

Grenada



2018

Climate Change and Agriculture

Policies, strategies, and actions



Caribbean
Climate Smart Agriculture
FORUM

COUNTRY PROFILE

Grenada

Climate Change and Agriculture

Policies, strategies, and actions



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List of acronyms

| | |
|-------------|---|
| APOA | Agricultural Plan of Action |
| CANARI | Caribbean Natural Resources Institute |
| CARDI | Caribbean Agricultural Research and Development Institute |
| CARICOM | Caribbean Community |
| CCCAF | Community Climate Change Adaptation Fund |
| CCSAF | Caribbean Climate Smart Agricultural Forum |
| CCCCC | Caribbean Community Climate Change Centre |
| CDB | Caribbean Development Bank |
| CIDA | Canadian International Development Agency |
| DFID | Department for International Development (also UKAid) |
| FAO | Food and Agriculture Organization of the United Nations |
| GIZ | Deutsche Gesellschaft für Internationale Zusammenarbeit |
| GEF | Global Environment Facility |
| GFNSPA | Grenada Food and Nutrition Security Plan of Action |
| GOAM | Grenada Organic Agriculture Movement |
| ICCAS | Integrated Climate Change Adaptation Strategy |
| IICA | Inter-American Institute for Cooperation on Climate Change |
| IUCN | International Union for Conservation of Nature |
| MOALFFAE | Ministry of Agriculture, Lands, Forestry, Fisheries and the Environment |
| NAP | National Agricultural Plan |
| NASAP | National Adaptation and Strategy Plan |
| NCCAP | National Climate Change Adaptation Plan |
| OECS | Organization of Eastern Caribbean States |
| SIDS | Small Island Developing States |
| TNC | The Nature Conservancy |
| UNCCD | United Nations Convention on Desertification |
| UNDP | United Nations Development Programme |
| UNDP – JCCP | Japan Caribbean Climate Change Partnership |
| UNEP | United Nations Environment Programme |





Vegetables fertilized with compost.

Photo credit >> IICA Grenada.

>> Foreword

This document was produced as part of the activities of the Caribbean Climate Smart Agriculture Forum. The stocktaking initiative stemmed from a recognition of the importance of understanding context, and the need for coordination amongst existing efforts to reduce duplication and to ensure the lessons learned help to improve the efficacy of future actions. Promoting articulation and coherence amongst the multiple public policy instruments in guiding action on climate change is critical, especially in small countries.

Given the urgency of addressing climate change in agriculture, IICA and its partners established the Caribbean Climate Smart Agriculture Forum (CCSAF) in 2015 as a platform through which agricultural sector stakeholders, as well as other relevant actors, can coordinate and exchange experiences and knowledge. The Forum, which involves 13 English-speaking countries of the region, acts as a neutral space where all can share, learn, plan and promote policies, strategies and actions towards more productive, low emission, sustainable agricultural systems that are well adapted to the changing climate of the Caribbean.

To date, actors from the public and private sectors, civil society, farmers' groups and researchers working in the agricultural and other related sectors (health, planning, environment, etc.) have gathered together every two to three months since mid-2015 in IICA-organised fora to participate in regional webinars, followed by national discussions on priority topics related to climate change and agriculture. In addition, a series of training events, workshops and other activities are organised through the Forum.

>> About this brief

This national baseline outlines the institutional framework for addressing climate change in Grenada's agriculture sector. After a brief description of the agriculture sector and potential climate change impacts, this inventory summarizes the main public policy instruments that exist at the national level that are relevant for addressing climate change in Grenada's agricultural sector. In addition, it includes an inventory of the programs or projects currently or recently executed by institutions and coordination mechanisms through which the agriculture-focused organizations interact with other sectors and stakeholders to promote low carbon, climate resilient agriculture. Lessons learned and opportunities to develop climate smart agricultural interventions aligned with the country's identified priorities and targets appear at the end.

Developed using a participatory approach, initial information was collected during a Forum workshop held in April of 2016. A wide variety of stakeholders contributed their knowledge during the workshop and throughout the formulation of this document (See Annex 1). Facilitated by IICA staff, information was collected using a standardized questionnaire, followed by an open discussion facilitated by guiding questions. This effort was then complemented by additional inquiries and a final validation workshop held in late 2017.

The information is intended to provide a starting point for those seeking to act or invest in addressing climate change in agriculture, as well as to help stakeholders identify areas in which greater coordination and collaboration can be achieved. The information presented may not be exhaustive, but it is intended to serve as a dynamic baseline that stakeholders can periodically update, adding information and insights based on the evolving experiences and context in-country.



