including SDG coordination and Climate Change. The structure of the mechanism includes the Permanent Secretary as "the administrative head of the Department with the Director of Gender as the Chief Executive Officer. The Department comprises two units: a Gender Relations Unit (GRU) with responsibility for Communication and Gender-based Violence Prevention and Intervention; and a Gender Policy and Mainstreaming Unit (GPMU) with responsibility for intersectional gender analyses, gender mainstreaming, monitoring gender-responsive measures (including legal reform) and reporting". (Saint Lucia National Gender Equality Policy Statement Draft January 2021)

The Division of Gender Relations within the Ministry of Education, Innovation, Gender Relations is the lead agency with responsibility for the process of the development of a national gender policy and corresponding implementation. In alignment with the timing of the UNDP EnGenDER initiative, the Department of Gender developed a draft National Gender Equality Policy Statement and Strategy which occurred "at a time of immense environmental, social, health and economic challenges, from global threats such as Climate Change and the Global Pandemic caused by the Novel Coronavirus COVID-19" which "are particularly devastating to Small Island Developing States (SIDS) like Saint Lucia, given their fragile economies, high debt to GDP ratio and almost exclusive reliance on tourism". (Saint Lucia National Gender Equality Policy Statement Draft January 2021).

Currently before Parliament, the Gender Policy Statement included national consultation with a wide range of stakeholders as well as the creation of task force groups for data gathering to inform the planning process. The National Gender Equality Policy Statement will be implemented through a 5-year Strategic Plan aligned to the key results areas of the Medium Term Development Strategy (2020 – 2023) and the priority sectors for adaptation identified in Saint Lucia's National Adaptation Plan (2018 – 2028).

In addition to defining four key priority areas of 1) Eliminating gender-based violence 2) Governance (coordination of the national gender machinery and gender mainstreaming) 3) Health and 4) Economic empowerment of women and environmental sustainability; the Gender Equality Policy (2021), prioritizes equitable civic participation. It states at Paragraph 2.4 a GoSL objective to:

Create institutional mechanisms and systems that mandate and facilitate effective dialectic and inclusive participation, collaboration and consultation with various stakeholders (including civil society organizations, youth, private sector, academia, vulnerable groups and the media).

Further, the mechanism will work towards "the advancement, empowerment and autonomy of women as well as setbacks created by the COVID-19 pandemic in this regard; and the commitment to build back better, the GoSL will

- make use of temporary special measures to ensure improved gender distribution in political leadership, citizen security and environmental sustainability and create the policy framework and institutional mechanisms to enable its use;
- strengthen institutional mechanisms for and take concrete actions to institute and sustain effective communication and education to effect widespread attitudinal and behavioural change in public and private domains;
- strengthen institutional mechanisms to identify and assess vulnerability to ensure that no one is left behind" St. Lucia's Draft National Gender Equality Policy Statement (2021).

Specifically, as it relates to Education: The Gender Policy acknowledges how access to education affects employment outcomes, and will support the GoSL to:

- increase institutional mechanisms to provide quality education and training and life-long learning opportunities for women and girls and
- strengthen educational planning and gender-sensitive curriculum development to remove gender stereotypes in education and increase boys' access to post-secondary and technical/vocational education.

And finally, intersecting health, education and human rights (inclusive of reproductive health and reproductive rights) the GoSL will:

- make institutional arrangements to ensure the provision of psycho-social support services to victims of sexual and gender-based violence, for women and men living with AIDS and for families living with other non-communicable diseases;
- introduce a comprehensive, age-appropriate sexual and reproductive health education curriculum accessible to all students within the formal education setting;
- make policy provisions to ensure the protection of the right of all school age girls who become pregnant to continued access to formal education.

In addition to the National Gender Mechanism, a National Coordinating Committee for Human Rights (NCCHR)[11] was established via Cabinet Conclusion No. 120 of April 2, 2019, to foster dialogue among national stakeholders on human rights matters. The Committee is coordinated by the Department of Foreign Affairs and includes senior level representation from several ministries, departments and agencies. These include the Division of Gender Relations represented by the Director. Importantly too, the Committee has membership from the Coalition of Civil Society

[11]Details of the Committee obtained online at Human_rights | Saint Lucia Department of External Affairs

Organisations[12], represented by its Chairman, the National Youth Council, represented by a First Vice-President and the National Council of and for Persons with Disabilities, represented by its President.

