



ADAPTATION COMMUNICATION

Antigua & Barbuda's submission to the United Nations
Framework Convention on Climate Change



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Adaptation Communication for Antigua and Barbuda

This Adaptation Communication (ADCOM) for Antigua and Barbuda is being submitted to the United Nations Framework Convention on Climate Change (UNFCCC) by the Department of Environment (DOE), the national agency with responsibility for environmental management, including climate change issues. Antigua and Barbuda's ADCOM was developed with funding support from the Government of the United Kingdom of Great Britain and Northern Ireland through the International Institute for Sustainable Development (IISD) and NAP Global Network.



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Executive Summary

Overview

This Adaptation Communication (ADCOM) is Antigua and Barbuda's first ADCOM to the United Nations Framework Convention on Climate Change (UNFCCC) and is being submitted in compliance with the reporting requirements under the Paris Agreement and its Enhanced Transparency Framework (ETF). It captures information on the key climatic drivers and their impacts on the country; national adaptation responses, both planned and ongoing; the adaptation framework in which these responses are situated; and the needs and challenges to be addressed.

National Circumstances

Climate & Geography

By virtue of its size—170 square miles (mi²), measuring 108 mi² for Antigua and 62 mi² for Barbuda—and its location—17.1 degrees North and 61.5 degrees West—the twin island nation of Antigua and Barbuda is extremely vulnerable to the impacts of climate change. The island has a moderately arid tropical maritime climate, with a dry season spanning January to June and a wet season from July to December. The island has experienced 15 hurricanes and 14 tropical storms between 1995 and 2021, resulting in the categorisation of hurricanes and tropical storms as the main climate hazard. Droughts are a close second, with 14 drought episodes experienced between 2000 and 2020, including (5) severe; (3) serious; (4) moderate; and (2) slight. Sea-level rise and increases in land and sea surface temperatures have also adversely impacted this Small Island Developing State (SIDS). The historical mean annual temperature from 1901 to 2016 is 25.3°C, and the historical mean annual precipitation is 2468.2 mm.

Due to its low-lying geography, sea-level rise will result in ~20 km² of land loss for Antigua and ~15 km² of land loss for Barbuda by 2060, based on the Intergovernmental Panel on Climate Change's (IPCC) Representative Concentration Pathway (RCP) 4.5 scenario. Sea surface temperatures are expected to increase by at most 2.7°C across RCP scenarios. Hurricane intensity is expected to increase by 18% for category 4 and 5 hurricanes over the intensity observed over the past 30 years for Antigua and Barbuda based on General Circulation Models (GCMs). Under the RCP 4.5 scenario, 9 drought years are predicted for 2040–2069, representing an 8% increase in drought severity. A multi-model scenario shows an increase of as much as 23%.

Economy

Antigua and Barbuda transitioned from an economy based on agriculture to one based on tourism and services. Supporting sectors include fishing, manufacturing, and construction. Diversification efforts towards citizenship by investment and a youth economy are currently being pursued. Real growth from 2017 to 2019 fluctuated between 3.17% to 6.88 % but slumped to -20.19% in 2020 because of the impact of COVID-19. Moderate growth of 1.76% is projected for December 2021 with the re-opening of the economy amidst continued COVID-19 measures.

The impact on economic growth from COVID-19 was a result of both demand and supply-side management measures. Border closures, a declared state of emergency amidst public health

concerns, and the ability of health systems to cope with all adversely impacted movement. The Government of Antigua and Barbuda (GOAB) invested in providing remedial support to stimulate the economy, including offsetting the cost of basic services such as water and electricity for households. Revenue generation from taxation was hampered while the government borrowed to defray these expenses. Studies in the Caribbean and within the local context for Antigua and Barbuda have recorded the economic hardships posed by the COVID-19 pandemic. Additionally, a heavy rainfall event in November 2020 resulted in flash flooding and erosion of most of the road network, with infrastructural damage amounting to USD 168M. As such, the government continues to emphasise the importance of building resilience.

Public sector debt for Antigua and Barbuda, as a percentage of gross domestic product (GDP), fluctuated over the period 2017 to 2020 with the lowest ratio of 76.3% being recorded in 2019 and the highest ratio being recorded in 2020 at 94.47%. With limited fiscal space, the GOAB has called for new approaches to debt management by the international community, with due regard to the realities faced by SIDS. The proposed approaches include debt rescheduling, access to concessional financing, debt for climate swaps, and debt suspensions.

Institutional and Legal Arrangements for Climate Change Adaptation

Department of Environment

The 2015 Environmental Protection and Management Act (EPMA) transitioned the Division of Environment to the Department of Environment (DOE) and broadened its mandate to include the Sustainable Island Resources Framework Fund (SIRF Fund). This Act was repealed and replaced with the 2019 EPMA, which gave the DOE responsibility to *“co-ordinate and direct the implementation of multi-lateral environmental agreements; establish and administer a sustainable financing mechanism for environmental management”* and *“coordinate the government’s climate change policies and activities, in addition to policies and activities related to sustainable development, environment and natural resource management.”* In 2021, the Paris Agreement Regulations were passed to support the 2019 EPMA. The regulations specifically address adaptation to climate change under the sections related to Management of Greenhouse Gases (GHGs) and Other Pollutants Affecting Human and Ecosystem Resilience and Climate Change Risk Management and Adaptation.

The DOE has an established track record with development partners, including UNFCCC specialised agencies. The DOE has accessed funds for programme implementation from the Adaptation Fund (AF), the Global Environment Facility (GEF), and the Green Climate Fund (GCF), among other donor agencies. The DOE is accredited to both the AF (since 2015) and the GCF (since 2017). The DOE has a Project Management Unit (including external consultants) of more than 30 individuals. Seven persons within the PMU specifically focus on climate change issues. The DOE is also growing a team of junior consultants using a talent pipeline of educators. This approach has allowed the DOE to easily manage projects, while integrating a learning component and achieving value for money.

Monitoring, Reporting and Verification

The DOE is elaborating a monitoring, reporting, and verification (MRV) system to support its mandate from the 2019 EPMA, to coordinate environmental management in general, and to track indicators for multilateral environmental agreements (MEAs). The system depicted in Figure 6 pulls together various elements of MEA reporting and access to information requirements.

Access to Information

DOE and GIS Unit

The DOE and the Government Information Service (GIS) Unit of the Government of Antigua and Barbuda both have the mandate to communicate effectively to the public. This mandate stems from the Constitution of Antigua and Barbuda and is legislated through the Freedom of Information Act of 2004 as well as the 2019 EPMA. Provision of information to the public includes information on Environmental Impact Assessments (EIAs) for developments, which should be published with a feedback mechanism to support the finalisation of EIAs as needed.

Escazú Agreement

The Government of Antigua and Barbuda ratified the Escazú Agreement in 2020. Further to this ratification, progress has been made with identifying gaps to be addressed through an Issues Paper and a legal manual to guide key stakeholders' groups on how to comply with the requirements of the Escazú Agreement. Additionally, an information factsheet, extensive stakeholder consultations, improvement in public access to information on environmental risks vulnerability and exposure, and commencement of work to complete the Paris Agreement Regulations were undertaken.

Sustainable Island Resources Framework Fund

The Sustainable Island Resources Framework Fund (SIRF Fund) is a critical component of the institutional structure for environmental management and climate change action in Antigua and Barbuda. The Fund was first legislated through the EPMA, 2015 and provided the framework financial mechanism to implement the Act. As a Special Fund, pursuant to section 42(1)(a) of the Finance Administration Act 2006, the SIRF Fund enables Antigua and Barbuda to earmark income from a range of sources to achieve its environmental and climate change goals. The EPMA regulations provide the framework of the activities to be funded, the management structure of the financing windows, eligibility and priority for borrowing, environmental and social safeguards (ESS), and reporting requirements.

To date, funding for three projects has been channelled through the SIRF Fund. These projects are funded by the AF, the Special Climate Change Fund (SCCF) and the GCF. Another project—the Path to 2020 project—will soon provide a mixed offering of grants and loans. The SIRF Fund's total loan portfolio to date as of May 2022 is XCD 17 M with 197 loans given out to households and businesses. The breakdown of the portfolio is presented in Figure 8.

Prohibited Practices

The DOE is subject to the Prevention of Corruption Act No. 21 of 2004, which elaborates the definitions and scope of corrupt and fraudulent activities and outlines the legal penalties for such actions for public officials.

Adaptation Framework

Regional and Sub-Regional Architecture

The Adaptation Framework in Antigua and Barbuda is supported at various levels, from the regional to the national. A mandate by the Caribbean Community (CARICOM) Heads of Government (HOGs) to the Caribbean Community Climate Change Centre (CCCCC) resulted in the elaboration of foundational elements for adaptation action in CARICOM Member States. At the sub-regional level, the Organisation of Eastern Caribbean States (OECS) climate change adaptation strategy and action plan for 2021 to 2026 identifies four desired outcomes: (i) increased resilience of human, economic, environmental, physical, and ecological systems; (ii) stronger institutional structures that are better prepared to respond to climate change risks; (iii) active engaged citizens and responsible leaders; and (iv) improved global adaptation reporting (OECS, 2021, p. 5).

National Adaptation Coordination Structure

Strengthening and reforming national policies and institutional structures to support the country's efforts to address the adverse impacts of climate change is a priority of the Government of Antigua and Barbuda. The DOE identified the need for continued strengthening of national systems to facilitate climate change adaptation implementation, building resilience to climate change, and enhancing the adaptive capacity of nationals, based on the 2019 EPMA mandate. The ongoing national adaptation efforts under this framework culminated in the most recent National Adaptation Plan (NAP) project.

The DOE has four main work programme areas, of which Climate Change is one priority area. The various work programmes of the DOE are supported by key functions, namely: monitoring and evaluation, measuring, reporting and verification; fiduciary functions; databases structures, such as the national environmental data and information system (NEIS) and natural resource inventory (NRI); and accounting and administrative support.

The DOE reports to Parliament through the Minister responsible for the Environment and is also accountable to the government's regulatory agencies. Some of the government agencies that support the work of the DOE include the Ministry of Finance, Corporate Governance and Public Private Partnerships, Ministry of Social Transformation and Ocean Governance and the Ministry of Urban Development (Development Control Authority and Transport Board). A Technical Advisory Committee (TAC), a Project Management Committee, and partner agencies also support project activities. A pictorial representation is presented in Figure 9.

Integrating Climate Change Adaptation in Systems and Processes in Antigua and Barbuda

The Medium-Term Development Plan (under development), the Medium-Term Development Strategy 2021, and the Economic Recovery Plan 2020 are some of the main overarching policy framework documents, which facilitate an enabling environment for public and private sector agencies to prioritise climate change adaptation and mitigation in their systems and processes. Notable strides have been made in the youth sector, tourism sector, blue economy, and social transformation.

Overarching Adaptation Goal for Antigua Barbuda

Antigua and Barbuda's contribution to the Global Goal on Adaptation (GGA) is being undertaken through the above-mentioned national adaptation planning framework. This involves various sectors, both public and private reframing processes, elaborating policies, and strategies and implementing actions which are responsive to climate change adaptation. The ongoing NAP project for Antigua and Barbuda, supported through a NAP readiness grant from the GCF, performs a key role and is providing an evidence-based adaptation planning approach which will continue to mainstream climate change adaptation in the operations of Antigua and Barbuda's public and private sectors. Through the NAP project, finance, protected/managed area, infrastructure and housing, tourism, food security, and wholesale and retail have all been identified as priority sectors to contribute to the GGA.

Key Policies, Strategies and Plans to Support Adaptation Goals

Antigua and Barbuda has elaborated a number of key policies, strategies, and plans. The ADCOM presents summary information on the National Adaptation Planning (NAP) Readiness Project 2017-2022; the Water Sector Adaptation Plan 2021; the *State of the Environment (SOE) Report 2021*; the *Prime Ministerial Budget Statement 2021*; updated Nationally Determined Contributions (NDC) 2021; the Medium-Term Development Strategy (MTDS) 2021; the Medium-Term Fiscal Strategy (MTFS) 2021-2023; the National Youth Policy 2021; the Antigua and Barbuda Climate Change Monitoring Reporting and Verification (MRV) System Framework 2021; *Repositioning Antigua and Barbuda for Dynamic, Sustainable and Resilient Growth: Report by the Technical Drafting Sub-Committee to the Economic Recovery Committee 2020* (Economic Recovery Plan); the GCF Country Programme (GCF-CP) 2020; the Country Programme Strategy 2020: DOE's Gender Policy 2018; the DOE Environmental and Social Safeguards Policy (ESS) 2018; and the Intended Nationally Determined Contributions (iNDC) 2015.

Impacts, Risks, and Vulnerabilities

Key Climatic Drivers for Antigua and Barbuda

The Intergovernmental Panel on Climate Change (IPCC, 2021), in its Sixth Assessment Report (AR6), stated that "with further global warming, every region is projected to increasingly experience concurrent and multiple changes in climatic impact-drivers."

Antigua and Barbuda currently experiences several climate drivers, including changes in precipitation, extreme events (e.g., hurricanes and droughts), increased sea surface temperatures, and sea-level rise. Antigua and Barbuda undertook risk modelling through its NAP to support its adaptation response. The risk modelling work explores the impacts of climate change on the **built environment** across sectors and key industries, including infrastructure and housing, banking and insurance, and ecosystems.

By 2030, the general building stock in Antigua and Barbuda, using RCP 8.5, will experience direct losses from storm surges and wind in the amount of USD 451M for a historic event, USD 4.03B for a 1:100-

year event, and USD 9.4B for a maximum credible event (MCE) event. The related Average Annualised Loss (AAL) would be USD 139M. Under an RCP 4.5 scenario, by 2030, the built environment in Antigua and Barbuda is expected to experience total direct losses from storm surges and wind of USD 451M for a historic event, which is the same as under the RCP 8.5 scenario. RCP 4.5 also yields losses of 4.15B for a 1:100-year event and USD 9.4 B for an MCE event. Related AAL would be USD 138M. Sea-level rise and nuisance flooding will result in USD 108M and USD 95M of damage to the coastal building stock for RCP 8.5 and 4.5, respectively, by 2030. A summary of losses to key facilities and industries in Antigua and Barbuda is presented in Figure 10.

Changes in precipitation and temperature extremes are expected to adversely impact **water storage areas**, resulting in more rapid evaporation in Antigua and Barbuda's reservoirs. Water scarcity will be exacerbated, with implications for **households, as well as the agriculture, tourism, construction, and health** sectors. Antigua and Barbuda's **terrestrial ecosystem, forestry, and agriculture** will also be adversely impacted by changes in precipitation and temperature and hurricanes. Antigua and Barbuda's **marine ecosystems** and **fisheries sector** will be impacted by increased sea surface temperatures, sea-level rise, and extreme-event hurricanes. Coral reefs, which form part of this ecosystem, have declined drastically over the years, in part due to climate change impacts. For Antigua and Barbuda, the direct human health impacts, such as the impacts on water security and safety, as well as waterborne diseases, are associated with extreme weather events. Figure 12 presents the relationship between climate drivers, impacts, affected sectors and associated risks.

Work on gender inequality arising from disaster and climate risks in Antigua and Barbuda concluded that any impact on the livelihoods of women associated with climate risks would have ripple effects on social and economic life, as women head most households and constitute most persons employed in the government and tourism sectors. Several coping mechanisms by women and men were identified in response to job losses after hurricanes and storms, drought, flooding, flash flooding events, and COVID-19 for the protected areas, finance, and infrastructure sectors (see Figure 11).

Challenges and Gaps Related to Climate Change Adaptation Response

Through the stakeholder consultation process, gaps and challenges in the climate change response were identified. These are categorised as socio-political, financial and institutional, and governmental. Challenges and gaps identified through the literature include the need for updated building codes (which is being addressed under the NAP and the SCCF projects), climate-resilient health care facilities, national assessments, climate change vulnerability and adaptation assessments for health, and national health and climate change plans in the health sector.

Ongoing Adaptation Actions

Readiness and Reporting

Antigua and Barbuda undertakes Readiness and reporting activities from funding channelled mainly through the AF, GEF, and GCF in the public sector. To date Antigua and Barbuda has implemented four (4) Readiness proposals from the GCF. The country is preparing to implement its fifth GCF Readiness proposal, which focuses on NDC implementation. Civil society organisations (CSOs) and private sector agencies are also undertaking readiness activities from various channels.

Synopsis of Some Ongoing Adaptation Projects in Antigua and Barbuda

This section highlights some ongoing projects that support adaptation to climate change. Summaries are provided for Climate Change Adaptation of the Eastern Caribbean Fisheries Sector (CC4FISH) Project; Green Barbuda Electricity Project; Vulnerability and Capacity Assessment (VCA) and Disaster Risk Reduction Planning in Parham Town; An Integrated Approach to Physical Adaptation and Community Resilience in Antigua and Barbuda's Northwest McKinnon's Watershed (AF McKinnon's); Innovative Technologies for Improved Water Availability to Increase Food Security in Antigua and Barbuda (AF-SIP); Building Climate Resilience Through Innovative Financing Mechanism for Climate Change adaptation (SCCF); Integrated Physical Adaptation and Community Resilience Through an Enhanced Direct Access Pilot in the Public, Private, and Civil Society Sectors of Three Eastern Caribbean SIDS (GCF-EDA-FP061); Resilience to Hurricanes in the Building Sector in Antigua and Barbuda (FP-133); and the Enabling Gender-Responsive Disaster Recovery, Climate and Environmental Resilience in the Caribbean (EnGenDER) programme.

Support Needs

Proposed Future Actions to Support the GGA

The Government of Antigua and Barbuda has identified its priority areas through its NAP project: Finance, Protected/Managed Areas, Infrastructure and Housing, Tourism, Food Security, and Wholesale and Retail. Sectoral adaptation guidelines and the development of a private sector engagement strategy, in addition to other actions mentioned in previous sections, all contribute to Antigua and Barbuda's efforts towards the GGA.

National effort towards the GGA is not specific to the public sector: CSOs and the private sector are also on board. This section presents summaries of some projects by the public and private sectors and CSOs, which are responsive to the prioritised areas and will contribute to the GGA. The public sector's proposed actions are presented in Table 2.

During the consultative process, stakeholders indicated their prioritised sectors. Many of the sectors identified were in sync with the approved prioritised areas by the government and will be addressed through the public sector's proposed future actions.

Economic Diversification Plans

Priorities for economic diversification have been laid out in the Medium-Term Fiscal Strategy (MTFS) 2021-2023 and the Economic Recovery Plan (ERP) 2020. Entrepreneurship, food security, energy and environmental sustainability, and enhancing the role of the public sector are some of the key short-to medium-term measures in the MTFS. The ERP focuses on repositioning the economy through continued diversification; improving linkages between energy, sustainability, and resilience; improving food security, specifically water sustainability and agriculture; and diversifying tourism products.

Contribution of Adaptation Actions to Regional and International Frameworks

The adaptation actions undertaken in Antigua and Barbuda occur within the context of the implementation of other environmental management actions that are responsive to various MEAs (see Figure 16).