Grenada's agriculture sector

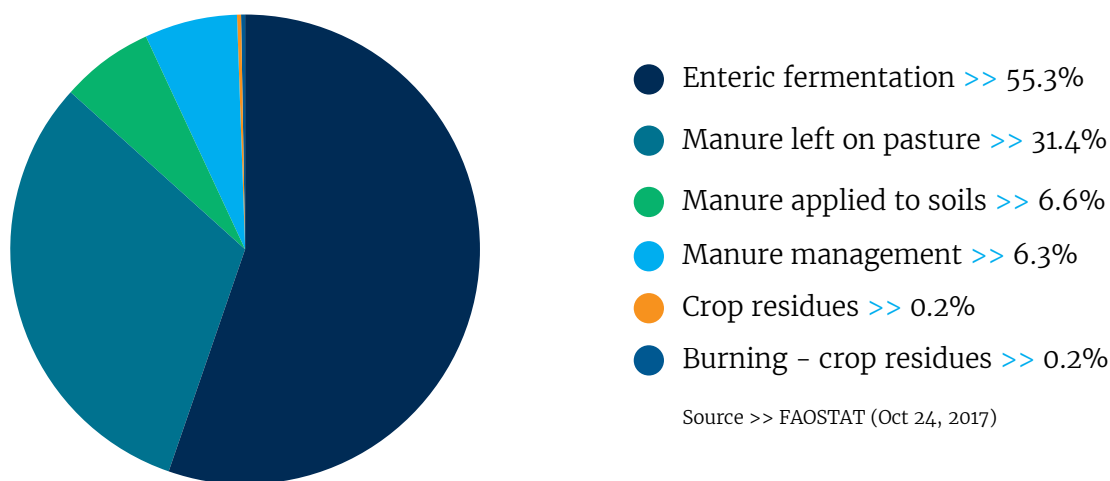


The agriculture sector contributed 6.62% of GDP in 2009 (Simpson et al. 2012) and employs 13% of Grenada's labour force, about 1/3 of whom are women (Crawford 2000). Agricultural lands cover approximately 30% of the island; however many fertile agricultural lands are underutilized and left barren (World Bank et al. 2015, Fitzroy 2015). Average farm size in Grenada is 2.52 acres, with food crops (root crops and vegetables) averaging just 0.27 acres and permanent crops (cocoa, nutmeg, and fruit trees, (soursop, citrus, mangoes) averaging 2.1 acres per farm (Fitzroy 2015). Livestock production is important, especially on the island of Carricaou, where goat farming is the main agricultural activity (World Bank et al. 2015). Food imports are significant in Grenada, and account for a significant proportion of consumptive products, notably chicken and wheat products (Fitzroy 2015). Principal export crops include nutmeg and cocoa (Simpson et al. 2012).

Grenada's agriculture sector has been in decline in recent decades with respect to the number of farmers and in the land area that is under cultivation (Fitzroy 2015). This includes a nearly 50% decline in crop production from 1995 to 2012 (CCCCC 2014). Contributing to this decline in agricultural production was the severe destruction from Hurricanes Ivan and Emily during the 2004 and 2005 growing season (CARDI 2011). Additional challenges include limited food processing infrastructure, which limits value addition, as well as decreasing access to markets by producers (World Bank et al. 2015).

Total emissions in Grenada for the year 2014 were recorded as 1.95 Megatons (Mt) of CO₂e, with agriculture accounting for .01 Mt or .51% of overall emissions (World Resources Institute 2017). Emissions by agricultural sub-sector are shown in Figure 1.

Figure 1 >> Average agricultural greenhouse gas emissions by subsector, 1990–2014



Source >> FAOSTAT (Oct 24, 2017)



Potential climate change impacts



Although all Small Island Developing States (SIDS) face extreme risks in the agriculture sector, Grenada is particularly vulnerable due to significant erosion and the threat of sea level rise (World Bank et al. 2015). Grenada has experienced warming temperatures, fluctuations in rainfall, hurricanes and tropical storm intensity, warming of ocean temperature and sea level rise (CCCCC 2014b). A reduction in annual precipitation by approximately 52 mm is expected by 2030 (World Bank et al. 2015). The sector is highly vulnerable to increasing droughts and hurricanes, with wind and rain from the latter damaging fruit crops (Simpson et al. 2012)

Climate change impacts are compounded in the agriculture sector by inadequate water management, which leads to erosion, flooding, and landslides, all of which contribute to frequent and prolonged periods of water system breakage (CCCCC 2014a). In addition to drought and the lack of water infrastructure, saltwater intrusion in wells is becoming a persistent obstacle for farmers and residents (World Bank et al. 2015).

