



GOVERNMENT OF ANTIGUA AND BARBUDA

DEPARTMENT OF ENVIRONMENT



GENDER ASSESSMENT AND GENDER AND SOCIAL INCLUSION ACTION PLAN

DOE CLIMATE CHANGE PROGRAMME

RESILIENCE TO HURRICANES IN THE BUILDING SECTOR IN ANTIGUA AND BARBUDA

The Project Management Unit (PMU) of the Department of Environment, Ministry of Health,
Wellness and the Environment

March 20th, 2020

Prepared for the Green Climate Fund

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LIST OF ABBREVIATIONS

AF	Adaptation Fund
AF (2)	“An Integrated approach to physical adaptation and community resilience in Antigua and Barbuda’s northwest McKinnon’s watershed”
APUA	Antigua Public Utilities Authority
CSEC	The Caribbean Secondary Education Certificate Examination
DCA	Development Control Authority
DMU	Data Management Unit at the Department of Environment
ESIA	Environmental Social Impact Assessment
ESMP	Environmental Social Management Plan
GAP	Gender and Social Inclusion Action Plan
GCF	Green Climate Fund
GCF BUILD	“Resilience to Hurricanes, Floods and Droughts in the Building Sector in Antigua and Barbuda”
GISS	Grid-Interactive Solar Systems for Schools and Clinics
IRENA ADFD	Transformation of the Water and Government Sectors using Renewable Energy
MET OFFICE	Meteorological Department
MOF	Ministry of Finance, Corporate Governance and Public Private Partnerships
MOW	Ministry of Public Works
NODS	National Office of Disaster Services
RE	Renewable Energy
SCCF	“Building climate-resilience through innovative financing mechanisms for Ecosystem-based Adaptation”
SEF	Sustainable Energy Facility
SIRF Fund	Sustainable Island Resource Framework Fund
SPPARE	Sustainable Pathways Protected Areas and Renewable Energy UNEP project

1. EXECUTIVE SUMMARY

- 1.1. In recent years, the Government of Antigua and Barbuda (GoAB) has sought to reduce the vulnerability of its public infrastructure, particularly critical buildings to natural hazard events with a shift from emergency response and recovery to risk reduction and mitigation; this is deemed far less costly than disaster relief and response. This follows the 2017 hurricane season which cost the GoAB over USD 200 million in loss and damages. Climate predictions indicate that such storms will become more frequent as well as the twin-island state will experience prolonged drought conditions, temperature and sea level rise.
- 1.2. As an Accredited Direct Access Entity to the Green Climate Fund (GCF), the Department of Environment (DOE) is seeking grant financing to implement climate change adaptation within critical public buildings and community buildings to allow for resilience to hurricanes, droughts and flooding; to increase the technical capacity of the public and private sector in order to sustain the interventions as well as improve accessibility, and visibility and response of community members and the private sector to warnings of threats of disaster. Within the context of the DOE project portfolio, this project is expected to benefit a significant portion of the population, particularly low income to impoverished families who rely on public services as well as rural communities, particularly after an extreme weather event.
- 1.3. The ESIA and ESMP conducted under this project assessed environmental and general social impacts for this project while mitigating against risks. This Gender Assessment and Action Plan seek to assess the perceived or real differential vulnerability of men and women that are expected to be further exacerbated by the impacts of climate change. This study also seeks to identify the gender related risks that can impact on the project and make recommendations to mitigate the same.
- 1.4. In general, there are no known institutional and legal bias against men or women in Antigua and Barbuda. Even though this is the case and due to the lack of gender disaggregated data, however, many of the internationally known biases against women are many times included in project design. In the case of this project which specifically address infrastructure, the assessment has identified the following:
 - Courses in construction were made available a few years ago to women. The first graduates are expected over the next few years; the project will establish an apprentice programme for these women newly coming into the field.
 - Training in construction is predominantly delivered to men. The project notes the difference in learning between men and women and girls and boys and seeks to provide gender sensitive training.
 - Most of government buildings do not have access for persons with special needs. While the project acknowledges this the budget is not adequate to make significant changes.
 - The project benefits men and women equally, however, it mostly benefits persons who are very low income more so than on the basis of gender.

2. INTRODUCTION

2.1. Country background and problem setting

- 2.2.1. Antigua and Barbuda forms part of the Leeward Islands in the Caribbean located between the Caribbean Sea and the Atlantic Ocean. The country gained independence from British rule in 1981 and now forms part of the British Commonwealth of Nations¹. The total population is ~93,500, the majority of which reside on Antigua. The capital city of St John's in Antigua is home to 22,000 people alone, while only 1,600 permanent residents live on Barbuda². More than 60% of the entire population of the country lives within the coastal zone³.
- 2.2.2. The country has a tropical marine climate with average daily temperatures between 24°C and 29°C, and an average annual rainfall of 600–1,250 mm⁴. As little as 20% of this rainfall occurs during the dry season between January and April, with almost 50% of the annual rainfall occurring during storms in the hurricane season between August and February. Relative to other islands in the region, Antigua and Barbuda has a greater level of humidity and heavier dew deposits during the night that contribute to water supplies in the drier regions⁵. However, the low annual rainfall and high seasonal variability in precipitation has resulted in Antigua and Barbuda becoming a water-scarce country.
- 2.2.3. Tourism is the most prominent economic activity in the country and is responsible for: i) 80% of the GDP; ii) 85% of all foreign exchange; and iii) employment for 70% of the population.⁶ The tourism industry draws almost one million visitors each year for the country^{7;8}. Other prominent economic sectors are agriculture and industry, which contributed 2% and 18% respectively to the national GDP in 2016⁹. Each of these sectors are extremely vulnerable to the impacts of climate change and after a hurricane most persons lose their jobs. The majority of persons working in this sector are women.
- 2.2.4. SIDS are generally not major contributors to climate change through greenhouse gas emissions, but because of their geographic positioning they are amongst the countries least able to adapt – and most vulnerable – to climate change impacts, particularly from

¹ Nationally Determined Contribution (NDC). 2015. Government of Antigua and Barbuda.

² Based on 2011 Census Data.

³ United Nations Statistics Division. 2017. UN Data: Antigua and Barbuda. Available at: <http://data.un.org/CountryProfile.aspx?crName=antigua%20and%20barbuda> [accessed 13.03.2017].

⁴ Earth Institute: Columbia University. 30 July 2014. Climate change and eastern Caribbean rainfall. Available at: <http://climatesociety.ei.columbia.edu/2014/07/30/climate-change-and-eastern-caribbean-rainfall> [accessed 13.03.2017].

⁵ Ellison AM & Farnsworth EJ. 1996. Anthropogenic disturbance of Caribbean mangrove ecosystems: past impacts, present trends, and future predictions. *Biotropica* 549–565.

⁶ The Daily Observer. 7 January 2015. “No end in sight for A&B’s water crisis”. Available at: www.antiguaobserver.com/no-end-in-sight-to-abs-water-crisis/ [accessed 13.03.2017].

⁷ I.e. to both islands.

⁸ The Daily Observer. 17 April 2016. “Antigua has the highest monthly water deficit in OECS”. Available at: <http://antiguaobserver.com/antigua-has-highest-monthly-water-deficit-in-oecs/> [accessed 13.03.2017].

⁹ Global Finance. 13 March 2017. “Antigua and Barbuda GDP and Economic Data”. Available at: <https://www.gfmag.com/global-data/country-data/antigua-and-barbuda-gdp-country-report> [accessed 13.03.2017].

rising sea levels^{10;11}. The population of Antigua and Barbuda is becoming increasingly vulnerable to extreme climate events, including tropical storms, hurricanes, extended dry periods, floods and rising air temperatures. Climate change is increasing the intensity of these events and subsequently the intensity of impacts experienced across the country¹².

- 2.2.5. As a result of observed and predicted trends of climate change and associated variability, Antigua and Barbuda is expected to experience *inter alia* rising sea levels, increased intensity of tropical storms and hurricanes, more frequent and intense droughts and floods, rising air temperatures, and a decrease in annual rainfall¹³. These climate change effects are outlined below, with more detail to be provided in the Funding Proposal and Feasibility Study.

2.2.6. Increased intensity of hurricanes

- 2.2.6.1. Hurricanes and tropical storms are the main climatic hazards affecting Antigua and Barbuda. Since 1995, the country has experienced 15 hurricanes and 14 tropical storms. Most of these storms range from Category 1 to 3 in magnitude with the notable exceptions of Hurricanes Irma and Maria in 2017, which are the only Category 5 hurricanes that have affected country in recorded history.¹⁴ The frequency and intensity of these storms is strongly correlated to: i) high sea surface temperature (SST) in the major development region (MDR); ii) decreasing vertical wind shear (VWS) in the mid-troposphere during depression development; and iii) changes in the La Niña phase of the El Niño Southern Oscillation (ENSO).

- 2.2.6.2. Climate change projections under both the RCP4.5 and 8.5 scenarios¹⁵ indicate that, although the total number of storms is not expected to change significantly, there will be an increase in the frequency of high-intensity storms (Category 4 and 5 hurricanes) experienced by Antigua and Barbuda. Furthermore, a 20% slow-down in storm translation speed over land for Atlantic storms has been observed. These speeds are likely to continue decreasing under future conditions of climate change, resulting in heavier rainfall events and increased flood risk.

¹⁰ Caribbean Climate Change Project. 2011. Global climate change overview. Caribbean Youth Environment Network (CYEN). Available at: http://www.cyen.org/climatechange/documents/cc_and_the_caribbean.html [accessed 13.03.2017].

¹¹ The reasons for this vulnerability include *inter alia*: i) limited natural resources that are often already under stress from unsustainable human activities; ii) large concentrations of people in the coastal zone; iii) recurrent extreme weather events such as flooding, hurricanes and storm surges; and iv) dependence on limited freshwater resources that are often sensitive to sea-level changes. In addition, adaptation to climate change is difficult in SIDS because of: i) limited land surface area leaving little room for movement in the face of sea-level rise; ii) inadequate infrastructure – across most sectors – that is vulnerable to climate change; and iii) isolation from major markets which limits trade and thus revenue generation, limiting the availability of public resources to support climate change adaptation.

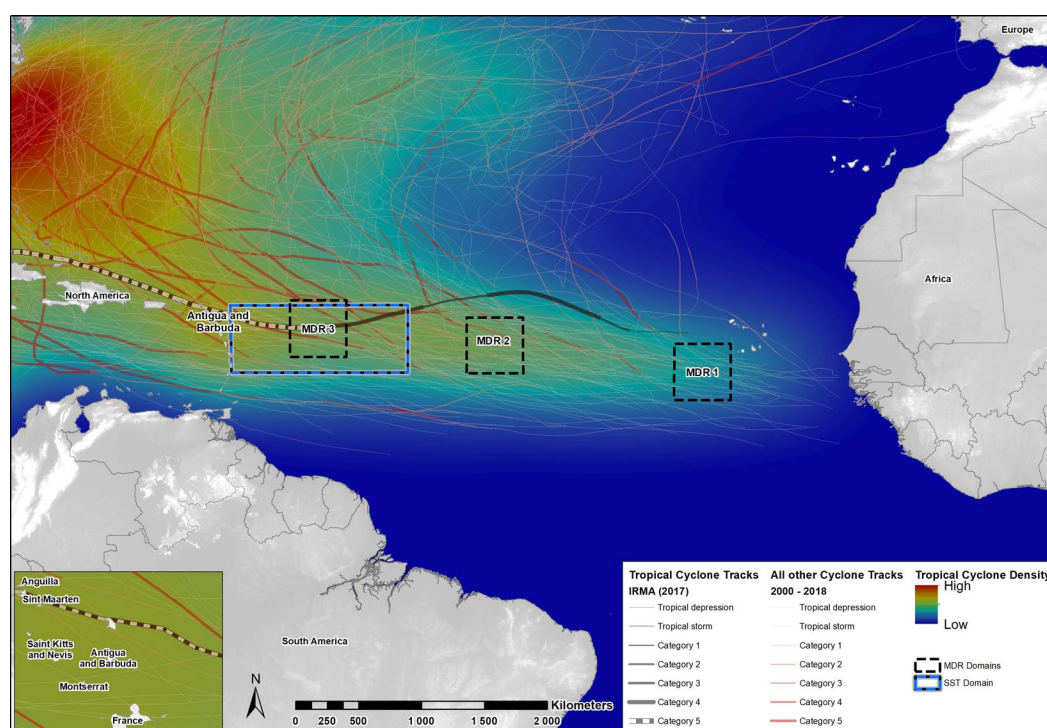
¹² In addition to increasing hurricane intensity, seismic activity across both islands is increasing, with ~7,000 tremors recorded annually. Data on these figures will be provided by the National Office of Disaster Services (NODS) at a later stage.