Gender-Responsive and Socially Inclusive Adaptation Action

Institutional Context

Although work on gender is coordinated by the Ministry of Social Transformation and the Blue Economy, the agency has not elaborated a national gender policy. While work on a national policy is due to commence shortly, the DOE in 2018 elaborated its Gender Policy. The DOE's Gender Policy provides the basis for environmental, socio-economic, and gender benefits to be equitably distributed in a non-discriminatory manner for all projects. This gender-responsive approach to adaptation planning in Antigua and Barbuda aligns with the Sustainable Development Goals (SDGs), the Beijing Declaration and Platform for Action, and the Convention on the Elimination of all Forms of Discrimination Against Women. Socio-economic and gender-specific indicators to support climate action have been elaborated for Antigua and Barbuda and are represented in Figure 17. Gender issues are also addressed in the 2021 National Youth Policy.

Findings on Gender and Climate Change Adaptation in Antigua and Barbuda

Antigua and Barbuda has an over-representation of women identified as poor and indigent. Some of the identified inequalities (against women) evident with the impacts of climate change include increased exposure to gender-based violence, limiting mobility, reducing earning capacity, loss of assets, and loss of life. Accounting for these realities is, therefore, paramount to effective adaptation planning and actions. A starting point can be ensuring that gender inequality issues are addressed in key sectoral policies, such as protected areas and those governing small craft business owners where women have high representation within the sector.

Consistent with a UN Women and IISD executed knowledge, attitude, behaviours, and practice survey, stakeholders at the national consultation indicated the need to retrain and re-skill government employees to anticipate technological changes and industry/sector needs related to incorporating gender and climate change considerations. Additional data gathering on gender and social considerations for adaptation was also identified as a need for Antigua and Barbuda.

Pursuing a Just Transition of the Workforce

Gender is one of the results areas presented in the iNDC and updated NDC in response to a just transition of the workforce in Antigua and Barbuda. Although the initial areas focused on mitigation, for which there are adaptation co-benefits, an economy-wide approach to the just transition is being pursued.

Engaging Local Knowledge Systems for Adaptation Action in Antigua and Barbuda

CSOs, which are active in Antigua and Barbuda, are well placed to engage in local knowledge and adaptation among community stakeholders. At least one public sector-led adaptation project and one readiness project are specifically targeted at civil society in that regard. CSOs also undertake adaptation activities and incorporate local knowledge, as in the case of the Environmental Awareness Group (EAG) and the Gilbert Agricultural & Rural Development Center (GARD-C). The National Parks Authority (NPA), recognised as a statutory body, also undertakes significant adaptation action concerning the properties under their management. Incorporating local and traditional knowledge for adaptation action is prevalent not only in Antigua and Barbuda but across the Caribbean for sectors such as fisheries, agriculture, and building and construction. Some supporting information is presented in Figure 18.

Figure 1: Photo of Parham Fisheries Complex



Photo Credit: Shanna Challenger

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Introduction

Adaptation Communications (ADCOMs) form part of the suite of adaptation reporting to the United Nations Framework Convention on Climate Change (UNFCCC), which includes National Adaptation Plans of Action (NAPAs), National Adaptation Plans (NAPs) and Vulnerability and Adaptation Assessments (V&As). The ADCOM reporting instrument stems from the Paris Agreement's¹ (PA) Article 7 at paragraphs 10 and 11. ADCOMs feature as part of the Enhanced Transparency Framework (ETF) for action and support, elaborated in Article 13 of the PA, and will inform the Global Stocktake (GS). The GS will track progress towards the Global Goal on Adaptation (GGA), which is *“to enhance adaptive capacity and resilience; to reduce vulnerability with a view towards contributing towards sustainable development and ensuring an adaptation response in the context of the goal of holding average global warming well below 2° C and pursuing efforts to hold it below 1.5°C.”*² The first GS will be held in 2023 as elaborated in Article 14 of the PA.

Guidance on ADCOMs is presented in UNFCCC Decision 9/CMA13.² Its purpose is to:

- a. Increase the visibility and profile of adaptation and its balance with mitigation
- b. Strengthen adaptation action and support for developing countries
- c. Provide input to the global stocktake
- d. Enhance learning and understanding of adaptation needs and actions.

This document is Antigua and Barbuda's first ADCOM to the UNFCCC. The information presented in this ADCOM will support Antigua and Barbuda's Fourth National Communication and its NAP, which are expected to be submitted to the UNFCCC in 2022. A literature review and stakeholder consultations informed the elaboration of this ADCOM.

National Circumstances

Climate and Geography

Antigua and Barbuda is situated 17.1 degrees North and 61.5 degrees West³ within the Eastern Caribbean Archipelago with a total land mass of 170 square miles (mi²), measuring 108 mi² for Antigua and 62 mi² for Barbuda. The population of Antigua and Barbuda for 2021 is estimated to be 99,337.⁴ The Human Development Index ranking for Antigua and Barbuda is 0.77, with a dependency ratio of 20.7.⁵

¹ United Nations. 2015. Paris Agreement

² UNFCCC. 2020. FCCC/PA/CMA/2018/3/Add.1. Decision 9/CMA.1 Further guidance in relation to the adaptation communication, including, inter alia, as a component of nationally determined contributions, referred to in Article 7, paragraphs 10 and 11 of the Paris Agreement. https://unfccc.int/sites/default/files/resource/9-CMA.1_English.pdf

³ Antigua and Barbuda Meteorological Services. 2021. <http://www.antiguamet.com>

⁴ Antigua and Barbuda Statistics Division. 2021 <https://statistics.gov.ag/>

⁵ UNDP. 2020. Human Development Report 2020-The next frontier, human development and the Anthropocene

Table 1: Antigua and Barbuda drought scenario: 2000–2020

Drought Duration	Severity
AMJ 2000 – OND 2001	Severe
MJJ 2002 – OND 2003	Severe
MAM 2005 – AMJ 2005	Moderate
FMA 2006 – JFM 2007	Moderate
MAM 2007 – JFM 2008	Slight
FMA 2009 – AMJ 2009	Moderate
JAS 2009– FMA 2010	Serious
NDJ 2010 – FMA 2011	Moderate
JFM 2012 –ASO 2012	Serious
NDJ 2012 – JFM-2013	Serious
JAS 2013 – JAS 2016	Severe
OND 2017 – FMA 2019	Severe
SON 2019 – DJF 2020	Slight
MAM 2020 – ASO 2020	Severe

Source: Antigua & Barbuda Meteorological Services, 2021.

Note: Under drought duration, letters represent consecutive months, e.g., AMJ = April, May, June

Based on its location in the Atlantic Basin, Antigua and Barbuda is subject to the vagaries of the Atlantic hurricane season, experiencing the full gamut of events from tropical depressions to major hurricanes. In 2017, Category 5 Hurricanes Irma and Maria made landfall, devastating the twin island nation. Having experienced 15 hurricanes and 14 tropical storms since 1995, the Government of Antigua and Barbuda identifies hurricanes and tropical storms as the main climate hazards.⁶ Climate change projections based on a Regional Climate Model indicate projected **increased intensity** by 18% in Category 4 and 5 hurricanes over the intensity observed for the past 30 years for Antigua and Barbuda.⁷ GCMs also project increases in **sea surface temperatures** across emission scenarios by at

6 DOE. 2020. FP133: Resilience to hurricanes in the building sector in Antigua and Barbuda.

https://www.greenclimate.fund/sites/default/files/document/fp133-doe-atg-antigua-and-barbuda_0.pdf

7 Caribsave. 2012. Caribsave Climate Change Risk Profile for Antigua & Barbuda.

most 2.7°C⁸. Increased sea surface temperatures have a direct impact on hurricane intensity and will also have adverse implications for Antigua and Barbuda's coral reefs and fisheries sector.

Antigua has three topographic zones—a mountainous southwest region and the flat central plains and the limestone regions in the north and east—while Barbuda has a limestone formation (DOE, 2015).⁹ At least 20 km² of Antigua's land mass will be adversely impacted by *sea-level rise* by 2060 under IPCC's Representative Concentration Pathway (RCP) 4.5 (medium to low emission) scenario.¹⁰ For Barbuda, approximately 15 km² of land, not including the lagoon, will be impacted.¹¹ This has significant implications for critical infrastructure and economic centres located along the coast, as well as a significant portion of its housing stock.

With a moderately arid tropical maritime climate, the dry season spans January to June and the wet season from July to December. Antigua and Barbuda recorded 14 drought episodes ranging from severe to slight from 2000–2020.¹² The mean historical annual temperature (1901–2016) is 25.3°C, while the historical mean annual precipitation is 2468.2 mm.¹³ The foregoing points to the water resource constraint faced by the twin island nation. Recent climate change risk modelling work examined *precipitation* and *drought* for Antigua and Barbuda under the RCP 4.5 scenario predicts 9 drought years for the mid-century period 2040–2069. This represents an 8% increase in drought severity. Using a multi-model scenario, the severity increased to 23%, as per Figure 2 below. Additionally, annual *heavy rainfall* days over the same period under the same RCP scenario are projected to be 4.5 days per year.¹⁴

8 Ibid

9 DOE. 2015. Antigua & Barbuda's 2015-2020 National Action Plan: Combatting Desertification, Land Degradation & Drought. <https://info.undp.org/docs/pdc/Documents/ATG/NAP%202015-20%20ANU.pdf>

10 Johnston, Janeil. 2021. *Sectoral Adaptation Planning for Climate Resilience in Antigua and Barbuda: Risk Modelling Data and Adaptation. Presentation at Workshop on Sectoral Adaptation Planning for Climate Resilience in Antigua & Barbuda*, July 29, 2021.

¹¹ Ibid

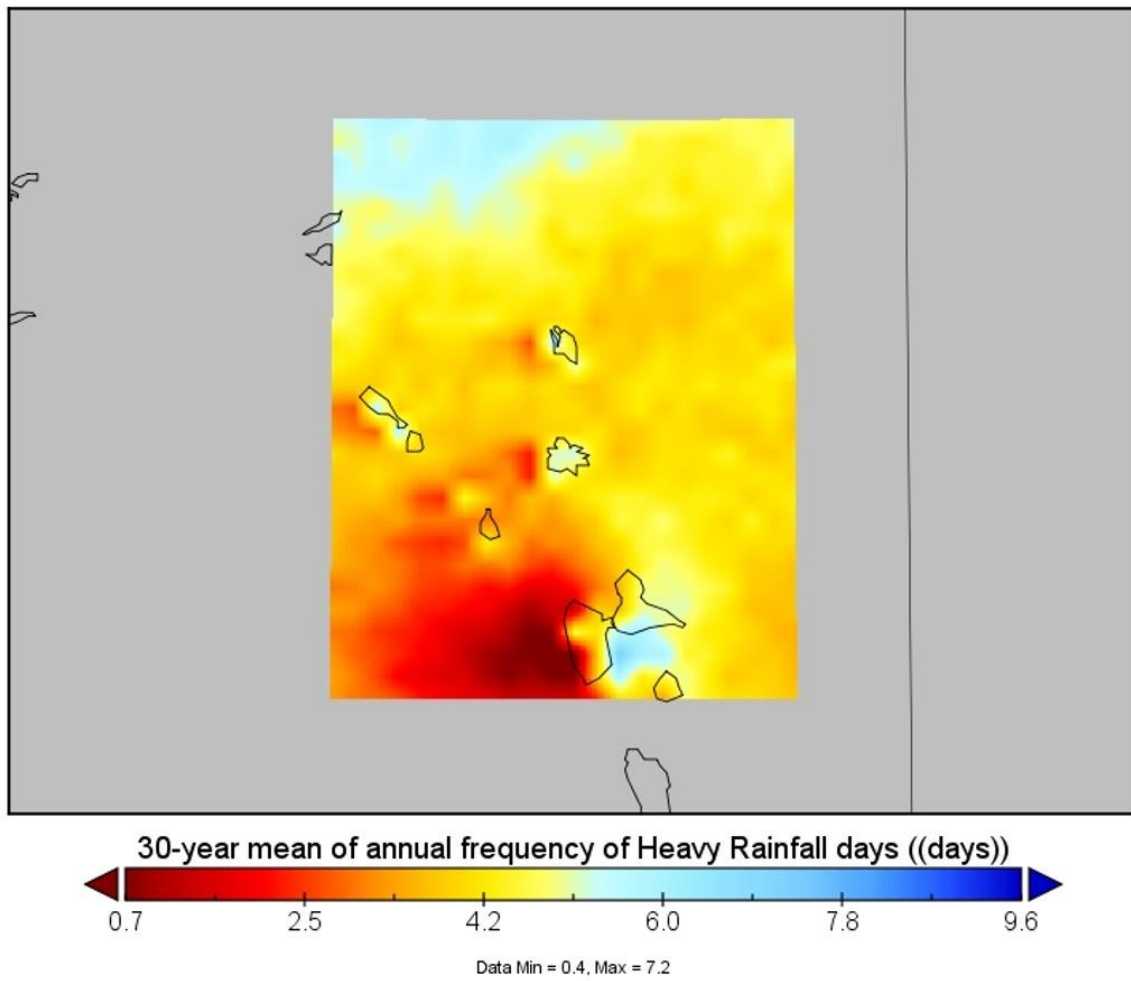
12 Antigua and Barbuda Meteorological Services. 2021. <http://www.antiguamet.com>

13 USAID. 2021. Antigua and Barbuda Resilience Profile. https://pdf.usaid.gov/pdf_docs/PA00XHZC.pdf

14 Johnston, Janeil. 2021. *Sectoral Adaptation Planning for Climate Resilience in Antigua and Barbuda: Risk Modelling Data and Adaptation. Presentation at Workshop on Sectoral Adaptation Planning for Climate Resilience in Antigua & Barbuda*, July 29, 2021.

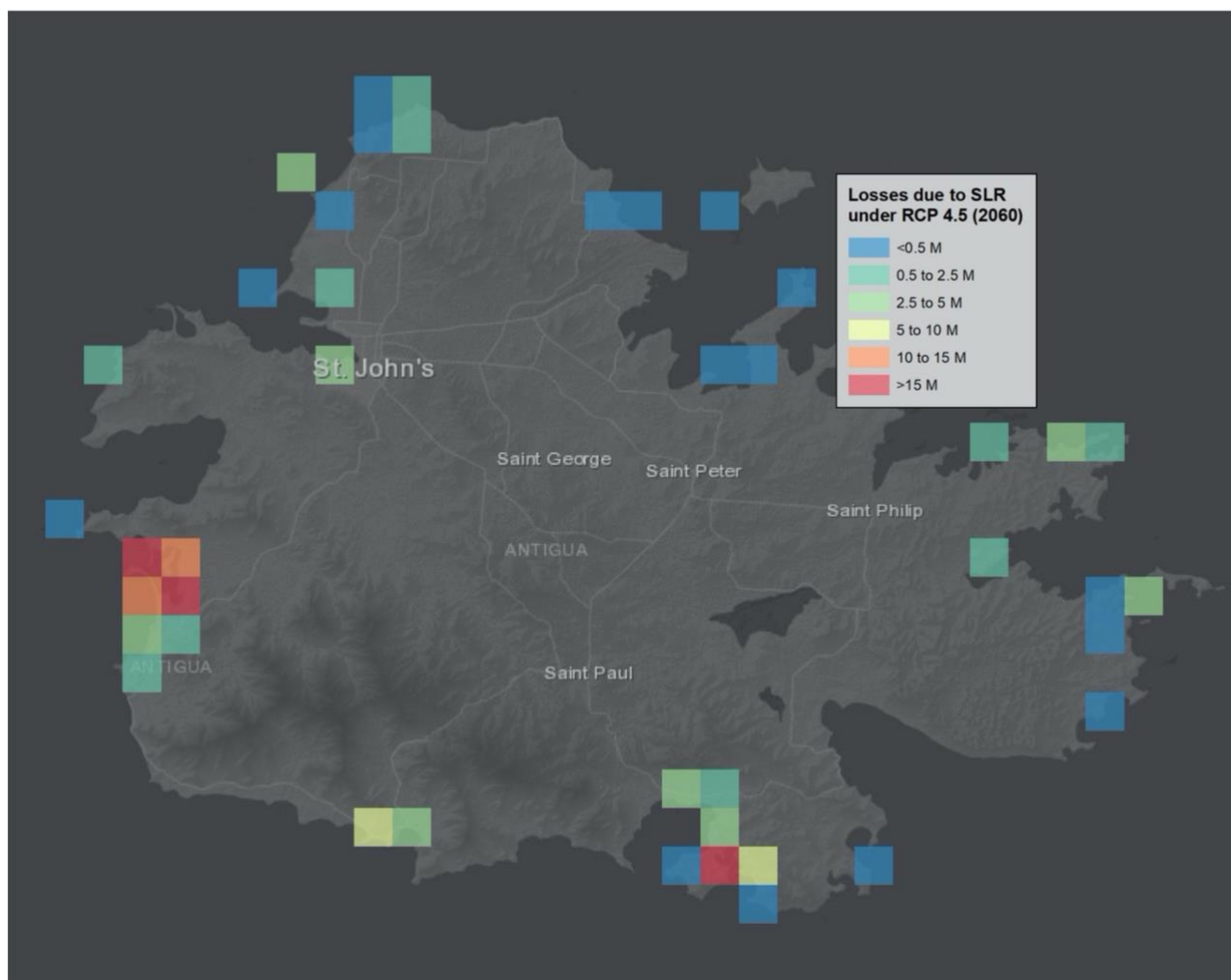
Figure 2: HadGEM2-ES, RCP 4.5. multi-model, multi-RCP average

HadGEM2-ES predicts a 23% in drought severity.



Source: Johnston, 2021.