>> Climate change vulnerability and impact analyses for agriculture

Table 1 provides more information regarding climate change impacts on Grenada’s agriculture sector.

Table 1 >> List of vulnerability and impact assessments for agriculture

| Title | Lead organization | Year published |
|---|---|----------------|
| Vulnerability and Capacity Assessment for the Chemin Watershed Area in Grenada | Caribbean Community Climate Change Centre | 2015 |
| Assessing the Vulnerability to Climate Change of Small Scale Fisheries: The Grenada Example | The Nature Conservancy | 2014 |
| Food insecurity and vulnerability assessment and management | Ballayram and Dottin | 2013 |
| Climate Change Risk Profile for Grenada | CARIBSAVE | 2012 |
| An Assessment of the Economic Impact of Climate Change on the Water Sector in Grenada | ECLAC | 2011 |



How is Grenada's agriculture sector responding to the climate change challenge?



The following section summarizes the information gathered during the aforementioned national workshop, additional consultations and a final validation session held in late 2017. The information is organized under five main sections: planning instruments, programs and projects, institutions, coordination bodies and stakeholders.

>> Policies, strategies, and plans

>> International

Grenada ratified the Paris Climate Agreement on April 22, 2016. It has also ratified the United Nations Convention to Combat Desertification (2000) and the Convention on Biological Diversity (1996).

>> Regional

The [Liliendaal Declaration on Climate Change](#) was proffered by the heads of State and Government of the Caribbean Community at the Thirtieth Meeting of the Conference in Liliendaal, Guyana in 2009. The declaration states that, “Adaptation and capacity building must be prioritized and a formal and well-financed framework established within and outside of the Convention, including the multi-window insurance facility, to address the immediate and urgent, as well as long term, adaptation needs of vulnerable countries” (Liliendaal Declaration on Climate Change 2009:2). This sets the overarching framework for CARICOM countries under which climate change response initiatives should be undertaken in the region. In addition, CARICOM's [Strategic Plan For The Caribbean Community 2015 – 2019: Repositioning CARICOM](#), establishes the building of environmental resilience as a strategic priority of the community. Within this framework, one of the stated strategic initiatives for members to pursue is to advance climate adaptation and mitigation (CARICOM 2007).

The Caribbean Community Secretariat also, through its organ, the Caribbean Community Climate Change Centre, established a detailed framework for action in the region to build resilience. This document titled [Climate Change in the Caribbean: Regional Framework for Achieving Development Resilient to Climate Change](#), together with its [implementation plan](#), sets out in Strategic Element 4, the intention to Promote actions to reduce the vulnerability of natural and human systems in CARICOM countries to the impacts of a changing climate (CCCCC 2014a).

>> Sub-regional

At the sub-regional level, the [Organisation of Eastern Caribbean States Agriculture Plan of Action \(APOA\)](#) has six stated priority areas for intervention, one of which is [Climate Change Mitigation and Adaptation and Securing Water Resources for Sustainable Development](#). The objectives of this priority are to:





Observing soil profiles.

Photo credit >> IICA Grenada.

1. *“Promote and support climate change mitigation and adaptation strategies, including early warning systems, and mainstream agriculture programmes to protect food production systems and build resilience against tropical storms, heavy rains and droughts in rural/farming communities;*
2. *Secure long term access to water for irrigation and value chain activities”* (OECS 2012:61).

In addition to policy, legal and institutional interventions to strengthen strategies, legislation, incentives and coordination, there is also a specific intervention in the APOA for the reduction of vulnerability. Among the actions proposed are improving land management, implementing new and innovative technologies and methods for crop, livestock and fisheries production, promoting and supporting small irrigation systems, water harvesting and storage, training for farmers and farmer households, among others (OECS 2012).

>> National

The main climate change planning instruments at the national level is the National Agriculture Plan (NAP), the Intended Nationally Determined Contribution (NDC), the Grenada Food and Nutrition Security Plan of Action (GFNSPA) and the National Climate Change Adaptation Plan (NCCAP).

The goal of the NAP is to stimulate the economic growth of the agriculture sector as well as food security for the country of Grenada. Focus areas include: increasing agricultural production, enhancing



food security, strengthening resiliency to climate change, increasing investments for the development of infrastructure, and building partnerships (Fitzroy 2015).

