

Resilient Agriculture in the Caribbean

Sustainable Agriculture Milestones in the Americas

Relevant experiences in the region to address climate change and care for the environment and natural resources





Highly vulnerable to climate change, Caribbean nations make strides towards organic, resilient, low-emission agriculture

Caribbean countries are among the most vulnerable countries in the world to the impact of climate change.

For these nations, many of which are small island states, the effects of climate change are not a future threat, but rather a current reality they know all too well. Weather events are becoming more extreme and frequent, causing natural disasters every year that result in human and material losses.

In these countries, food production has been one of hardest-hit activities. However, despite the dramatic scenarios they have faced, farmers in the Caribbean have made significant strides towards increasing agriculture's resilience to climate change and reducing its greenhouse gas (GHG) emissions. Through the application of good agricultural practices, they are working to preserve soil health and care for water resources.

Agricultural producers in many rural areas of Caribbean countries are implementing regenerative practices and innovative models aimed at transforming problems into opportunities and reducing the strong dependence on food imports, which has generated major economic imbalances in these nations for decades.

As a result of the 2019 coronavirus pandemic (COVID-19), which increased the need for social assistance and imposed prolonged restrictions on international tourism—the main source of income for these islands—the governments of Caribbean countries have faced severe budgetary constraints. Despite the limited resources, however, Caribbean countries are undertaking tremendous efforts to transform good practices into long-lasting public policies that can contribute to greater resilience and lower emissions in the agriculture sector.





One country that is leading efforts in this regard is Trinidad and Tobago, where the Caribbean Agri-business Association (CABA), the University of the West Indies (UWI) and the Ministry of Agriculture, Land and Fisheries are promoting innovation models to overcome the limitations imposed by natural conditions. One such example is Rocrops farm, created by Ramgopaul Roop.

The son of illiterate Indian peasants who were taken to the Caribbean as rural laborers by the British Empire, Roop pursued undergraduate and graduate studies in an effort to increase his farm's resilience. He incorporated agroecological practices to rehabilitate soils and utilize water in an environmentally friendly manner through management and planning around seasons of drought, flooding and erosion. As a result, Rocrops has become a focal point for visits by students from all over the Caribbean who are pursuing agricultural studies.

Ramgopaul Roop's farm is not an isolated case, however. There is growing awareness among all farmers in Trinidad and Tobago of the need to identify more environmentally friendly production methods that can better adapt to the impact of climate change.

Various organizations have played a key role in this regard. One example is the Alliance of Rural Communities, created in 2014, which has succeeded in enlightening farmers about the value of natural resources, ensuring their role in public policymaking and facilitating their access to the requisite financial tools to boost their production and income.

The organization encouraged cocoa farmers to produce their own artisanal chocolate and to develop community-owned businesses in Trinidad and Tobago and in neighboring countries, such as Grenada, Jamaica, Dominica, St. Lucia and Guyana.

Trinidad and Tobago is a country where people had traditionally been accustomed to growing their own food and living at one with nature. Yet, in the 1950s, the situation changed dramatically when the focus shifted to the extraction of petroleum and gas and food quality worsened for a lot of people.

One of the leaders of the Alliance of Rural Communities is Gillian Goddard, a Trinidadian who left her country to study in the United States and later returned with a keen interest in creating change in the community. She moved to a semi-rural area and began thinking about how to produce food on patios or in backyards.