Figure 3: SLR for Antigua Multi-model RCP 4.5. ~20 km² of land loss projected



Source: Johnston, 2021

Economy

Antigua and Barbuda’s economy, once based on agriculture, is now a tourism service-based economy. Other areas of economic activity that contribute to GDP, include fishing, manufacturing, construction, and mining and quarrying. The Government of Antigua and Barbuda has pursued citizenship by investment as a means of diversifying the economy in addition to facilitating an enabling environment for youth entrepreneurship.¹⁵

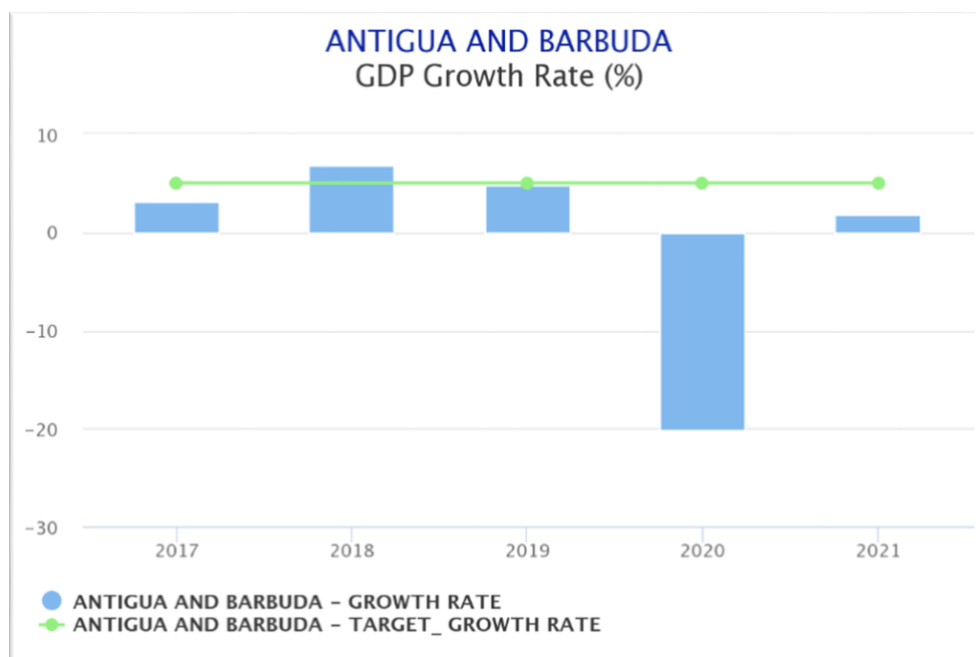
In recent years, Antigua and Barbuda has experienced fluctuations in real GDP growth rates starting at 3.17% in 2017, climbing sharply to 6.88% in 2018, and falling to 4.86% in 2019. In 2020, however, Antigua and Barbuda experienced negative growth of -20.19%. Inflation was recorded at 2.14% in December 2020. By December 2021 growth of 1.76% is projected.¹⁶

¹⁵ Antigua and Barbuda – The Citizen. Issue 10 April 2021.

<https://issuu.com/thecitizenantiguabarbuda/docs/antiguabarbudathecitizen102021>

¹⁶ ECCB. 2021. Antigua and Barbuda Country Dashboard- GDP Growth rate, accessed August 2021 <https://www.eccb-centralbank.org/statistics/dashboard-datas/>

Figure 4: GDP Growth Rates 2017-2021



Source: ECCB, 2021.

The negative growth experienced by Antigua and Barbuda stemmed from the response measures both in key source tourist markets and nationally to combat the COVID-19 pandemic. Public health measures—including border closure, curfew, and declared a state of emergency—put in place by the government adversely impacted economic activity. In view of this, the government provided remedial support to stimulate the economy, including offsetting the cost of basic services such as water and electricity for households. The government increased its borrowing to defray these expenses as its revenue-generating capability from taxation was significantly reduced because of the COVID-19 pandemic. It is projected that the economy will experience some level of recovery and climb to a positive growth rate by the end of 2021.¹⁷ The slow and cautious re-opening of the economy, which has commenced in Antigua and Barbuda as with the rest of the Caribbean, will play a key role in the realisation of this projected growth. However, the Government of Antigua and Barbuda has highlighted re-imagining and re-structuring its tourism product post-COVID-19.

Public sector debt for Antigua and Barbuda, as a percentage of GDP, also fluctuated over the period 2017 to 2020, with the lowest ratio of 76.3% being recorded in 2019 and the highest ratio being recorded in 2020 at 94.47%.¹⁸ This points to the limited fiscal space which the country experiences. The Government of Antigua and Barbuda has articulated the need for new approaches to debt management by the international community, with due regard to the realities faced by Small Island Developing States (SIDS). These calls have included debt rescheduling, access to concessional financing, debt for climate swaps, and debt suspensions.¹⁹ In light of its budgetary constraints, and despite its own allocations to address climate action, Antigua and Barbuda continues to call on

¹⁷ Ibid

¹⁸ Ibid

¹⁹ Browne, Gaston. 2020. Statement by the Honorable Prime Minister of Antigua and Barbuda at the 75th Session of the United Nations General Assembly, 25th September 2020.

https://estatemts.unmeetings.org/estatemts/10.0010/20200925/SxuqgUXRYBC2/vAFawNCnKuzz_en.pdf

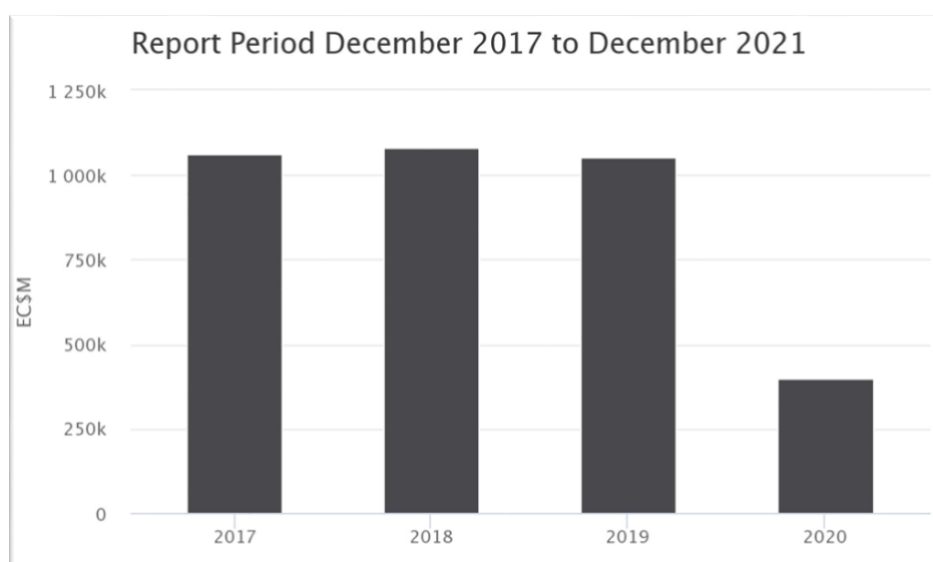
Adaptation Communication for Antigua and Barbuda

specialised agencies through which climate finance is channelled to “*examine the transaction costs for SIDS and take steps to compensate, as appropriate, and to incentivize projects with the understanding that the transaction cost for SIDS compared to much larger countries are significantly higher.*”²⁰

The impact of a climate change-related extreme event, such as a hurricane impacting the SIDS of the Eastern Caribbean during the ongoing COVID-19 pandemic, was explored through a Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) study. It concluded that an extreme event occurring during the COVID-19 pandemic would further deepen the economic hardships currently being experienced by Eastern Caribbean SIDS.²¹

This was the case for Antigua and Barbuda in November 2020 when a heavy rainfall event resulted in flash flooding and erosion of most of the road network. The infrastructural damages amounted to XCD 168M for Antigua. In Barbuda, given that 90% of its infrastructure was damaged by Hurricane Irma in 2017, the impact of the November 2020 heavy rainfall was significant.²²

Figure 5: Visitor Arrivals 2017-2021



Source: ECCB, 2021

The government has therefore continued to emphasise the importance of building resilience to climate events and, in response, has prioritised climate action in its Medium-Term Fiscal Strategy 2021–2023, the economic recovery plan, and through its ongoing work of updating the Medium-Term Development Strategy.

20 GCF. 2021. Highlights from Transformational Climate Financing for the Caribbean: Regional Engagement.

21 GIZ. 2020. Human Mobility in the Context of Climate Change and the implications of the COVID-19 Pandemic in the Organisation of Eastern Caribbean States- Policy Brief.

22 Ministry of Finance and Corporate Governance, Government of Antigua and Barbuda. 2020. Medium Term Fiscal Strategy 2021-2023

Institutional and Legal Arrangements for Climate Change Adaptation

Department of Environment

The DOE in the Ministry of Health, Wellness and the Environment in Antigua and Barbuda was established by the Environmental Protection and Management Act in 2015. The DOE transitioned from a Division to a Department and improved its mandate to include the SIRF Fund. Subsequently, the Environmental Protection and Management Act No.10 of 2019 (2019 EPMA), which repealed and replaced the 2015 EPMA, at paragraph 4 sub-paragraph (b) and (c) conferred upon the DOE the authority to “*co-ordinate and direct the implementation of multi-lateral environmental agreements; and establish and administer a sustainable financing mechanism for environmental management.*” Regarding climate change, the DOE has been mandated at paragraph 4 sub-paragraph (a) to “*coordinate the government’s climate change policies and activities, in addition to policies and activities related to sustainable development, environment and natural resource management.*” The Government of Antigua and Barbuda developed 2021 Paris Agreement Regulations to support the 2019 EPMA. These regulations specifically address adaptation to climate change in Part III – Management of GHGs and Other Pollutants Affecting Human and Ecosystem Resilience paragraph 34 and at Part IV– Climate Change Risk Management and Adaptation (paragraphs 38–48).

The DOE has established a track record of accessing funding to implement activities with development partners, including with UNFCCC specialised agencies, in keeping with DOE’s mandated scope of authority. The DOE’s engagement with the Global Environment Fund (GEF) predates the approval of its first climate change activity in 1998.²³ To date, Antigua and Barbuda has accessed USD 21.4M from the GEF for climate change activities, including adaptation action.²⁴

The DOE gained accreditation to the Adaptation Fund (AF) in 2015 and was re-accredited in 2020 until 2025. To date, the DOE has accessed 10M from the AF for “An integrated approach to physical adaptation and community resilience in Antigua and Barbuda’s northwest McKinnon’s watershed” project, which is currently under implementation, and one readiness to support compliance with the AF’s Environmental and Social Policy (ESP) and Gender Policy.²⁵ The DOE has also accessed a USD 250,000 grant to implement an innovation project titled “Innovative Technologies for Improved Water Availability to Increase Food Security in Antigua and Barbuda”. This project was launched in 2021.

The DOE obtained accreditation to the GCF in 2017 in the small category to manage a project portfolio of up to USD 50M. The DOE can manage projects under environmental management and social risk category B and intermediation level 2. DOE was accredited to channel funding for basic project management as well as for the management of grants. To date, the DOE has two approved GCF-funded projects at various stages of implementation valued at USD 64.8M. These are both adaptation projects.²⁶ Antigua and Barbuda adopted no-objection procedures under the GCF, which outlines the means of engagement of stakeholders in the identification, development, and approval of fund-related projects.

23 The GEF. 2021. [https://www.thegef.org/projects-faceted?f\[\]=field_country:17&f\[\]=field_p_focalareas:2207](https://www.thegef.org/projects-faceted?f[]=field_country:17&f[]=field_p_focalareas:2207)

24 The GEF. 2021. <https://www.thegef.org/country/antigua-and-barbuda>

25 Adaptation Fund. 2021. <https://www.adaptation-fund.org/ie/environment-division/>

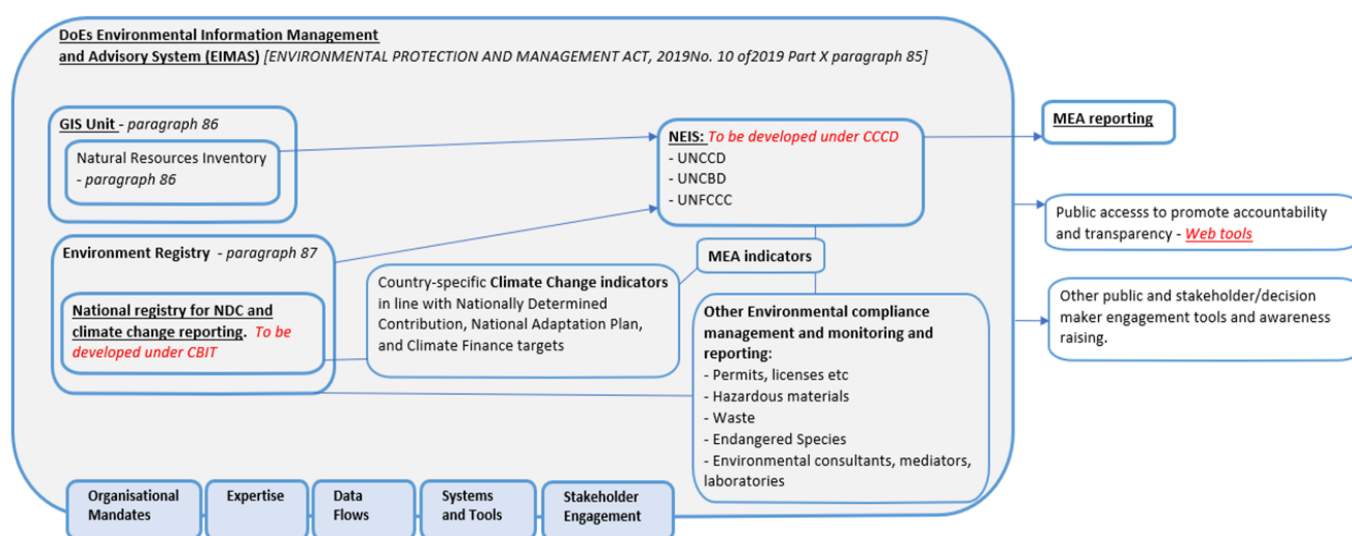
26 GCF. 2021. Department of Environment Entity page <https://www.greenclimate.fund/ae/doe-atg>

The DOE’s Project Management Unit (PMU) operates with a core complement of 30 project management staff and consultants, seven of whom are focused on climate change issues. Climate change staff are also supported by climate change focal points in other national agencies. The PMU was established as a DOE approach to supplement its core staff with project staff. This was done to ensure the DOE had sufficient capacity to undertake its various projects and activities under implementation, including its climate change projects. Additionally, the DOE has the legislative authority to tap into the resources of various government agencies for the implementation of activities, which directly relate to their sectors.

Monitoring, Reporting and Verification

Antigua and Barbuda is currently finalising its Climate Change Monitoring, Reporting and Verification (MRV) framework. The framework will be responsive to the 2019 EPMA, including Part VI – Environmental Management and Monitoring and Part X, sections 85–87. In this regard, it will support not only the implementation of climate change action but also environmental management in general and the tracking of indicators for multilateral environmental agreements (MEAs). Regulations to support an MRV Framework are included as part of the 2021 Paris Agreement Regulations to the 2019 EPMA, at Part V paragraphs 49–53. The graphic below is presented by Godwin et al. (2021) as a pictorial representation of the proposed MRV system.

Figure 6: Pictorial Representation of Antigua and Barbuda’s Proposed MRV System: Overview



Source: Goodwin, 2021.

Antigua and Barbuda’s CBIT project is also in direct support of Article 2 of the United Nations Framework Convention on Climate Change (UNFCCC), which calls for clarity and tracking of progress towards achieving Parties’ individual NDCs, and Principle 10 of the Rio Declaration on access, transparency, and accountability in environmental matters through participation of all concerned citizens, at the relevant levels. The UNFCCC enhanced transparency framework demands substantial and immediate progress in the countries’ domestic Monitoring Reporting and Verification (MRV) systems and strategic decarbonization planning. This entails moving from often disintegrated and often different methodological approaches in data management to an integrated and robust system.

The success of the Paris Agreement hinges on enhanced transparency of action and support, as a critical foundation to making its bottom-up, country-led approach work, as well as building mutual trust and confidence amongst Parties. GEF-CBIT will support Antigua & Barbuda in establishing an overarching structure across all sectors that will ensure high quality in its transparency instruments; and create the capacities to respond to UNFCCC's reporting requirements. CBIT's most important contribution will occur by building capacity and setting up systems to collect data and track NDC implementation.

Access to Information

DOE and Government Information Service Unit

Access to information is enshrined in Section 12 of Antigua and Barbuda's Constitution. The Government of Antigua and Barbuda through the Freedom of Information Act No. 19 of 2004, legislated that *"every person has the right, and is free, to receive and to disseminate information and ideas without interference."*²⁷ The Act seeks to *"promote maximum disclosure of information in the public interest, to guarantee and facilitate the right of access to information and to provide for effective mechanisms to secure that right."*²⁸ The legislative requirement of the 2019 EPMA builds on the enabling environment which preceded its enactment. Under the EPMA, the Department of Environment is responsible for managing various environmental databases, including an Environment Registry. This system and other databases will support the management of environmental information in an open and transparent manner (Part X: Environmental Information, Sections 84 – 89 of the EPMA, 2019).

The vision of the Environment Registry is to administer information on the environment, providing assistance to the Department for monitoring, compliance, reporting and notification requirements under multilateral environmental agreements to which Antigua and Barbuda is a party; depositing information relating to Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and access to genetic resources and any other purpose in accordance with the requirements of the EPMA, 2019.

Data for environmental and climate purposes have so far been separated and currently climate data is being collected by the Antigua and Barbuda Meteorological Services. This data will be useful in monitoring and reporting on indicators developed within the MRV system. The registry will contain the EPMA Information Systems, MRV System and a place for rosters and notices.

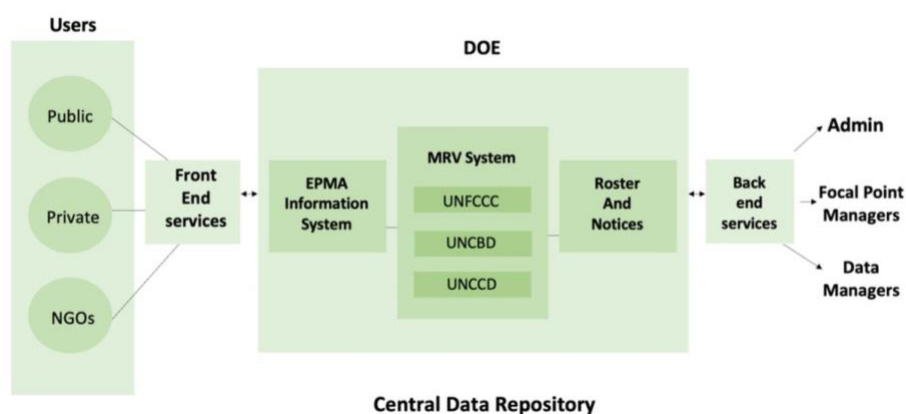
Part X, Section 87 of the EPMA (2019) outlines the types of data and information that would be placed on the Environment Registry. Additionally, Part V of the EPMA (2019) provides additional guidance as to the type of pollution related data and information it will contain. In addition to these listed documents, the registry will also serve as Antigua and Barbuda's National MRV System to support the UNFCCC, the CBD and the UNCCD.

²⁷ Government of Antigua and Barbuda. 2004. Freedom of Information Act, 2004.

https://www.environment.gov.ag/assets/uploads/attachments/da67a-freedom_of_information_act_2004.pdf

²⁸ Ibid

Figure 7: Conceptualisation of the Environment Registry



Part X of the EPMA 2019 establishes a legal mandate on environmental information through the establishment of a Geographic Information Systems (GIS) Unit to create and manage an Environmental Information Management and Advisory System (EIMAS) and a Natural Resources Inventory (NRI). The EIMAS serves the purpose of establishing and maintaining information resources in a centralized manner. The NRI is the subsection of EIMAS containing information concerning the natural resources of Antigua and Barbuda. The EPMA at paragraph 85 sub-paragraphs (2) (b) and (c) mandates the Government Information Service (GIS) Unit to:

- (i) *creation and maintenance of the Environmental Information Management and Advisory System and the Natural Resources Inventory*
- (ii) *provide information for the management of natural resources*
- (iii) *produce public information materials relating to resource management issues*
- (iv) *liaise with the public, business community, and non-governmental organisations in relation to resource management issues*
- (v) *provide access to environmental information to the public to enable public participation in decision making related to the environment In furtherance of the functions set out above*

The GIS Unit may also “carry-out surveys, inspections, and collate geographic and natural resource information; and collect, store, manage and disseminate information” (Government of Antigua and Barbuda, 2019).