¹³ James 2001 Antigua and Barbuda Country Paper.

¹⁴ Details on the return periods of hurricanes and tropical storms within a range of 15 to 105 nautical miles are presented in Section 2 of Annex 2: Feasibility Study.

¹⁵ These representative concentration pathways (RCPs) are based on the main forcing agents of climate change, including GHG emissions, GHG concentrations and land-use change. RCP4.5 represents the likely best-case scenario with a peak radiative forcing of 4.5 W/m² (~650 ppm CO₂ eq) at stabilization after 2100. RCP8.5 represents a very high GHG emission scenario with a peak radiative forcing of 8.5 W/m² (~1,370 ppm CO₂ eq) and no expected stabilization in emissions. RCP8.5 indicates a business as usual scenario where the rate of GHG emissions continues to increase with no mitigation measures.

FIGURES 1: VERTICAL WIND SHEAR (VWS) AND SEA SURFACE TEMPERATURE (SST) DOMAINS USED FOR THE ANALYSIS OF MAJOR DEVELOPMENT REGIONS (MDRs) FOR HURRICANES THAT AFFECT ANTIGUA AND BARBUDA. LINES SHOW THE HISTORICAL TRAJECTORIES OF HURRICANES.



2.2.6.3. Given that Category 4 and 5 hurricanes are expected to occur more frequently under future climate conditions, the combined impacts of intense rainfall and strong winds will become increasingly severe in the absence of urgent adaptation interventions. This will have severe impacts on the lives and livelihoods of local communities as well as the economy as a whole¹⁶. Following a Category 5 hurricane, power and water supply can be disrupted for up to 24 months, while damage to communication and transport infrastructure disrupts associated services for up to 6 months. Furthermore, rough seas and inflated insurance premiums after a storm disrupts the import of vital food, medical and building supplies for several weeks after an extreme climate event. The ability of the country to respond to such events is constrained by the vulnerability of critical public services, including healthcare, police, fire and rescue services as well as government coordination and response agencies. Disruption to these services caused by damages to critical infrastructure reduces the efficiency and effectiveness of emergency response and delays recovery.

2.2.6.4. The impact of such events on the economy is severe. For example, Hurricanes Luis and Marilyn (1995) resulted in a ~30% decline in the country's GDP, while Hurricanes Irma and Maria (2017) resulted in US\$136 million in damages and US\$19 million in economic

¹⁶ A detailed cost-benefit analysis is presented in Annex 3 and summarised in Section D.6 of the Funding Proposal. This analysis describes what the projected costs of extreme climate events will be in Antigua and Barbuda with and without project interventions under baseline and projected climate change scenarios.

losses across major sectors in the country¹⁷. To fully recover from the damages and economic losses caused by the 2017 hurricanes, an estimated US\$222 million in support was required, including US\$5 million for environmental recovery and US\$11.5 million for disaster risk management. Table 1 below provides a sector-specific breakdown of these damages and losses as well as the estimated recovery needs.

TABLE 1: DAMAGES AND LOSSES CAUSED BY HURRICANE IRMA AND MARIA AS WELL AS THE RECOVERY NEEDS OF THE COUNTRY

Sector	Damage (million US\$)	Losses (million US\$)	Total (million US\$)	Recovery needs (million US\$)
Infrastructure	20.5	0.61	21	38.3
Social	54.2	2.7	57	93.3
Production	59.5	8.7	68.2	70.3
Governance	0.87	0.75	1.5	2.2
Culture	1.15	0.76	1.9	1.4
Total	136	18.9	155	222

2.2.6.5. Antigua and Barbuda has building codes for Category 3 hurricanes. The country experienced one Cat 5 in 2017. The greatest impacts, however, are:

- Destruction to buildings i.e. homes, business, churches, clinics and schools;
- Persons losing their homes and businesses are still having to make payments to the banks and creditors even though they cannot;
- Over 50% of persons do not have health insurance;
- Over 60% of children attend government schools;
- Where funds are available, materials have to be imported to island. Homeowners may have to wait for months to get the materials they need;
- Risks to homeowners' security when the electricity grid is down. Disruptions to the electricity grid can last for months. Hurricane Irma, a Category 5 storm, the electricity in Barbuda was disrupted for over 9 months.

¹⁷ Government of Antigua and Barbuda. Antigua and Barbuda Recovery Needs Assessment. Available at: https://www.gfdrr.org/sites/default/files/publication/Antigua%20and%20Barbuda%20executive%20summary_print_text%282%29.pdf

3. Baseline Gender Situation for Antigua and Barbuda

3.1. In general, **gender** plays an important role in determining the adaptive capacities of individuals to climate change. Different hazards, however, affect men and women differently. Gender considerations can take on board the specific individual impacts based on hazards, the ability of the individual to withstand and recover from hazards and time taken to do so compared to others, and the policy and other interventions that can be undertaken by the state in general and specifically by projects to build resilience and reduce long term vulnerability.

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

3.3. The proposed GCF Build project is designed to increase the adaptability of mainly poorer men and women and their families to have continued access to free government services. These services include health, education, security and key social services to groups of persons with very limited ability to adapt. The project seeks to achieve this via building resilience in the infrastructure such as clinics, schools, police and other buildings that provide the space to deliver these services. The project will seek to focus mainly on the impact of hurricanes on building infrastructure that facilitate the delivery of these services to men, women and their families.

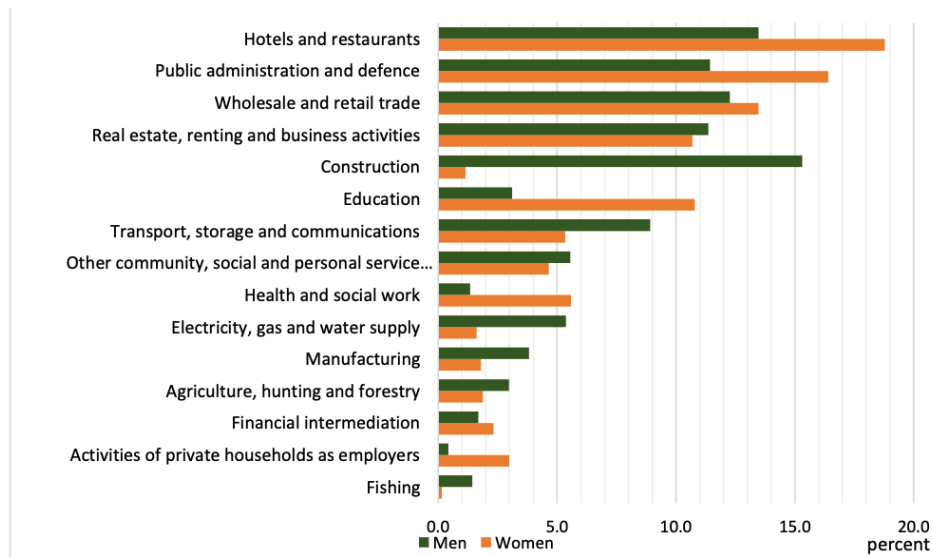
3.4. To achieve this goal, the gender analysis seeks to understand the situation of women, men, boys and girls from communities in Antigua and Barbuda

Case Study: Post-hurricane delivery of “dignity kits” to women and girls of childbearing age

After Hurricane Irma struck Antigua & Barbuda in September 2017, the population of Barbuda was evacuated to Antigua and the Directorate of Gender Affairs and the UN distributed “dignity kits”, containing basic health and hygiene products such as soap, sanitary napkins and underwear – critical items for women and girls that can be easily overlooked in a disaster response. There were 650 pregnant women at the time of the hurricane.



FIGURES 2: EMPLOYMENT BY INDUSTRY AND SEX



Source: Statistics Division, Ministry of Finance and Corporate Governance, Labour Force Survey, 2015.

4. Comparative Summary of Key Gender Equality Indicators

TABLE 2: KEY GENDER EQUALITY INDICATORS FOR ANTIGUA AND BARBUDA (SOURCE: ADAPTED FROM RAWWIDA BAKSH AND ASSOCIATES, 2014. COUNTRY GENDER ASSESSMENT (CGA) ANTIGUA AND BARBUDA REPORT)

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

5. Project Background

5.1. To increase the resilience of the population in Antigua and Barbuda to extreme climate events, the proposed project will implement climate-resilient technologies and interventions in public and community buildings (hereafter referred to as ‘public buildings’) and will strengthen institutional, technical and financial capacity within the GoAB to enable climate-resilient building development in the long term. These climate-proofing interventions will be implemented in buildings providing critical services – including disaster services, healthcare, fire services and police – as well as those buildings providing public and community goods – including *inter alia* community centres and schools. A combination of international, regional and island-specific best practices will be used to climate-proof public buildings to ensure critical service delivery during and following an extreme climate event, ultimately improving disaster risk management under changing climatic conditions. This will be accomplished through *inter alia*:

- (i) supporting the mainstreaming of adaptation for the building sector into relevant national policies and standards;
- (ii) building institutional and technical capacity to identify, implement, maintain and upscale climate-proofing interventions; and
- (iii) climate-proofing existing public buildings to ensure that critical services remain operational during an extreme climate event, with reduced damages to buildings resulting in reduced maintenance costs in the long term.

The proposed project will increase the resilience of the building sector and strengthen disaster risk reduction (DRR) methods to climate change impacts.

5.2. This project also seeks to use some of its lessons learned to inform the enhancement of the Sustainable Island Resource Framework (SIRF) Fund. The SIRF Fund is a financing mechanism established under the Environmental Protection and Management Act (EPMA).¹⁸

5.3. The project defines a building as a “critical public service” if it meets two (2) of the following criteria:

- a. The building provides essential services to the population of Antigua and Barbuda pre- and post- extreme climate event, including:
 - Protective
 - Emergency services
 - Medical services
 - Post-disaster assessment and response
 - Critical government office
- b. The location of the building maximizes the number of beneficiaries (e.g. in an urban or settlement area);
- c. The location of the building provides essential services to geographically or socially vulnerable populations

¹⁸ Environmental Protection and Management Act (EPMA). No 11 of 2019. Government of Antigua and Barbuda.

TABLE 3: CATEGORY AND GEOGRAPHIC DISTRIBUTION OF CRITICAL FACILITIES

TYPE OF BUILDINGS	DESCRIPTION		
	Building provides essential services to the population	Impacts of hurricane, drought, flooding, heat, energy	Location of the building provides essential services to geographically or socially vulnerable populations.
All Saints Clinic	Medical	X	X
All Saints Fire Station	Security	X	
All Saint's Police Station	security	X	
Analytical Services (2)	security	X	
Antigua State College (2)	Educational	X	
Bendals Health Clinic (2)	Medical	X	X
Clareview Psychiatric Hospital (4)	Medical		X
High Court of Justice (part of Ministry of Legal and Justice Affairs Court)	Security		X
Defence Force (2)	Security		X
Department of Environment (2)	Operational	X	
Fiennes Building (2)	Social		X
Good Shepherd Children's Home	Social		X
MET Office (airport terminal)	Early warning systems	X	
Ministry of Finance	Operational	X	
National Archives	Data Security	X	
National Office of Disaster Services (NODS)	Disaster Response		X
Parham Health Clinic	Medical		X
Police Headquarters	Security	X	X
Potters Health Clinic	Medical	X	X
Her Majesty's Prison	Social		X
St. John's Fire Station	Emergency Security	X	X
Swetes Health Clinic (Can't Find on map)	Medical		X

Liberta Police Station	Security	X	X
Liberta Primary School	Educational	X	X
Urlings Primary School	Educational		X
Jennings Primary School	Educational	X	X
Bolans Primary School	Educational		X
Bendals Primary School	Educationally		X
Pigotts Clinic	Medical		X
Princess Margaret Secondary School	Educational	X	X
Cedar Grove Clinic	Medical	X	X
Old Road Clinic (1)	Medical		X
Freetown Primary School (1)	Educational		X
Emergency Medical Service (1)	Medical	X	X
Gray's Farm Clinic (1)	Medical	X	X
Gray's Farm Police Station (1)	Security	X	X
Willikies Primary School (1)	Educational		X
Red Cross (1)	Emergency/NGO	X	X
Cedar Grove Primary (1)	Educational		X
Clare Hall Secondary School (1)	educational	X	X
Bethesda Clinic (1)	Medical		X
Cobbs Cross Primary School (1)	Education		X
Barbuda fire Station (1)	Emergency/Security	X	X
Barbuda Council and Treasury (1)	Critical operations	X	X