The NDC demonstrates the Grenadian government's commitment to make ambitious commitments towards the reduction of greenhouse gas emissions. Agriculture and tourism are important sectors of the Grenadian economy and are already experiencing changes as a result of climate change. In order to protect these industries and ensure livelihoods for the Grenadian people, the NDC outlines the commitments to creating a more robust economy and resilient communities. These commitments include strengthening coordination between the national and local level authorities to build capacity and spread knowledge and support throughout the Grenadian islands by building coastal resistance, promoting watershed management, and building community level networks to contribute to resilience (Government of Grenada 2015).

The mission of the GFNSPA is to sustainably produce food for all Grenadians through government policies and multi-sectoral initiatives. In coordination with this mission there are six plans of action including food availability, food access, food utilization and nutritional adequacy, stability in food supplies and access, policy frameworks, and monitoring and evaluation. Within these six areas, targets include 0% loss of productive agricultural lands, minimum of 10% growth in agricultural yields, increase in domestic consumption of agricultural products to 50%, in addition to other ambitious initiatives. The mission of this policy also includes adaptations to climate change such as increasing resilience to natural phenomena that affect food systems, training farmers in risk reduction methodologies, and adaptive plans (Government of Grenada 2013).

The National Climate Change Adaptation Plan (NCCAP) aims to mainstreaming climate change and adaptation issues in all national planning processes. Following a number of stakeholder consultations, the plan consists of the following key areas:

- a)** Institutional arrangements
- b)** Mainstreaming
- c)** Water availability
- d)** Food security
- e)** Ecosystem Resilience
- f)** Integrated Coastal Zone Management
- g)** Resilient Infrastructure and
- h)** Land Management
- i)** Disaster Risk Management and Disease Prevention
- j)** Climate Data and Projection
- k)** Sustained Public Education and
- l)** Climate Finance

This plan is currently being approved by the relevant authority.

The following table summarizes additional planning documents that include goals under which actions can be taken to achieve climate smart agriculture. The full text documents can be accessed by clicking on the name of the document.



Table 2 >> Summary of planning instruments and their relevance in supporting CSA

| Name of the Document / Time period covered or date published | Specific goals that could be achieved through CSA interventions | Explicit mention of climate change targets (including adaptation (A), mitigation (M) or risk management (R)) |
|---|---|---|
| <p><u>National Agriculture Plan</u> 2015-2030</p> | <ul style="list-style-type: none"> >> Reduce dependence on food imports and imported staples/increased availability of local products >> Preserve and optimize natural resources >> Invest in enhancing agricultural research and development >> Increase economic access to food by vulnerable persons | <p>A- build climate resilience to avoid, climate impacts in agriculture R- improve preparedness for climate change impacts and extreme events; enhance the country's ability to respond in the event of a natural disaster or emergency</p> |
| <p><u>Grenada's Intended Nationally Determined Contribution</u> 2010-2025</p> | <ul style="list-style-type: none"> >> Adopt an integrated approach to solutions and adaptations to climate change in coordination with the local and national level authorities >> Improve sustainable water resource management in coastal and agricultural areas >> Create small adaptation funding programs | <p>M- using 2010 as a baseline, reduce GHG emissions by 30% by 2025, and 40% by 2030</p> |
| <p><u>Grenada Food and Nutrition Security Plan of Action</u> 2013-2018</p> | <ul style="list-style-type: none"> >> Increase the sustainable use of domestic production resources for food production (land, marine resources, water, forests) >> Position domestic agriculture to be innovative, competitive and value-added driven to contribute to food and nutrition security in Grenada >> Increase the contribution of domestic agriculture to national food and nutrition security >> Strengthen the national capacity to consistently secure an adequate supply of food >> Build resilience in domestic food production systems to man-made and natural risks to food security, including climate change >> Strengthen the capacity of farm enterprises that have adapted to climate variability and change | <p>A - promote capacity building in climate change adaptation R - conduct research on crop varieties and planting methods that are resilient to flood, high winds, drought and high temperatures A - strengthen food production systems to build resilience to the threats of natural and manmade hazardous events and climate change A - adopt sustainable management practices in food production systems</p> |
| <p><u>Ministry of ALFFE Corporate plan</u> 2015-2017</p> | <ul style="list-style-type: none"> >> Strengthened management of forest, land and water resources >> Support climate resilience and environmental management >> Promote the sustainable management and efficient use of natural resources >> Support compliance with regional and international environment obligations | <p>R-conservation of natural resources to meet the challenges of climate change R- resilient food production systems</p> |
| <p><u>National strategic development plan, Grenada: review and update</u> 2012-2017</p> | <ul style="list-style-type: none"> >> Promote and provide for disaster risk reduction, hazard mitigation and climate change adaptation >> Enhance the contribution of the agriculture sector to the national economy and to livelihoods >> Reform the agriculture sector by enhancing its contribution to food security and exports >> Rehabilitate and reform the nutmeg and other spice industries >> Promote non-traditional agricultural crops and products | <p>R- mainstreaming of disaster risk reduction measures</p> |