In addition, section 42 requires that the DOE publishes notices of Environmental Impact Assessments (EIAs) by registering them with the Town and Country Planner and, further, to review and provide the updated EIAs to the public based on the requirements of section 43.

Escazú Agreement

The foregoing also supports Antigua and Barbuda’s ratification of the Escazú Agreement in 2020. The Latin American and the Caribbean regional agreement seeks to “guarantee rights of access to environmental information, public participation in the environmental decision-making process and access to justice in environmental matters, and the creation and strengthening of capacities and cooperation, contributing to the protection of the right of every person of present and future

generations to live in a healthy environment and to sustainable development” (UN-ECLAC, 2018)²⁹. Through this agreement, Antigua and Barbuda “guarantees the rights of every person to a healthy environment and to sustainable development,” focusing on vulnerable people and groups.

To date, Antigua and Barbuda has developed an *Issues Paper* that outlines the remaining gaps and proposes recommendations to satisfy the Escazú Agreement and a *Legal Manual for the Access to Justice Programme*. The legal manual provides guidance to various stakeholder groups on how the Escazú Agreement applies to them and provides guidance useful for their specific area. The stakeholder groups identified are the public; the Antigua and Barbuda Legal Aid and Advice Centre; the Antigua and Barbuda Bar Association, and the DOE. Additional work that has taken place includes the development of an information factsheet, extensive stakeholder consultations, improvement in public access to information on environmental risks, vulnerability and exposure, and efforts to complete the 2021 Paris Agreement Regulations to the 2019 EPMA.³⁰

Sustainable Island Resource Framework Fund

Another critical part of the institutional architecture that facilitates climate action in Antigua and Barbuda is the Sustainable Island Resource Framework Fund (SIRF Fund). One of the functions of the DOE is “*managing and administering*” the SIRF Fund. The SIRF Fund, a special fund of the Finance Administration Act 2006, was established to “*serve as a financing mechanism,*” *inter alia*:

- i. “for the implementation in Antigua and Barbuda of Multilateral Environmental Agreements;*
- ii. to build ecosystem resilience to the impacts of climate change;*
- iii. to support programmes and measures for climate change adaptation, climate change mitigation, climate change loss and damage; and*
- iv. to give financial support to vulnerable groups and communities for disaster preparedness, disaster recovery and rehabilitation.”*

The 2019 EPMA, Part XII Section 91 states that “there is hereby established a Special Fund pursuant to section 42(1)(a) of the Finance Administration Act 2006 to be known as the Sustainable Island Resources Framework Fund,” and “shall be administered in accordance with the provisions of this Act.” Additionally, the 2019 EPMA requires that the SIRF Fund “prepares periodic environmental, social and gender impact statements of the Fund’s operations, projects and programmes.”

The SIRF Fund will be used to pilot innovative financial mechanisms to promote locally led adaptation action. As of May 2022, funding from three projects has been channelled through the SIRF Fund to provide low-interest loans to support the implementation of adaptation projects. The total channelled into SIRF Fund loans as of May 2022 is XCD 17 M, with 66.5% of females (131) accessing loans, while 32.5% male (64), and 1% as businesses (2). The projects under which these loans were accessed are as follows:

- (i) Building Climate Resilience through innovative Financing Mechanism for Climate Change Adaptation funded through GEF’s SCCF

29 UN-ECLAC. 2018. Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean. https://repositorio.cepal.org/bitstream/handle/11362/43583/1/S1800428_en.pdf

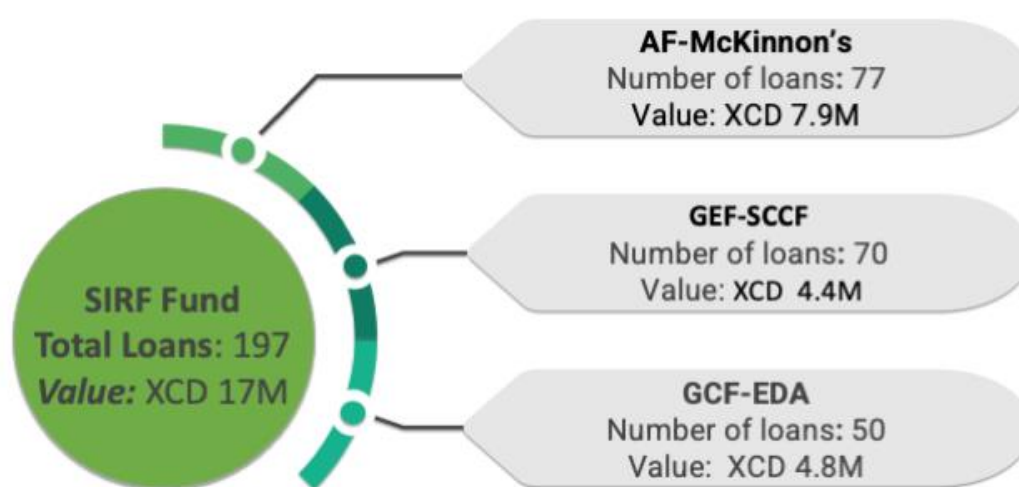
30 DOE, Government of Antigua and Barbuda. 2020. Access to Justice Programme for Environmental Matters to implement the Escazú Agreement 2018.

- (ii) An Integrated Approach to Physical Adaptation and Community Resilience in Antigua and Barbuda's Northwest McKinnon's Watershed project funded by the AF
- (iii) Integrated Physical Adaptation and Community Resilience Through an Enhanced Direct Access Pilot in the Public, Private, and Civil Society Sectors of Three Eastern Caribbean Small Island Developing States Project (EDA Project), funded by the GCF

These programmes are discussed in the Ongoing Adaptation Actions section below.

Another project identified that will soon be channelled through the SIRF Fund is the Path to 2020 project, which will pilot a mix of grants and loans to support farmers, biodiversity conservation, and mainstreaming activities.

Figure 8: SIRF Fund Loans Disbursed



Prohibited Practices

The DOE is subject to the Prevention of Corruption Act No. 21 of 2004, which elaborates the definitions and scope of corrupt and fraudulent activities and outlines the legal penalties for such actions for public officials. The execution of its functions, including managing and implementing Antigua and Barbuda's climate change portfolio, is therefore governed by this legislation. The DOE as an Accredited Entity to the GCF is also required to adhere to its Prohibited Practices Policy that establishes the specific conduct and activities that are prohibited by the GCF, the obligations of Covered Individuals and Counterparties to and the actions which the GCF may take when prohibited practices are alleged to have occurred in funded activities.³¹

³¹ <https://www.greenclimate.fund/sites/default/files/document/policy-prohibited-practices.pdf>

Adaptation Framework

Regional and Sub-Regional Architecture

The Caribbean Community (CARICOM) Heads of Government (HOGs) mandated the Caribbean Community Climate Change Centre (CCCCC) to support Member States in their climate change response. Through legacy initiatives such as Caribbean Planning for Adaptation to Climate Change (CPACC), Antigua and Barbuda embarked upon a path to build capacity for climate change adaptation along with other CARICOM states.

The Organisation of Eastern Caribbean States (OECS) St. George's Declaration of Principles for Environmental Sustainability (SGD) 2040 identifies its climate change goal as *"The risks and vulnerabilities associated with climate change and natural/environmental hazards and their impacts on natural and human systems are adequately addressed at all levels"* (OECS, 2020)³². SGD 2040 contains eight objectives to support this goal.

These regional and sub-regional frameworks and their associated early actions sought to foster an enabling environment for the implementation of climate change adaptation actions in CARICOM and OECS Member States, including Antigua and Barbuda.

National Adaptation Coordination Structure

The Government of Antigua and Barbuda has also emphasised strengthening and reforming its national policies and institutional structures to support the country's efforts to address the adverse impacts of climate change.³³ The framework allows for undertaking adaptation action in an inclusive, participatory, and gender-responsive manner. The 2019 EPMA conferred to the DOE the legislative authority to *"coordinate climate change policies and activities... and all environmental management functions performed by all governmental and non-governmental entities and statutory authorities,"* within Antigua and Barbuda. In that regard, the DOE identified the need for continued strengthening of national systems to facilitate climate change adaptation implementation, building resilience to climate change and enhancing the adaptive capacity of nationals. The ongoing national adaptation efforts under this framework have culminated in the most recent NAP project, which is expounded on in the sections on the overarching adaptation goal for Antigua and Barbuda and the key national documents (policies, strategies, and plans) to support Antigua and Barbuda's adaptation goals.

The Climate Change Work Programme is one of four priority areas on which the DOE coordinates. The other programmes are Biodiversity, Pollution Control, and Monitoring, Evaluation and Data Management. The Adaptation Work Programme is one of two sub-programmes under the Climate Change Work Programme Area of the DOE. All DOE Work Programme areas are supported by key functions, namely: Monitoring and Evaluation, Measuring, Reporting and Verification; Fiduciary Functions; Database Structures, such as the National Environmental Data and Information System (NEIS) and Natural Resource Inventory (NRI); and Accounting and Administrative support.

The ongoing NAP project currently under implementation is supported by this structure, as are other adaptation priority projects identified herein. The DOE reports to the highest level of government—

32 OECS. 2020. SGD 2040- An Environmental Agenda for the Eastern Caribbean

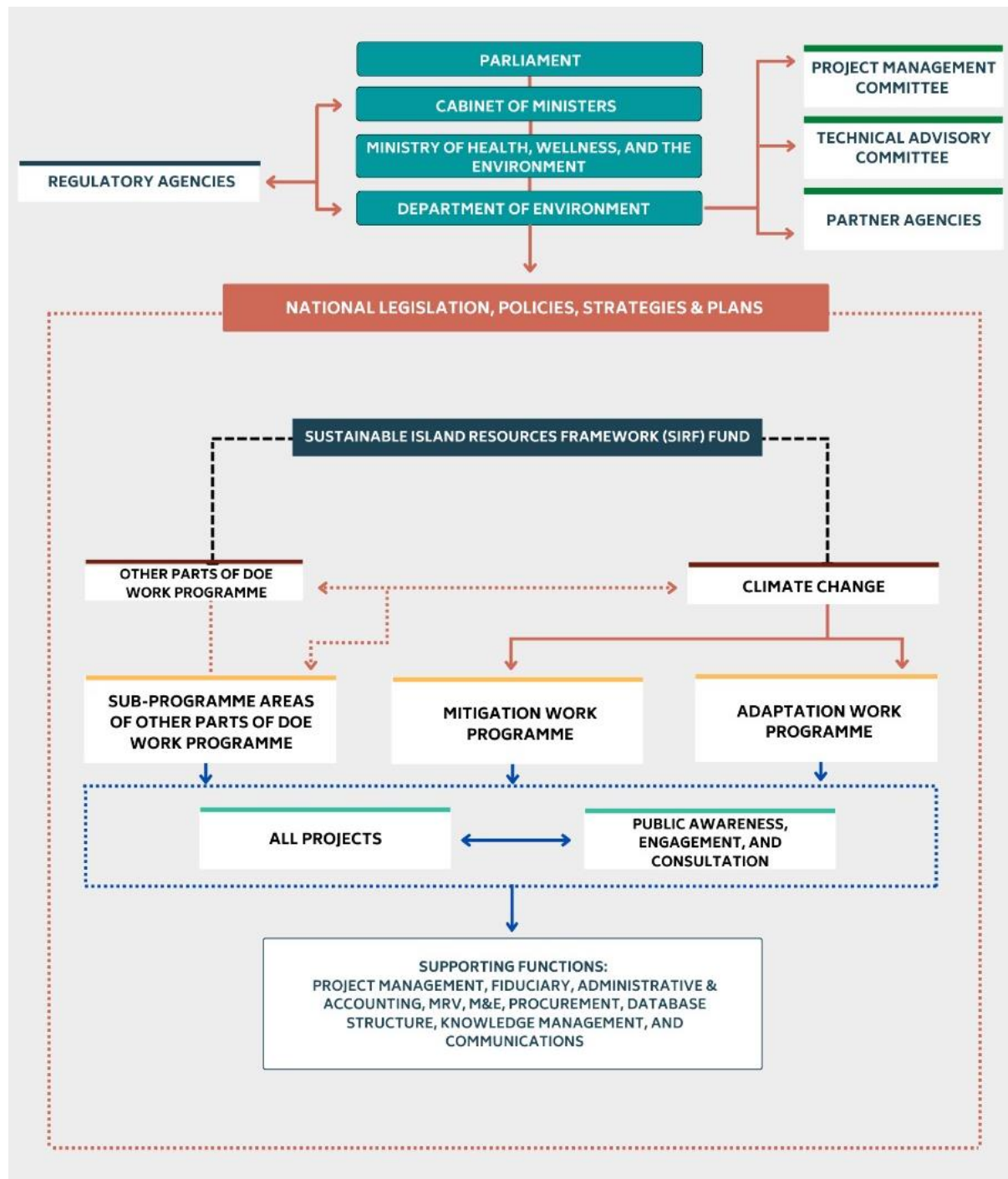
33 DOE. 2020. Antigua and Barbuda, Country Programme Strategy

the Parliament—through the Minister responsible for the environment. The DOE is also accountable to regulatory agencies such as the Development Control Authority and Transport Board. The Ministry of Agriculture, Fisheries and Barbuda Affairs, the Ministry of Social Transformation and Ocean Governance, and the Ministry of Urban Development all play supporting roles in the work of the DOE.

To support the DOE's work, including its Adaptation Work Programme, a Technical Advisory Committee (TAC), which includes representatives from 17 key government agencies, three non-governmental organizations (NGOs), and one private sector coalition, meets monthly. This multi-sectoral consultative body provides technical guidance and policy recommendations and facilitates communication and cooperation between relevant stakeholders during project identification, development, and implementation.³⁴ Engaging the TAC allows for incorporating socio-economic and environmental considerations; broader dissemination of information; understanding the expectations of stakeholders; and managing challenges which may arise in executing activities under the Adaptation Work Programme. It also allows these agencies to report on the actions of their agencies with respect to climate change adaptation. Additionally, Project Management Committee and partner agencies also support project activities.

³⁴ Ibid

Figure 9: Institutional arrangements to support climate change adaptation



Integrating Climate Change Adaptation into Systems and Processes in Antigua and Barbuda

Through overarching policy frameworks like the Medium-Term Development Plan, the 2021 Medium-Term Development Strategy, and the 2020 Economic Recovery Plan, Antigua and Barbuda provides a strengthened enabling environment. This will facilitate the public and private sectors, as well as CSOs, with prioritising climate change adaptation and mitigation in their systems and processes. Several sectors and agencies in Antigua and Barbuda have embarked upon the process of integrating climate change responsiveness into their planning processes and systems.

The youth sector specifically identifies ways of amending processes to factor in climate change adaptation, as elaborated in the 2021 Youth Policy. Similarly, through a collaborative approach, the Ministry of Social Transformation and the Blue Economy has also embarked on this approach for its two priority areas: Gender and the Blue Economy. On gender, in the absence of a gender policy, it has worked with the DOE to ensure that its processes are gender responsive while elaborating a more overarching policy framework with support from the Caribbean Development Bank.

Additionally, the 2021 National Youth Policy also addresses gender issues. Regarding the Blue Economy, its policy framework identifies action items that are responsive to climate change. The tourism sector will continue its steps through its sustainable tourism initiative, where environmental protection features as a key pillar of the approach. The water sector recently developed an adaptation plan that focuses on all aspects of operations to ensure resilience in the face of climate change. In the infrastructure sector, the resilience of buildings has been factored in as well with the updating of the building codes.

The Overarching Adaptation Goal for Antigua and Barbuda

Antigua and Barbuda's contribution to the GGA is being undertaken through the previously described national adaptation planning framework. This goes beyond the ongoing work within the DOE and extends to work currently being undertaken by various sectors, both public and private, as well as CSOs, in reframing processes, elaborating policies and strategies, and implementing actions which are responsive to climate change adaptation. Through the monitoring and evaluation of currently implemented and planned adaptation actions, Antigua and Barbuda will be able to report on their contribution to the GGA.

The NAP project for Antigua and Barbuda being undertaken through a NAP readiness grant from the GCF is providing an evidence-based adaptation planning approach, which will continue to mainstream climate change adaptation in the operations across sectors in Antigua and Barbuda. It focuses on a *“hybrid approach, incorporating sector focused adaptation planning with broad national assessments, to form a comprehensive strategic plan for national adaptation planning.”* Finance, protected/managed area, infrastructure and housing, tourism, food security, and wholesale and retail have all been identified as priority sectors to contribute to the GGA through the NAP Readiness project.³⁵

35 Department of Environment. 2020c. Antigua and Barbuda Updated Nationally Determined Contribution for the period 2020 – 2030.

Key Policies, Strategies and Plans to Support the Adaptation Goal

National Adaptation Planning (NAP) Readiness Project 2017–2022: Antigua and Barbuda’s NAP is seen as instrumental in supporting the country in contributing to the GGA. The NAP implementation seeks to be responsive to DOE’s 2018 Gender Policy as well as its 2018 Environmental and Social Safeguards Policy. Through this project, Antigua and Barbuda seeks to:

- (i) Develop adaptation baselines through data collection, compilation, and comprehensive climate change risk mapping.
- (ii) Conduct Vulnerability Risk Assessments (VRAs) and develop adaptation plans for up to three government agencies, three communities/NGOs, and three private sector entities using a learning-by-doing capacity building approach.
- (iii) Conduct Strategic Impact Assessments (SIAs)—approved by Cabinet and published in the Gazette—and prepare the NAP in accordance with national law.
- (iv) Develop a sustainable financing strategy to facilitate the development of additional SIAs.

The DOE has significantly advanced work under the NAP project. Under outcome one, Habitat Mapping and Exposure, datasets have been developed through the climate change risk modelling component. Sectoral guidelines with step-by-step guidance on how to conduct vulnerability and adaptation planning assessments in public sectors are well advanced.

The NAP project also advanced work under the Escazú Agreement, promoting access to justice and access to information under project Outcome 2. In addition, under Outcome 3, sectoral adaptation plans for the finance, infrastructure and housing, food security, tourism, wholesale and retail, and public sector are underway. Local area adaptation plans for Willoughby Bay, St. John’s City, and Darkwood Beach are also in progress. Under Outcome 4, draft guidelines for private sector engagement with adaptation are under development, and a workforce training strategy to facilitate a just transition has been developed. One of the major strengths of the NAP and good practice is its efforts to promote re-tooling and re-skilling the national workforce to facilitate a just transition.