5.4. Maps of Priority Critical Public Service and Community Buildings to Receive Climate-Proofing Interventions

5.4.1. Antigua

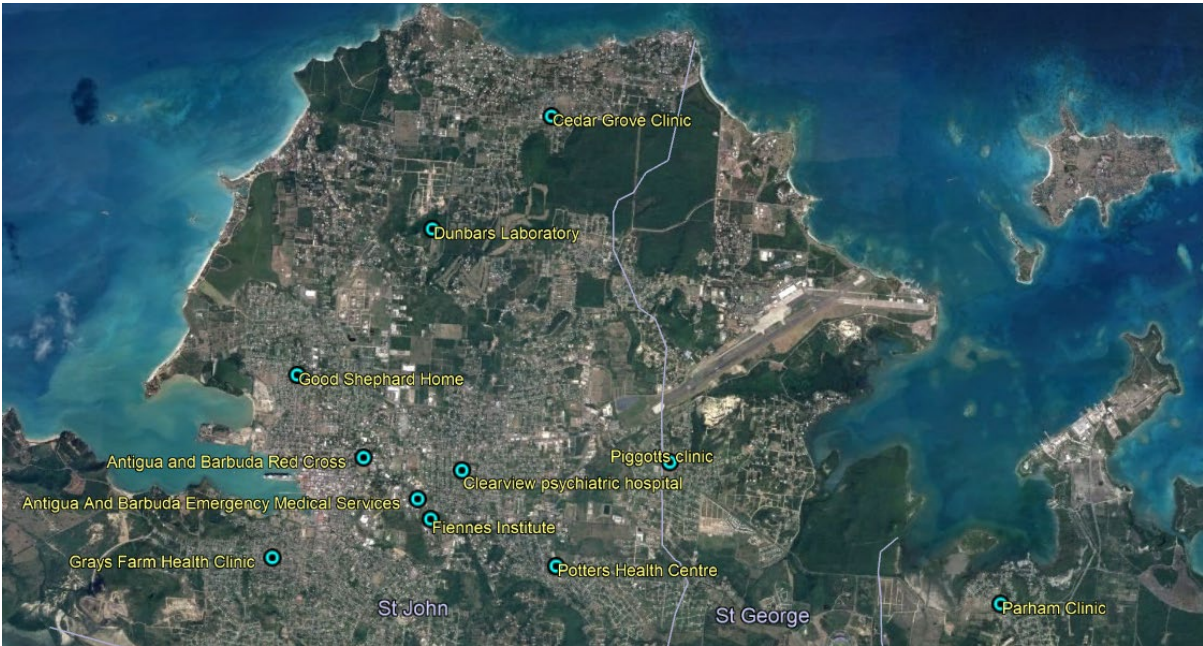
FIGURES 3: EDUCATIONAL FACILITIES TO BENEFIT FROM GCF BUILD



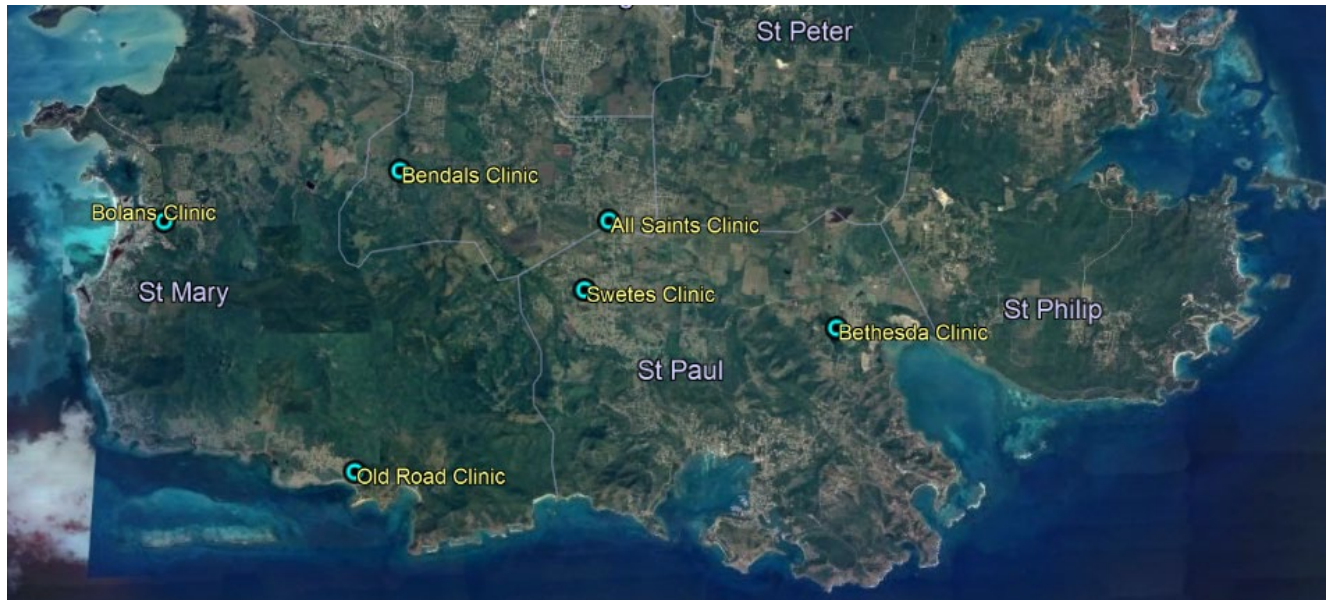
FIGURES 4: LAW ENFORCEMENT AND CORRECTIONAL FACILITIES TO BENEFIT FROM GCF BUILD



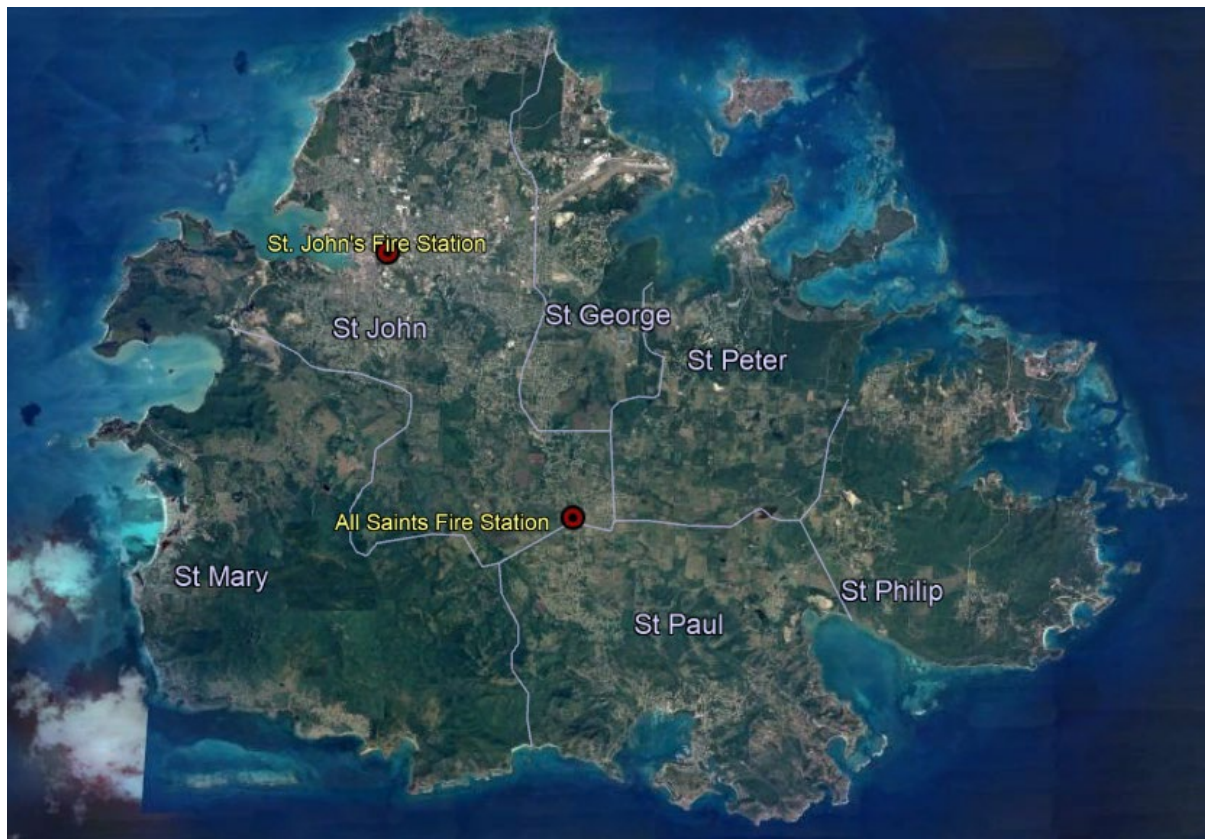
FIGURES 5: HEALTHCARE FACILITIES (NORTHERN PART OF THE ISLAND) TO BENEFIT FROM GCF BUILD



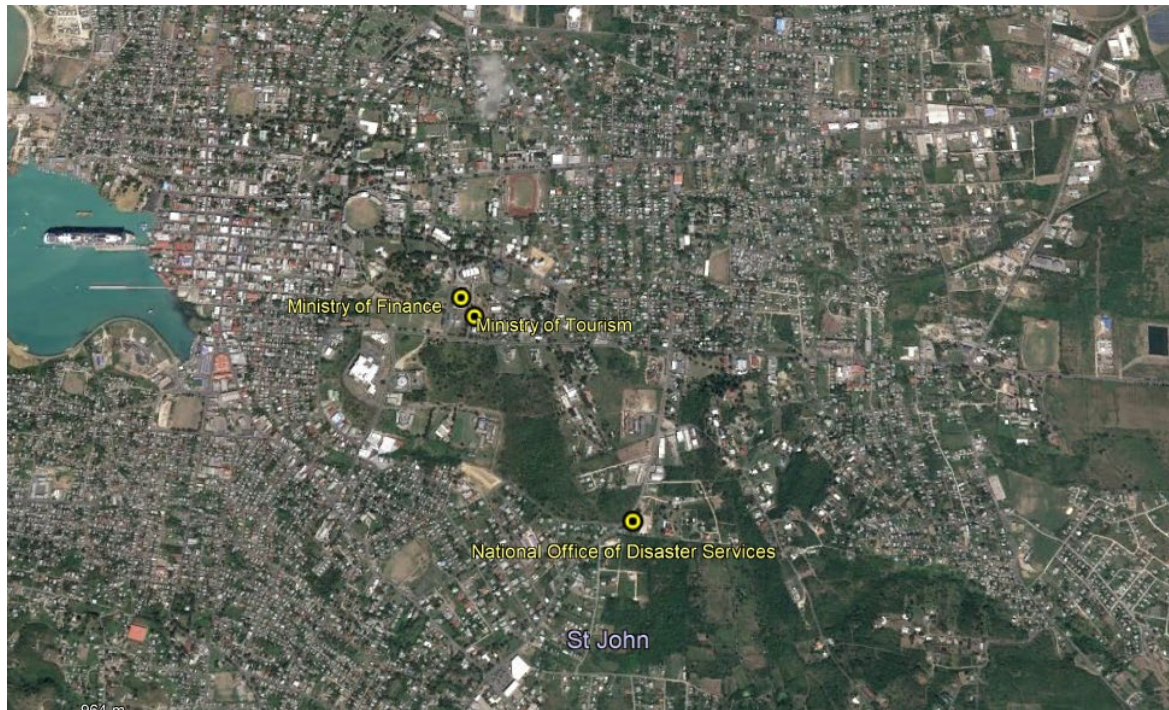
FIGURES 6: HEALTHCARE FACILITIES (SOUTHERN PART OF THE ISLAND) TO BENEFIT FROM GCF BUILD



