



Towards a more sustainable, climate resilient and low-carbon agriculture sector

The challenge facing the Caribbean agriculture sector

The agriculture sector in the Caribbean is vital for achieving food and nutrition security in the region. Owing to its multifunctional role, the sector is also important for addressing socioeconomic challenges, such as persistent poverty and health inequity. On average, the sector provides 11% of total employment (ILOSTAT 2019) and makes an 8% direct and 25% indirect contribution to GDP in the Caribbean small states (FAO 2019). Additionally, 21% of the region's total land area is used for agricultural activities (World Bank 2018).

However, agriculture's contribution to the development of Caribbean states is being threatened by climate change. These threats are intimately linked to the dependence of agriculture on natural resources, ecosystems and the services they provide, which are being significantly degraded in the region. Severe climate-related hazards, such as droughts, flooding, tropical cyclones, and rising temperatures and sea levels, are more likely to affect the region and negatively impact the performance of the agriculture sector. Climate-related water insecurity and soil degradation are already significantly affecting agricultural production and productivity. As a percentage of potential production, the Caribbean has the third highest agricultural production losses from climate-related disasters among developing regions. Moreover, the Caribbean region is up to seven times more likely to experience disasters related to climate hazards than larger states and incurs as much as six times more damage when one does occur (UN 2020).



7 of the most water-stressed countries are in the Caribbean. FAO, 2016



30% of degraded lands in SIDS are in the Caribbean. Rioux et al. 2017



>9% of agricultural losses are from hydro-meteorological hazards (twice the global average) with drought accounting for the highest cost of loss & damage FAO, 2018



3.2% of globally threatened species are in the Caribbean. CEPFA 2019; Stein 2020



<0.17% of global emissions are from Eastern and Southern Caribbean countries. USAID 2017



The livelihoods of thousands of farmers and agri-stakeholders in the region are at risk, evidencing the need for strategic climate action in the agriculture sector.

While agriculture is subject to a considerable amount of climate risk, it is also a key part of the solution. In light of the relatively low emissions from Caribbean agricultural systems, the priority for the region's agriculture sector is food security and climate adaptation with co-benefits.

Key actions such as integrated land management strategies that actively consider the environmental and livelihood-related benefits of natural vegetation and agricultural systems can reduce land degradation and the loss of carbon stocks and biodiversity. Similar benefits can be gained through the adoption of water and energy efficient irrigation systems and by strengthening the technical and institutional capacity to capture and use agro-meteorological and economic data for better decision-making and climate action at all levels of the agricultural food systems.

Systematizing and contextualizing such actions are important when considering and implementing transformative action to achieve a climate resilient and more competitive agriculture sector in the Caribbean.

The vision: a bridge for knowledge management

The great heterogeneity of production systems in LAC calls for contextualized measures to address the varying needs of different actors.

IICA is driving integrated solutions, based on principles that respond to the priorities of its Member States to achieve a more sustainable, climate-resilient and low-carbon agriculture sector. The Institute aims to support the implementation of actions to address the national priorities outlined in the nationally determined contributions (NDCs) in the context of climate change, as well as actions that promote stronger inclusion of the sector in future versions. This will help to ensure that the sector can contribute to the multiple goals of sustainable development.