Water Sector Adaptation Plan 2021: Antigua and Barbuda has elaborated a Water Sector Adaptation Plan, which focuses on providing access to safe, reliable, and resilient water supply services and reducing operational risks associated with climate change and variability. It seeks to ensure that its operations can meet the required levels of service during extreme weather events and future climate change. It is supported by an investment programme, which focuses on creating an enabling environment for climate-resilient water supply; water resources management and planning; climate-resilient water infrastructure; efficiency and demand management; developing the water-energy nexus; and disaster recovery and risk management. Several activities are elaborated under each aspect of the six investment programme areas.

State of the Environment (SOE) Report 2021: Antigua and Barbuda recently elaborated its first SOE report. The SOE presents information related to climate change and atmosphere, land use, water, biodiversity, culture and heritage, cross-sectoral areas (tourism, health, and food security), energy, and environmental governance. The importance of examining the state of these sectors, the impacts

and drivers, and the changes being experienced in each is examined, and the responses to address those changes and impacts are explored.

Prime Ministerial Budget Statement 2021: Budget statements are a key signal of a government's policy intent. In his 2020 statement, the Hon. Gaston Browne, Prime Minister of Antigua and Barbuda, clearly indicated the government's prioritisation of climate change issues. After re-stating the high economic cost occasioned by the 2017 Atlantic Hurricane season, through Hurricanes Irma and Maria, PM Browne indicated that *"Antigua and Barbuda will continue to be front and centre in demanding climate action from the international community, while at the same time building resilience through targeted actions, to adapt to and mitigate against the effects of climate change."* He further indicated that the country was *"developing solutions to increase the climate resilience, including in energy, the built environment, agriculture, and the financial sector."* Finally, he articulated the importance of building resilience across all sectors as critical to the economy, to enable Antigua and Barbuda to *"bounce back quicker and stronger than before, in the event of future climate related events."* Budget statements reflect policy priorities for the short term and are revisited based on national circumstances and changes in priorities.

Updated Nationally Determined Contributions (NDC) 2021: Antigua and Barbuda's proposed contribution to the GGA has been updated in the latest iteration of its NDC with a focus on downscaled, GIS-based baseline data collection. Climate risk assessment activities for adaptation action as a basis of VRAs and sectoral adaptation plans are also highlighted. Through these key actions, Antigua and Barbuda will be better equipped to assess exposure to climate risks, climate-related hazards, and vulnerability to climate change at the sectoral level. Local area planning will also be part of the adaptation actions which contribute to the GGA.

Medium-Term Development Strategy (MTDS) 2021: Through support from the NDC Partnership, the Government of Antigua and Barbuda took a number of key actions for economic planning, which includes updating the 2016–2020 MTDS beyond 2020. In the updated MTDS, environmental sustainability remains a key development priority. It also mainstreams climate change adaptation into development planning.

Medium-Term Fiscal Strategy (MTFS) 2021–2023: The Ministry of Finance indicates in the MTFS 2021–2023 for Antigua and Barbuda that *"climate resilience of its population and priority sectors including energy, the built environment, agriculture, and the financial sector"* (GOAB, 2021). Relatedly, engagement with external creditors on a debt-for-climate finance swap is prioritized. This was justified as allowing for redirecting monies towards local adaptation and mitigation action and away from debt. This document is a living document and will periodically be updated based on national circumstances.

National Youth Policy 2021: Antigua and Barbuda's National Youth Policy is the strategic framework for addressing youth empowerment and development. It covers nine thematic areas: quality education and capacity building; youth unemployment and human capital development; creative industries and entrepreneurship; environmental sustainability; gender leadership and social change; values and spiritual development; protection safety and security; health sports and psychosocial support; and media and the Department of Youth Affairs. Under the Environmental Sustainability thematic area, the policy focuses on strategies for climate change mitigation and adaptation. These strategies include encouraging young people to join environmental groups and organisations; boosting climate change awareness among youth through social media; involving youth in planning and implementing stages of environmental programmes; offering more climate change scholarships

and innovative grants to youth; and creating an enabling environment to bolster youth engagement in climate adaptation.

Antigua and Barbuda Climate Change Monitoring, Reporting and Verification (MRV) System Framework 2021: The proposed MRV system supports Antigua and Barbuda's efforts towards the GGA by tracking outcomes related to various strategies and plans, including³⁶:

- (i) Outcomes that formed the focus for the 2015 Intended Nationally Determined Contribution (iNDC 2015).
- (ii) The updated 2021 NDC and associated emission reduction strategies.
- (iii) The NAP.
- (iv) Antigua and Barbuda's Climate Finance Strategy developed from the report on the *Assessment and Overview of Climate Finance Flows: Antigua and Barbuda 2014- 2017*.
- (v) Associated strategies around the transition of the workforce from fossil fuel-based energy systems to renewable energy systems.

Repositioning Antigua and Barbuda for Dynamic, Sustainable, and Resilient Growth – Report by the Technical Drafting Sub-Committee to the Economic Recovery Committee 2020-(Economic Recovery Plan). This document highlights governments' priorities going forward in its quest for resilient growth. This is intended to be achieved through a two-pronged approach. The first focuses on stabilisation and the second on repositioning the economy for growth. It elaborates sector plans for tourism; housing and infrastructure; agriculture, waste management, and sustainability; environment and renewable energy; trade and entrepreneurship; and cultural industries and sports. A number of the planned and ongoing climate change projects, including resilience building and adaptation, are featured in the Environment and Renewable Energy Sector Plan.

GCF Country Programme (GCF-CP) 2020: Antigua and Barbuda presented an updated Country Programme to the GCF featuring projects which will respond to the synergies between climate change and sustainable development. It identified the following adaptation priorities:

- (i) Improving water security
- (ii) Improving energy sector resilience
- (iii) Increasing flood and hurricane intensity resilience
- (iv) Increasing resilience in buildings
- (v) Improving protection of beaches and coastal areas
- (vi) Protecting watersheds and waterways

Country Programme Strategy 2020: The DOE elaborated a strategy for implementing its GCF Country Programme (CP). This strategy situates the GCF-CP and the proposed pipeline within the context of Antigua and Barbuda's climate change vulnerabilities. It also underscores the strategic impact of GCF support, and the approach taken to ensure that extensive baseline research is undertaken through a consultative process. This approach involves determining the technical and financial feasibility of the pipeline, as well as mapping the human, institutional, technical, and capacity requirements.

Department of Environment's Gender Policy – 2018: The DOE's Gender Policy elaborates its approach to achieving gender mainstreaming that is responsive to the requirements of its key multilateral

³⁶ Goodwin, Justin. GGGI. 2021. Antigua and Barbuda Climate Change Monitoring Reporting and Verification (MRV) system framework

partners while at the same time conforming to the legislative requirements of the 2019 EPMA. The policy calls for stakeholders' rights to privacy and confidentiality; requires that relevant information on a project or sub-project activity's environmental, social, or gender risks be made accessible and understandable to stakeholders; requires that the DOE conducts gender due diligence through Gender Impact Assessments (GIAs) at the overall portfolio level as well as the individual project level for higher risk projects; and makes allowances for monitoring and compliance. In addition, it provides guidance on standards and practices related to the gender impact assessment of projects; environmental principles, substantive standards, and practices on environmental protection; building regulations, land use development and planning, and enforcement.

Department of Environment's Environmental and Social Safeguards Policy (ESS) – 2018: Drawing upon various laws in Antigua and Barbuda, including the 2019 EPMA, the DOE's ESS policy seeks to promote social responsibility and sustainable development in its operations. The ESS provides for environmental, social, and gender screening of projects; determination and assessment of environmental, social, and gender risks and impacts of projects, including through consultations with stakeholders and vulnerable communities; ensuring access to information and full participation in the decision-making process for stakeholders, especially vulnerable communities; creating safeguards and mechanisms to mitigate risks and negative environmental, social, and economic impacts associated with projects; ensuring access to justice in environmental matters related to social safeguards and gender issues for affected parties in the form of a functional and efficient Complaints Mechanism; cooperating with partners to build capacity in risk mitigation and facilitate implementation of environmental, social, and gender safeguards; and monitoring and evaluation.

Intended Nationally Determined Contributions (iNDC) – 2015: Adaptation targets identified in Antigua and Barbuda's iNDC are as follows:

- (i) By 2025, increase seawater desalination capacity by 50% above 2015 levels.
- (ii) By 2030, all buildings will be improved and prepared for extreme climate events, including drought, flooding, and hurricanes.
- (iii) By 2030, 100% of electricity demand in the water sector and other essential services (including health, food storage, and emergency services) will be met through off-grid renewable sources.
- (iv) By 2030, all waterways will be protected to reduce the risks of flooding and health impacts.
- (v) By 2030, an affordable insurance scheme will be available for farmers, fishers, and residential and business owners to cope with losses resulting from climate variability.

Impacts, Risks, and Vulnerabilities

Key Climatic Drivers for Antigua and Barbuda

In its sixth Assessment Report (AR6), the IPCC (2021) stated that *“With further global warming, every region is projected to increasingly experience concurrent and multiple changes in climatic impact-drivers.”* In addition, AR6 indicates that *“Many changes in the climate system become larger in direct relation to increasing global warming. They include increases in the frequency and intensity of hot extremes, marine heatwaves, and heavy precipitation, agricultural and ecological droughts in some regions, and proportion of intense tropical cyclones.”* Changes in precipitation, extreme events—hurricanes and droughts, increased sea surface temperatures, and sea-level rise—are all climatic drivers that Antigua and Barbuda currently experiences. Consequently, Antigua and Barbuda

undertook risk modelling work under its NAP project. This work explored the impacts of climate change on the **built environment** across sectors and key industries, including infrastructure and housing, and banking and insurance. Additionally, changes to drought and rainfall and their impact on key sectors and **ecosystems** were examined through this work. The impact of hurricane wind, storm surge, sea-level rise, extreme temperatures, and extreme precipitation on key sectors was considered. This was done by examining two climate scenarios (RCP 4.5 and 8.5) and three types of losses (a 1:100-year event, a maximum credible event [MCE], and a historical event).³⁷

The risk modelling work under the NAP project indicated that, by 2030, the general building stock in Antigua and Barbuda, using RCP 8.5, will experience direct losses from storm surges and wind in the amount of USD 451M for a historic event, USD 4.03B for a 1:100-year event, and USD 9.4B for an MCE event. Related Average Annualised Loss (AAL) would be USD 139M.³⁸ It further indicated that under the RCP 4.5 scenario, by 2030 the built environment in Antigua and Barbuda is expected to experience total direct losses from storm surges and wind of USD 451M for a historic event. This is the same as under the RCP 8.5 scenario. RCP 4.5 also yields losses of 4.15B for a 1:100-year event and USD 9.4B for an MCE event. Related AAL would be USD 138M.³⁹

Sea-level rise and nuisance flooding will result in USD 108M and USD 95M of damage to the coastal building stock for RCP 8.5 and 4.5, respectively, by 2030. The report, therefore, prescribes “*building at higher elevations, building elevated structures, and setting aside regions through land use*” as adaptation measures.⁴⁰

The total direct damage to key facilities and industries/sectors was also captured in the 2021 study and revealed the data contained in Figure 10 under the RCP 4.5 scenario.

Further to the foregoing, changes in precipitation and temperature extremes are expected to adversely impact **water storage areas**, resulting in more rapid evaporation in Antigua and Barbuda’s reservoirs.⁴¹ Water scarcity will be exacerbated, with implications for the **households, agriculture, tourism, construction, and health** sectors. Antigua and Barbuda’s **terrestrial ecosystem, forestry and agriculture** will also be adversely impacted by changes in precipitation and temperature and hurricanes.

37 Department of Environment, Antigua and Barbuda. 2021. “National Adaptation Plan Climate Change Risk Modelling Project Summary Report.”

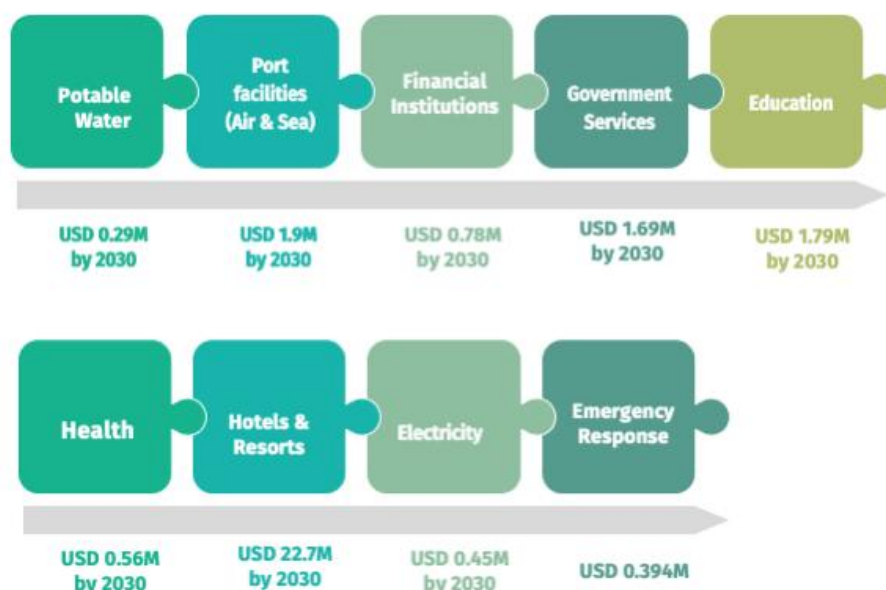
38 Ibid

39 Ibid

40 Ibid

41 DOE. 2018. Concept Note: “Sustainable Integrated Water Resources Management to Build Resilience to Climate Change in the Water Sector of Antigua and Barbuda” <https://www.greenclimate.fund/document/sustainable-integrated-water-resources-management-build-resilience-climate-change-water>

Figure 10: RCP 4.5 AAL (2030) for key facilities and industries in Antigua and Barbuda



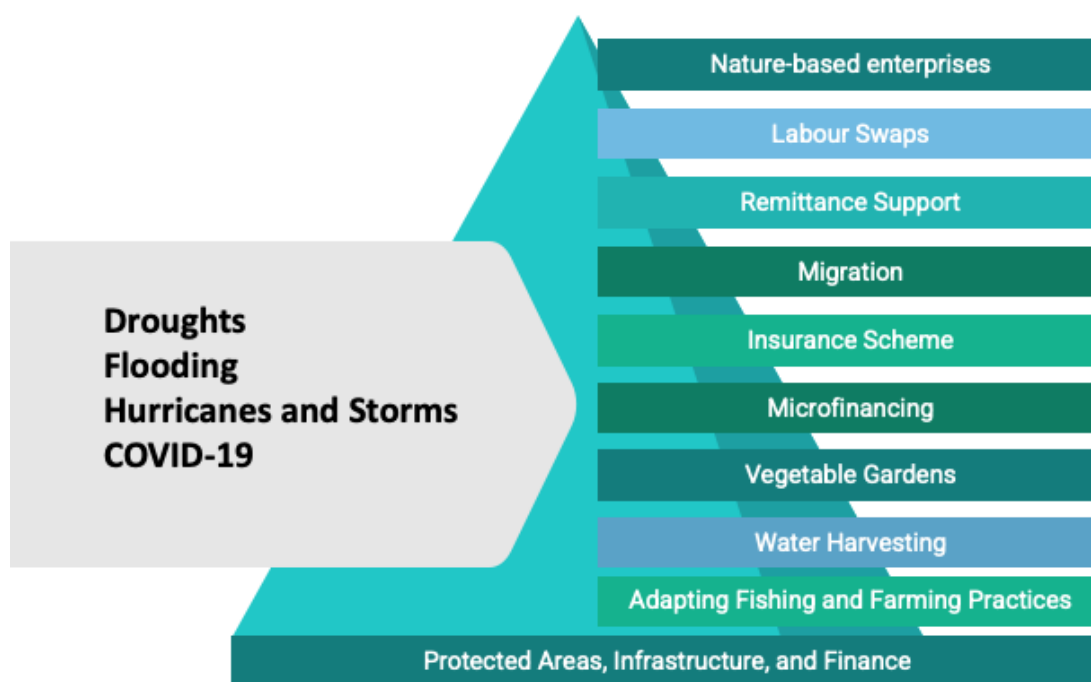
Adapted from Department of Environment, Antigua and Barbuda, 2021.

Antigua and Barbuda’s **marine ecosystems** and **fisheries sector** will be impacted by increased sea surface temperatures, sea-level rise, and extreme-event hurricanes. Coral reefs, which form part of this ecosystem, have declined drastically over the years, partly due to climate change impacts. Adaptation measures supporting the sector are being undertaken through ongoing work led by the Food and Agriculture Organization (FAO) of the United Nations.

The **fisheries sector** was confirmed as vulnerable to climate change in a recently commissioned study on Antigua and Barbuda’s resilience. One of the issues identified was the security of fishing vessels used by local fishermen. A flash flood event in November 2020 resulted in the loss of vessels for members of this vulnerable community dominated by middle-aged and older men. This results in an inability to engage in their usual employment activity, with implications for the financial stability of their households.⁴²

42 UN-Women 2020. Review of Gender Inequality of Disaster and Climate Risks-Enabling Gender- Responsive Disaster Recovery, Climate and Environmental Resilience in the Caribbean (EnGenDER). Gunning-Banhan, Melesha.

Figure 11: Coping Mechanisms for Income Loss due to Climate Events and COVID-19 in Antigua and Barbuda



Adapted from UN Women, 2020.