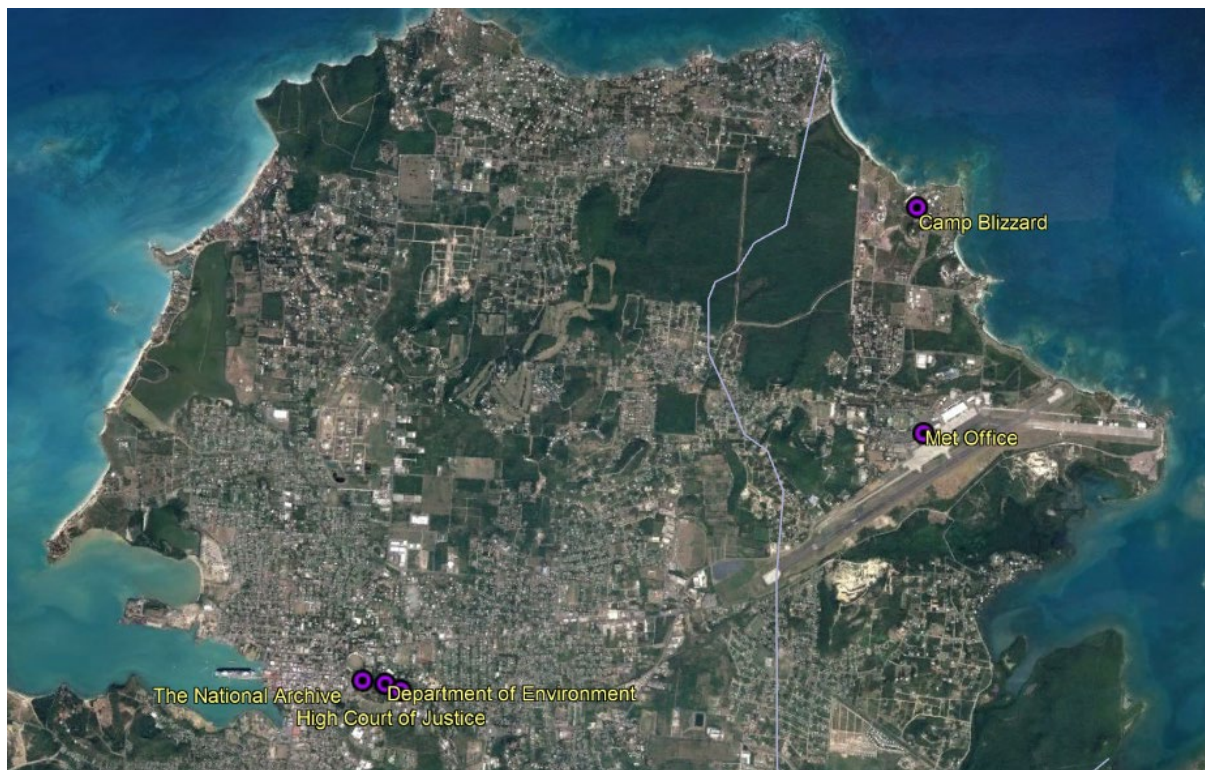
FIGURES 7: FIRE STATIONS TO BENEFIT FROM GCF BUILD



FIGURES 8: GOVERNMENT MINISTRIES AND OTHER PRIORITY GOVERNMENT BUILDINGS IN ST JOHN

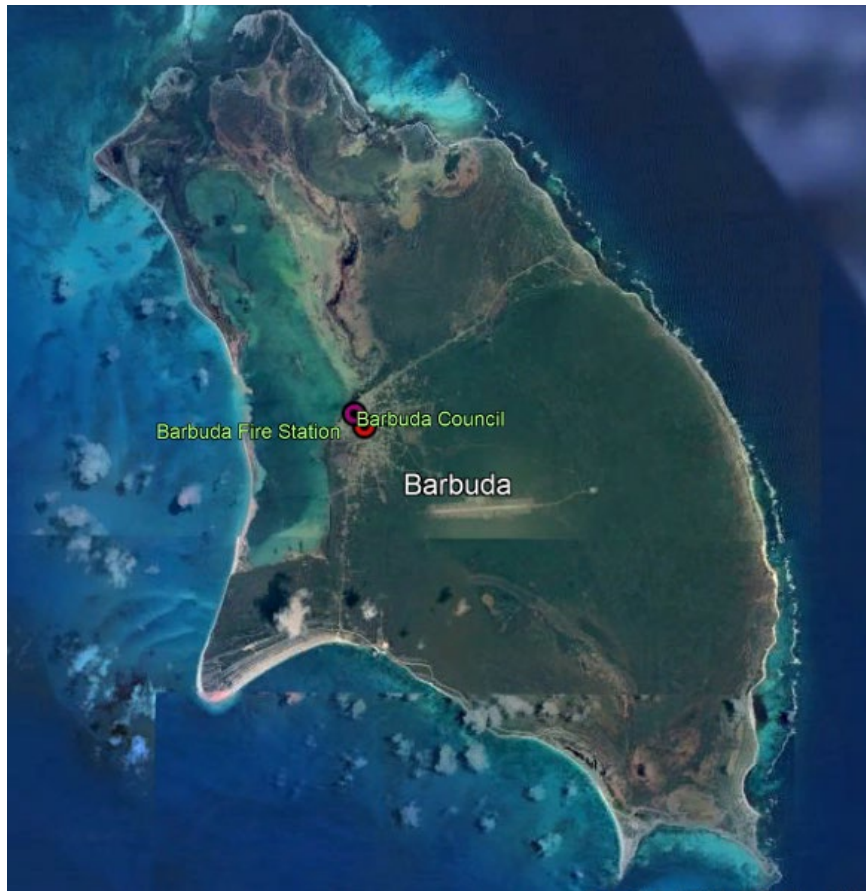


FIGURES 9: GOVERNMENT MINISTRIES AND OTHER PRIORITY BUILDINGS (PART 2)



5.4.2. Barbuda Island

FIGURES 10: BENEFICIARY FACILITIES IN BARBUDA



6. GENDER RELATED POLICY AND LEGAL FRAMEWORK

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

TABLE 4: LAWS AND POLICIES OF THE GOVERNMENT OF ANTIGUA AND BARBUDA

LEGISLATION	DESCRIPTION AND RELEVANCE TO THE PROJECT
NATIONAL LEGISLATION	
Constitution of Antigua and Barbuda, 1981	The Antigua and Barbuda Constitution prohibits discrimination on the grounds of sex, which refers specifically to the biological differences that determines an individual as male or female. Article 14 (3) states, "In this section, the expression "discriminatory" means affording different treatment to different persons attributable wholly or mainly to their respective descriptions by race, place of origin, political opinions or affiliations, colour, creed, or sex whereby persons of one such description are subjected to disabilities or restrictions to which persons of another such description are not made subject or are accorded privileges or advantages that are not accorded to persons of another such description".
Physical Planning Act (2003)	This Act sets the standards for construction in Antigua and Barbuda. The current Building Code regulates the construction of buildings to withstand a Category 3 – 4 hurricanes.
Environmental Protection and Management Act (2019)	The EPMA serves as the principal guiding policy for the Department of the Environment. It establishes and consolidates the implementation of the Multilateral Environmental Agreements in one legal regime and provides the financial framework for implementation. It governs sustainable environmental protection and management to establish effective allocation of administrative responsibilities for environment management, coordination of environmental management, and the incorporation of international treaty obligations with respect to the environment into national and law related matters.
Childcare and Protection Act, 2004	The CPA establishes a Child Protection Agency in Antigua and Barbuda and provides safety, care and protection for all children. It also provides standards for child-care facilities including reporting abuse or neglect of children and requirements of children's homes. It also ensures that child labour is not allowed.
Disabilities and Equal Opportunities Bill, 2017	An Act to make provision for the protection of the rights of persons with disabilities and for connected matters. The objectives of this Act are as follows— (a) to improve the general standard of living for persons with disabilities (b) to provide a clear and comprehensive national mandate to facilitate the elimination of existing cases of discrimination against persons with disabilities, and to put safeguards in place to prohibit further discrimination against such persons; (c) to promote on a national level, the principle that a person with a disability is entitled to the same fundamental rights as a person who does not have a disability; and

	<p>(d) to ensure full and effective participation in all aspects of society for a person with a disability on an equal basis with a person who does not have a disability.</p> <p>The project must therefore ensure that the buildings in question has the necessary access.</p>
Disaster Management Act, 2002	This Act provides for the effective organization of the preparedness, management, mitigation of, response to and recovery from emergencies and disasters natural and man-made in Antigua and Barbuda.
Antigua and Barbuda Labour Code	The Act stipulates that no employer shall discriminate with respect to any person's hire, tenure, wages, hours, or any other condition of work, by reason of race, colour, creed, sex, age or political beliefs.
NATIONAL POLICIES	
Antigua and Barbuda Interconnection Policy, 2015	Antigua and Barbuda Interconnection Policy was updated in 2015 provides for Net Billing for systems between 0 – 5 kW for resident and commercial facilities. For systems between 5 – 50 kW, the Policy mandates a Feed-in Tariff (buy-all, sell-all) at the avoided cost of fuel (XCD 0.45).
National Poverty Strategy 2011-2015	The National Poverty Strategy 2011- 2015 has as one of its strategies, “Building Resilience through Environmental Sustainability – by making disaster risk reduction a feature of the planning process in the light of the high environmental risks that the country faces from hurricanes, earthquakes, and now sea rise, as a result of global warming.”
National Youth Policy, 2007	The National Youth Policy identifies factors that are critical to youth empowerment and identifies eight key focus areas; including strengthening social environments, education and training, employment and sustainable livelihoods, health, participation and empowerment, care and protection, crime, violence and rehabilitation and gender equality and gender relations.
INTERNAL POLICIES	
Department of Environment Gender Policy	<p>The Department of Environment Gender Policy formalizes the DOE's commitment to mainstreaming gender into its work programme and project portfolio. Gender is defined as “the social attributes and opportunities associated with being male and female and the relationships between women and men and girls and boys, as well as the relations between women and those between men. These attributes, opportunities and relationships are socially constructed and are learned through socialization processes. They are context/ time- specific and changeable. Gender is part of the broader socio-cultural context and intersects with other important criteria for socio-cultural analysis including class, race, poverty level, ethnic group and age.</p> <p>As such, the DOE's Gender policy sets out the principles on which the approach to environmental social safeguards and gender review and management by the DOE is based and the requirements that are applicable to each project.</p>
Department of Environment Environmental Social Safeguard Policy	The DOE operates within three modalities, namely legislative, institutional, and departmental operational. Within the context of these modalities, the Environmental and Social Safeguards Policy formalizes the DOE's commitment to promote environmental and socially sustainable projects. As such, its Environmental and Social Safeguards Policy (“ESS Policy”) sets out the principles on which the approach to environmental and social safeguard review and management by the DOE is based and the environmental and social safeguard requirements that are carefully applied to each project.
MULTILATERAL AGREEMENTS, TREATIES AND CONVENTIONS	

