Building Climate Resilient Agriculture in Caribbean Countries: Saint Lucia

Saint Lucia's Agriculture Sector in Context

Agriculture in Saint Lucia is predominantly small scale, with the average farm size estimated at 1.2 ha. It is conducted on lands of varying soil types and topography and is dominated by traditional rain-fed production systems, with limited use of modern technologies.

Agriculture provides 9.9% of Saint Lucia's total employment (2019) and continues to be an important productive sector for the country, although its contribution to Gross Domestic Product (GDP) has steadily declined in the past decades, from 13.85% in 1990 to 3% in 2015 and 2.2% in 2020, largely due to damages caused by natural disasters, pests and diseases. Saint Lucian banana production for export, despite also contracting, continues to dominate the sector. Other tropical fruits, coconut, cocoa, vegetables and herbs, tree crops and cut flowers are also cultivated. The livestock sector is small and dominated by the poultry and pig sub-sectors. The agro-processing industry is growing, with focus on honey, cocoa and jams and jellies.

Agriculture has been one of the sectors most severely impacted by extreme events in the country in recent years. Farmers have been challenged by multiple hurricanes, droughts, flooding and major landslides. For example, Hurricane Elsa in 2021 caused significant damage in the agriculture sector, with the greatest losses experienced by plantain, banana and tomato. The sector has also been impacted by the COVID-19 pandemic and the Russia-Ukraine war, both of which have contributed to food and nutrition security challenges linked to higher prices of inputs and produce as a result of demand dynamics and supply chain interruptions.

Agriculture in Saint Lucia's NDCs

Agriculture was not featured significantly in Saint Lucia's initial Nationally Determined Contribution (iNDC) (2016), as it was not specifically included in mitigation targets or adaptation actions. For adaptation actions, the iNDC referenced the Climate Change Adaptation Policy (2015), which identifies agriculture as a key climate sensitive sector for climate-resilient interventions.

Saint Lucia's updated NDC (uNDC) (2021) identifies an economy wide emission reduction of 7% compared to 2010 emission levels by 2030, focusing specifically on the electricity generation and transportation sectors. No direct agricultural mitigation actions were identified, while for adaptation, the NDC referenced Saint Lucia's National Adaptation Plan (NAP) process and its supporting Sectoral

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Adaptation Strategy and Action Plans (SASAPs) for 8 priority sectors, including agriculture. The uNDC specifies mitigation co-benefits from adaptation actions from agriculture and other linked sectors that include:

- Carbon sequestration by developing and implementing better practices in agricultural production.
- Piloting solutions to reduce water pollution under a changing climate, with a focus on pig farm wastewater and manure management that links the agriculture, water and waste sectors.
- Building resilience for adaptation to climate change vulnerabilities in agriculture.
- Reduced emissions from implementing resilient ecosystem activities to better manage the available ecosystem services and resources.

Source: National Fair Trade Organization in St. Lucia, Accessed August 22, 2022,https://www.theclimakers.org/saint-lucia-enhancing-biodiversity-with-climate-smart-agricultural-practices/

Emissions Profile of Agriculture in Saint Lucia

Saint Lucia produced an estimated 506 Gg CO2e (including forestry and other land use (FOLU) in 2018. The agriculture sector, whose emissions have only increased by 3% since 1994, contributed 27 Gg CO2e, which is 3.7% of the total emissions (excluding FOLU). Enteric fermentation accounted for 27.6% of the agriculture emissions, while manure management contributed 46.2%, and direct and indirect N2O from soils, 26.2%. Land conversions to croplands contributed to a sink of 2 Gg CO2e emissions, and this makes up 1% of the total agriculture, forestry and other land use emissions.

Barriers to Inclusion of CRA Actions in NDCs

Agriculture has not been significantly prioritised in Saint Lucia's NDCs and barriers to its inclusion are, inter alia:

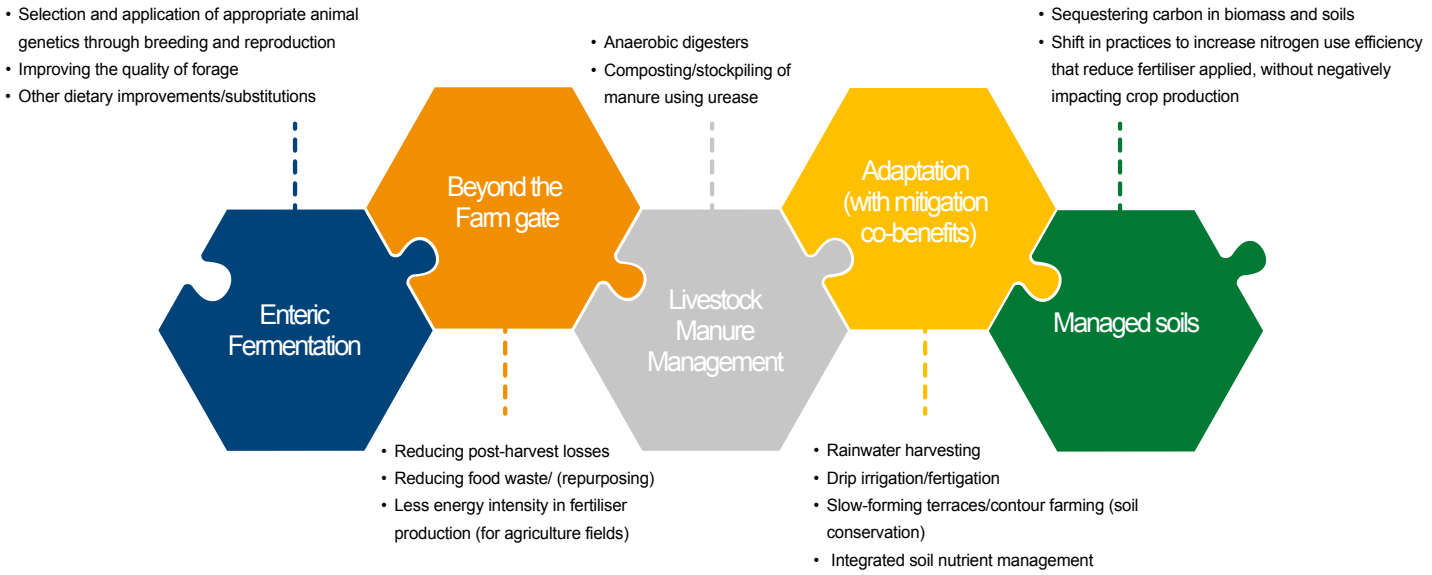
- Limitations in availability and accessibility of required data to support NDC-related analysis, target setting, and monitoring, reporting and verification (MRV) and GHG inventory profiling.
- Human and financial resource constraints generally (to address mitigation and adaptation goals) and specifically as it relates to facilitating the transition to new technologies, new practices, or new types of crop production.
- Inadequate support services to farmers to promote increased CRA implementation.
- Limitations in institutional capacity, coordination efforts and commitment from key stakeholders.
- Inadequate resources to finance investment in CRA, including limitations in availability and accessibility to affordable credit, as well as risk transfer financing mechanisms.

Opportunities for Building CRA and Enhancing Climate Ambition in NDCs

Emissions from Saint Lucia's agriculture sector are divided largely among three sources, namely enteric fermentation, livestock manure management, and managed soils (direct and indirect N2O). Saint Lucia has initiated several efforts that provide a solid path forward for mitigation actions to be included within the future versions of its NDC, including: (i) Promotion of agroforestry to sequester CO2 (emission reductions to be reflected in FOLU sector); (ii) Use of biodigesters to reduce emissions from livestock manure management; and (iii) Use of solar energy to reduce emissions relating to irrigation (emission reductions to be reflected in FOLU sector). In order to adequately assess the opportunities for reducing emissions from the sector, additional economic and social feasibility analyses are

recommended, along with the GHG inventory profiling. Other key opportunities for building CRA and enhancing climate ambition in NDCs can be explored by considering implementation measures beyond the farm gate and adaptation actions, with mitigation co-benefits, outlined in the agriculture SASAP and other guiding documents for the agriculture sector.

Opportunities for enhancing CRA in Saint Lucia



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

Capacity Needs for Building CRA in Saint Lucia

- Technical capacity to support evidence-based mitigation contributions, including development of GHG inventories and run mitigation scenarios.
- Data availability, quality and archiving.
- Research and development, including validation of technologies prior to adoption.
- Incorporation of digital technology in decision making.
- Enhancing capacity of extension and other advisory services.
- Multi-level governance and enhanced coordination across the food value chain.
- Financing to facilitate transition to new technologies, new practices and new types of crop production.
- Outreach and awareness to farmers and manufacturers to support the CRA transition, including to facilitate changes in practices and behaviours, aligned with national climate and other policies.

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 prioritization 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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