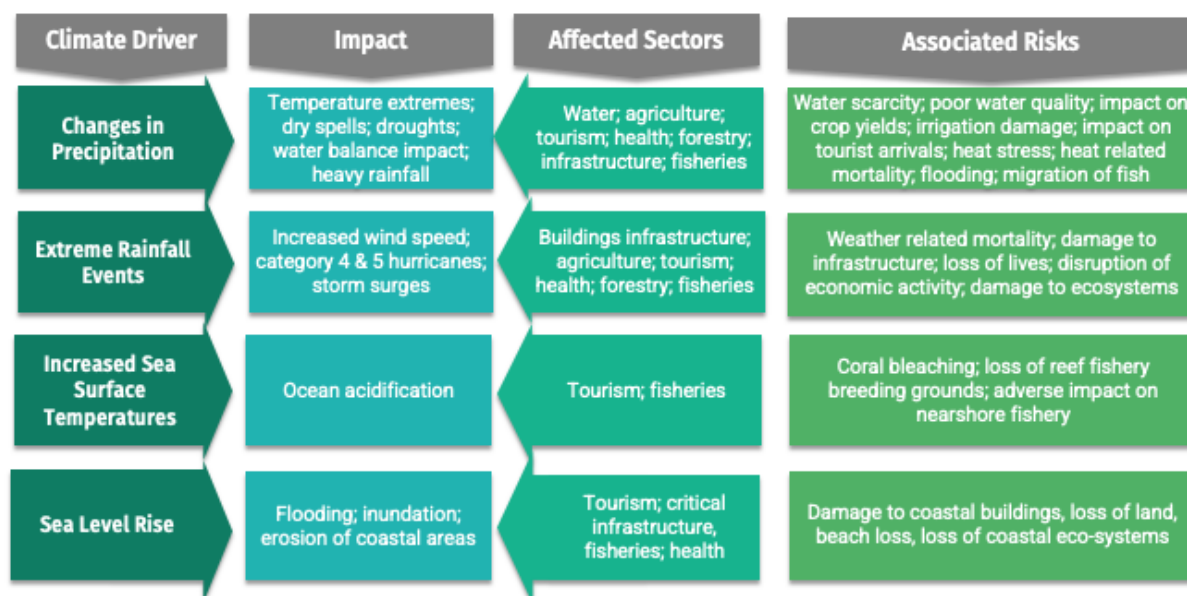
The study also reviewed gender inequality in disaster and climate risks in Antigua and Barbuda and concluded that any impact on the livelihoods of women associated with climate risks would have ripple effects on social and economic life. This is due to women heading most households and constituting the majority of persons employed in government and the tourism sector. Several coping mechanisms were identified in response to job losses after hurricanes and storms, drought, flooding, flash flooding events, and COVID-19 for the protected areas, finance, and infrastructure sectors. Women are reportedly likely to engage in microfinancing for income support in the aftermath of climate-related events and because of COVID-19. Livelihoods examined for the protected areas sector were small craft/business operators, fisheries, and tourism. Gaps in access within the infrastructure sector—notably in communications, health, transportation, and utilities—need to be addressed to reduce the vulnerability of women in the aftermath of climate-related events.⁴³

Impacts on **human health** related to climate change can be direct, indirect, or diffused. For Antigua and Barbuda, the direct health impacts are associated with extreme weather events. The indirect effects relate to impacts on other sectors because of climate events such as the impact on water security and safety, such as waterborne diseases. Diffused impacts include mental and psychosocial health and non-communicable diseases.⁴⁴

⁴³ Ibid

⁴⁴ WHO. 2020. Antigua and Barbuda Health and Climate Change Country Profile 2020. https://cdn.who.int/media/docs/default-source/climate-change/who-unfccc-cch-country-profile-antigua-barbuda.pdf?sfvrsn=b73692e7_2&download=true

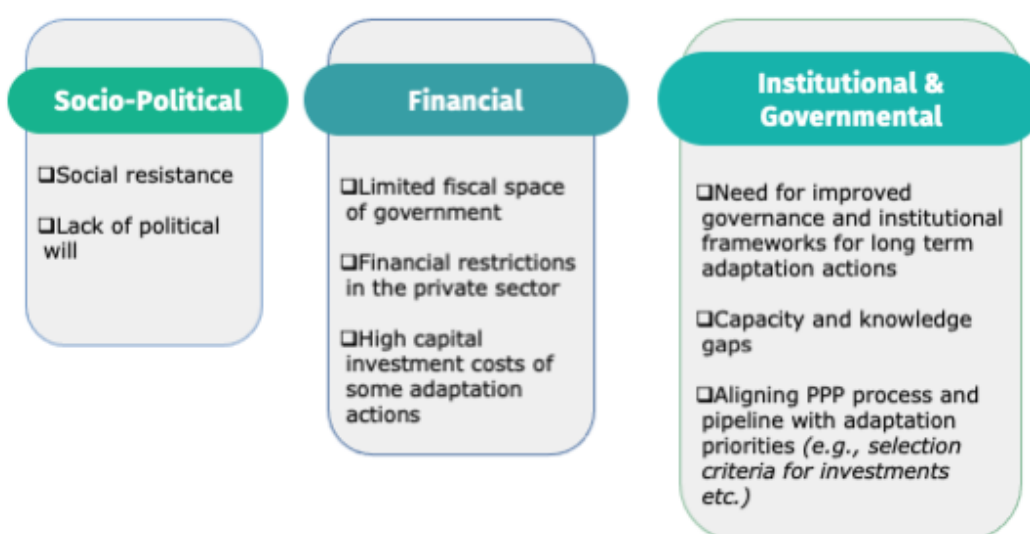
Figure 12: Climate impacts, risks and vulnerabilities in Antigua and Barbuda



Challenges and Gaps Related to Climate Change Adaptation Responses

Challenges and gaps were identified by national stakeholders during the ADCOM consultation process. These have been classified under three headings: socio-political, financial, and institutional and governmental. The gaps are presented in Figure 13.

Figure 13: Challenges and gaps identified by national stakeholder consultations during the consultative process



Perusal of the national literature for the various sectors revealed the following needs. For infrastructure, the need to update the building codes has been identified. Under the NAP risk modelling project, as well as the SCCF project, the DOE is further updating the current codes, which are based on the OECS model. The need for implementing land zoning and enforcing coastal setbacks has been identified for the coastal zone through this project. This would have implications for the tourism and business sectors with nearshore properties. Under the EnGenDER Project, financial institutions have been identified as having weak governance structures, which must be strengthened to account for climate change adaptation. The World Health Organization (WHO) has identified the need for climate-resilient health care facilities, national assessments, climate change V&A for health, and national health and climate change planning in the health sector.⁴⁵

Ongoing Adaptation Actions

Readiness and Reporting

Preparatory activities are critical to ensuring the successful implementation of climate change actions, including those specific to adaptation. Antigua and Barbuda received funding through various channels to support the capacity building and readiness work required to facilitate successful climate change action.

To date, Antigua and Barbuda has received approval for five readiness grants through the GCF totalling USD 4.8M, with USD 2.8M accessed. This amount includes USD 3M for NAP actions.⁴⁶ These Readiness activities have supported the strengthening of CSOs, regional and sub-regional institutions, as well as national agencies in Antigua and Barbuda, including the DOE.

It has since implemented four (4) of the Readiness proposals from the GCF, which aimed at supporting the county in delivering progress in institutional strengthening, country coordination, meeting fiduciary and ESS standards of the Fund, accrediting a Direct Access Entity, national adaptation planning and accelerating its pipeline development. This resulted in the approval of two GCF funded activities (i.e., FP061 and FP133). The country is preparing to implement its fifth GCF Readiness proposal. This proposal focuses on NDC implementation in order to support the country's transition to a low emission, climate resilient economy and able to reasonably withstand the new climate projections from the IPCC.

Through the AF, USD 0.025M in grants was accessed to support the review of the DOE's Environmental and Social Safeguards (ESS) and Gender Policy, as well as the review of the DOEs manual for processing loans and revolving funds. Additionally, Antigua and Barbuda received support for its reporting requirement to the UNFCCC, with funding allocated primarily through the GEF for its three national communications previously submitted as well as its fourth, which is currently being implemented. Funding for elaborating its First Biennial Update Report (BUR1) was also provided through the GEF. Antigua and Barbuda accessed USD 0.020M through the NAP Global Network and the International Institute for Sustainable Development (IISD) for the elaboration of this ADCOM.

45 WHO. 2020. Antigua and Barbuda Health and Climate Change Country Profile 2020. https://cdn.who.int/media/docs/default-source/climate-change/who-unfccc-cch-country-profile-antigua-barbuda.pdf?sfvrsn=b73692e7_2&download=true

46 GCF. 2017. <https://www.greenclimate.fund/sites/default/files/document/readiness-proposals-antigua-and-barbuda-ministry-health-and-environment-adaptation-planning.pdf>

Synopsis of Some Ongoing Adaptation Projects in Antigua and Barbuda

In keeping with the overarching adaptation framework, Antigua and Barbuda has implemented several climate change adaptation projects and programmes with adaptation components over the years. These projects and programmes are not only undertaken by government agencies, but also by the private sector and CSOs. Funding sources for projects vary and include local communities, the Government of Antigua and Barbuda, other friendly governments, private sector organisations, and international agencies. A summary of some key adaptation projects and programmes reflecting this mix of funders and implementers is provided below.

Climate Change Adaptation of the Eastern Caribbean Fisheries Sector (CC4FISH) Project:⁴⁷ Antigua and Barbuda is one of seven participating islands in this project, which benefited from a USD 5.4M grant through the SCCF administered by the GEF, with the FAO as the implementing agency. In addition to strengthening the capacity of 772 fisherfolks in information and communications technology through training, and providing information and communications technology (cellphones, global positioning systems) and 1,100 VHF radios, this project seeks to develop the *mFisheries@sea* mobile application and the *mFisheries@sea* web portal in five of the project countries. The project also seeks to rehabilitate existing aquaculture centres and establish new ones. The project has developed the Regional Vulnerability and Capacity Assessment (VCA) Framework and Methodological toolbox for the sector. Training of trainer activities have been carried out in four countries, with one country having carried out VCAs. In addition to COVID-19 related challenges, limited human and technical capacity has contributed to project delays.

Green Barbuda Electricity Project: This project demonstrates funding for adaptation action from various sources. Funders were the Government of the United Arab Emirates, the CARICOM Development Fund, the Government of New Zealand, the Government of Antigua and Barbuda, the Barbuda Council, and the Antigua Public Utilities Authority. The project consists of the installation of a new electricity power station supported with a 720-kilowatt (kW) solar photovoltaic facility and an 863 kilowatt-hour (kWh) battery storage solution that will store and stabilise electricity from the solar plant. Site clearance, detailed engineering and procurement, and shipments of equipment were completed in early 2021.⁴⁸ This project sought to respond to the devastation met upon Barbuda during the 2017 Atlantic Hurricane season with hurricanes Irma and Maria.

VCA and Disaster Risk Reduction Planning in Parham Town: Under the Inter-American Foundation-funded CSOs for Disaster Resilience (2019-2022) Project, the Environmental Awareness Group of Antigua and Barbuda supported the highly vulnerable fishing community in Parham Town in conducting VCAs and disaster risk reduction (DRR) planning activities. These would inform the design of pilots to address the identified issues. Parham Town is located within one of the six main watersheds with a mangrove system, seagrass beds, and a coral reef system which has been adversely impacted by development and observed climate impacts. These actions have markedly reduced the climate resilience of this fishing community. Some of the climate-related impacts observed by the community based on this project activities are fishing grounds including coral reefs and seagrass beds (fish nurseries) affected by sargassum; coral reef damaged by storms and hurricanes causing a decline in fishing grounds and the inability of fishers to get a good catch of fish; backyard farming affected;

47 The GEF. 2021. FAO-GEF Project Implementation Report 2020 <https://www.thegef.org/project/climate-change-adaptation-eastern-caribbean-fisheries-sector>

48 Antigua Newsroom. 2020. Green Barbuda Electricity Project Implementation Proceeding. <https://antiguaneewsroom.com/green-barbuda-electricity-project-implementation-proceeding/>

and soil erosion and flooding undermining property. The top priority identified by the community is addressing the major hazard of drought.⁴⁹

An Integrated Approach to Physical Adaptation and Community Resilience in Antigua and Barbuda's Northwest McKinnon's Watershed: This USD 10M AF project, with the DOE as the implementing agency, sought to reduce vulnerability to the impacts of extreme rainfall by improving the built environment within this community. This project benefited 200 individuals directly and 4,500 individuals indirectly. Three kilometres of waterways were restored, complying with new adaptation requirements for flooding and vector control, factoring in environmental, social, and gender considerations.⁵⁰ The project sets an initial target of five percent of this vulnerable community accessing low-interest loans through the SIRD Fund to engage in climate-proofing of their dwellings.⁵¹ A good practice from this project was its emphasis on improving the adaptive capacity of community groups and incorporating social and gender considerations in its implementation.

Building Climate Resilience through innovative Financing Mechanism for Climate Change Adaptation (SCCF)⁵²: This project aimed to facilitate access to adaptation finance for citizens of Antigua and Barbuda through the establishment of an adaptation window of the SIRD Fund. Five million United States Dollars (USD 5M) in grant funding was provided from the SCCF and administered through the GEF with the UN Environment Programme (UNEP) as the implementing agency.

In addition to the adaptation window, the project seeks to, *inter alia*, improve the capacity for integrating innovative financing for adaptation into the policy and planning of key agencies—such as Development Control Authority (DCA) and Ministry of Works (MoW)—and conduct pilot interventions for climate change adaptation in vulnerable communities and sectors. To date,

- (i) The Revolving Fund loans programme was developed, and consultations were undertaken with government and homeowners. All funds under the programme has since been disbursed to its target community.
- (ii) The SIRD Fund Board has been constituted.
- (iii) Detailed costings for adaptation actions for roads and waterways have been determined.
- (iv) Hydrological, topographical, and other data for inputs into the development of three Local Area Plans for the targeted watersheds have been collected
- (v) Cost-effective pilot interventions in McKinnon's watershed, Woods Pond, and the waterway, as well as Friars Hill Road, have advanced.

The project also reviewed the previously updated building code to ensure resilience to major hurricanes. A good practice of this project is its demonstrated coherence and complementarity with ongoing projects. The project had to overcome delays in the bidding process for rehabilitation works and on Local Area Plans.

49 Environmental Awareness Group. 2021. Report on Vulnerability and Capacity Assessment (VCA) and Disaster Risk Reduction (DRR) Planning in Parham Town, Antigua.

50 Adaptation Fund. 2021.

51 Ibid

52 The GEF. 2019. UN Environment GEF PIR Fiscal Year 2019

Integrated physical adaptation and community resilience through an Enhanced Direct Access (EDA) pilot in the public, private, and civil society sectors of three Eastern Caribbean SIDS^{53 54}: This USD 20M project seeks to improve the resilience of communities, homes, governments, and business in Antigua and Barbuda, Grenada, and the Commonwealth of Dominica. The EDA utilises grants and loans, managed through a transparent process, as a means of supporting individuals in the participating countries with their continued efforts of financing climate change adaptation and disaster recovery. The project will award USD 9M to pilot public adaptation infrastructure projects and provide USD 3M in small adaptation grants to CSOs and USD 6 M in concessional micro-revolving loans to households and businesses. To date, 78 homeowners in Antigua and Barbuda have applied for loans; thus far, 45 have been approved. No loans and grants have been distributed in Dominica and Grenada.

A major strength of this project is its efforts in the sub-regional scaling of policy, oversight, and fiduciary functions. COVID-19 has been a major drawback for the implementation of this multi-country project. One of the lessons learned is the challenge of working across multiple governments with agencies at various levels of capacity, which can have implications for the pace of progress of the overall project. This project is currently under implementation.

Resilience to Hurricanes in the building sector in Antigua and Barbuda^{55 56} With a USD 32M grant from the GCF, Antigua and Barbuda commenced addressing the resilience of the national building sector. This will be done by climate-proofing critical public service and community building; mainstreaming climate change adaptation in the building sector and a relevant financial mechanism; and strengthening climate information services to allow for early action in responding to climate events. This project seeks to benefit 73,000 individuals directly by reducing their vulnerability in the aftermath of an extreme climatic event, contributing to their health by improved provision of clean water and increased operability of clinics during a storm. This project is currently in the early stages of implementation and was launched in late 2021.

Enabling Gender-Responsive Disaster Recovery, Climate and Environmental Resilience in the Caribbean (EnGenDER)⁵⁷ The project seeks to “further integrate gender equality and human-rights based approaches into disaster risk reduction (DRR), climate change (CC) adaptation and environmental management frameworks and interventions and identify and address some of the gaps to ensure equal access to DRR and climate change and environment solutions for both men, women, boys and girls.” Antigua and Barbuda is one of nine participating countries. Intermediate and immediate outcomes are as follows:

- (i) Enhanced practices of relevant actors for the sustainable implementation of gender-responsive climate change action and disaster recovery.

53 GCF. 2021. Projects and Programmes-FP061- Integrated physical adaptation and community resilience through an Enhanced Direct Access pilot in the public, private, and civil society sectors of three Eastern Caribbean small island developing states
<https://www.greenclimate.fund/project/fp061>

54 DOE. 2018. *Project Factsheet*-Integrated physical adaptation and community resilience through an Enhanced Direct Access pilot in the public, private, and civil society sectors of three Eastern Caribbean small island developing states
https://www.environment.gov.ag/assets/uploads/attachments/8d5f4-eda-factsheet_eda-rfp-eastern-caribbean_v2.pdf

55 GCF. 2021. Projects and Programmes- FP133 Resilience to Hurricanes in the building sector in Antigua and Barbuda
<https://www.greenclimate.fund/project/fp133>

56 DOE. 2020 FP133 Resilience to Hurricanes in the building sector in Antigua and Barbuda.

https://www.greenclimate.fund/sites/default/files/document/fp133-doe-atg-antigua-and-barbuda_0.pdf

57 UNDP. 2021. Enabling Gender-Responsive Disaster Recovery, Climate and Environmental Resilience in the Caribbean
<https://www.bb.undp.org/content/barbados/en/home/about-us1.html>

- (ii) Improved national capacity for gender-responsive climate change adaptation and mitigation planning and implementation among state and non-state actors in the target countries.
- (iii) Improved integrated recovery planning and frameworks at the national and regional levels for gender-responsive and resilient disaster recovery by key vulnerable groups.
- (iv) Improved governance by relevant actors for gender-responsive climate and risk resilience planning and decision-making in nine Caribbean countries.
- (v) Increased application of gender equality and rights-based approaches by national climate change and DRR coordinating bodies.

Through the EnGenDER Project, Antigua and Barbuda sought to elaborate a Sectoral Adaptation Plan (SASAP) for the financial sector. To date, a capacity needs assessment for the financial sector has been undertaken and the SASAP has been elaborated. The capacity assessment highlighted the following needs:

- a. Governance, leadership, and structure with which to address and adapt to climate change.
- b. Processes, procedures, and tools used to integrate climate change into planning and prioritisation.
- c. Access to and quality of climate change information, data, and analysis, as well as the capacity to monitor, generate, and use climate change information, data, and analysis.
- d. Implementation, monitoring, and evaluation.
- e. Resources (human and financial) for addressing climate change.

Additionally, an in-workshop ranking exercise was conducted and the following four recommended activities for building climate resilience in the financial sector were proposed. They are listed in the order prioritised.

- a. Develop, adopt, and employ climate risk management practices.
- b. Develop and adopt gender-disaggregated adaptation metrics and standards.
- c. Build the capacity of the sector to integrate climate change considerations into operations and governance.
- d. Promote and accelerate adaptation investment opportunities for all.