These mechanisms represent institutional resources that the Education sector may draw upon to assist in establishing an inclusive and consultative process as part of its internal planning mechanism for the development of its SASAP. In doing so, the intent to increase participation of women and men from communities and civil society organizations should be both strengthened and equitable through appropriate evidence and data to validate gender responsive policy development, planning and decision-making.

3.3 EXTENT OF ACCESS TO FINANCIAL RESOURCES AND OTHER BENEFITS RESULTING FROM INVESTMENTS IN ADAPTATION BETWEEN WOMEN AND MEN

No data was found by which to assess the extent of gender equity in access to financial resources and other benefits of investments in climate change adaptation. This is a function of the absence of gender mainstreaming in adaptation planning.

ECLAC (2019, page 16) states that:

a failure to acknowledge gender-specific risks and vulnerabilities in policy design and implementation implies that the economic, social, political, and health realities of males and females in Saint Lucia are the same and that males and females would be affected in the same manner by decisions in those areas. This results in ineffective policies, and poor programming and service delivery.

A key aspect of policy design and implementation is the budget/resource allocation - the macro, national budget/allocation; sectoral budgets and those for specific projects and programmes. Differentiated planning based on information about and consideration of the economic, social, political, health and other realities of the different demographic groups, is a path that most readily ensures that there is equitable access to financial resources and other benefits resulting from development financing in general and investments in adaptation strategies in the context of SASAPs.

[12] This coalition is a network of Civil Society Organisations (CSO) involved in diverse areas of interest throughout Saint Lucia. The coalition was established as a platform for engaging civil society as equal partners with the public and private sectors in the sustainable development of Saint Lucia. See: The Coalition of Civil Society Organisations (saintluciacsocoalition.org). The Coalition maintains a comprehensive list of CSOs in St. Lucia. See: CSO Directory – The Coalition of Civil Society Organisations (saintluciacsocoalition.org)

3.3.1 GENDER RESPONSIVE BUDGETING

Gender responsive budgeting is designed to mainstream gender analysis into all stages of the budget planning cycle. It is not about whether an equal amount is spent on women and men, but rather whether the spending is targeted to and will be adequate to meet women's a d men's needs, taking into account other factors such as age, location (urban, rural), disability, social roles and responsibilities, socio-economic status etc. It involves analysis of the impact of any form of public expenditure or resource allocation on women and girls as compared to men and boys. (Manual for Training on Gender Responsive Budgeting, 2006, Page 36)[13]

The ECLAC report (2019, page 8) indicates that the strengthening of capacity for such analysis and planning is being pursued under a GoSL partnership with the Caribbean Development Bank (CDB). The initiative, ECLAC notes, provides technical assistance in gender planning and Gender responsive budgeting and will support government bodies to integrate a gender Perspective into policies, programmes and projects through the training of civil servants and training of trainers.

[13] Manual for Training in Gender Responsive Budgeting, Katrin Schneider, GTZ, German Federal Ministry for Economic Cooperation and Development; 2006; Microsoft Word - Deckblatt.doc (ndi.org)

4.0 INDICATORS AND MECHANISMS FOR MONITORING AND EVALUATION OF GENDER-RESPONSIVE CLIMATE CHANGE ADAPTATION PLANS

The St. Lucia National Climate Change Policy and Action Plan (2015) indicates that its monitoring is carried out by National Climate Change Committee or its successor body, which reports on a semi-annual basis to the Cabinet through the Minister of Planning, Development, Environment and Housing. After five years of the Policy and Action Plan being adopted the Committee is mandated to carry out a public review of the policy to determine its effectiveness in achieving its goals and objectives. (Page 19)/

A Monitoring and Evaluation Plan[14] exists for the NAP 2018-2023. It sets out a comprehensive list of indicators including for SASAPs. There is reference to gender/'vulnerable group' specific indicators these include *Vulnerable groups specifically targeted in the sectoral and cross-sectoral plans* (Page 11) *Total number of gender-specific sectoral and cross-sectoral measures completed during the requisite calendar year* (Page 12) and *Of the measures that were completed during the requisite calendar year, which, if any, specifically targeted men or specifically targeted women? List initiative(s) and gender targeted.*

It is outlined in the M&E Plan that, resources allowing, *it is expected that aside from the annual monitoring and evaluation of NAP progress, the NAP and SASAPs will be reviewed overall at least once during the 2018-2028 period. Ideally, two reviews should occur: in 2021 (end of the period prescribed for initiating the implementation of short-term activities); and in 2024 (end for medium term activities).*(Page 8).