Table 2 >> Summary of planning instruments and their relevance in supporting CSA

| Name of the Document / Time period covered or date published | Specific goals that could be achieved through CSA interventions | Explicit mention of climate change targets (including adaptation (A), mitigation (M) or risk management (R)) |
|---|---|--|
| <p><u>National Adaptation Strategy and Action Plan to address climate change in the water sector</u> 2015</p> | <p>>> Prepare Grenada to be resilient in the face of climate change >> Promote sustainable water usage in agriculture >> Enhance climate monitoring in regional and national capacities</p> | <p>A-incorporate the use of drought resistant crops A-increase yields and increase agricultural productivity</p> |
| <p><u>Country Document on Disaster Risk Reduction for Grenada</u> 2014</p> | <p>>> Expand agricultural insurance to include other crops besides bananas</p> | <p>R-implementation of projects that improve agricultural preparedness to hurricane related disasters</p> |
| <p><u>Fifth national report to the Convention on Biodiversity</u> 2014</p> | <p>>> Implement sustainable agriculture and fishing practices >> Enhance the capacity required to deal with climate change and invasive species >> Increased capacities in integrated water and soil management linked to biodiversity conservation and food security</p> | |
| <p><u>Grenada National Climate Change Policy and Action Plan</u> 2007-2011</p> | <p>>> Incorporation of climate change risk assessment and adaptation measures for obvious risks such as risks to the agriculture sector</p> | <p>R - strengthen programming for soil and water conservation.</p> |



>> Programmes and projects

Workshop participants compiled a list of the most significant projects and programs that include climate change interventions in the agriculture sector, or from which the agriculture sector could benefit. Table 3 describes the general aspects of the projects and programmes.

Table 3 >> Summary of climate change and agriculture projects and programs

| Project or program/ Implementation period | Main objective (s) | Budget (USD) | Source of financing | Implementing organization (s) |
|---|--|----------------------|---|-------------------------------------|
| Implementing a "Ridge to Reef" approach to protecting biodiversity and ecosystem functions within an around protected areas in Grenada April 2015 to March 2020 | >> Increase the effectiveness of protected areas management and apply land management practices to include the development of a policy-based legal, planning and institutional/regulatory framework in support of a sustainably managed network | 3,031,666.00 | GEF | Government of Grenada - UNDP MALFFE |
| <u>Climate Change Adaptation in the Eastern Caribbean Fisheries Sector</u> 2014-2019 | >> Increase resilience and reduce vulnerability to climate change impacts in the Eastern Caribbean fisheries sector through the introduction of adaptation measures in fisheries management and capacity building of fisher folk and aquaculture farmers | 5,400,000 (regional) | GEF | Fisheries Division of MALFFE |
| <u>Integrated Climate Change Adaptation Strategies (ICCAS)</u> 2012-2018 | >> Increase the resilience of vulnerable communities and ecosystems to climate change risks in Grenada, Carriacou and Petite Martinique through mainstreaming climate change adaptation, integrating coastal and water resource management, and increasing the adaptive capacity of communities through community based adaptation | 1,500,000 | German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety | Government of Grenada, UNDP, GIZ |
| <u>Japan Caribbean Climate Change Partnership</u> 2015-2017 | >> Support countries in advancing the process of inclusive low-emission, risk-resilient development | 600,000 | Government of Japan | UNDP, Ministry of Finance |
| <u>Technology Needs Assessment</u> 2015-2017 | >> Identify, prioritize and assess barriers to disseminating sustainable, environmentally sound technologies related to land use and management for mitigation and adaptation to climate change | 134,000 | GEF | MOALFFAE |



Table 3 >> Summary of climate change and agriculture projects and programs

| Project or program/ Implementation period | Main objective (s) | Budget (USD) | Source of financing | Implementing organization (s) |
|--|---|---|----------------------------|--|
| Caribbean Aqua-terrestrial Solutions Project 2013-2017 | >> Manage coastal resources and adapt rural economies to climate change | | German Government | GIZ, CARPHA, MOALFFAE |
| Aligned national action plan for Grenada's commitment under UNCCDD 2006 | >> Advocacy, education, capacity building and raising awareness of climate change issues Financing and technological resources | 3,200,000 | GEF | UNEP |
| Climate and development resources Grenada 2015 | >> Collection of climate change and development documents to improve online access to climate information | NA | NA | Various NGOs and public and private institutions |
| Climate Smart Agriculture Learning Centre 2010-2015 | >> Establish training plots and test CSA practices | 100.000 | German Government | GIZ |
| GEF Small Grant Programme 2012 | >> Biodiversity conservation; climate change adaptation; land degradation reduction; capacity building for civil society organizations; environmental awareness and education at the community level; increased access and utilization of GEF financing | 1,000,000.00 disbursed up to October 2017 | UNDP | GEF Small Grant Programme |