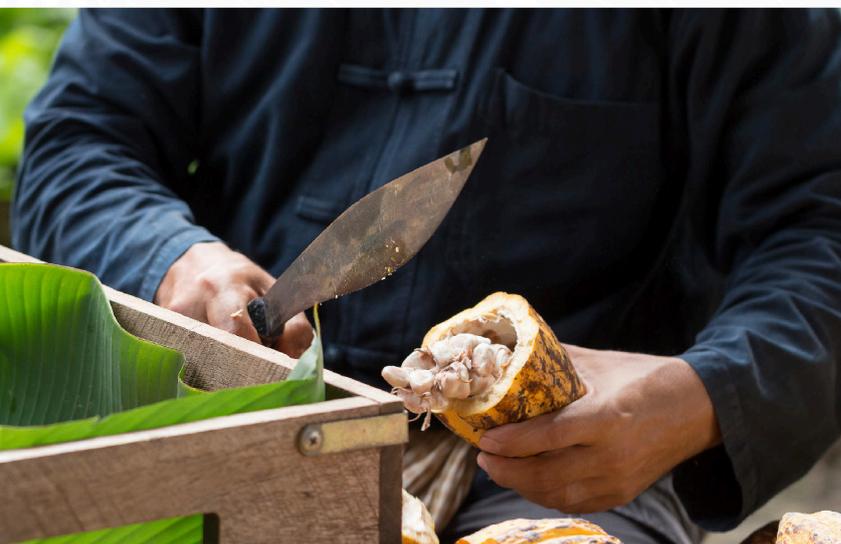


She then opened Trinidad and Tobago's first organic food store. At first, she sold imported food, but then she began to encourage local farmers to produce organic food and then to organize themselves and sell their products.

Goddard subsequently focused on promoting cocoa processing by the communities that grow cocoa. "We depend on natural resources to exist and most of these resources originate in rural areas. Thus, people who live close to these resources and who have cared for them for generations should have power over these resources. In other words, if cocoa plants grow in your region and you have been considerate, not cutting them down and caring for them, then you have the right to benefit from the

value of these plants. This awakened my interest in learning how to make chocolate, since I had not even been aware that we had cocoa in our region and that we could process it", she says.

The objective of the Alliance was to assist in human resource development and in restoring the natural environment, not only through agriculture, but also through chocolate manufacturing. Thus, tasks included teaching rural communities to make artisanal chocolate, nurturing community-own chocolate companies and fostering full use of crops and related resources on cocoa farms. Sales and distribution of products and the search for new markets are the responsibility of the Alliance.





The impact of natural disasters

The Bahamas is another Caribbean nation facing similar issues due to its strong dependence on food imports. Like Gillian Goddard in Trinidad and Tobago, farmer Deon de Costa Gibson went to college abroad and, upon returning home, began to promote backyard food production.



Gibson was living on Abaco Island in The Bahamas when it was devastated by Hurricane Dorian, the strongest hurricane to affect the northwestern Bahamas. Deon experienced firsthand the natural disaster's impact on the livelihoods of rural communities. He later returned to the island of Eleuthera in The Bahamas, where he joined the One Eleuthera Foundation, a non-profit organization created in 2012 to aid rural communities in The Bahamas in becoming self-

sufficient and resilient, while caring for their ecosystems and improving production through low-emission agriculture.

As manager of the foundation's farm, Gibson's work focuses on empowering and providing technical support to local farmers, as well as collaborating with ongoing agricultural education at high schools across the country.

According to Gibson, the impact of climate change is undoubtedly the biggest threat to Caribbean agriculture. "Hurricane Dorian is the best example", he recalls. "Many farmers lost their crops and their homes. We've also had major flooding and periods of drought lasting months, which are impossible to survive without irrigation systems. I believe we need much better education on climate resilience. On our farm, we're using hydroponics, which helps to reduce water consumption. I like it and I think it can be a positive tool in facing climate change. All living generations realize that we must improve. Recently, even my grandmother told me that she thinks we should study climate change better and that should be our main objective today".



Producing in harmony with the environment

The Caribbean is a major fruit producing region. In the Dominican Republic, one of the most emblematic crops is pineapple, which is globally renowned for its one-of-a-kind flavor. However, due to marketing obstacles and environmentally harmful practices, many pineapple growers have faced issues that have led them to migrate from the countryside to cities.

In 2017, more than 100 producers in Monte Plata, one of the country's 32 provinces, partnered to work together, with the mission not only to grow a pineapple that was distinguished by its sweetness and quality, but also one that was produced through the application of good agricultural practices and could be sold in both national and international markets.

Today, the Association of Pineapple Producers of Monte Plata (ASOPROPIMOPLA) conducts its work under environmentally friendly conditions, given that the agrochemicals it employs have been awarded environmental protection certification, enabling the farmers to protect the region's biodiversity. All the elements of the plants are also re-used, thereby guaranteeing a reduction in organic waste.