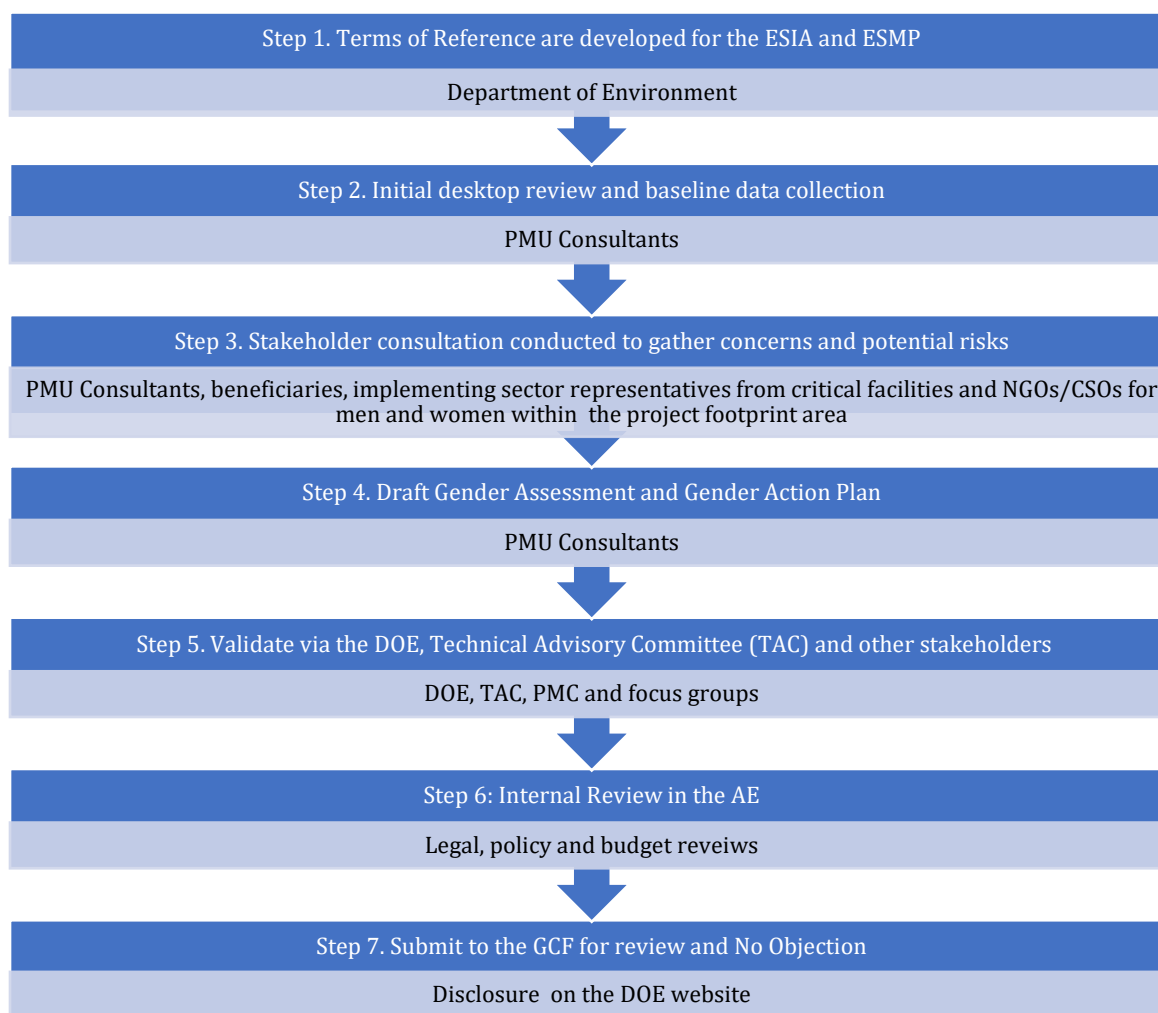
Sustainable Development Goals	<p>In September 2015, the General Assembly adopted the 2030 Agenda for Sustainable Development that includes 17 Sustainable Development Goals (SDGs). The project will contribute to the implementation of the following SDGs:</p> <p>GOAL 3: Good Health and Well-being SDG 4 — Quality education; SDG 5 — Gender equality; SDG 6 — Clean water and sanitation; SDG 7 — Affordable and clean energy; SDG 9 — Industry, innovation and infrastructure; GOAL 11: Sustainable Cities and Communities GOAL 13: Climate Action</p>
Convention on the Rights of the Child	<p>A United Nations Treaty outlining the rights of children in the following areas: civil, political, economic, social, cultural, health. Adopted by RES/44/25 at the 44th Session of the United Nations General Assembly in 1989</p>
United Nations Framework Convention on Climate Change (UNFCCC), 1992	<p>The UNFCCC, which entered into force in 1994, provides a framework for intergovernmental efforts addressing climate change and its effects. Member States of the UN meet and share data on greenhouse gas emissions, national policies and best practices, with the goal of developing and implementing strategies for tackling emissions and providing financial and technical assistance for developing countries. The UNFCCC aims for gender balance in bodies established pursuant to the Convention and the Kyoto Protocol, to improve women's participation and inform more effective climate change policy that addresses the needs of women and men equally. The UNFCCC called for the national adaptation plan (NAP) process to be gender-sensitive and calls on the Green Climate Fund (GCF) to promote environmental, social, economic, and development co-benefits and take a gender-sensitive approach. Each country formulates its Nationally Determined Contributions (INDC) to the UNFCCC. By 2030, one of Antigua and Barbuda's climate action target includes preparing buildings for extreme climate events, including drought, flooding and hurricanes, which is aligned to targets for this project.</p>
Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW)	<p>CEDAW is the principal instrument utilized by the UN to protect the rights of women and eliminate all forms of discrimination against them. Adopted by the United Nations General Assembly (UNGA) in 1979, CEDAW was ratified by the Government of Antigua and Barbuda in 1989 and its Optional Protocol signed in 1996. This convention mandates states to ensure that women equally represented their governments and international organizations; have equal rights to bank loans, mortgages and other forms of financial credit; (i) participate in and benefit from rural development; (ii) participate in development planning at all levels; (iii) obtain training, education, and extension services; (iv) have access to agricultural credit and loans, marketing facilities and appropriate technology; and (v) are treated equally in land, agrarian reform, and land resettlement schemes.</p>
Beijing Declaration and Platform for Action from the Fourth World Conference on Women	<p>This landmark declaration and Platform for Action (PoA) called for actively involving women in environmental decision making at all levels, integrating gender concerns and perspectives in policies and programs for sustainable development, and strengthening or establishing mechanisms at the national, regional and international levels to assess the impact of development and environmental policies on women.</p>

Commission on the Status of Women (CSW)	<i>The 52nd session of the Commission on the Status of Women (2008) identified gender perspectives on climate change as its key emerging issue.</i> The CSW, which is convened annually at United Nations Headquarters in New York, urged Member States to integrate gender into the design, implementation, monitoring and evaluation and reporting of national environmental policies; as well as to strengthen mechanisms and provide adequate resources to ensure women's full and equal participation in decision making at all levels on environmental issues, with particular emphasis on strategies related to climate change and the lives of women and girls.
UN Convention on the Rights of Persons with Disabilities (CRPD)	The Convention is intended as a human rights instrument with an explicit, social development dimension. It adopts a broad categorization of persons with disabilities and reaffirms that all persons with all types of disabilities must enjoy all human rights and fundamental freedoms. It clarifies and qualifies how all categories of rights apply to persons with disabilities and identifies areas where adaptations have to be made for persons with disabilities to effectively exercise their rights and areas where their rights have been violated, and where protection of rights must be reinforced.
United Nations Conference on Sustainable Development (Rio+20) outcome document	Rio+20 affirms that green economy policies in the context of sustainable development and poverty eradication should enhance the welfare of women, mobilize their full potential and ensure the equal contribution of both women and men. <i>"The Future We Want" was adopted in Rio de Janeiro in June 2012.</i> It resolves to unlock the potential of women as drivers of sustainable development, including through the repeal of discriminatory laws and the removal of formal barriers. It also commits to actively promote the collection, analysis and use of gender sensitive indicators and sex-disaggregated data.
UNFCCC Gender Action Plan	The UNFCCC Gender Action Plan aims to increase the participation of women in all UNFCCC processes. It also seeks to increase awareness of and support for the development and effective implementation of gender-responsive climate policy at the regional, national and local levels. The purpose of this gender assessment is to provide the context of gender in Antigua and Barbuda.

7. APPROACH AND METHDOLOGY

7.1. This Gender Assessment and Gender Action Plan was developed by consultants within the Project Management Unit (PMU) of the Department of Environment. **(See Section 1.2.2 on Implementation Arrangements within the ESIA and ESMP for details on the Project Management Unit and human resourcing arrangements).** The elaboration of these steps are outlined in Figure 12.

FIGURES 11: METHODOLOGY FOR THE DEVELOPMENT OF THE GENDER ASSESSMENT AND GENDER ACTION PLAN



7.2. Desktop Research

7.2.1. Desk research for this project involved the consultation of a number of sources including a legislative and policy review **(as seen in Section 3)** as well as the consultation of a number of professional studies and documents. As the various laws, policies and international regimes which have guided the preparation of this project were outlined in Section 3, this

section on desk research will present the key technical documents used to support the elaboration of this project.

- 7.2.2. This project is one of the initiatives under the Climate Change Programme. Baseline data and documentation that are relevant to this Gender Assessment and Gender Action Plan include:
- United Nations Electricity Supply Partnership report titled, Solar PV facility screening study for public and educational facilities on Antigua and Barbuda, prepared for CDB and shared with the Bank on 30 January 2018
 - Environmental Impact Review – Wind Turbines at Crabbes, 2014 under the GEF-funded Special Pathways Protected Areas and Renewable Energy (SPPARE) project
 - Antigua and Barbuda Renewables Readiness Assessment, 2016
 - Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP) for the Adaptation Fund project, including the Revolving Loan facility for homes and small businesses (includes installation of Renewable Energy), 2016
 - Environmental, Social and Gender Impact Assessment and Management Plan for the Climate Change Programme Deploying Renewable Energy for Schools and Clinics via the Sustainable Financing Mechanism for Environmental Management – SIRF Fund
 - Green Climate Fund (GCF) ESIA and ESMP for the Enhancing Direct Access project, including solar RE plus batteries installation for home and business owners, 2017
 - Environmental Management Systems pilot for two facilities in Antigua and Barbuda, including installation of backup renewable energy, 2018
 - Technical and Financial Feasibility and Impact Assessments for the Abu Dhabi Fund for Development (ADFD) with IRENA, 2015
 - 2018 CDM Audit Tool Report - Antigua and Barbuda
 - Barbuda Building Damage Assessment Preliminary Findings – United Nations Development Programme 2017
 - Hurricane Irma – Preliminary Damage Assessment for Antigua and Barbuda's Fisheries Sector 2017
 - Hurricane Irma Recovery Needs Assessment: A Report by the Government of
 - Energy sustainability in Antigua and Barbuda: Peer Analysis and Recommendations on a Solar Buy-In Tariff and a Social Rate for APUA, 2015

7.3. Consultations with Stakeholders and Informal Interviews

- 7.3.1. Public consultations for this project were achieved through two methods. Firstly, there were stakeholder meetings where an open and frank exchange was encouraged and secondly, through stakeholder interviews. ESS and Gender stakeholder consultations with representatives of the beneficiary facilities were held from 14 – 18 August 2017. In total, 35 participants were in attendance. In addition, consultations were held on 8-9 January 2018 with NGOs as well as representatives from the schools and clinics to consult on the DOE's draft Environmental and Social Safeguards Policy and draft Gender Policy. Interviews were conducted with community representatives as well as representatives from the government agencies through one-on-one interactions.
- 7.3.2. During the period 6 – 16 August 2019, consultations were held with project teams and executing partners including the Ministry of Works, the Met Office and NODS, through the C4 Eco Solutions. A total of 30 interviews were conducted in Barbuda during the period 12 – 16 August 2019 with government officials, including the Barbuda Council, nurses and security

forces. Further, seventeen (17) interviews were conducted with regular household members as well as seven (7) interviews with business owners in Barbuda. Consultations continued in 2020 with representatives from the Ministry of Works, Ministry of Education, Data Management Unit as well as feedback from the Ministry of Finance and the Directorate of Gender Affairs on the Gender Action Plan.

- 6.3.2. Some important milestones in the consultation process include: final consultations will be held on the final draft of the FP going to the Board and disclosure of ESIA and GAP on the DOE website.

7.4 Gender and the Department of Environment Gender Policy¹⁹

- 7.4.1 **A Gender analysis/assessment** refers to methods used to understand relationships between men and women, their access to resources, their activities, and the constraints they face relative to each other. *A comprehensive gender analysis/assessment entails the examination of the different roles, rights, needs, and opportunities of women and men, boys and girls in a given project/programme context.* It is a tool that helps to promote gender – relevant entry points, policies and identify opportunities for enhancing gender equality in a particular project/programme. In the case of climate change projects/programmes, a well-done gender analysis/assessment helps to identify multiple causes of vulnerability, including gender inequality. It also helps to identify and build on the diverse knowledge and capacities within communities/households that can be used to make them more resilient to climate related shocks and risks.²⁰
- 7.4.2 In 2018, the DOE adopted its Gender Policy. The policy elaborates on the DOE's approach to meeting gender considerations and mainstreaming based on the guidelines and principles of key multilateral partners, namely the Green Climate Fund, the Adaptation Fund, and the Global Environment Facility, through which the DOE accesses financing. The Gender Policy outlines the commitment of the department to:
- Promote a gender-transformative management culture;
 - Determine and assess social and gender risks and impacts of projects, including through consultations with stakeholders and vulnerable communities, including women and men;
 - Contribute to gender equality and achieve greater and more sustainable environmental and climate change, results, outcomes and impacts;
 - Create gender safeguards and mechanisms to mitigate risks and negative social and gender impacts associated with projects;
 - Ensure that DOE staff, partners and stakeholders receive training and capacity-building to enable them to mainstream gender into their work;
 - Cooperate with partners to build capacity in gender risk mitigation and facilitate implementation of gender and social safeguards, as well as monitoring and evaluation;
 - Ensure pro-active implementation of the Directorate of Gender Affairs' internal policy against sexual harassment; and

¹⁹ Department of Environment Gender Policy 2018

²⁰ Green Climate Fund Gender and Social Inclusion Action Plan Template, available via http://www.greenclimate.fund/documents/20182/574712/Form_09_-_Gender_Assessment_and_Action_Plan_Template.pdf/3f4b8173-fbb2-4bc7-9bff-92f82dadd5c0

- Make efforts to achieve gender balance in recruitment and procurement.²¹

7.4.3 Through this commitment, the DOE seeks to ensure that the project:

- Maximizes gender, environmental and socio-economic benefits to society as a whole and to vulnerable communities
- Minimizes negative environmental, gender and socio-economic impacts;
- Includes a gender policy and gender impact assessment; and
- Complies with gender, social and environmental standards.