>> Institutions

>> Public Institutions

Table 4 describes the national public institutions that focus on topics related to climate change and the coordination of projects or initiatives that directly or indirectly relate to the agricultural sector.

Table 4 >> List of public institutions working on climate change

| Institution | Specific units or coordinating agencies | Roles or topics covered |
|--|---|--|
| CARICOM Secretariat | Ministry of Foreign Affairs | >> Sustainable Agriculture |
| Caribbean Disaster Emergency Management Agency | | >> Disaster Risk Management |
| Ministry of Agriculture, Lands, Forestry, Fisheries & The Environment | Food and Nutrition Council; Integrated Climate Change Adaptation Strategies | >> Proper food handling and storage, evaluation of food service operations; sustainable agriculture, climate modelling and risk management |
| Ministry of Economic Development, Planning, Trade and Cooperatives | Marketing and National Importing Board; Economic Development | >> Technical training and advice to farmers on adaptation and mitigation, and Good Agricultural Practices; Implementing entities, climate finances, climate change mitigation |
| Ministry of National Security, Public Administration Disaster Management | National Disaster Management Agency | >> National disaster plan; hurricane tracking and preparedness plan |
| Ministry of Communications, Works, Physical Development, Public Utilities, ICT & Community Development | National water and sewage authority | >> Watershed management/Water resource management |
| Ministry of Health, Social Services and International Business | Solid Waste Management Authority | >> Waste management and converting waste to energy |
| Ministry of Carriacou and Petite Martinique Affairs | | >> Community resilience projects |
| Organisation of Eastern Caribbean States Commission | Ministry of Agriculture | >> Agro-tourism; good agricultural practices |
| Inter-American Institute for Cooperation in Agriculture | Resilience and Risk Management Flagship Project | >> Resilience in agriculture, including CSA Forums, CSA competition, capacity building in CSA, collaboration with other institutions on CSA |
| Caribbean Agricultural Research and Development Institute | | >> Promotion of climate smart agriculture through the use of science and technology to help producers to sustain high levels of food production through knowledge transfer and appropriate technology interventions. |



>> Stakeholders

The following figure describes the main stakeholders that actively participate in the implementation or development of climate change and agriculture interventions.

Figure 2 >> Stakeholders map

| | ORGANIZATION | STRENGTH |
|---|--|---|
| FARMER GROUPS  | Beekeepers Association | Increasing production using climate smart strategies. |
| | Fisherman's Association | Work in partnership with the marine protected areas for sustainable production. |
| | Goat Farmers Association | Increasing production using climate smart strategies. |
| | Grenada Cocoa Association | Supports climate smart agriculture for sustainable cocoa production. |
| | Grenada Co-operative Nutmeg Association | Supports climate smart agriculture in nutmeg production. |
| | Grenada Network of Rural Women Producers | Empowers its members to improve their standard of living through training, cultural exchanges and networking. |
| | Grenada Organic Agricultural Movement | Advocacy of organic agriculture through the sharing of information and the continuous outreach to its members. |
| | North East Farms Organization | Encourages climate smart agriculture, ridge to reef management and water catchments. |
| | Organic Cocoa Organization | Promotes sustainability through organic production. |
| | Poultry Association | Promotes increased local market share and sustainable production. |
| Saint Patrick's Environmental Tourism | Promotes environmental sustainability | |
| NGO/CIVIL SOCIETY  | Caribbean Natural Resources Institute | Supports efforts to achieve the aims of the Sustainable Development Goals (SDGs). |
| | CaribSave | Works with stakeholders to address the impacts and challenges surrounding climate change. |
| | Grenada Fund for Conservation | Promoting and protecting Grenada's natural environment. |
| | International Union for the Conservation of Nature | Environmental conservation. |
| | People in Action | Build capacity of communities; improve standard of living; permaculture; climate smart agriculture. |
| | Sus-Gren | Empower communities to make decisions about their livelihoods, natural resources, culture, heritage and climate change in a bid to find ways to adapt and thrive in a changing climate. |
| | The Nature Conservancy | Environmental conservation. |



