



Building Climate Resilient Agriculture in Caribbean Countries: St. Kitts and Nevis

St. Kitts and Nevis' Agriculture Sector in Context

In the Federation of St. Kitts and Nevis agricultural production (food and tree crop farming and livestock grazing) takes place at lower elevations and there has been a decline in agricultural land from 9,500 ha in 2000 to 6,000 ha in 2019, mainly due to land being used for other purposes such as housing and other infrastructural developments. Key climate change risks are associated with increased hurricane frequency and intensity, storm surge, flooding and drought. The islands face a future of low water availability for agricultural purposes, and a higher likelihood of inconsistent rainfall due to climate change is expected to make rain-fed agriculture more challenging. Drought has been identified as a critical hazard for Nevis, where over 50% of the island receives less than 1,270 mm of rainfall per year.

St. Kitts & Nevis' agriculture sector represented 1.4% of gross domestic product in 2020 and comprised 1,795 farm holdings, most of which are owned by individuals or families who operate on less than 1 ha of land. Agriculture land covers 23% of the land area and the Government owns 81.5% of the total farmland, with the remainder mostly

spread between the individual and family farm holders. Subsistence farming supports rural livelihoods within the country and policies over the last decade have supported increased production for domestic food supply. In 2015 food and live animals imported were equal to USD 50.12 million, and exports for the same category were USD 1.87 million. Other crops include yams, bananas, hot peppers, vegetables, citrus crops, breadfruit, and sugarcane. Livestock production is largely focused on cattle and poultry.

More recently, the islands have been significantly impacted by the COVID-19 pandemic, which emphasized the issue of food insecurity. As a response, the twin islands applied various stimuli, including a Farmer Assistance Programme and Women in Agriculture Assistance Programme that supported farmers with inputs; distribution of drought tolerant pineapples and tomatoes; boosting production of certain commodities, especially in support of food security. Backyard gardening was also promoted, with six months' free supply of water, free land preparation and inputs including fencing, feed for livestock and poultry, and drip irrigation technology for commercial farmers who were connected to the water line.

Agriculture in St. Kitts and Nevis' NDC

St. Kitts and Nevis submitted its initial Nationally Determined Contribution (iNDC) in 2015 and its updated NDC (uNDC) in 2021, neither of which included agriculture in its mitigation ambition. The St. Kitts and Nevis iNDC targets included adaptation objectives for the agriculture sector that focused on three linked priority sectors: Water, Agriculture and Coastal Zone. The uNDC's priority adaptation actions are the expansion of SMART aquaponics systems, development of alternative livelihoods and training, diversification away from at-risk crops and introduction of drought resistant technologies and species in animal husbandry.

Emissions Profile for Agriculture in St. Kitts and Nevis

Agriculture emissions in 2018 amounted to 9.5 Gg CO₂e, which represents 2.6% of total emissions (excluding Forestry and Other Land Use). Enteric fermentation contributes 54.7% of all emissions from agriculture, followed by emissions from agriculture soils and manure management, with 24.2% and 20.9%, respectively. There is also a small emission of 8.1 Gg CO₂e due to the conversion of land to cropland. The domestic production of cattle and pigs are the most significant sources of emissions and could be targeted for reduction within the sector. Chickens and pigs are also the largest contributors to manure management-related emissions.

Barriers to Inclusion of CRA Actions in St. Kitts and Nevis' NDCs

While there is a new Agriculture Transformation and Growth Strategy (2022) and adaptation projects are being implemented across the twin islands, factors that constrain the Climate Resilient Agriculture (CRA) transition, implementation, and enhanced ambition, including setting and reaching any mitigation objectives include, *inter alia*:

- Inadequacy of data within the AFOLU sector, making it challenging to set goals.
- Inadequate public sector funding to support the agri-food transformation.
- Inadequacy of funding to implement the identified adaptation targets, given that less than 50% of the actions identified within the National Climate Change



Source: St. Kitts Nevis Observer, June 10, 2020, <https://www.thestkittsnevisobserver.com/farm-challenges-first-drought-then-pandemic-now-hurricane-season/>