Support Needs

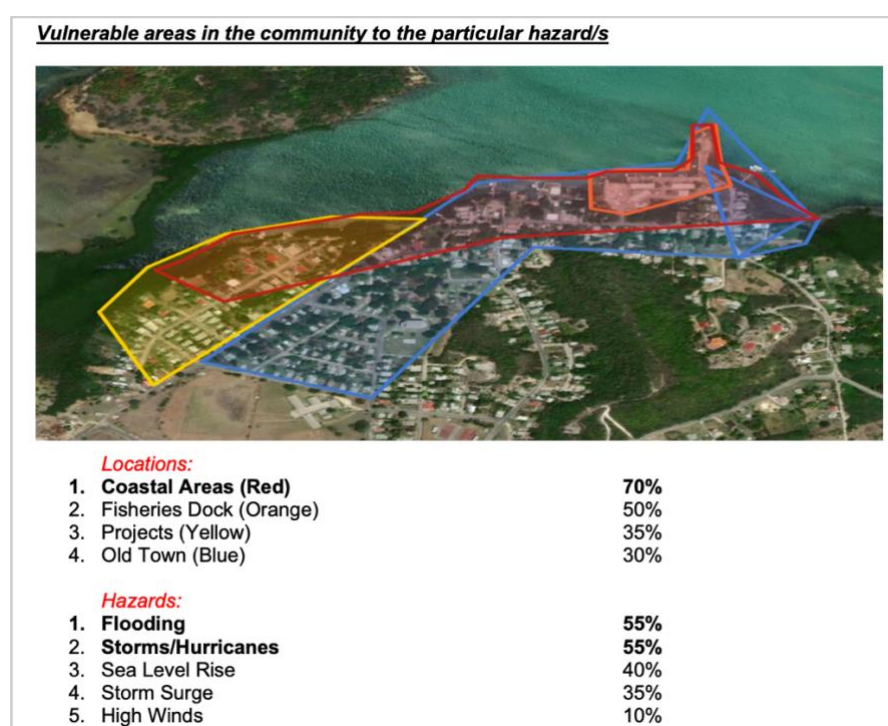
Proposed Future Actions to Support GGA

As mentioned previously, the Government of Antigua and Barbuda has identified its priority areas for resilience building and adaptation action through its NAP project. These are Finance, Protected/Managed Area, Infrastructure and Housing, Tourism, Food Security, and Wholesale and Retail. Sectoral adaptation guidelines, also developed under the NAP readiness programme, allow for a more tailored approach to adaptation planning across the sectors and serve as a blueprint for future use. The NAP will also facilitate the development of a private sector engagement strategy that will explore soliciting domestic finance to fund adaptation actions. This is in addition to a legal manual to support the integration of access to information related to environmental management and climate change action among the public and other key stakeholders, such as the Antigua and Barbuda Bar Association. Work under the NAP project, therefore, supports the adaptation framework by contributing to the strengthening of capacities and processes in key sectors to build a robust system

for continued adaptation action. This supports the whole-of-country approach in Antigua and Barbuda’s efforts towards the GGA through adaptation actions by all stakeholders in the public and private sectors as well as civil society. The guidelines and tools developed through the NAP project all facilitate the strengthening of the enabling environment by improving systems and building capacities to facilitate long-term adaptation.

Efforts by NGOs such as the EAG, which conducted VCAs, provide a good example of this approach. By working with Parham Town—a fishing community with an approximate population of 1,500—key vulnerabilities in the community, as well as possible solutions and the priorities for taking action to reduce risk, especially from hurricanes and climate extremes, were identified.⁵⁸ The solutions and priorities identified will form part of the continued work to be undertaken outside of government, albeit supporting the national efforts towards the GGA.

Figure 14: Vulnerable areas in Parham Town



Source: EAG, 2021.

Through its GCF Country Programme, Antigua and Barbuda identified various projects which will support its proposed contribution to the GGA, if approved. In that regard, debt for climate swaps and social inclusion investment programmes are featured. Major adaptation investment opportunities focus on an economy-wide just transition associated with a reduced reliance on fossil fuels for energy and transport. Antigua and Barbuda’s proposed pipeline for the GCF includes the following four adaptation projects and one Multi-year Readiness Programme, which will address both adaptation and mitigation needs, indicated in Table 2. The Multi-year Readiness Programme has since been approved by the GCF.

58 Environmental Awareness Group. 2021. Report on Vulnerability and Capacity Assessment (VCA) and Disaster Risk Reduction (DRR) Planning in Parham Town, Antigua.

Table 2: GCF Country Programme priority projects

Title	Objective/ Description	Funding amount requested	Implementation Timeline
A blueprint for adapting road infrastructure to projected climate extremes in Antigua and Barbuda ⁵⁹	This project seeks to respond to extreme climate events which Antigua and Barbuda is already experiencing, and which are expected to become more severe based on climate projections. This project will build on the existing Road Infrastructure Rehabilitation and Reconstruction Programme (RIRRP) to increase the climate resilience of critical road infrastructure and utilities in Antigua and Barbuda. In particular, the proposed project will climate-proof four primary roads and their associated infrastructure as well as adapt target utilities to withstand the impacts of extreme climate events, including Category 4 and 5 hurricanes, as well as climate-induced floods and droughts.	USD 27M (grant)	TBD
Transformation of the Finance Sector Fund to meet the needs of climate change insurance and resilience in the fisheries and agriculture sector in Antigua and Barbuda. ⁶⁰	<p>The project will mainstream climate-resilient investment and de-risking options into Antigua and Barbuda’s key economic sectors, including agriculture and fisheries. It has two primary objectives:</p> <ul style="list-style-type: none"> • To build climate resilience in the financial sector; and • To strengthen the resilience of farmers and fisherfolk to improve food security. <p>Financial resilience will be created by developing alternative finance models, focusing on financial tools to de-risk investments and improve insurance options, particularly for farmers and fisherfolk.</p> <p>The project will also increase climate resilience prior to and after extreme climate events by engaging the private sector to facilitate investment in climate-smart adaptation interventions in these sectors, as well as rebuilding following extreme events. In addition to the financial resilience, the project will work with farmers and fisherfolk to build the resilience of their livelihood activities to extreme events, including exploring options for renewable energy and land/ocean management frameworks by:</p> <ul style="list-style-type: none"> • Assessing financial exposure to climate change. • Developing and piloting climate-resilient financial products/solutions targeting the private sector, including agriculture and fisheries, households, and public sector management frameworks. 	TBD	TBD

59 DOE. 2020. “Antigua and Barbuda Climate Change Country Programme 2020.”

60 Ibid

Title	Objective/ Description	Funding amount requested	Implementation Timeline
	<ul style="list-style-type: none"> Developing new legislation and regulations for new climate-resilient financial services that are in line with OECS standards. Establishing the knowledge base and data systems to implement financial risk reduction solutions that are scalable and replicable nationally, as well as across the Caribbean region. <p>A GCF concept note and Project Preparation Facility application are currently under development to inform the full funding proposal.</p>		
Antigua and Barbuda Debt for Climate Swap	<p>The proposed project considers options for a trilateral Debt for Climate Swap with the GCF and the country’s Paris Club member creditors. Under the proposed debt swap arrangement, GCF funds would support or partially finance the redirection of Antigua and Barbuda’s ~USD 147M in debt towards domestic investment in climate change projects.</p> <p>This would include: financing: (i) negotiations with creditors; (ii) establishment of legal and contractual frameworks; (iii) reaching of agreements with all relevant participating institutions (e.g., GCF, DOE, MOF, and Paris Club); (iv) capacity building and institutional development of relevant government and financial institutions; (v) development of the operational procedures and policies for the SIRF Fund.</p> <p>A GCF Multi-year Readiness currently under review will produce some of the outputs to inform this project.</p>	TBD	TBD
Supporting the transition to a low-carbon and resilient economy in Antigua and Barbuda through the just transition of the workforce ⁶¹	<p>To respond to the impacts of climate change on Antigua and Barbuda’s energy sector and achieve the mitigation targets in the country’s updated 2020 NDC, the Government of Antigua and Barbuda is initiating a transition within the sector from a centralised grid dependent on fossil fuels, towards the long-term national goal of 100% renewable energy. This shift will have considerable negative impacts on the livelihoods of workers in fossil fuel-dependent industries, as well as downstream industries which support, <i>inter alia</i>, electricity generation and road transportation, in the absence of urgent interventions to facilitate the transition of</p>	TBD	TBD

61 DOE. 2021. Concept Note- Supporting the Transition to a low carbon and resilient economy in Antigua and Barbuda through the Just Transition of the Workforce.

Title	Objective/ Description	Funding amount requested	Implementation Timeline
	<p>the country’s workforce towards operating in a low-carbon economy.</p> <p>To ensure that all members of the labour market can maintain an acceptable standard of living both during and after these transitions, the proposed project will initiate a Just Transition of the workforce. This will be achieved through the: i) provision of skills and capacity development; ii) facilitation of access to financial resources; and iii) creation of a knowledge-sharing system to record best practices and lessons learned. The Department of Environment will execute the project.</p>		
<p>Multi-year Readiness Supporting Antigua and Barbuda’s NDCs implementation towards a transformation to Climate Resilient and Low-Emission Development Pathway by 2030⁶²</p>	<p>Antigua and Barbuda’s 2021 NDC targets outline the government’s climate targets to accomplish its catalytic role in a gender-responsive transition to a low-emission, climate-resilient economy. The country’s readiness needs are consequentially linked to accomplishing its 2021 NDC targets. Moreover, the government envisions that it will perform this catalytic role through its proposed climate change project pipeline while managing transitional risks via programmes for the just transition of the workforce, enhancing respective enabling environments for thematic areas, and social investment.</p> <p>This readiness will support Antigua and Barbuda’s efforts at addressing these targets and goals by establishing a sound foundation for this accomplishment of these medium- to long-term commitments via the proposed project pipeline and accompanying strategy. This multi-year approach to addressing these readiness needs will support the effective and efficient completion of the comprehensive baseline work for these goals and targets and the corresponding project pipeline.</p>	<p>USD 2.74M</p>	<p>2021-2023</p>

During the consultation process for elaborating the ADCOM, stakeholders were asked to identify priority adaptation needs for Antigua and Barbuda. The following were submitted through an online survey:

- (i) Coastal areas strengthening
- (ii) Water conservation
- (iii) Food, water, and energy security
- (iv) Populating baseline data

62 DOE, 2021. Multi-year Readiness Supporting Antigua and Barbuda’s NDCs implementation towards a transformation to Climate Resilient and Low-Emission Development Pathway by 2030

(v) Financial resources

Noteworthy is the fact that the NAP project underway is addressing the priorities identified by stakeholders. Additionally, the GCF Country Programme and its supporting strategy mirror some of the priorities identified by stakeholders, in particular, the emphasis on food, water and energy security and financial resources.

Economic Diversification Plans

The Medium-Term Fiscal Strategy (MTFS) 2021-2023, presented by the Ministry of Finance and Corporate Governance of Antigua and Barbuda, sets out the steps that the government wishes to undertake in charting its course towards economic recovery in the wake of impacts of the COVID-19 pandemic. Fiscal resilience guidelines and a Medium-Term Fiscal Framework support this strategy. Short- to medium-term economic recovery for Antigua and Barbuda will be assisted by the development of entrepreneurship, food security, energy and environmental sustainability, and enhancing the role of the public sector. One of the revenue enhancement initiatives identified by the MTFS 2021-2023 is the capitalisation of a Climate Resilience and Development Fund (CRDF) from a Tourism Accommodation Levy (TAL) applied to hotels, AirBnB rentals, guest houses, apartments, and villas.

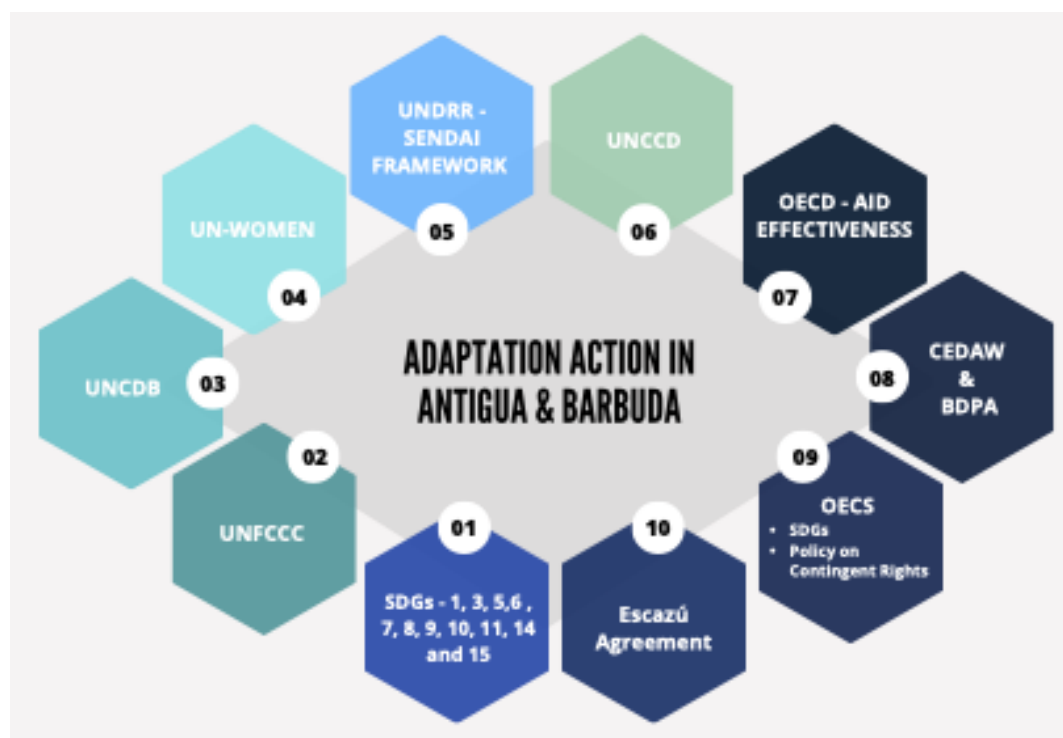
The Economic Recovery Plan 2020, identifies the need for actionable projects to catalyse the private sector, fuel employment and stimulate the economy over the short to long term. The focus of repositioning the economy through continued diversification; improving linkages between energy, sustainability, and resilience; improving food security and specifically, water sustainability and agriculture; and diversifying tourism products are all identified as priorities.

Contribution of Adaptation Actions to Regional and International Frameworks

The adaptation actions undertaken in Antigua and Barbuda occur within the context of the implementation of other environmental management actions that are responsive to various MEAs. Synergies exist between the goals and objectives of these agreements. For example, the work on supporting climate change adaptation in the water sector is also responsive to work being undertaken in Antigua and Barbuda, which responds to the United Nations Framework Convention to Combat Desertification (UNCCD) and actions under the Convention on Biological Diversity (CBD). This is demonstrated by the **Integrated physical adaptation and community resilience through an Enhanced Direct Access pilot in the public, private, and civil society sectors of three Eastern Caribbean SIDS project..**

Adaptation actions undertaken to build the resilience of critical infrastructure such as roadways and buildings are also responsive to the United Nations Office for Disaster Risk Reduction.

Figure 15: Responsiveness of Adaptation Action in Antigua and Barbuda to regional and international frameworks



(UNDRR) and its Sendai Framework. An example of a project which demonstrates this is the **Resilience to Hurricanes in the building sector in Antigua and Barbuda**.

The socially inclusive and gender-responsive approach to climate change adaptation in Antigua and Barbuda is consistent with the Convention on the Elimination of all forms of Discrimination Against Women (CEDAW). This is aptly demonstrated through the various projects, which seek to promote gender equality and gender responsiveness consistent with principles of Article 2 of CEDAW including through the **EnGenDER** Project currently under implementation.

The financial approach of building upon previous work as well as pursuing complementarity and coherence in climate change adaptation actions is consistent with OECD's Paris Declaration on Aid Effectiveness and its principles, as well as the move by donor agencies to promote the complementarity and coherence of climate finance.

The climate change adaptation actions being undertaken are not only in response to the UNFCCC and its Paris Agreement but also to several Sustainable Development Goals (SDGs). Apart from SDG 13 on climate action, the projects currently under implementation and proposed are responsive to SDGs 1, 3, 5, 6, 7, 8, 9, 10, 11, 14, and 15.

The linkages outlined above are by no means exhaustive but serve to demonstrate the level of synergies between adaptation action in Antigua and Barbuda and regional and international frameworks.

Gender-Responsive and Socially Inclusive Adaptation Action

Institutional Context

Gender affairs are coordinated in Antigua and Barbuda by the Ministry of Social Transformation and the Blue Economy. While the ministry has been working on elaborating a gender policy, a key partner, the DOE based on its responsibility for ensuring gender integration in its operations, elaborated its 2018 Gender Policy. DOE's 2018 Gender Policy seeks to promote *"the equal and equitable inclusion of men and women in all areas which would allow the DOE to accurately address gender vulnerabilities and risks"*⁶³ as well as *"the equal inclusion of men and women in environmental management and implementation."*⁶⁴

Additionally, DOE's 2018 Gender Policy provides the basis for environmental, socio-economic, and gender benefits to be equitably distributed in a non-discriminatory manner for all projects. These efforts are informed by the knowledge that effective adaptation requires an understanding of the impact of gender and social issues on vulnerability to climate change, and the specific capacities of men and women to proffer adequate and appropriate responses.⁶⁵ Awareness raising on the existence of the DOE's 2018 Gender Policy and the importance of all stakeholders in attaining gender equality in the context of climate change⁶⁶ is pivotal to its effectiveness. This is particularly important in the context of prevailing misconceptions that gender equality has been attained in Antigua and Barbuda.⁶⁷ Despite these misconceptions, a knowledge, attitude, practice, and behaviour survey conducted under the EnGenDER Project revealed that respondents were aware that vulnerability to climate change and disasters has a gender dimension.⁶⁸

This gender-responsive approach to adaptation planning in Antigua and Barbuda aligns with the Sustainable Development Goals (SDGs), the Beijing Declaration and Platform for Action, and the Convention on the Elimination of all Forms of Discrimination Against Women.

The 2021 Youth Policy also addresses gender issues through one of its values and principles, *"actively promote the values of equality."*⁶⁹ It outlines the commitment by youth to *"provide the critical mass of nationals who seek to raise awareness of gender equality."*⁷⁰ It recognizes that the current social

63 DOE. 2018. Gender Policy

64 Ibid

65 NAP Global Network & UNFCCC. 2019. Toolkit for a gender-responsive process to formulate and implement National Adaptation Plans (NAPs). Dazé, A., and Church, C. (lead authors). Winnipeg: International Institute for Sustainable Development. Retrieved from www.napglobalnetwork.org

66 UN Women and International Institute for Sustainable Development. 2021. Gender- Responsive Resilience Building in the Caribbean: Understanding the role of knowledge, attitudes, behaviours and practices in coordination mechanisms for climate change disaster risk reduction. A. Dazé and C. Hunter.

67 Government of Antigua and Barbuda. 2020. Review of the Beijing Declaration and Platform for Action Report, 2014-2019 https://www.unwomen.org/-/media/headquarters/attachments/sections/csw/64/national-reviews/antigua_and_barbuda.pdf?la=en&vs=3336

68 UN Women and International Institute for Sustainable Development. 2021. Gender- Responsive Resilience Building in the Caribbean: Understanding the role of knowledge, attitudes, behaviours and practices in coordination mechanisms for climate change disaster risk reduction. A. Dazé and C. Hunter.