Figure 2 >> Stakeholders map

| | ORGANIZATION | STRENGTH |
|---|--|---|
| RESEARCH AND ACADEMIA  | Caribbean Agriculture Research and Development Institute | Climate smart agriculture, sustainable agriculture. |
| | Caribbean Institute for Meteorology and Hydrology/ Caribbean Meteorological Organization | Provides climatological data. |
| | Climate Action Network | Specialized work with climate models and impact assessment technologies. |
| COOPERATION AGENCY  | Australian Aid | Scholarships, capacity building. |
| | Caribbean Community Climate Change Center | Coordinates the regions response to climate change. Supports work in adaptation and mitigation in agriculture. |
| | Caribbean Development Bank | Provides funding to support capacity-building, and to contribute to reducing vulnerability to the long-term impacts of natural hazards, including the potential impacts of climate change. |
| | Canadian International Development Agency | Technical assistance and training. |
| | Deutsche Gesellschaft für Internationale Zusammenarbeit | Loan and grant financing; climate smart agriculture; climate change adaptation plans and policies. |
| | DFID/UKAid | Documentation of CSA in Grenada. |
| | Food and Agriculture Organization of the United Nations | Climate adaptation, climate smart agriculture, disaster risk management. |
| | Inter-American Institute for Cooperation on Agriculture | Capacity building, knowledge management. |
| | Inter Agency Group of Development Organizations | A network of indigenous development organisations in Grenada whose main programme areas are advocacy and capacity building. |
| | United Nations Development Programme /Integrated Climate Change Adaptation Strategies | Disaster reduction; water resource management; renewable energy; sustainable agriculture; community based climate resilient infrastructure; Establishment of community adaptation fund; strengthening awareness and understanding of climate risks and adaptation measures. |
| | United Nations Environment Programme | Assessing national environmental conditions and trends; national environmental instruments; wise management of the environment. |
| | United States Agency for International Development | As part of a regional climate change initiative, it supports a major reforestation effort on Grenada. |
| | United States Department of Agriculture | The USA GSM-102 program provides credit guarantees to encourage financing of commercial exports of U.S. agricultural products, primarily to developing countries, while providing competitive credit terms. |
| World Bank | Supports the implementation of policy and institutional reforms to create conditions for private investment in a sustainable manner and enhance resilience against natural disasters among others. | |





Soil conservation efforts.

Photo credit >> IICA Grenada.

>> Coordination bodies

At the national level, there are also coordination bodies in which multiple institutions and organizations collaborate and integrate efforts that contribute to the development of climate change related activities. The following table summarizes information about those articulation mechanisms.

Table 5 >> List of coordination bodies

| Name | Main participants | Topics covered |
|--|--|--|
| Sustainable Development Council | NGOs, Schools Ministry of Agriculture, Lands Forestry and Fisheries and the Environment; Water Authority, Meteorological Office; Other Governmental Ministries and National Authorities | Sustainable development, biodiversity, climate change |
| National Climate Change Committee | Ministry of Agriculture, private sector, non-governmental organizations and international agencies | Coordination and oversight body for climate change activities (finance, adaptation, mitigation, international negotiation and relations) |
| Caribbean Climate Smart Agricultural Forum (CCSAF) | Stakeholders from agriculture and related sectors in Grenada and 12 other Caribbean nations | Technologies, practices, policies and funding for CSA in the Caribbean, regional and national information-sharing |



Lessons learned and opportunities



During the workshop participants discussed and exchanged ideas regarding five guiding questions. The questions were designed to provide a better understanding of which initiatives were the most successful thus far, and in what areas were there opportunities for continued improvement.

What initiatives have been the most successful so far and why?

>> **Rainwater harvesting:** Rainwater harvesting systems are used throughout the islands of Carriacou and Petite Martinique as the main supply of water. While these systems are effective, farming practices still need to be suspended during the dry season due to the lack of available water. Rainwater catchment systems are also being utilized on the southwest and northern region of Grenada to capture and store water for use during the dry season. This technology has also been successful in areas that have minimal access to freshwater sources such as rivers, springs or wells.

>> **Composting:** As a result of the collaborative efforts of the Ministry of Agriculture, IICA, GIZ and GOAM, a number of compost training sites have been established to increase the capacities of farmers and extension officers, leading to the adoption of on-farm composting by farmers.

>> **Climate Smart Agriculture:** IICA conducted a CSA farmers' competition throughout the region to highlight best practices and share on-farm success stories. The Caribbean Climate Smart Agriculture Forum also provides a platform for sharing knowledge throughout the region regarding best practices and innovations in CSA.