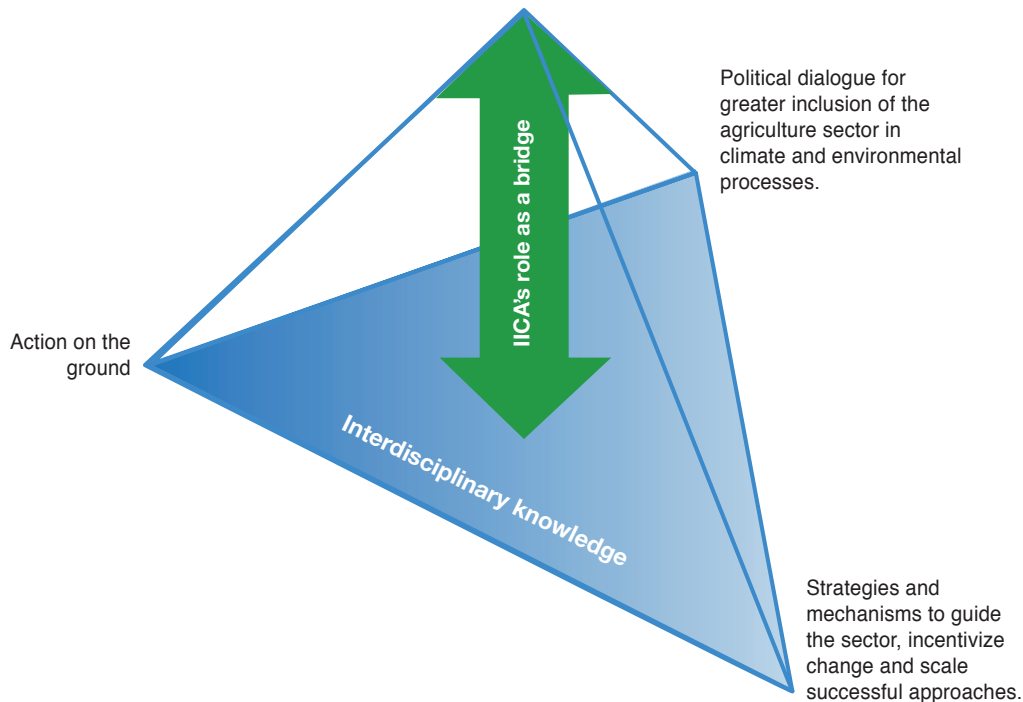
The Institute has devised an intervention model designed to serve as a bridge between actors, sectors, scales and countries, and between science and decision-making. In these key areas, the Institute is managing knowledge and developing capacities to:

- ▶ Implement actions on the ground to validate, pilot or demonstrate approaches, practices or tools, thus generating concrete experiences that benefit farmers and have the potential to be scaled;
- ▶ Develop strategies and mechanisms to guide the sector, incentivize change and scale climate action for greater sectoral sustainability; and
- ▶ Foster political dialogue to position the sector, its priorities and agenda in processes related to climate change and the environment.

Promoting a climate responsive, sustainable agriculture sector



NDCs



Through its network of offices in 34 countries in the Americas, IICA is driving horizontal cooperation to accelerate actions to bring about the necessary transformation in the region and the world, including an initiative focusing on soils. The Institute is collaborating with the Ohio State University's Carbon Management and Sequestration Center, under the leadership of Dr. Rattan Lal – winner of the 2020 World Food Prize and IICA Goodwill Ambassador. They have partnered to create the Living Soils of the Americas Initiative, aimed at increasing resilience and reducing emissions, by expanding the area in which proven soil management practices are implemented, thereby increasing soil health and ecosystem services.

Strengthening the foundation for a climate responsive agricultural sector in the Caribbean

The Bahamas, Belize, Dominica, Haiti, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago

Increase the capacity of the Caribbean agriculture sector to participate in the nationally determined contributions (NDCs) and access international climate financing to increase resilience and promote the low-carbon development of the sector, with a strengthened evidence base, a strengthened enabling environment and the development of youth capacities.



Strengthening of coastal and marine climate resilience through ecosystem-based adaptation in high-altitude and coastal ecosystems and community participation

Antigua & Barbuda, Dominica, St. Lucia, Trinidad & Tobago

Strengthen ecosystem services in upland and coastal environments, while also increasing the opportunities for sustainable livelihoods in communities using ecosystem-based adaptation and community empowerment.



Caribbean Climate Responsive Agriculture Forum (CCRAF)

Antigua & Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, St. Kitts & Nevis, St. Lucia, St. Vincent & the Grenadines, Suriname, and Trinidad & Tobago

The Forum supports regional and national knowledge management and 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.



