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

The challenge facing the agriculture sector

The Latin American and Caribbean (LAC) agriculture sector is sustaining the food security of the region's and the world's ever-increasing population. It provides 14% of the region's total employment and accounts for 4.6% of its gross domestic product (GDP). A considerable share of the region's land is also used in the sector, with almost 38% of total land area devoted to agricultural purposes.

However, climate change poses a threat to these multiple roles. Agriculture is an activity that is intrinsically linked to ecosystems and natural resources, which are experiencing significant degradation in the region. Climate change has accelerated this phenomenon and compromised the ability of the sector to maintain food security. Temperature increases, water-related risks, droughts and floods have become increasingly frequent.

The Americas has **46%** of the world's fresh water and features an abundant and heterogeneous mix of sources among countries.

50% of the planet's biodiversity is concentrated in LAC.

LAC generates **25%** of global agricultural emissions.

33% of the world´s soils are degraded. Half of the **576 million** hectares of arable land in LAC is being affected by degradation processes.

In 2019, the agriculture sector generated more than **14%** of total employment in LAC, reaching **54%** of jobs in rural zones if jobs in primary activities linked to agriculture in rural zones are considered.

Additionally, storms and soil salinization are growing in intensity, affecting productivity, production and the livelihood of millions of producers in the region. Various systems, actors and regions are affected by climate change in different ways, depending on their level of exposure and vulnerability.

Even as agriculture is subject to a considerable amount of climate risk, it is also a key part of the solution. Almost 25% of green-house gas emissions at the global level are attributed to agriculture, changes in land use and deforestation, with the region alone being responsible for a quarter of global agricultural emissions. Thus, measures to reduce emissions and to increase carbon sequestration in agricultural systems are urgently needed. At the same time, building the resilience of rural territories to climate variability and change, as well as to extreme climate events, while increasing natural resource use efficiency as well as the productivity of agricultural systems is of utmost urgency.

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.

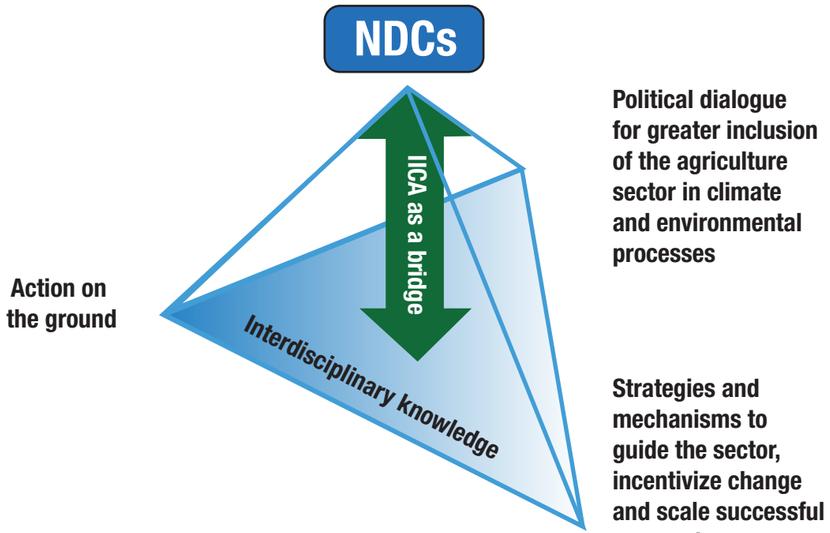
IICA is driving integrated solutions, based on principles that respond to the priorities of its Member States to achieve a more sustainable, climate-resilient and low-carbon agriculture sector. The Institute aims to support the implementation of actions to address the national priorities outlined in 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 for:

- the implementation of actions on the ground to validate, pilot or demon-strate approaches, practices or tools, thus generating concrete experiences with the potential to be scaled;
- the development of strategies and mechanisms to guide the sector, incentivize change and scale climate action for greater sectoral sustainability; and
- the fostering of political dialogue to position the sector, its priorities and agenda in processes related to climate change and the environment.