Below, a representative education outcome from the NAP that relates to education infrastructure has been isolated to provide an illustrative example of the need to provide evidence and measurable data that a gendered analysis has occurred that looks to 1) the recognition of gender differences in adaptation needs, opportunities and capacities 2) gender-equitable participation & influence in decision-making processes and 3) gender-equitable access to financial resources and other benefits resulting from investments in adaptation.

In developing gender-responsive SASAP priorities, education planners must methodically validate that gender responsive planning (inclusive of data, budgeting and monitoring and evaluation) is taken into consideration in order to both improve education sector adaptive planning and also to meet external green climate funding criteria. Subsequent gender-related indicators that could be considered within the SASAP process as it relates to equitable decision-making process indicators in Disaster Preparedness and Response are also included as an illustrative example of global best practice.

[14] Government of Saint Lucia. (2018). Monitoring and Evaluation Plan of Saint Lucia's National Adaptation Planning Process. Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development., Saint Lucia Monitoring and Evaluation for NAP.pdf (unfccc.int)

TECHNICAL ANALYSIS EXPLORING LINKS BETWEEN GENDER AND CLIMATE CHANGE Based on the NAP – section on Education Sector p.112-115					
OUTCOME 4. STRENGTHENED PREPAREDNESS TO CLIMATE VARIABILITY AND EXTREMES					
Strategic Objective 1. IMPROVED INFRASTRUCTURE FOR EDUCATION CONTINUITY UNDER A CHANGING CLIMATE					
Adaptation measures	Indicative outputs	Gender-responsive NAP process considerations			Gender-Related Indicators
		Recognition of gender differences in adaptation needs, opportunities and capacities	Gender-equitable participation & influence in decision-making processes	Gender-equitable access to financial resources and other benefits resulting from investments in adaptation	
233 Ensure school infrastructure is climate resilient, particularly schools that double as emergency shelters	Plan for retrofitting and climate proofing education infrastructure elaborated, approved and implementation initiated.				

Table Reference: Tool Kit on Gender Equality Results and Indicators. Asian Development Bank, Australian Aid, 2013. P 49.

Annex 9. Grant Process Checklist – Antigua & Barbuda.

DEPARTMENT OF ENVIRONMENT
GRANT PROCESS CHECKLIST

All the steps of this checklist must be completed by the Grant Officer. This checklist must be attached to the DOE's copy of the contractual agreement, for the DOE's records.

NAME OF PROJECT: [INSERT PROJECT NAME)]
GRANT APPLICATION NUMBER: [INSERT GRANT APPLICATION NUMBER]
DATE: [INSERT DATE)]

STEP NUMBER	TASK	REQUIRED DOCU-MENTATION	STATUS (*Please Tick Once Completed*)	RESPON-SIBLE PERSON
1. GRANT PROCESS INITIATION				
1	Review project document	Project implementation document		Grant Team (GT), Project Coordinator (PC)
2	Kick-off Meeting	Kick-off Meeting Minutes		(GT), (PC)
3	Requisition 1: Requisition funds from the funding agency	Board decision approving the Term Sheet, Signed Term Sheet, Identification of a bank account and or ledger		(GT), (PC), Accounts, SIRF Fund Representative
4	Create an implementation plan.	Implementation plan		(GT), (PC)
5	Consult with potential stakeholders to inform them of pending projects	Minutes of consultation		(GT)
6	Submit implementation plan to DOE staff for internal review	Implementation plan		(GT)
7	Prepare list of potential stakeholders	List of potential stakeholders		(GT), (PC)
8	Execute public awareness campaign to promote the project.	Promotion links/advertise ment		(GT), (PC), (PETI)

9	Assemble a list of potential Technical Evaluation Committee (TEC) members	List of potential Technical Evaluation Committee (TEC) members		(GT), (PC)
10	Draft grant process documents.	Draft grant process documents.		(GT)
11	Submit grant process documents and list of potential TEC members to the DOE staff for internal review	Draft grant process documents, List of potential Technical Evaluation Committee (TEC) members		(GT)
12	Submit revised grant process documents and list of potential TEC members to the Technical Advisory Committee (TAC) for review	Draft grant process documents, List of potential Technical Evaluation Committee (TEC) members		(GT)
13	Modify grant process documents and TEC list, if necessary, based on results of consultation with TAC	Draft grant process documents, List of potential Technical Evaluation Committee (TEC) members		(GT)
14	Submit grant process documents and TEC list to Project Management Committee (PMC)/SIRFF for approval	Draft grant process documents, List of potential Technical Evaluation Committee (TEC) members		(GT)
15	Assemble TEC team, after PMC/SIRFF approval is obtained, and plan for implementation of the grant process.	PMC Approval		(GT), (PC)
2. CALL FOR PROPOSALS				
16	Prepare draft call for proposals (CFP)	Draft call for proposals		(GT)
17	Submit draft CFP to DOE staff for internal review	"		(GT)
18	Submit revised draft CFP to Technical Advisory Committee (TAC) for review	"		(GT)

