

Agriculture, Natural Resources and Climate Change Program



INTER-AMERICAN INSTITUTE FOR COOPERATION ON AGRICULTURE

Agriculture in Latin America and the Caribbean:

Challenges and opportunities created by climate change

In an attempt to foster dialogue on the impact of climate change on the agricultural sector, the Inter-American Institute for Cooperation on Agriculture (IICA) organized a technical forum to discuss the implications of the agreements reached at the 17th Conference of the Parties (COP17) of the United Nations Framework Convention on Climate Change (UNFCCC).

The forum, held on March 6, 2010, and organized by the IICA Agriculture, Natural Resources Management and Climate Change Program, afforded an opportunity to learn more about the challenges climate change poses for countries, and the strategies Costa Rica and the Dominican Republic have developed to adapt their agricultural sectors to climate change and reduce the volume of greenhouse gases (GHG) that the sector emits.

Participants in the forum included the Executive Secretary of the UNFCCC, Christina Figueres, who stressed the need for the countries of Latin America and the Caribbean to make their positions known on the role of agriculture in negotiations on the Convention. Given the unique nature of production in agriculture, the sector must adopt measures aimed at adapting to and becoming less vulnerable to climate change and assume responsibility in lowering its emissions of GHG.

Because of its dual role, agricultural can play an important part both in lowering GHG emissions and in adapting to climate change. It was with this vision in mind that IICA responded to the appeal from the Executive Secretary of the UNFCCC.

Background

In 1992, the nations of the world adopted the UNFCCC in an effort to protect the climate system for present and future generations, in recognition of the fact that changes in climate, and their adverse effects, are a matter of concern to all of humanity.

The UNFCCC took effect in 1994, but it was not until the COP17 held in Durban, South Africa, in December 2011, that the topic of agriculture was formally discussed. At the COP17, participants extended the Kyoto Protocol for a second commitment period; reaffirmed the need to develop monitoring, reporting and verification (MRV) systems for the voluntary carbon markets; and proposed the Durban Platform, which, by 2015, will define mandatory global commitments that will take effect in 2020.

Furthermore, the Parties agreed to establish a framework for exchanging views on issues related to agriculture under the Subsidiary Body on Scientific and Technical Advice (SBSTA). Parties to the negotiations are expected to make submissions to SBSTA no later than March 5, 2012.

For purposes of the UNFCCC discussions, climate-smart agriculture is agriculture that increases productivity and the capacity to resist environmental pressures, while reducing the gases that produce the greenhouse effect or eliminating them from the atmosphere (FAO, 2010); and sustainable intensification of production refers to increasing production per unit of area, while reducing negative effects on the environment and increasing the contribution to natural capital and the flow of environmental services (FAO, 2011).

These concepts need to be researched and documented to show how:

- they maintain and increase the productivity of food and contribute to improving the quality of life;
- their mechanisms interact to contribute to the protection of natural resources and ecosystems;
- they enable agricultural systems to adapt to climatic conditions today and in the future; and
- they sequester carbon or reduce emissions of GHG.

Experiences of the Dominican Republic and Costa Rica

- In the agricultural sector of the Dominican Republic, the subsectors that have the greatest impact in terms of emissions are livestock (enteric fermentation and use of manure) and rice cultivation (flooded rice paddies, scheduled burning of savannas and burning of agriculture residues in the field).
- In Costa Rica, the agricultural sector is responsible for 37% of GHG emissions, including 46% of all methane and 54% of nitrous oxide, from the livestock, coffee and sugar cane subsectors.
- The representatives of the Ministries of Agriculture underscored the need to focus on the issues of funding and the strengthening of technical capacities, and on the work ahead to prepare the Ministries of Environment and Agriculture for their participation in the Conferences of the Parties (COP).

Source: Presentations made by the Ministries of Agriculture and Environment during the technical forum.



Christiana Figueres, Executive Secretary of the UNFCCC, via videoconference; David Williams, Manager of Agriculture, Natural Resources and Climate Change Program; Tania Lopez, Deputy Minister of Agriculture and Livestock of Costa Rica; Victor M. Villalobos, Director General of IICA; Carolina Flores, Directorate of Climate Change, Ministry of Environment, Energy and Telecommunications of Costa Rica, and James French, Director of Technical Cooperation of IICA.

Priority topics related to agriculture recommended for consideration by the Subsidiary Body for Scientific and Technical Advice

In response to the request from the Executive Secretary of the UNFCCC, IICA suggested priority topics in which agriculture must be considered for future agreements and negotiations, in terms of funding, technical advice and regulatory frameworks.

Institutional framework

- Strengthening of synergies involving the Ministries of Environment, Agriculture, Economy, Health and others, and to ensure that they are represented on national delegations to the Convention.
- Strengthening of intergovernmental cooperation in the hemisphere.
- Strengthening of national and regional policies and strategies for adapting to climate change and lowering GHG emissions.
- Strengthening of intersectoral and multilevel territorial management in order to facilitate articulation of the agendas of the different summits and multilateral actions of the international coordination and cooperation bodies.

Development of capabilities to adapt agriculture to climate change

- Recovery of degraded soils and efficient management of agricultural lands.
- Efficient use of water for irrigation and other agricultural production systems.

- Strengthening of the conservation and use of agricultural biodiversity.
- Promoting the concept of climate-smart agriculture, considering agro-ecosystems with capacity to adapt to extreme production conditions, silvopastoral and agroforestry systems, integrated pest management, family agriculture, organic agriculture and development of biotechnology.
- Development of local, national and regional strategies for adapting to climate change, including all the relevant sectors of the value chain of the agricultural sector; of early warning systems for natural disasters; and of agricultural insurance.
- Strengthening of national adaptation funds in order to channel international contributions to the countries.
- Creation of articulation and coordination mechanisms in order to achieve greater integration and empowerment of the organizations responsible for climate change in agriculture (for example, ministries and research and extension organizations) and to improve the ways in which they work with other relevant organizations (such as ministries of environment, meteorology).
- Strengthening of research, information, innovation and knowledge, to take advantage of existing opportunities.
- Mobilization of public and private funding, within the framework of a green economy, to ensure sustainable transition to a smart agriculture that is adapted to climate change, taking into consideration mechanisms and incentives such as insurance markets and other investments.
- Development of capabilities in public and territorial actors and greater technical and institutional capacities to formulate and implement public policies needed to manage the adaptation of rural territories and agriculture to the effects of climate change.
- Infrastructure for adaptation that will make it possible to ensure the continued use of irrigation systems, while making such systems less

wasteful and more modern, and to improve post-harvest and agricultural product conservation processes.

Development of capacities to mitigate the effects of climate change

- Technical and financial support for the preparation and implementation of Nationally Appropriate Mitigation Actions (NAMA) in agriculture.
- Technical and financial support in defining MRV mechanisms for the agricultural sector.
- Support in formulating and implementing certification standards.
- Prioritization of the agricultural sectors that generate the most GHG.¹
- Development of capacities in producers and public and territorial actors to learn more about methodologies for mitigating the effects of agriculture on climate change.

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Participants in the technical forum

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1. In particular, carbon dioxide, CO₂, methane, CH₄, nitrous oxide, N₂O, perfluorocarbons, PFCs, hydrofluorocarbons, HFCs and sulfur hexafluoride (SF₆).