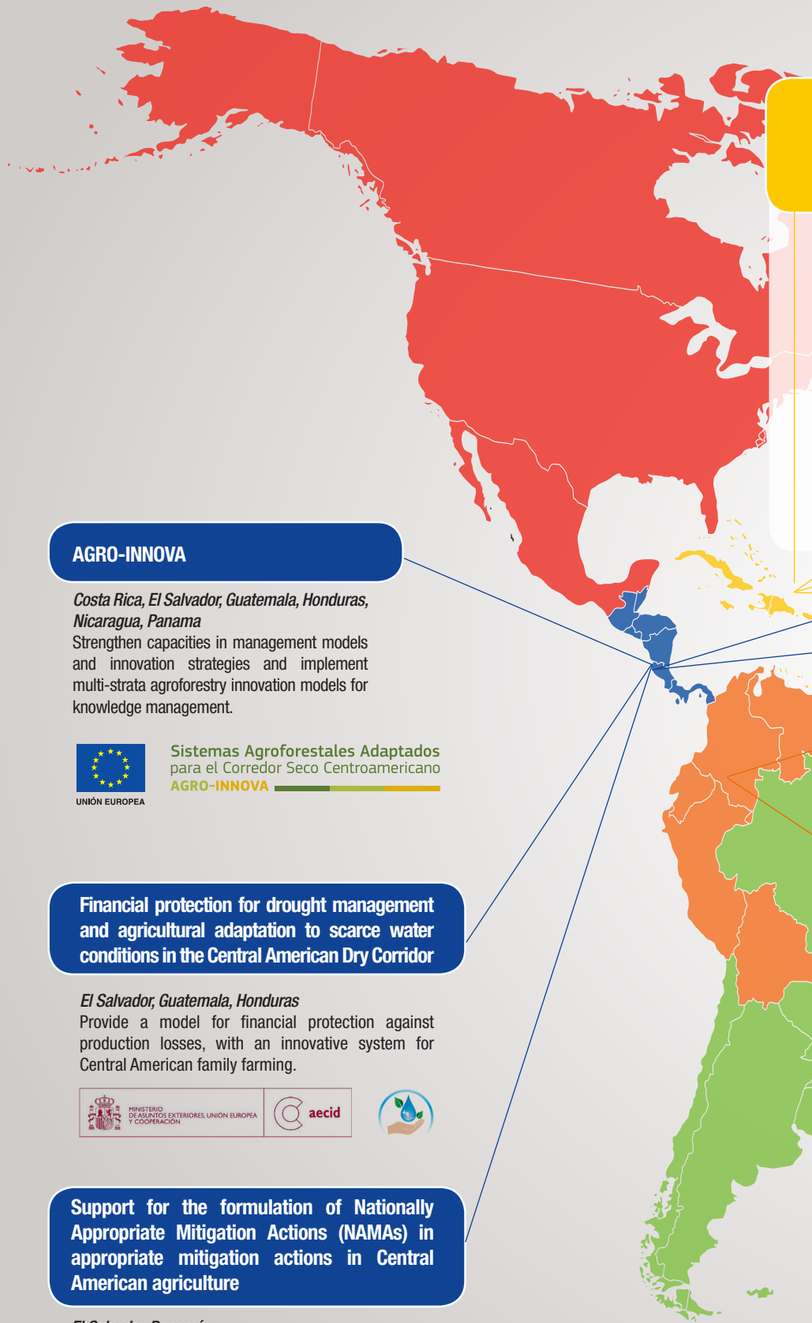
Promoting a climate responsive, sustainable agriculture sector

CBD UNCCD United Nations Framework Convention on Climate Change



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.

Multi-country actions: moving forward together



Strengthening Coastal and Marine Climate Resilience through Upland and Coastal Ecosystem Based Adaptation and Community Engagement.

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.

GREEN CLIMATE FUND

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

Antigua and Barbuda, Dominica, Saint Lucia, Trinidad and 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 BIODIVERSITY FUND · IAMOVEMENT · UF Center for Latin American Studies UNIVERSITY of FLORIDA

AGRO-INNOVA

Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama
Strengthen capacities in management models and innovation strategies and implement multi-strata agroforestry innovation models for knowledge management.

UNIÓN EUROPEA
Sistemas Agroforestales Adaptados para el Corredor Seco Centroamericano
AGRO-INNOVA

PROCAGICA
Central American Program for Integrated Coffee Rust Management

Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua, Panama
Increase the capacity of the region to design and implement policies, programs and measures to improve the adaptation, response capacity and resilience of the most vulnerable coffee farmers in Central America and the Dominican Republic, who are exposed to the adverse effects of climate variability and change.

UNIÓN EUROPEA

INNOVA-AF Knowledge Management for the Adaptation of Family Farming to Climate Change

Bolivia, Brazil, Colombia, Dominican Republic, Ecuador, Guatemala, Honduras, Mexico
Build the capacities of poor farmer families, who are involved in family farming systems that currently have low resilience to the impacts of climate change.