>> **Marine Protected Areas (MPAs):** Grenada has committed to placing 25% of its costal marine ecosystem under conservation management by 2020. Already 15% of the coast is under management, and Grenada is likely to reach its goal by 2020.

Performance of the UNDP/ICCAS Projects

There have been 27 UNDP Community Climate Projects developed and approved, and 18 are being completed. The projects approved include adaptation activities related to the agriculture and water sector (6 projects), marine and coastal areas (6), education and awareness (6), flood mitigation (3), public water storage (2), recycling (2), land degradation (1), and ridge to reef community sensitization (1). The completed projects are individually performing in a range of good to exceptional. Noteworthy findings are that 269 jobs were created, which is approximately 20% below target.

With respect to the food security thematic area (indicators), the achievement rating also ranges from good to exceptional; however, two indicators (yields and area of land under functional irrigation) cannot be rated due to insufficient data.



The water resources thematic area (indicators) has the best achievement rating of all the thematic areas. Three indicators were rated as exceptional, and one as very good. Noteworthy findings are that there is enhanced capacity across communities to store up to 216,789 gallons of water due to support from the Community Climate Change Adaptation Fund (CCCAF). There is also a high level of success reported in reducing the incidence of flooding through installed infrastructure.

>> **GEF Small Grant Projects** The GEF SGP is now in its 6th Operational Phase (OP6), which covers the period 2015 to 2018. The two main strategic initiatives prioritized in the new operational period are (1) community based landscape conservation and (2) climate smart, innovative agro-ecology. These areas are complementary to, and directly related to GEF Focal Areas, and are aligned with a number of Grenada's national priorities and ratified multilateral environmental agreements. To date, there are 24 programs at various stages of implementation.

>> **GEF, MOALFFAE -UNDP Ridge to Reef Projects** The most successful activities are as follows:

a) Education and Awareness – Involvement of children in summer programs; 4H challenge on flora and fauna; school outreach program; community groups, church organizations and parents; education and awareness of importance of the watershed and forest health.

b) MPAs – Promotion of the lionfish and its eradication. Our “eat it to beat it” slogan through community outreach, posters, billboards, public service announcements on radio and on TV. Restoration of coral reefs that were destroyed during the 2004 hurricanes.

c) Ridge to Reef – working with farmers to educate and increase their knowledge and the importance of practicing good agricultural practices. Training in pesticides use and safety; reduction in chemical use in farming and utilizing more compost. Working with NEFO as Reef Guardians to reduce the amount of chemicals entering the marine environment.

In which areas can greater coordination and synergies be achieved?

>> A national program that aligns the different projects would ensure the sustainability of the projects.

What is missing in current efforts and what are the major gaps?

>> Communication among implementers, better climate data collection, management and sharing of information, monitoring and evaluation of projects, and capacity development in CSA practices.

What types of information needs are priority?

- >> Climate predictions.
- >> Climate baseline information.
- >> Appropriate technologies related to CSA practices.

What concrete steps can be taken to move forward more effectively?

- >> Endorsement and commitment by the political directorate.
- >> Coordination among technical groups working in the different projects.
- >> Capacity development in project management and the principles of Climate Smart Agriculture.



Annex 1: Participants in the elaboration of the inventory



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|--------------------|---|
| Reuben Raymond | CARDI |
| Ntaba Francis | GIZ/ICCAS |
| Daniel Lewis | Ministry of Agriculture |
| Indra Baldeo | Ministry of Agriculture |
| Shira Baldeo | Ministry of Agriculture |
| Terry-Ann Hypolite | Marketing and National Importing Board (MNIB) |
| Cosmos Joseph | Farmer |
| Annlyn Mc Phie | UNDP -JCCCP |
| George Phillip | Ministry of Agriculture |
| Martina Duncan | Ministry of Agriculture |
| Benedict peters | Ministry of Agriculture |
| Cecil Mitchell | Meteorological Office |
| Kemron Dufont | NaDMA |
| Guido Marcelle | Grenada Organic Agriculture Movement (GOAM) |
| Dunstan Campbell | GOAM |
| Steve Maximay | Consultant |
| Imhotep Mawuto | Ministry of Agriculture |
| Reginald Andall | CARDI |
| Derek Charles | Inter-American Institute for Cooperation on Agriculture |
| Daniela Medina | Inter-American Institute for Cooperation on Agriculture |
| Kelly Witkowski | Inter-American Institute for Cooperation on Agriculture |
| Erin Raser | Inter-American Institute for Cooperation on Agriculture |



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