19	Review draft CFP based on results of consultation with TAC	"		(GT)
20	Submit CFP to PMC/SIRFF for approval	"		(GT)
21	Modify CFP, if necessary, based on PMC/SIRFF decision.	"		(GT)
22	Publish CFP and related grant materials.	Final Draft of CFP		(GT), (PETI)
3. SUMMARY PROPOSAL REVIEW PROCESS & SMALL PREPARATION GRANT				
23	Collect summary proposals	Summary proposals submissions record		(GT)
24	Acknowledge Receipt, in writing to the applicant, and provide an overview to the applicant of the next steps in the grant decision making process.	Letter of acknowledgement		(GT)
25	Post the number of applications received, on the website.	Link of post		(GT), (PETI)
26	Proposals are reviewed internally by DOE staff and comments communicated to the applicant via a review sheet.	Evaluation report, review sheets		DOE Technical Officers
27	Applicant addresses the issues identified among the comments of the reviewer.	Review sheets, amended proposal		Applicant
28	Issues satisfactorily addressed by the applicant	Evaluation report, review sheets		Applicant
29	Submit proposals with review sheets for review by the Evaluation Committee (EC)	Evaluation report, review sheets		(GT)
30	Reviewed by EC	Report from the EC		EC
31	Receive and review evaluations from the (EC)	Report from the EC		GT
32	Prepare evaluation report, including preliminary decision on awarding of small grant.	Evaluation Report		(GT)
33	Submit revised evaluation report to TAC for review	Evaluation Report		(GT)
34	Evaluation report reviewed by TAC	TAC meeting minutes		(TAC)
35	Review evaluation report, based on advice of the TAC	Evaluation Report		(GT)
36	Submit evaluation report to the Director, including recommendations for awards.	Evaluation Report		(GT)
37	Director presents final recommendations to the PMC/SIRFF	Evaluation Report		Director
38	The PMC makes final recommendations to either i) approve, ii) rework, or iii) decline proposals	PMC decision		PMC
39	Chair of the PMC/SIRFF sends a final list of recommended projects, in order of priority, to the SIRF Fund Board.	List of recommended projects		PMC

40	Notify applicants of the decisions made by the PMC/SIRFF, including instructions to either, i) proceed to preparation of full proposal, or ii) make minor changes within a period of ten (10) days or resubmit at a subsequent Call for Proposals if project has not been declined or placed in the pipeline.	Notification letters		(GT)
41	Publish award information	Link to publication		(GT), (PETI)
42	Sign Small Preparation/Technical Assistance Grant	Small Grant Agreement		Contract Manager
43	Award small preparation grant	Signed Small Grant Agreement, requisition documents		Accounts
4. FULL PROJECT PROPOSAL				
44	Grantees complete full proposal form	Signed Full Proposal Form		Applicant
45	Grantees acquire supporting documentation, including permits, architectural drawings etc.	Supporting documents		Applicant
46	If necessary, a feasibility study should be conducted by an engineer and an architect	TEC report		Technical Evaluations Committee (TEC)
47	Grantees submit proposal package to DOE	Signed Full Proposal Form		Applicant
48	Collect full proposals	Signed Full Proposal Form		(GT)
49	Acknowledge Receipt, in writing to the applicant, and provide an overview to the applicant of the next steps in the grant decision making process.	Acknowledgement letters		(GT)
5. PROJECT APPRAISAL				
50	Proposals are reviewed internally by DOE staff and comments communicated to the applicant via a review sheet.	Evaluation report, review sheets		DOE Technical Officers
51	Applicant addresses the issues identified among the comments of the reviewer.	Review sheets, amended proposal		Applicant
52	All issues have been addressed.	Evaluation report, review sheets		Applicant
53	Submit proposals with review sheets for review by the Evaluation Committee (EC)	Evaluation report, review sheets		(GT)
54	Review by EC	Report from the EC		EC
55	Receive and review evaluations from the (EC)	Report from the EC		(GT)