FIDA Invertir en la población rural · INNOVA Agricultura Familiar

Financial protection for drought management and agricultural adaptation to scarce water conditions in the Central American Dry Corridor

El Salvador, Guatemala, Honduras
Provide a model for financial protection against production losses, with an innovative system for Central American family farming.

MINISTERIO DE ASUNTOS EXTERIORES, UNIÓN EUROPEA Y COOPERACIÓN · aecid

Program to Support the Deepening of MERCOSUR Economic Integration and Sustainable Development

Argentina, Brazil, Paraguay, Uruguay
Control desertification processes and mitigate the effects of drought, through demonstration interventions that facilitate the generation and dissemination of information about good practices and the related training.

ECONORMAS MERCOSUR · COOPERACIÓN UNIÓN EUROPEA MERCOSUR

Support for the formulation of Nationally Appropriate Mitigation Actions (NAMAs) in appropriate mitigation actions in Central American agriculture

El Salvador, Panamá
Agree on nationally appropriate mitigation measures in the livestock and rice sectors of El Salvador and Panama, respectively, and support the implementation of pilot programs, involving mitigation-adaptation practices.

Euroclima+ · Financiado por la Unión Europea

Biodiversity and good, climate-smart agricultural practices (CSA) to improve resilience and the productivity of family farming potato-based Andean food systems (SAAbP)

Bolivia, Ecuador, Peru
Improve the adaptive capacity of farmers and public and private actors linked to SAABPs in Peru, Bolivia and Ecuador, through the development, application and dissemination of good CSA practices and access to differentiated markets.

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Water and soil management

The agriculture sector is the primary user of fresh water and land in the region, and depends on the availability and quality of both. IICA is supporting a variety of responses in various areas, such as watershed management, desalination, increased productivity of water and soil and irrigation systems. These efforts are opening up greater economic opportunities for producers, while responding to climate change impacts and assisting in carbon sequestration. The Institute is promoting soil conservation, integrated management of its fertility, the fight against desertification and the reuse of organic waste for soil improvement. IICA is spearheading the Living Soils of the Americas initiative, which aims to increase resilience and reduce the emissions of production systems, by expanding the area in which proven soil management best practices are implemented, thereby increasing soil health.

Bioeconomy and circularity

We are working with countries and other partners to sensitize and convince the population about the economic, social and environmental potential of the bioeconomy and to build capacities to utilize it. We are also supporting 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.

Innovation

IICA is committed to innovation, mindful of the fact that it is a key element of sustainable development, as one of the main tools to overcome the challenges of the agrifood system in all geographic scales and to improve productivity and resilience. Innovation may be technological, organizational or institutional and may take place in production processes or in support services, as well as at the institutional level. We are seeking to strengthen capacities to design and implement solutions that are appropriate to each context. IICA is supporting various innovation mechanisms in the region, such as PROMECAFE, FONTAGRO, PROCISUR, CIAO, among others.

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

To assist the sector to play a more decisive role in providing solutions to climate change and managing natural resources, sector actors must fully understand and participate in processes and decision-making about goals and measures to be prioritized. This will call for a greater level of sensitization, capacity development and greater representation in planning, implementation and monitoring.

Renewable energy

IICA is promoting efforts to increase access to renewable energy in rural areas; revitalizing markets and promoting networking; and managing innovative technologies, through the promotion of processes to increase energy and food self-sufficiency to enhance the well-being of families, increase income, reduce emissions, improve human and environmental health and contribute to adding value. Access to energy in rural areas is critical to support the development of all links in the agriultural chains. The Institute is promoting the sustainable inter-dependence of water, food and energy in its technical cooperation actions, while encouraging practices to strengthen the reliability of the food and energy supply, as well as the sustainability of agricultural practices and the efficiency of bioenergy systems throughout the agrifood chains.

Nature-based solutions (NbS)

In the agriculture sector, particularly in farms and rural areas, IICA is working to increase cost-effective climate action, through the use of NbS, such as agroforestry systems, green infrastructure, remediation and recovery of degraded soils and ecosystem-based adaptation.

Gender and youth

IICA is working 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. The Institute is promoting the incorporation of a gender and youth focus in projects, through policy development, strategies, as well as technical and administrative programs and activities that lead to a change in gender inequality and the exclusion of young people, ensuring that actions are aligned with gender-related international commitments undertaken, including those related to the 2030 Agenda.

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.

Climate Change and Natural Resources Program
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