7.4.4 The DOE will not knowingly finance projects that:

- Harm individuals or undermine human rights and gender protections
- Can potentially cause significant negative gender, socio-economic, or environmental impacts
- Fail to meet the environmental and social safeguard requirements of the DOE

7.4.5 Disclosure and Public Consultation

7.4.5.1 The DOE also requires that relevant information on a project or sub-project's environmental, social or gender risks are made accessible and understandable to stakeholders likely to be affected by related activities. These stakeholders are provided with opportunities to input and offer risk mitigation measures that can be integrated within the design and implementation of the project or sub-project. This is particularly important in projects that may involve land acquisition, economic displacement or involuntary resettlement.

FIGURES 12: CONSULTATIONS WITH TECHNICAL TEAMS INCLUDING WOMEN



7.4.5.2 The DOE makes projects related to gender as well as environmental and social safeguard information public and is committed to publishing on its website projects and summaries, including those that require Gender and Environmental and Social Impact Assessments, via its information database. Stakeholder engagement plans are disclosed

²¹ Department of Environment Gender Policy 2018

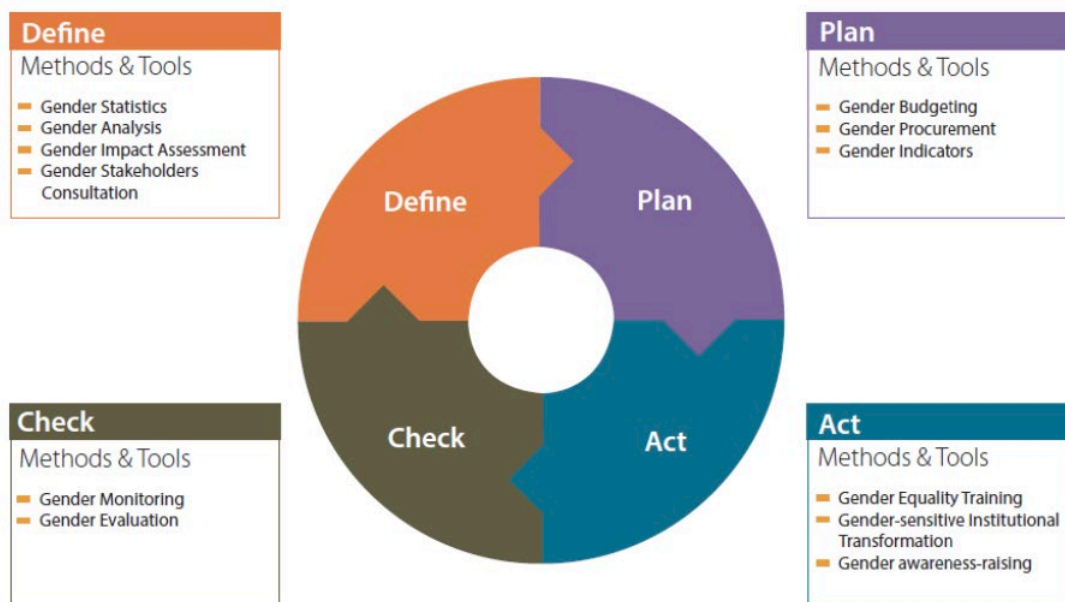
early in project development and summary reports of consultations are circulated and stored electronically.

Women or men who may be affected by a development of a donor funded project can communicate their concerns about any gender, environmental, social, or economic performance of the development through the DOE's Complaints Mechanism. Project consultations should be conducted according to the DOE's Stakeholder and Community Consultation Strategy.

7.4.6 Gender Diligence

- 7.4.6.1 The DOE will conduct gender diligence through Gender Impact Assessment (GIA) at the overall portfolio level as well as the individual project level for higher risk projects (see Risk Management Policy and Manual of the DOE). Stakeholder consultations will present possible gender and social impacts to local communities and interested persons, in the presence of the DOE and other relevant government agencies. Concerns of stakeholders are captured and submitted as part of the final report/ statement on the GIA. Development projects are required to appropriately address such concerns prior to formal approval and implementation. Annex 1 and the figure below illustrates the process for screening development projects and conducting portfolio-level as well as project level gender impact assessment.

FIGURES 13: METHODOLOGY FOR CONDUCTING A GENDER IMPACT ASSESSMENT (SOURCE: EUROPEAN INSTITUTE FOR GENDER EQUALITY)



Source: Department of Environment Gender Policy (page 8)

8. GENDER ISSUES RELEVANT TO THE PROPOSED PROJECT

The project is being implemented in collaboration with other projects in the DOE's portfolio. A brief Summary is provided in Fig 6.

FIGURES 14: SUMMARY OF DOE COMPLIMENTARY CLIMATE CHANGE PROGRAMME

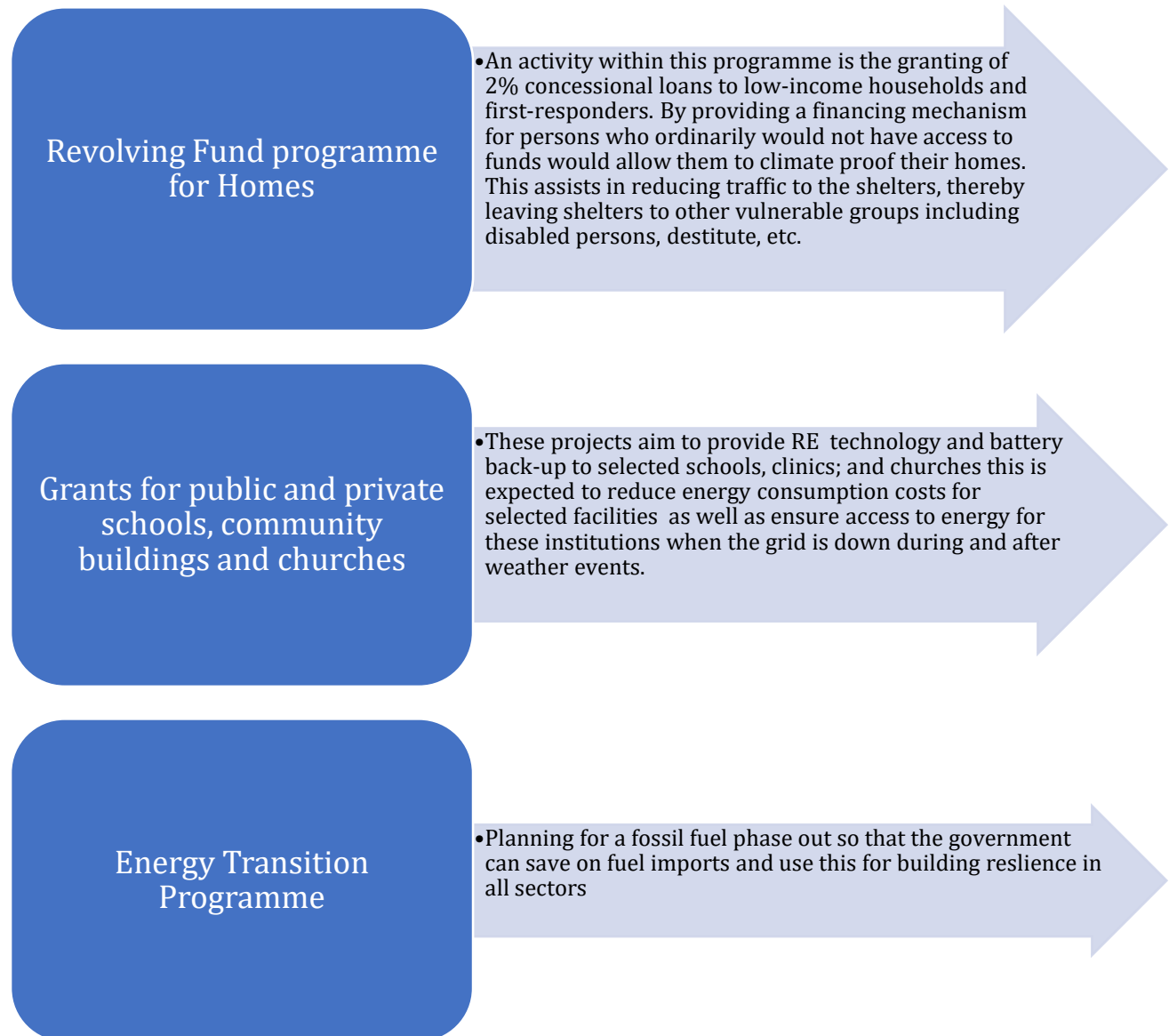


TABLE 5: GENDER ANALYSIS FOR PROJECT PREPARATION STAGE (SOURCE: GREEN CLIMATE FUND GENDER ANALYSIS/ASSESSMENT AND GENDER AND SOCIAL INCLUSION ACTION PLAN TEMPLATES. ²²)

	Row Number	Questions	Data/Information Collected	References
What is the Context? Context of Antigua and Barbuda	One	Demographic and socioeconomic data, disaggregated by sex and income	<ul style="list-style-type: none"> - See TABLE 6 Socio-demographic groups in Antigua and Barbuda that are vulnerable to poverty and unemployment include: youth, adolescent mothers, working class men, the homeless, the disabled, older men and women. 	<ul style="list-style-type: none"> • Rawwida Baksh and Associates, 2014. Country Gender Assessment (CGA) Antigua and Barbuda Report) • (Health Information Division, Ministry of Health Antigua and Barbuda)
	Two	% of households that are headed by women/men	<ul style="list-style-type: none"> - Approximately 44% are female headed households - The differential declaration of head of household status by women and men may be attributed to the country's patriarchal social organization. Internationally, men have been and continue to be considered heads of the home. This is also the case to some extent in Antigua and Barbuda. This is premised on conservative interpretations of religious texts found commonly in Christian societies. - Women headed families carry the greater % of time for care is greater in these instances, but they generally have significant family related safety net. 	<ul style="list-style-type: none"> • Government of Antigua and Barbuda, 2014. Antigua and Barbuda 2011 Population and Housing Census (Table 5.11: Population by Relationship to Head of Household by Sex) • Rawwida Baksh and Associates, 2014. Country Gender Assessment (CGA) Antigua and Barbuda Report)

²² Green Climate Fund Gender and Social Inclusion Action Plan Template, available via http://www.greenclimate.fund/documents/20182/574712/Form_09_-_Gender_Assessment_and_Action_Plan_Template.pdf/3f4b8173-fbb2-4bc7-9bff-92f82dadd5c0

	Three	What are the main sources of income for households in the vulnerable areas (disaggregated by sex)?	<ul style="list-style-type: none"> - The largest occupational category continues to be the service and sales sector followed by clerical support work. Elementary occupations are the largest followed by professional and technical and associate professionals. - Men typically dominate the following sectors: construction, agriculture, forestry and fishing, transportation. - Women typically dominate the following sectors: services (accommodation, tourism), education, social work, financial and insurance activities - Young men are more likely to be unemployed than any other group 	<ul style="list-style-type: none"> • Rawwida Baksh and Associates, 2014. Country Gender Assessment (CGA) Antigua and Barbuda Report) • Government of Antigua and Barbuda, 2018. Antigua and Barbuda 2015 Labour Force Survey Force
	Four	What are the uses/needs of women and men when it comes to critical services in Antigua and Barbuda i.e. health, education, disaster response, emergency and security?	<ul style="list-style-type: none"> - Women usually have primary users of these services. Therefore, women and their dependents depend heavily on reliable services in all of these sectors. - These government services are free to all citizens. In the case of health, those who can afford it also have access to the services provided by the private health sector. Only 50% persons have additional health insurance. After a storm and these services are not available 50% of persons will not have an alternative access. - In the education sector, there are also private schools which provide education to over 40% of children of primary school age. Men and Women are equally impacted if the government education system cannot take the children due to damage to the infrastructure. Recent studies show that both men and women are responsible for home care if the schools are closed. Women, however, represent the majority, but the role of men is significant. - After a hurricane, the country normally issues a state of emergency to lower the risk of looting and other crimes. Women depend heavily on this service although men and women can be equally impacted. - The security services are mostly performed by men although there are many women in this field. This increased need of these services reduces the time that men in families can provide their role in home care. This will, therefore, have to be undertaken by the other parent (female) or extended family. The project, therefore, provides additional opportunity for men and their families to remain in the police and fire station facilities. 	<ul style="list-style-type: none"> • Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020) • Government of Antigua and Barbuda, 2014. Antigua and Barbuda 2011 Population and Housing Census (Table 6.2: Population by Health Insurance Status by Five-Year Age Groups by Sex) • Government of Antigua and Barbuda, 2014. Antigua and Barbuda