69 Department of Youth Affairs, Ministry of Health, Sports and Youth Affairs & National Youth Policy Task Force. 2021. Antigua and Barbuda National Youth Policy

70 Ibid

complexities require “*solutions that reflect, respect, tolerance, justice and gender equality among other values.*”⁷¹ Additionally, it names the responsibilities of the young to “*promote gender equality and respect for the rights and dignity of girls and women.*”⁷²

Findings on Gender and Climate Change Adaptation in Antigua and Barbuda

A 2020 report published by the World Economic Forum, suggests that the approach to gender disparities can be attributed to a policy process that addresses issues in their distinct and separate spaces, without due regard to the cross-cutting nature of issues such as gender.⁷³ This can be further exacerbated by gender norms, roles, and biases. The need to zone in on the inter-connectedness of societal issues is identified as critical to overcoming gender inequality. Some of the identified inequalities (against women) evident with the impacts of climate change include increased exposure to gender-based violence, limited mobility, reduced earning capacity, loss of assets, and loss of life.⁷⁴ Additionally, climate change can impact women differently, such that “*poor women in rural areas, many who are single heads of households, are more vulnerable to economic and climate shocks than educated, urban women.*”⁷⁵

Antigua and Barbuda has an over-representation of women identified as poor and indigent.⁷⁶ Accounting for this reality is therefore paramount to effective adaptation planning and actions. A starting point can be ensuring that gender inequality issues are addressed in key sectoral policies such as protected areas—for example, small craft business owners, where there is a high representation of women employed within the sector. Additionally, there is a need for making the livelihoods of small craft business owners more resilient to crises and disasters as well as focusing on education and awareness raising on gender issues in disaster risk management. Instituting microfinance schemes to support female-headed households (who are more likely to access them when crises and disasters occur) is also recommended.⁷⁷

During the elaboration of the ADCOM, national stakeholders were engaged for their feedback on the adequacy of government efforts to incorporate social and gender dimensions in their programming. Stakeholders indicated the need to retrain and re-skill government employees to anticipate technological changes and industry/sector needs related to incorporating gender and climate change considerations. Additional data gathering on gender and social considerations for adaptation was also identified as a need for Antigua and Barbuda. These observations are consistent with the results of a knowledge, attitude, behaviours, and practice survey conducted by UN Women and IISD to gain an understanding of gender-responsive resilience building in the Caribbean.

⁷¹ Ibid

⁷² Ibid

⁷³ Roy, Katika. World Economic Forum 2020. Gender Equity and climate change have more in common than you think.

<https://www.weforum.org/agenda/2020/07/gender-equality-and-climate-change-have-more-in-common-than-you-think/>

⁷⁴ IADB. 2020. Study on the impact of climate change on Women and Men in the Caribbean. Pilot Programme on Climate Resilience.

https://www.climateinvestmentfunds.org/sites/cif_enc/files/knowledge-documents/study-of-the-impacts-of-climate-change-on-the-women-and-men-in-the-caribbean-pilot-programme-for-climate-resilience-countries.pdf

⁷⁵ Ibid

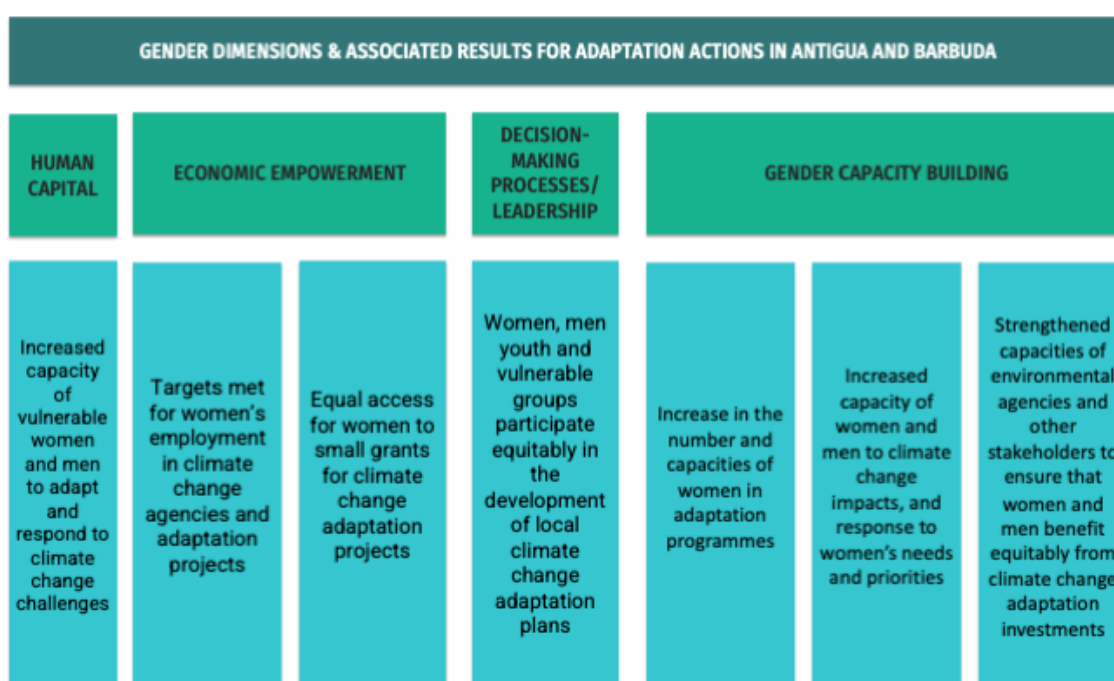
⁷⁶ Government of Antigua and Barbuda. 2020. Review of the Beijing Declaration and Platform for Action Report, 2014-2019.

https://www.unwomen.org/-/media/headquarters/attachments/sections/csw/64/national-reviews/antigua_and_barbuda.pdf?la=en&vs=3336

⁷⁷ UN-Women 2020. Review of Gender Inequality of Disaster and Climate Risks-Enabling Gender- Responsive Disaster Recovery, Climate and Environmental Resilience in the Caribbean (EnGenDER). Gunning-Banhan, Melesha.

To support the Adaptation Planning Framework and the DOE’s Gender Policy, socio-economic and gender-specific indicators for climate action have been developed through the UN Development Programme’s (UNDP) Climate Promise project. For adaptation, the gender equality outcome identified is “reduced vulnerability of poor women and men to climate change impacts and strengthened capacity to manage these changes.” The gender dimensions applied were human capital, economic empowerment, decision-making processes and leadership, and gender capacity building.⁷⁸ In addition to the broader adaptation and mitigation results and indicators identified, socio-economic and gender-responsive indicators were developed for specific NDC targets and actions. The EnGenDER Project currently being implemented in Antigua and Barbuda has also identified, through a consultation process, the need for developing and adopting gender-disaggregated adaptation metrics and standards in the financial sector.⁷⁹

Figure 16: Gender dimensions and associated results for adaptation action in Antigua and Barbuda



Source: Gerbaldo, 2020.

Pursuing a Just Transition of the Workforce

Antigua and Barbuda is pursuing a just transition of its workforce. This is articulated in its INDC and updated NDC. In so doing, result areas for human capital, economic empowerment, gender, capacity building, and social inclusion have been elaborated in these reporting documents to the UNFCCC.

There are several adaptation co-benefits that can be attained by taking advantage of the opportunities presented with a just transition for the electricity and road transport sectors in Antigua and Barbuda. As a case in point, employment opportunities associated with the transition can equip vulnerable households with accessing concessional resources through the SIRD Fund to improve their resilience

78 Gerbaldo, Lucia. UNDP.2020. ‘Climate Promise Project for UNDP: Antigua and Barbuda Socio economic indicators and gender indicators.’

79 Allinson. Catherine. Future Earth Ltd. 2021. EnGenDER Workshop Presentation,10th August 2021

to extreme weather events associated with climate change. In the medium to long term, Antigua and Barbuda hopes to move beyond the energy sector and adopt an economy-wide approach to the just transition.

Engaging Local Knowledge Systems for Adaptation Action in Antigua and Barbuda

Antigua and Barbuda has an active third sector (civil society). The groupings are engaged along various interests, including those related to environmental management. Civil society is actively engaged as part of the consultative process for implementing climate change adaptation action. The adaptation project “An Integrated Approach to Physical Adaptation and Community Resilience in Antigua and Barbuda’s Northwest McKinnon’s Watershed” worked with civil society, placing them at the forefront of climate action.

One of the strengths of CSOs is their ability to incorporate local information for the successful implementation of projects and programmes. Through a regional Readiness grant, being administered by Caribbean Natural Resources Institute (CANARI), Antigua and Barbuda is working to strengthen CSO capacity to engage in climate change action. To this end, key CSOs working on climate resilience and planning have been mapped and a CSO forum conducted. Tailored communications products for local CSOs on climate change are being developed as part of the grant activities.

Environmental Awareness Group

The Environmental Awareness Group (EAG) has a track record of over 30 years of action on biodiversity, climate change, and advocacy on the environment in Antigua and Barbuda. EAG works with various national and local NGOs, government agencies, and regional and international partners. EAG conducted a VCA of climate risk resilience for a local community, with the potential for upscaling to others. Through its Environmental Conference, EAG seeks to conduct a stocktake of the work currently being undertaken by all local CSOs, including climate change adaptation actions, with the intention to prepare and present a position paper to be included in the national climate change position for the 27th Conference of the Parties of the UNFCCC.⁸⁰

Gilbert Agricultural & Rural Development Center

The Gilbert Agricultural & Rural Development Center (GARD-C) is an NGO with an enterprise development facility thrust. They offer vocational, life, and entrepreneurial skills to youth at risk, through their training programmes. In addition, GARD-C implements projects related to agriculture. The projects implemented in the community by GARD-C incorporate traditional knowledge related to climate change adaptation. Training courses also integrate knowledge of climate change and incorporate traditional knowledge related to climate change adaptation as appropriate.⁸¹

Antigua and Barbuda’s National Parks Authority

The National Parks Authority is a statutory body in Antigua and Barbuda that has, over the years, incorporated traditional and local knowledge in its response to securing and building the climate

⁸⁰ Hill, Erika. 2021, Environmental Awareness Group, “Raising Our Voice for Environmental Change- EAGs Inaugural Environmental Conference Proposal.”

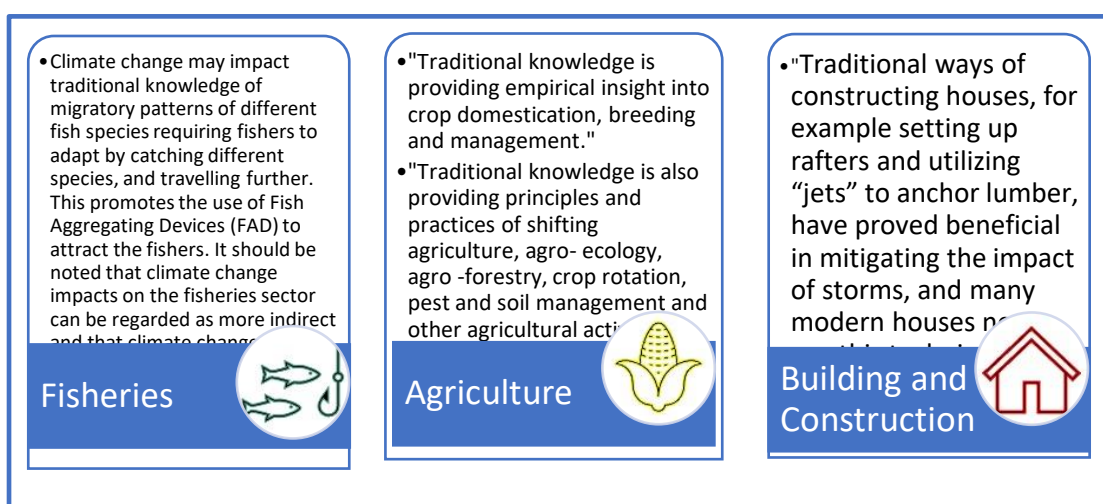
⁸¹ The Gilbert Agricultural & Rural Development Center. 2021 <https://www.gardc.org/about-us>

change resilience of the historic buildings of Nelson’s Dockyard. As identified in the UNESCO World Heritage inscription, the buildings represent a collection of adaptive practices for the Caribbean climate, including developments to reduce heat, increase airflow, and reduce cyclone and earthquake damage through specific architectural interventions.⁸²

Through hiring, training, and promoting these styles within the boundaries of the Nelson’s Dockyard National Park, this traditional knowledge is passed on. The style encourages open concepts, large ingresses promoting airflow, and hip roof styles which are architecturally resistant to tropical cyclones and encourage greater rainwater harvesting (a national building requirement in Antigua and Barbuda). Maintaining and repurposing historical hydro-engineering of the Dockyard’s rainwater catchment and holding tanks is essential to its functioning. The holding tanks collect water from the roof of the Officers’ Quarters, which is used to service the businesses and visitors in the Dockyard with fresh water. These cisterns were most recently refurbished using historical masonry techniques in 2021.⁸³

Incorporating local and traditional knowledge for adaptation action is prevalent not only in Antigua and Barbuda but across the Caribbean. This has been incorporated more visibly in the agriculture, fisheries, and building sectors. Responding to impacts of climate change such as water scarcity or heavy rainfall (agriculture), increased sea surface temperatures (fisheries), and heavy rainfall and hurricanes (building and infrastructure) can benefit from or be disadvantaged by traditional knowledge and practices. Regional institutions such as the Caribbean Agriculture Research and Development Institution (CARDI), the Caribbean Regional Fisheries Mechanism (CRFM), and the University of the West Indies (UWI) have long been incorporating the use of traditional knowledge, alongside scholarly research and technology, as elements of climate-smart responses. In some instances, local and traditional knowledge must be set aside or modified as an adaptive response. One fisheries project in which Antigua and Barbuda is participating in the Climate Change Adaptation of the Eastern Caribbean Fisheries Sector (CC4FISH) Project. It seeks to integrate traditional knowledge with modern technology and equipment in its climate change response.

Figure 17: Traditional knowledge in fisheries, agriculture and construction



Adapted from CARDI, 2016; Joseph, 2021; Murray, 2021; and Hoffman et al., 2021.

82 Waters, Christopher K. 2021 National Parks Authority "Use of traditional knowledge in the Building Sector in Antigua and Barbuda" Expert interview by Neranda Maurice-George, 21st September 2021

83 Ibid

Adaptation Communication for Antigua and Barbuda

During the consultation process for elaborating this ADCOM, stakeholders were required to weigh in on two questions regarding traditional knowledge:⁸⁴

- a. Are you aware of local/traditional knowledge practices and systems which can support or deter adaptation action in Antigua and Barbuda? Please indicate what they are and if they help or hurt adaptation action.
- b. In your estimation, are these local/traditional knowledge practices and systems adequately considered by government officials in adaptation planning?

On the areas of traditional knowledge practices and systems which can support or hinder adaptation in Antigua and Barbuda, stakeholders identified

- i. Water conservation actions currently implemented – (support)
- ii. Ecosystem restoration practices and methods utilised – (support)
- iii. Poor animal husbandry (roaming livestock) – (hinder)
- iv. Clearing of vegetation down to the dirt because we want to see it “clean” – (hinder)

Stakeholders also noted that government could be reluctant to enforce traditional knowledge where it was deemed to be unpopular. Figure 18 presents some of the examples from the literature on how traditional knowledge is incorporated to promote climate change adaptation in the fisheries, agriculture, and building sectors.

Next Steps for Adaptation Priorities

This ADCOM serves as an important source of information on what Antigua and Barbuda is doing to adapt as it frames the country’s adaptation priorities. It articulates national strategies, plans, projects and programmes that contribute to strengthening national adaptive capacity and the country’s resilience to a changing climate. It highlights the innovative approaches the country has implemented and will take in the future to prioritize adaptation and to strengthen adaptation action. The ADCOM also seeks to enhance learning and understanding of the country’s adaptation needs and actions among key stakeholders, including vulnerable communities, households, businesses, public sector agencies, and the general population.

Antigua and Barbuda is extremely vulnerable to projected climate change impacts, which will result in higher-intensity hurricanes, more frequent droughts, higher temperatures, and sea level rise⁸⁵. Looking forward, the country is prioritizing building resilience in key economic sectors in the country, climate-proofing key infrastructure, establishing systems for a debt for climate swaps, designing innovative risk financing solutions for climate-vulnerable economic sectors, supporting a just transition, and financing concrete adaptation actions through mechanisms such as small concessional loans, grants, and equity to reduce the impact of climate change on the most vulnerable communities and groups.

⁸⁴ Maurice-George, Neranda. 2021. Final Consultation Report: Consultancy: Synthesize Adaptation Outputs within the Department of Environment (DOE) and Prepare an Adaptation Communication in Advance of COP 26

⁸⁵ GOAB. 2020. Antigua and Barbuda’s First Biennial Update Report.

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Annex: Promoting Cooperation for Adaptation Action

Promoting Cooperation Among Caribbean SIDS for Impactful and Scalable Climate Action

Antigua and Barbuda demonstrates leadership in the work of promoting climate action among SIDS both within the Caribbean and wider afield. The twin island nations' contribution to climate diplomacy has been crowned with the Chairmanship of the Alliance of Small Island Developing States (AOSIS) and Membership to the Board of the Green Climate Fund. Antigua and Barbuda's Department of Environment (DOE) attained the feat of first Direct Access Entity Accredited to the GCF from a Government Agency in the Caribbean and is also accredited to the Adaptation Fund.

Figure 18: Ambassador for Climate Change and Director of the Department of Environment, Diann Black-Layne



Recognizing the importance of attaining impactful climate change action at scale, Environment Ministers at the 3rd Council of Ministers on Environmental Sustainability (COMES) in May 2016, mandated the Commission to pursue opportunities for climate financing, to support climate resilience in the OECS. This was affirmed at the 4th COMES in April 2017 where Antigua and Barbuda committed to utilizing an allocation from its GCF readiness resources to provide support to the OECS Commission for pre-accreditation to the GCF. After the completion of this initial work where gaps were identified, further resources were committed by Antigua and Barbuda to pool with resources from other OECS UNFCCC Parties within the OECS to address those gaps. Antigua and Barbuda's DOE (DOE ATG) also sits on the OECS Climate Finance Working Group.

Figure 19: Ambassador Diann Black-Layne Representing Antigua and Barbuda (far left) at COMES-6 in 2019, held in Martinique



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DOE ATG is piloting internships and apprenticeships to support climate change action based on training needs identified in country. Citizens from OECS Member States will also be beneficiaries. The internship and apprenticeship training will cover inter alia proposal development and management; M&E of projects and programmes; climate action MRV; geographic information systems; environmental assessment and monitoring; socio-economic assessment and stakeholder outreach; ecosystem valuation – data collection and analysis, economics, biodiversity, renewable energy, and ESS and gender.

Another area of cooperation among Caribbean SIDS is the implementation of the GCF Enhanced Direct Access project. It seeks to strengthen the resilience of three Caribbean islands (Antigua and Barbuda, Grenada, and the Commonwealth of Dominica) to climate change-related threats such as more intense hurricanes, higher temperatures, and lower overall rainfall. The resilience of community buildings, homes, and businesses will be improved, with the DOE as the Executing Entity. This is currently the first Enhanced Direct Access project in the Caribbean.