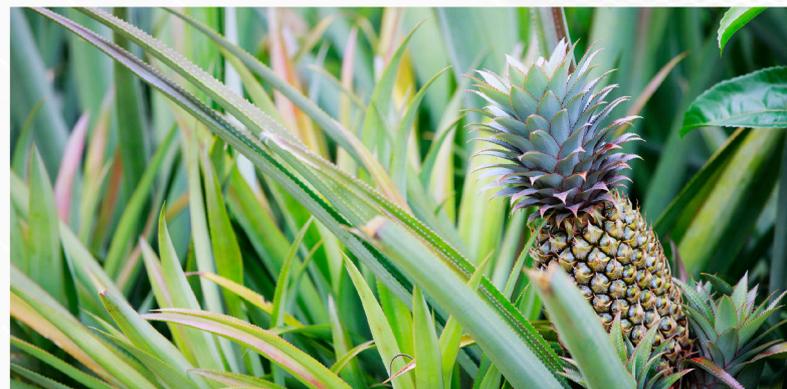
"We changed the mind-set of the traditional farmer, who was unconcerned about protecting the habitat. Many of them would chop down trees to make coal,

with no planning. Today we have implemented various projects, funded by the German government, which promote rational land use, while caring for the ecosystem in which the pineapples are grown. Although we are not organic producers, but conventional producers, we do use natural inputs and are reforesting many areas and practicing apiculture, to benefit the environment", explains Joelín Santos, the association's founder.

Santos was raised in the countryside and migrated to the city to pursue university studies. He later returned home and conceived the idea for the organization, convinced that professionalizing agricultural activity and seeking to increase its resilience would be the key to enabling other rural producers in the province and himself to enjoy a decent quality of life.

Thus, he created the association, which changed the lives of many farmers, who were accustomed to struggling to earn a profit from the fruits of their labor.

Today, ASOPROPIMOPLA has more than 400 farmers, who produce more than 20 million top-quality pineapples each year, through environmentally friendly agricultural practices, selling them on the national and international market.





Uniting in the face of common challenges

There are many examples of multi-country efforts to pool the energy and knowledge of farmers who work day to day to develop resilient, low-carbon agriculture. One example is the Caribbean Farmers Network (CAFAN), established in 2004, which brings together agricultural organizations and non-governmental organizations that share information and good practices to respond to common challenges—the most important of which is climate change.

CAFAN organizes training, advocacy and regional planning workshops; fosters study tours; and produces a variety of publications. It channels efforts towards implementing new technologies and mobilizing financial resources to advance climate change adaptation and reduce the use of natural resources in food production.

“We undertake educational efforts, because although people are aware that climate change is happening, they need to understand its dynamics,

which requires education”, says farmer Pamela Thomas of Antigua and Barbuda, who is a member of CAFAN. She explains that one of the network’s main objectives is to attract the younger generations to agriculture through the use of digital technologies.

From an agricultural standpoint, one of the most important countries in the Caribbean is Guyana. Women farmers from the region of The Pomeroon in that country created the Pomeroon Women’s Agro-Processors Association, which processes a variety of crops, especially coconut, to produce a wide range of products, such as water, oil, milk and dried coconut, which are in high demand at the regional and international levels.

In Guyana, coconut is the third product with the largest cultivated area, after rice and sugar. It is estimated that 24,000 hectares in the country are planted with coconut, yielding an average of 90 to 100 million units of coconut each year.





Women coconut farmers from The Pomeroon place special emphasis on the use of environmentally friendly practices, recognizing the fact that natural resources provide daily sustenance for their families. “We don’t use any fertilizers and we produce a lot. There are no pests or diseases. So, The Pomeroon is self-sustainable in the production of virgin coconut oil and coconut water”, explains Vilma da Silva, a small-scale producer and one of the founders of the organization.

Rosamund Benn is another one of the founders of the Pomeroon Women’s Agro-Processors Association. For more than 30 years, she has been growing coconuts on her 20-hectare farm, which she began to industrialize some time ago. Today, she stands out as a leading promoter of strategies to deal with increasingly intense droughts and storms in Guyana.