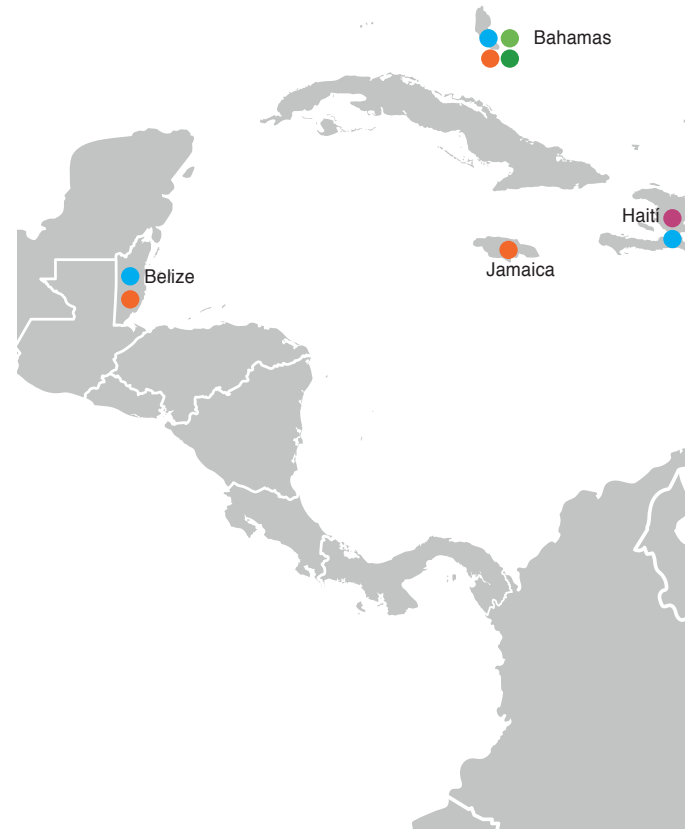
Meeting the Challenge of 2020 in The Bahamas

The Bahamas

Build capacity in Good Agricultural Practices, assess farming practices and analyse water and soil quality in environmentally sensitive areas.



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Execution of Inter-American Board of Agriculture Resolution 536

Haiti

Support the recovery of the agriculture and rural sector of the Republic of Haiti

Integrated landscape management for addressing land degradation, food security, and climate resilience challenges in The Bahamas

7 islands of The Bahamas - Abaco, Andros, Cat Island, Eleuthera, Long Island, Grand Bahama, and New Providence

Enhance climate resilient food production across productive agricultural landscapes through sound Integrated Landscape Management and Land Degradation Neutrality approaches in The Bahamas



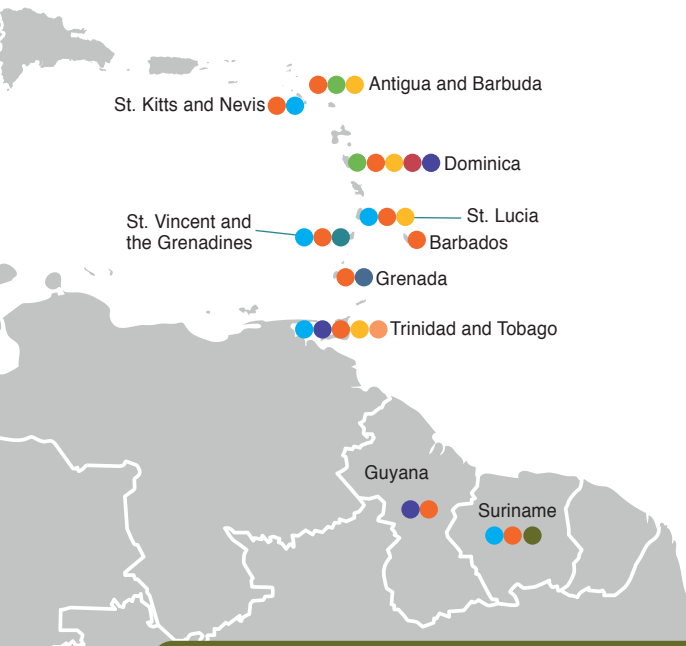
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Farmer Learning Models for Climate Resilience

Trinidad & Tobago

Develop a practical-farmer-driven model for context-specific applied research and knowledge transfer in farming system innovation and climate smart agricultural practices.