			<ul style="list-style-type: none"> - Men and women equally need the services of early warning systems. 	<p>2011 Population and Housing Census (Table 6.2: Population by Health Insurance Status by Five-Year Age Groups by Sex)</p> <ul style="list-style-type: none"> • Government of Antigua and Barbuda, 2015. Antigua and Barbuda Education Statistical Digest: Statistics on Education in Antigua and Barbuda 2012 – 2015 (Table B2: Number of Primary, Secondary and Post-Secondary Institutions as at 2014-15)
	Five	How do the current climate risks affect men and women?	<ul style="list-style-type: none"> - It depends on their role and occupations. Women who work in the tourism/services sector will be out of work if a hurricane damages this sector and will rely on the government services. - Women headed households will have their problems compounded with additional duties for child and elderly care; - Drought can cause the services to close if there is not adequate water to the facilities thus limiting access to schools and clinics. - The climate is getting hotter which can cause severe health impacts such as heat strokes on men and women. The buildings to be upgraded have predominantly female workers that provide services from the facilities to be updated and are affected by additional heat. - Individuals are susceptible to vector-borne diseases 	<ul style="list-style-type: none"> • Kairi Consultants Ltd in Association with the National Assessment Team of Antigua and Barbuda, 2007. Living Conditions in Antigua and Barbuda: Poverty in a Services Economy in Transition
	Six	Are there any legal barriers to women in the project-relevant sectors?	<ul style="list-style-type: none"> - No legal barriers have been identified at this stage 	<ul style="list-style-type: none"> • (Laws, policies and ratified international conventions in

Services and Infrastructure: Access and Benefits:				Section 3: Policy and Legal Framework)
	Seven	Describe any community beliefs about the specific roles of women and men.	<ul style="list-style-type: none"> - Heavy labour tasks assigned to men - Food preparation, child-care and domestic duties are assigned to women - Men are the head of the household and are the bread winners. They are involved in construction, energy, heavy duty labour etc. The roles of women and men have evolved. Women are now leaders, farmers, fishers, vendors etc. and caretakers of their families. - Women are more likely to avail themselves of health care services than men 	<ul style="list-style-type: none"> • Rawwida Baksh and Associates, 2014. Country Gender Assessment (CGA) Antigua and Barbuda Report) • Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020)
	Eight	Who owns the land and other project assets?	<ul style="list-style-type: none"> - The Government of Antigua and Barbuda 	
	Nine	Describe household energy access and sources.	<ul style="list-style-type: none"> - It is an essential service provided through a utility company with a monopoly in Antigua and Barbuda 	<ul style="list-style-type: none"> • Antigua and Barbuda The Public Utilities Act
	Ten	How much do households spend on services under this project?	<ul style="list-style-type: none"> - 50% of the population purchase additional health and educational services; overall 48% of children attend public primary school and 54% public secondary school education. Majority of children attend private daycare and preschools. A large proportion of children are in private preschools. There are three government supported preschools that operate in vulnerable communities, but this represent a very small number of children. In general, most preschoolers are in private schools. - As security measures, many homes use lighting and dogs as their main source of protection. Since the electricity prices are very high, many low income and even middle income homes owners frequently forgo lighting. Security provided by the Government is therefore very important. After a hurricane, the electricity will not be available and security from the police 	<ul style="list-style-type: none"> • Government of Antigua and Barbuda, 2015. Antigua and Barbuda Education Statistical Digest: Statistics on Education in Antigua and Barbuda 2012 – 2015 (Table B2: Number of Primary, Secondary and Post-Secondary

			is important. The RE systems are important for these buildings to continue to support communication and security support.	Institutions as at 2014-15)
	Eleven	Do men and women have bank accounts, and can they access finance to scale up this project to their homes?	<ul style="list-style-type: none"> - Men and women, especially low-income households, save money through an informal savings club (box hand) and have accounts at credit unions where there are less rigid eligibility criteria as oppose to other traditional banks. The credit union also provides low interest loans compared to other banking institutions. On average women save more than men. 	<ul style="list-style-type: none"> • Department of Environment, 2017. Environmental and Social Management System (EMS) and project risk management arrangements: “An integrated approach to physical adaptation and community resilience in Antigua and Barbuda’s northwest McKinnon’s watershed” (Summary of Environmental, Social and Gender Impacts)
	Twelve	Do men and women benefit from construction sector, health and educations services (or other project-relevant services)?	<ul style="list-style-type: none"> - Women are underrepresented in the construction sector, which composes of 96% of male workers compared to women. 	<ul style="list-style-type: none"> • Government of Antigua and Barbuda, 2018. Antigua and Barbuda 2015 Labour Force Survey Force (Chart 6.4.2: Employment by industry and sex)
	Thirteen	How do men and women access information? Do	<ul style="list-style-type: none"> - Men learn by visual teaching tools - Women can learn equally from visual and written methods - Both men and women have access to information, but traditional education and communication systems may not be gender responsive 	<ul style="list-style-type: none"> • Department of Environment, 2017. Environmental and Social Management

		they have access to different technologies?	<ul style="list-style-type: none"> - A high proportion of Antiguan and Barbudans have a cell phone but older persons still use radio and TV as their main source of getting information; - Internet is available but low-income persons may not have these available to them. 	Plan (ESMP) and Gender and Social Inclusion Action Plan (GAP) for the Enhancing Direct Access pilot in the Eastern Caribbean
	Fourteen	What are the levels of training / education?	<ul style="list-style-type: none"> - Women are generally more highly educated than men and spend more time in schools. 	<ul style="list-style-type: none"> • Rawwida Baksh and Associates, 2014. Country Gender Assessment (CGA) Antigua and Barbuda Report) • Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020)
Who does what? Roles and responsibilities	Fifteen	How are men and women connected to markets / how do they participate in the economy?	<ul style="list-style-type: none"> - As producers, both men and women sell and market their products. it Women are often at the market and roadsides selling their products. 	<ul style="list-style-type: none"> • Department of Environment, 2017. Environmental and Social Management Plan (ESMP) and Gender and Social Inclusion Action Plan (GAP) for the Enhancing Direct Access pilot in the Eastern Caribbean • Consultation with beneficiaries of facilities (14 – 18

				August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020)
	Sixteen	What would be the implications of the proposed intervention, given primary tasks and responsibilities by gender?	- Families innovate and juggle work and activities to get things done	<ul style="list-style-type: none"> • Department of Environment, 2017. Environmental and Social Management Plan (ESMP) and Gender and Social Inclusion Action Plan (GAP) for the Enhancing Direct Access pilot in the Eastern Caribbean • Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020)
	Seventeen	Who is responsible for child/elderly care and household tasks?	- All family members, men and women take on this responsibility	<ul style="list-style-type: none"> • Department of Environment, 2017. Environmental and Social Management Plan (ESMP) and Gender and Social Inclusion Action Plan (GAP) for the Enhancing Direct Access pilot in the Eastern Caribbean

				<ul style="list-style-type: none"> • Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020)
	Eighteen	<p>(a) What would be the best times to hold trainings for women and men on the new systems/technologies or skills to be delivered through the project?</p> <p><i>(b) how do men learn compared to women;</i></p> <p><i>(c) how do women learn compared to men;</i></p>	<ul style="list-style-type: none"> - For community members, after normal working hours, and on Sundays after church - The time of day is taken into consideration when planning to host consultations. The most appropriate time is around 5PM and lasts no later than 7PM. The consultations are regularly held in well-lit and central areas to ensure women/men feel safe traveling to and from the consultations. 	<ul style="list-style-type: none"> • Department of Environment, 2017. Environmental and Social Management Plan (ESMP) and Gender and Social Inclusion Action Plan (GAP) for the Enhancing Direct Access pilot in the Eastern Caribbean • Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020)
Who decides? Participation in decision-making	Nineteen	Who are the community leaders? Are there any women leaders?	<ul style="list-style-type: none"> - Antigua and Barbuda do not have community leader structures as other countries. Community leaders are normally church and political leaders. Women leaders are normally wives of the church pastors, nurses and teachers assigned to work in particular areas. - Women are the main voters in Antigua and Barbuda and have great power with the political directorate. They normally can exercise power individually by direct negotiations and rarely rely on a traditional community leadership structure to get what they want. 	<ul style="list-style-type: none"> • Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020)

	Twenty	Are there women's organizations that are active in the targeted area targeted project can partner with?	<ul style="list-style-type: none"> - Within the context of the project, the main body that supports both men and women are the labour unions, which negotiate for salary as well as good working conditions. These are very powerful bodies. Other groups are being consulted but there is rarely an all-female or all male group. 	<ul style="list-style-type: none"> • Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020)
	Twenty One	Do women and men participate (equally) in associations, management relevant to the project sector, and any other producer/user groups? Which ones?	<ul style="list-style-type: none"> - Women and men do not generally participate equally in community meetings. - Participation in meetings is based on i they know each other well 	<ul style="list-style-type: none"> • Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020)
	Twenty Two	Who manages / makes decisions in the household, notably around how money and time are spent?	<ul style="list-style-type: none"> - Women generally manage the budget although men participate in a significant way. 	<ul style="list-style-type: none"> • Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020)
	Twenty Three	Will both women and men be able to equally participate in using and learning about the new interventions in the proposed project as well as the training?	<ul style="list-style-type: none"> - Yes, both men and woman will have equal access to participate - There are barriers to men's participation since they are generally less educated and may not want to participate. The project will have to design the training and the transition of the workforce to ensure male participation. This has been identified as a significant project risk. 	<ul style="list-style-type: none"> • Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020)

Who benefits? Impacts	Twenty Four	Will the services from the project interventions be freely available to men and women? Are there any risks/restrictions on movement (security or cultural)? Are there any discriminations/risks to certain community members in terms of accessing the project benefits?	<ul style="list-style-type: none"> - Meetings held late at night are a risk; there must be adequate lighting for women and men to attend meetings - The services will be freely available to both men and women. As stated above, it is mandated by law that NGOs, civil society organizations, governments, private sector whether women/men must be involved in decision making as it relates to environmental projects. It is mandated by Law and is also stated within the Department of Environment environmental and social safeguards that the Department of Environment is mandated to ensure that all environmental projects being executed must conform and adhere to ESS and reduce the impacts of risks. Thus, we do not foresee any significant risks/restrictions as it relates to gender involvement. 	<ul style="list-style-type: none"> • Department of Environment, 2018. Environmental Social Safeguard Policy • Department of Environment, 2018. Gender Policy
	Twenty Five	How will men and women benefit from the project interventions?	<ul style="list-style-type: none"> - Women in particular will benefit from the interventions at the household level as well as the working environment; - Men could benefit more from the construction sector jobs and the training programs to transition the workers to Cat 5 standards; - Both men and women will have access to funding to participate in the training programs; 	<ul style="list-style-type: none"> • Consultation with beneficiaries of facilities (14 – 18 August, 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020)
	Twenty Six	3. What will be the impact of the project interventions on women's workload and income?	<ul style="list-style-type: none"> - There is not expected to be any workload change for men or women. The project was designed over 6-year period to limit the additional surge in work. 	<ul style="list-style-type: none"> • Funding Proposal: Resilience to hurricanes in the building sector in Antigua and Barbuda 2019
	Twenty Seven	4. Are there specific project impacts or benefits for women?	<ul style="list-style-type: none"> - Women can now benefit from a formal training course in the constructions sector. Although it is available to some extent and was accessible to women, the project will be promoting this approach to generate some interest in women; 	<ul style="list-style-type: none"> • Consultation with beneficiaries of facilities (14 – 18 August, 2017, 8-9 January 2018, 6-16

			<ul style="list-style-type: none"> - Additional hurricane shelters in communities. These shelters will be smaller and less crowded allowing persons who are vulnerable to be more comfortable and secure in the clinics rather than the larger school. - Men will benefit mainly from knowing that vulnerable members of their families will have place to go that will take care of their needs; 	August 2019, 12 – 16 August 2019, March 2020)
	Twenty Eight	5. Will the project help create a better balance between women’s productive and household tasks (e.g. childcare, domestic work)?	<ul style="list-style-type: none"> - Yes. The project is designed to target buildings with geographic distribution. In the event of a hurricane, the clinics and schools will not close thus allowing women to use the services closer to their own homes and not having to travel any distances. - More time will be spent at home after a hurricane and drought (water is not available for washing cooking etc.). This project will seek to address this. 	<ul style="list-style-type: none"> • Funding Proposal: Resilience to hurricanes in the building sector in Antigua and Barbuda 2019
	Twenty Nine	6. Will the project contribute to strengthening women’s participation in decision-making? How?	<ul style="list-style-type: none"> - Women in Antigua and Barbuda generally participate in decision making process. This culture will be maintained as the project proceeds. - Women participate in the Project Management Committee, Technical Advisory Committee, Technical Evaluation Committee, Project Management Unit, community consultations and ad hoc consultation events. 	<ul style="list-style-type: none"> • Consultation with beneficiaries of facilities (14 – 18 August 2017, 8-9 January 2018, 6-16 August 2019, 12 – 16 August 2019, March 2020)

9. GENDER ACTION PLAN



Project Title: *Resilience to Hurricanes in the Building Sector in Antigua and Barbuda*

A project/program-specific Gender and Social Inclusion Action Plan (GAP) is a tool used to ensure gender mainstreaming is clearly visible in project/program design and implementation²³. This GAP will serve as a key guiding tool throughout the delivery of the project, *GCF BUILD*.