56	Prepare evaluation report, including preliminary decision on awarding of grant.	Evaluation Report		(GT)
57	Submit evaluation report to a Grant Evaluation Committee of the TAC for review	Evaluation Report		(GT)
58	Review of evaluation report by TAC	TAC meeting minutes		TAC
59	Review evaluation report, based on advice of the TAC	Evaluation Report		(GT)
60	Submit evaluation report to the Director, including recommendations for awards.	Evaluation Report		(GT)
61	Director presents final recommendations to the PMC/SIRFF	Evaluation Report		Director
62	The PMC/SIRFF makes final recommendations to either i) approve, ii) rework, or iii) decline proposals	PMC decision		PMC
63	Chair of the PMC sends a final list of recommended projects, in order of priority, to the SIRF Fund Board.	List of recommended projects		PMC
64	Notify applicants of the decisions made by the PMC/SIRFF.	Notification letters		(GT)
65	Allow opportunity for reconsideration of funding decision, in event of an appeal by an applicant.	Request for reconsideration of funding decision		(GT)
66	Publish award information	Link to publication		(GT), (PETI)
6. CONTRACTING				
67	Remove the 'DRAFT' watermark from the Grant Agreement and print four (4) copies of Grant Agreement for signature	Grant Agreement Template		Contract Manager
68	Fill in Annex 1 'Disbursement Schedule'	"		Contract Manager
69	Encourage the Grantee to use blue ink to sign the Grant Agreement.	"		Contract Manager
70	Ensure that the Grantee initials each page (i.e. both sides of the sheet).	"		Contract Manager
71	Ensure that the Grantee and SIRF Fund have a witness each when signing the Grant Agreement.	"		Contract Manager
7. PROJECT IMPLEMENTATION, MONITORING AND REPORTING				
72	Review implementation plan	Implementation Plan		(GT), (M&E)
73	Requisitions 2: Requisition the second set of funds from the funding agency to support the present phase.	70% of funds allocated, Financial Expenditure Statement, On-granting Programme		(GT), Accounts, (PC), SIRF Fund Rep, Director

		Inception Report, Verification of Receipt of Funds		
74	Ensure that the grantee receives disbursements according to schedule	Requisition documents, sectional completion certificate, verification of funds transfer		Accounts, (GT)
75	Requisitions 3: Requisition the third set of funds from the funding agency to support the present phase.	70% of funds allocated, Financial Expenditure Statement, On-granting Programme Progress Report, Verification of Receipt of Funds		GT), Accounts, (PC), SIRF Fund Rep, Director
76	Technical Experts Committee conducts weekly site visits	Signed site visit reports		(GT), (TEC) (M&E)
77	Arrange sectional completion evaluations, by Technical Experts Committee (TEC) members, according to disbursement schedule	Signed sectional completion evaluations		(TEC), (GT), (M&E)
78	Award sectional completion certificate after each successful sectional completion evaluation.	Signed sectional completion certificates		(GT), Director
79	Publish grant info to be posted on the DOE website	Link to publication		(GT), (PETI)
80	Conduct risk management assessments	Risk register		(GT), (M&E), (PC)
81	Maintain Lessons Learned register.	Lessons Learned Register		(GT), (M&E), (PC)
82	Collect and sign quarterly reports from Grant Recipient	Signed Progress reports		(GT), (M&E)
83	Conduct mid-term project review	Mid-term report		(GT), (M&E)
84	Implement workshops and other project-related training programmmes.	Workshop concept notes, attendance registers, signed workshop reports		(GT), (M&E), (PETI), (PC)

85	Collect M&E reports	Monitoring and Evaluation reports		(GT), (M&E), Knowledge Management
8. PROJECT CLOSURE & LESSONS LEARNED				
86	Conduct final evaluation	Final Evaluation Report		(GT), (M&E), (PC)
87	Conduct project post post-mortem	Signed grant process checklist, review report		(GT), (M&E), (PC)
88	Formal notification of project closure	Notification letter		(GT)
89	Release retention funds	Signed requisition documents, verification of funds transfer		Accounts
90	Close-out ceremony/formal handover of project	Closeout ceremony report		(GT), (PC)
91	Close the Lessons Learned register and prepare a Lessons Learned report.	Lessons learned report		(GT), (M&E)
92	Submit final financial and performance reports for Knowledge Management	Financial report, performance reports.		(GT), Knowledge Management

By signing below, the signatories certify that they have satisfactorily completed each step of this checklist and uploaded the required documentation to the relevant Smartsheet and OneDrive Folder:

Comments		
Reviewed By Name & Title:	**Signature**	**Date**
Approved By Name & Title:	**Signature**	**Date**