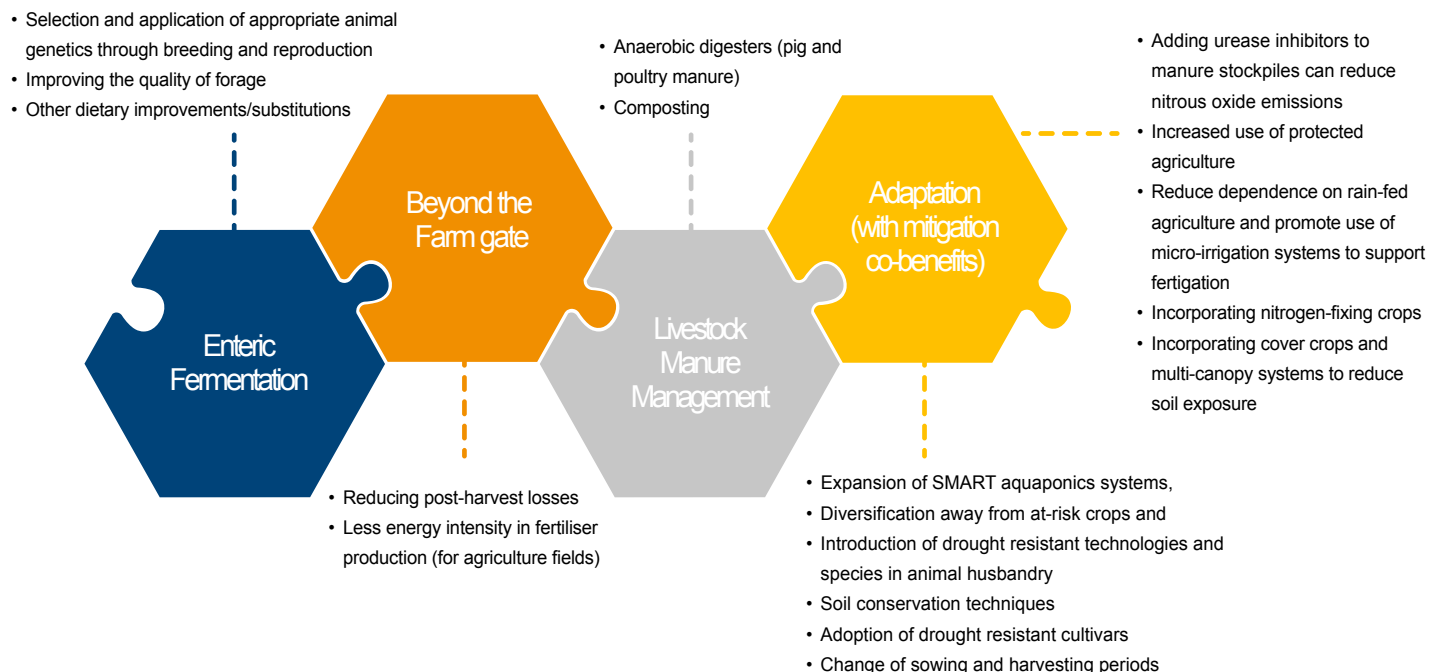
Adaptation Strategy (2018) have been implemented or integrated into annual operational plans.

- Inadequate technical capacity to implement adaptation actions.
- Inability to track progress, including Monitoring, Reporting and verification systems (MRVs), with implementation of agriculture actions.
- Weak coordination across islands and among key stakeholder organizations, including for access to financing.
- Poor access to credit and insurance.

Opportunities for Building CRA and Enhancing Climate Ambition in NDCs

The identified adaptation targets and pilot projects within the uNDC can potentially link to mitigation opportunities/co-benefits while fulfilling their primary goals to build resilience. The previously conducted Greenhouse Gas inventory for St. Kitts and Nevis also provides potential options and opportunities that, coupled with socio-economic feasibility assessments, can be assessed and prioritised for building CRA and increasing future climate ambition.

Opportunities for enhancing CRA in St. Kitts and Nevis



Priority Capacity Needs and Key Approaches for Enhancing Agriculture's Contribution to Future NDCs

Capacity Needs for Building CRA in St. Kitts and Nevis

- Expansion of water use efficiency technologies, such as rainwater harvesting and drip irrigation technologies.
- Promotion of research and development, including validation of technologies prior to adoption.
- Build-out of a data management framework and strategy for decision making, including integration of farm-level record keeping.
- Utilisation of digital technology for farmer-level decision making (e.g., building apps).
- Strengthened farmer education and behavioural change towards the CRA transition.
- Enhanced multi-level governance and coordination across the food value chain.
- Diversified and sustainable financing mechanisms to support the CRA transition.
- Mainstreamed CRA (including gender-responsive policies) into agriculture policies, legislation and regulation.
- Access to credit by women, youth and other vulnerable groups.

Approaches and Steps to Enhancing Agriculture's Contribution to Future NDCs

- Alignment of agricultural climate targets, policies, and actions with National Adaptation Plans or Sustainable Development Goals.
- Enhancing financing for climate resilient agriculture.
- Strengthening Monitoring, Reporting and Verification (MRV) systems for better inventories, assessments of mitigation potentials or assessment of access to finance.
- Improvement of agricultural innovation and extension services.
- Identification of policies and measures to equitably clarify land tenure, protect small-scale farmers, and engage private sector in the CRA transition.
- Identification or prioritisation of actions that support both mitigation and adaptation.
- Improved description of co-benefits for mitigation and/or adaptation actions.
- Link to niche markets that could incentivise sustainable, lower emission products.

The *Strengthening the Foundation for a Climate Responsive Agricultural Sector in the Caribbean Readiness Project* (CARICOM AgReady), financed by the Green Climate Fund, targets nine countries in the CARICOM region with The Ministry of Environment and Housing of The Bahamas as the lead National Designated Authority (NDA) and the Inter-American Institute

for Cooperation on Agriculture (IICA) as the delivery partner. Covering Bahamas, Belize, Dominica, Haiti, St. Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, and Trinidad and Tobago, the project works to provide information and tools to enable greater participation from the agriculture sector in climate action and finance processes.



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