The Gender Action Plan presented below identifies key project activities and indicative outputs through which gender specific strategies, actions and outcomes will be progressed and monitored. The Plan will be reviewed and refined during the inception phase, which will also ensure that all project stakeholders have the opportunity to identify issues and are aware of responsibilities for delivering and monitoring the Gender Action Plan.

Implementation arrangements of the project include an ESS and Gender Expert as part of the Technical Evaluation Committee that will provide technical advice in the decision-making process of the project’s sub-activities.

The targets for the GAP are provisional as GCF Build is a component of a larger project pipeline. The need for targets that are consistent with the overarching project pipeline targets will be informed by gender baseline assessments (GBA) currently being conducted under the project “*Accelerating a transformational pipeline of Direct Access climate adaptation and mitigation projects in Antigua & Barbuda*” (GCF Readiness 4) and through support from the NDC Partnership’s Climate Enhancement Action Package (CAEP) initiative. The outcomes of the GBA will inform the selection of specific targets for indicators listed in the table below, so as to ensure that Antigua and Barbuda is adopting ambitious and transformative gender responsive strategies.

The aforementioned GCF Readiness 4 GBA aims to assess the current situation as it relates to the impact of climate change on gender disaggregated spending patterns (i.e. how males and females and their associated households are impacted differently by climate related events). Furthermore, it will give insight into the adaptive capacities of respondents by providing information on their spending preferences, the extent of risk management approaches, vulnerabilities and climate related finances — capacity to spend pre-and post-disaster and by extension their capacity to build resilience (reduce exposure and recovery).

The outcomes of this study will inform gender responsive climate strategies for Antigua and Barbuda by providing clearer understanding of the post-disaster finance needs of males and females across varying social classes. It will also give insight into the precautions/ risk management strategies adopted by gender pre-disaster, whether that be insurance, investments in protective supplies, such as shutters etc. It is envisioned that this information, in addition to identifying targets, would guide the development of sustainable financing strategies for the private sector by providing baselines which can be used to create climate-related financial instruments tailored to social factors, but also able to meet the needs of citizens. The assessment will help in identifying the most vulnerable groups and identifying action areas for capacity building to enhance overall adaptive capacity of citizens. It will provide a better understanding of the distribution of vulnerability across gender but also across social classes and identifying economic sectors/jobs most at risk.

Complimenting this assessment is the NDC gender baseline assessment, which is currently in development. The NDC GBA will provide more in-depth gender disaggregated data and fill remaining gender-related data gaps by collecting spending patterns data specifically

²³ GCF Gender Analysis/Assessment and Gender and Social Inclusion Action Plan Templates
http://www.greenclimate.fund/documents/20182/574712/Form_09_-_Gender_Assessment_and_Action_Plan_Template.pdf/3f4b8173-fbb2-4bc7-9bff-92f82dadd5c0

regarding the uptake of technologies and how financing strategies can be developed to optimise efforts for both resilience and low-carbon development. The NDC GBA will focus on the willingness to uptake technologies, practises and training related to capacity building for climate change impacts, with particular emphasis on the energy, transport and back-up energy sectors. The NDC gender assessment will capture information needed to shape programme development and inform projects such as the Just Transition of the workforce by generating data on citizen's understanding on climate change, their willingness to pay and willingness to engage.

These two baseline assessments complement each other as the GCF Readiness 4 assessment will create baselines for spending and understanding levels of preparedness amongst citizens as well as identifying those most vulnerable. While the NDC Partnership assessment will help to identify the ways in which citizen's adaptive capacities can be enhanced. The assessments will analyse the current financial situation as it relates to climate impacts, the associated appetite for climate related strategies and programmes and identify sectors most at risk and critical to the success of these strategies —resultantly, informing targets for the components of the GAP outlined in table 8 below.

Methodology

The NDC GBA is currently in development, however, the GCF Readiness 4 GBA was designed using the GCF gender analysis template and the data needs of the department's climate change project pipeline.

The GCF Readiness 4 GBA was deployed on three levels with the aim of obtaining 1,100 responses:

1. A national survey targeted to reach 500 persons on mainland Antigua
2. Community survey targeting 500 residents in both rural and urban communities that have been identified areas as most vulnerable to sea level rise, storm related surges and flooding. These communities were McKinnon's, Yorks, Cashew Hill, Urlings, Willikies and Bethesda.
3. A survey targeting 100 residents in Barbuda

The GCF Readiness 4 Survey instrument was developed using Kobo Toolbox software, which will also be used for data collection. The surveys are being administered by trained enumerators using the Kobo Toolbox software to facilitate ease of data collection and analysis. The surveys are conducted via 30-45-minute telephone calls and adopt mixed sampling methodologies:

- Simple random sampling is being used with the telephone director as the sampling frame. This was done to accommodate social distancing guidelines imposed by the government due to COVID 19
- However, stratified sampling was also adopted to ensure equal representation by parish, age and gender. As a quality check, the gender proportionality of respondents was checked using the Kobo for every 50 surveys that were completed, so as to avoid skewing data. To account for isolation of key respondents, snowball sampling was also adopted to acquire contact information and referrals to other respondents. The sampling unit was head of household/ individual(s) responsible for household finances.

The assessments will also make use of secondary data generated by national statistics and reports as well as other studies conducted by the DOE and other national agencies.

TABLE 6: GENDER ACTION AND SOCIAL INCLUSION PLAN

ACTIVITIES	INDICATORS AND TARGETS	BUDGET	TIMELINE	RESPONSIBILITIES
Impact Statement: Increase climate-resilient sustainable development by improving the resilience of Antigua and Barbuda's building sector to extreme climate events — particularly Category 4 and 5 hurricanes <i>(for the benefit of a population consisting of 49,088 women and ~45,312 men)</i>				
Outcome Statement: Enhancing the climate resilience of Antigua and Barbuda's building sector will strengthen its adaptive capacity, reduce exposure to climate risks; strengthen institutional and regulatory systems for climate-responsive planning and development; and increase generation and use of climate information in decision-making				
Output 1. Climate-proofing interventions implemented in critical public service and community buildings to improve resilience to, and recovery from, extreme climate events				
Design and implement an apprenticeship program to support the participation of persons between the ages of 16 – 24 years in the project's construction activities	30% of women who complete the program have increased access to construction jobs Equal opportunities are provided for men and women to participate in the new procedures training	\$200,000 Sub-activity 2.4.3 (B50)	Year 1(Q1)— Year 6 (Q24)	ESS and Gender Expert
Develop gender responsive knowledge and communication products that include the promotion of women in construction	50% of men and women have increased knowledge and access to appropriate tools to address climate change impacts in construction of critical infrastructure (regardless of their literacy levels)	\$25,000 Communication Officer (PM8)	Year 1 (Q1)	ESS and Gender Expert
Conduct detailed consultations on the design of gender responsive shelters with RE back up energy systems	20% of recommendations by key stakeholders (men, women and disabled groups) are reflected in the improved design of shelters 10% of participants at the consultations are persons with special needs	\$15,000 Sub-activity 1.1.1. (A1)	Year 1 (Q3)—Year 2 (Q6)	ESS and Gender Expert
Integrate access and the needs of individuals, families, the elderly and persons with special needs into health and safety protocols of shelters	Enhanced access to services and quality of health and safety protocols benefitting 50% of individuals, families and persons with special	\$30,000 Sub-activity 1.2.4. (A29) (A30)	Year 1 (Q3)— Year 6 (Q24)	Ministry of Works

	needs who stay at shelters during a storm At least 40% of persons report satisfaction with the health and safety services provided at the shelters (disaggregate by set)			
Output 2. Climate change adaptation mainstreamed into the building sector and relevant financial mechanisms				
Prepare a Strategic Impact Assessment (SIA) of the regulations related to the Building Code	Cost of constructing at Cat 5 increase by 30% due to the updated Building Code ²⁴ % of women and men with increased spending as an impact of the code ²⁵	\$10,000 Sub-activity 2.1.1. (B4)	Year 1 (Q1)— Year 1 (Q4)	ESS and Gender Expert Construction Sector Expert Economist
Develop lessons learnt to communicate that the SIRF Fund is assisting persons who cannot access financing for the additional cost related to the code	50% of applicants who access financing through the SIRF Fund annually are women	\$22,500 Sub-activity 2.2.4. (B29)	Year 3 (Q9)— Year 6 (Q24)	Local consultant
Design gender responsive communication tools to target men and women differently in both the public and private sector on the updated building code, the benefits of taking up climate-adaptive solutions within the building sector as well as the availability of certified climate change courses	50% of persons in the private sector that benefit from information to allow scaling up are women 30% of persons trained in new standards for water harvesting and RE systems are women	\$27,000 Sub-activity 2.3.4. (B38)	By Year 1 (Q3)	ESS and Gender Expert
Design and conduct gender-sensitive certification training programmes on how to support the installation, operation and maintenance of the climate change adaptation solutions	50% of men and women in the workforce are retrained 50% of students trained are women All courses developed are gender sensitive 70% of participants demonstrate an understanding of new adaptation solutions ²⁶	\$22,500 Sub-activity 2.3.3. (B35)	By Year 2 (Q5)	ESS and Gender Expert
Output 3. Climate information services strengthened to facilitate early action within the building sector to respond to extreme climate events				

²⁴ To be updated based on results of GCF Readiness 4 Baseline Gender Assessment

²⁵ To be updated based on results of GCF Readiness 4 Baseline Gender Assessment

²⁶ Assessed through an evaluation tool developed for the programme

Develop information and communication products based on stakeholder workshops that aim to reduce losses and damage and risks for the benefit of males, females, and vulnerable communities	<p>All information and communication products are gender responsive and tailored to meet the differential needs of males, females, and vulnerable communities</p> <p>50% of recommendations by key stakeholders are integrated into the design of communication products</p>	\$37,500 Sub Activity 3.2.1 (C17)	By Year 2 (Q5)	Communications Officer
Output 4: Fully functional gender balanced staff that can respond to the gender requirements of the project as well as the beneficiaries				
Promote gender balance as well as sustainable procurement in AE's procurement policies (with consideration given in the selection of goods and services to persons with disabilities and persons of varying ages)	Equal representation of men and women on project management team	N/A	From Q1 Year 1 thereafter	Accredited Entity/Executing Entity
Ensure office space is gender responsive	<p>At least two special needs persons are working in the PMU by project end</p> <p>Special provisions are made to facilitate persons under the age of 24, and over the age of 60 to work on the project team</p>	AE fees	Year 1	Accredited Entity/Executing Entity
Provide gender training for all project staff	<p>Equal representation of men and women at gender awareness training sessions</p> <p>At least three reports include sex-disaggregated data per year</p>	AE fees	Year 1	Accredited Entity/Executing Entity

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