In Barbados, small-scale farmer John Hunte realized that organic farming offered the best way to care for resources. “Food production is certainly one way to protect the environment. Agriculture cannot exist if we destroy biodiversity. Soils are the perfect sanctuary for biodiversity; therefore, us farmers have the duty to protect soil health”, says Hunte, who is certain that Barbados’ future as a nation depends on its capacity to source its own food and avoid the importation of unhealthy food and agrochemicals.

Hunte is one of the founders of the Organic Growers and Consumers Association (OGCA) of Barbados, an organization with 20 years of experience that is unique in that it brings together producers and those who buy their products. OGCA supports healthy food production in harmony with the environment.



Commitment on the part of governments

Caribbean nations are committed to transforming their agrifood systems to make them more resilient and reduce their vulnerability to natural disasters caused by climate change.

The goal established by the Caribbean Community (CARICOM), a regional integration organization, is to transform agrifood systems while increasing productive resilience, with a view to reducing the region's food import bill by 25% by 2025.

Climate change poses tremendous challenges for farmers in Caribbean countries, which barely contribute to total global emissions, but are still among the main victims. As has been raised by the Alliance of Small Island States (AOSIS) in international climate change forums, all countries in the region have experienced considerable losses and damage due to the devastating passage of hurricanes.

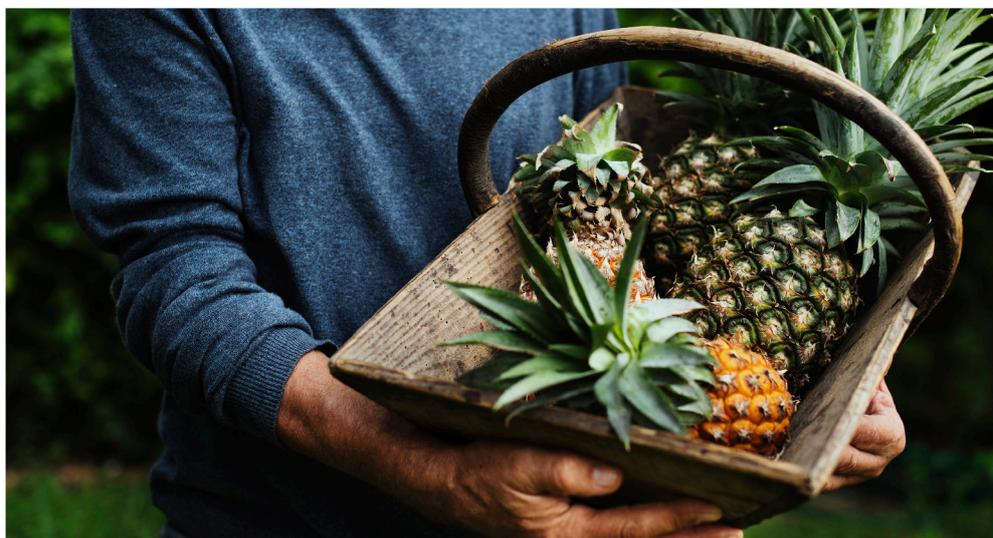
Unfortunately, hurricanes are not the only natural disasters. In 2021 alone, Caribbean economies and production systems faced the impact of a volcano eruption in St. Vincent and the Grenadines, an earthquake in Haiti, and flooding in Guyana and Suriname, which resulted in the loss of crops and animals. There was also an African swine fever outbreak in the Dominican Republic.

Caribbean countries are undergoing a crisis they did not cause, and which they are unable to overcome on their own because they lack sufficient resources.

Caribbean government leaders and farmers are the first to agree that strengthening the region's agrifood systems is crucial. However, they are also aware that this task will require funding from the public and private sectors, the State and international partners.

Innovative financial instruments and investment models are needed to improve the transfer of resources to small-scale producers. This will enable them to venture into the use of solar energy, hydroponics, aquaponics, smart greenhouses, water harvesting and storage, and other technologies that will make agriculture in the Caribbean increasingly resilient, fulfilling the dream of its people.





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