1. Agricultural Competitiveness Program
2. Sustainable Agricultural Productivity Programme

Suriname

Increase agricultural productivity in Suriname through improving irrigation and drainage systems, enhancing institutional capacity, upgrading the agricultural census and strengthening information systems.



Strengthening disaster management capacity of women in the Cooperative Republic of Guyana and The Commonwealth of Dominica

Dominica & Guyana

Support hazard-prone communities, especially vulnerable groups, including women, in strengthening disaster and climate risk resilience towards enhancing sustainable livelihoods within such communities in Dominica and Guyana.



Empowered lives.
Resilient nations.

Sustainable land management in the Commonwealth of Dominica

Dominica

Promote an integrated land management model that includes agricultural, forestry and natural resources management practices that generate development and critical environmental benefits in tandem.



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Soil-centric actions for strengthening food system resilience and promoting regenerative agriculture as a climate solution

Grenada

Establish demonstration plots of regenerative agriculture practices and a knowledge-action network for strengthening the capacity of backyard farmers to produce food sustainably.



Living Soils
of the Americas

Soil Management Framework for recovering from Volcanic Eruptions in St. Vincent

Rehabilitating agricultural soils impacted by the ashes from the volcanic eruption in St. Vincent

The execution of these projects is led by IICA's country delegations



Soil management

IICA is spearheading several soil and land management initiatives in the Caribbean, which aim to rehabilitate productive landscapes through demonstration and implementation of restorative nature-based solutions and climate-friendly practices that can easily be adopted by farmers. The Institute is promoting soil conservation, integrated soil fertility management, soil carbon sequestration practices and the effective and safe use of organic matter to improve and maintain soil health. This work is done under the umbrella of the Living Soils of the Americas Initiative



Water Management

IICA is supporting capacity building and management measures that enhance water security through desalination, water-efficient irrigation methods, and low-cost rainwater harvesting systems in an effort to increase farm productivity and income and improve rural livelihoods.



Bioeconomy and circularity

IICA supports countries in formulating and implementing policies, strategies and projects that foster and increase the viability of bioeconomy-based businesses in agricultural chains and rural territories. IICA also assists producer groups and families diversify livelihoods and build resilience to climate-related events.



Innovation

Through IICA's commitment to innovation, it seeks to strengthen capacities to design and implement solutions that are appropriate for the region. IICA is also instrumental in developing practical models with clear parameters for applied research and co-innovation in farming systems and climate-smart agricultural practices, as well as communication technologies for traceability and record-keeping.



More active and informed participation of the agriculture sector in climate and environmental processes

IICA works to raise awareness, build capacity and foster greater agricultural representation in planning, implementation and monitoring activities so that the sector can play a more decisive role in providing solutions to climate change and managing natural resources.



Renewable energy

To strengthen the reliability of the food and energy supply through sustainable agricultural practices and efficient bioenergy systems throughout the agri-food chains, IICA is promoting the sustainable interdependence of water, food and energy in its technical cooperation actions.



Nature-based solutions (NbS)

To enhance adaptation of agricultural ecosystems and protect downstream watersheds and marine environments, IICA is working to increase cost-effective climate actions by spearheading NbS, such as agroforestry systems, green infrastructure, remediation and recovery of degraded soils and ecosystem-based adaptation.



Gender and youth

Gender and youth are important areas for IICA and the region. As such, IICA is promoting the incorporation of a gender and youth focus in projects through policy development, strategies, creation of agribusiness networks and technical and administrative programs to ensure that women and men are afforded equal opportunities to participate, allowing them to improve the standard of living of their communities and families.



About IICA

The Inter-American Institute for Cooperation on Agriculture (IICA) is the specialized agricultural agency of the Inter-American system that supports the efforts of its member countries to achieve competitive, inclusive and sustainable development, as well as rural well-being. It provides cooperation, by closely and continuously working with its 34 Member States.

IICA has five hemispheric programs: Bioeconomy and Production Development; Territorial Development and Family Farming; International Trade and Regional Integration; Climate Change, Natural Resources and Management of Production Risks; as well as Agricultural Health, Safety and Food Quality. It also focuses on two cross-cutting issues: Gender and Youth, as well as Innovation and Technology.