

## MOVING TOWARDS CLIMATE SMART INTENSIVE FARMING IN SAINT LUCIA

Giles Romulus, Keigan Mayers & Jade Hutchinson

**Name of Project:** Sustainable and Intensive Agriculture in a Closed System using IT and Organic Methods in Babonneau. Saint Lucia.

**Grantee:** Saint Lucia Coalition of Service Industries – SLCSI

**Total Budget:** US\$104,439.00  
SGP Grantee: US\$50,000  
Cash Co-funding: US\$39,127.00  
In-kind Co-funding: US\$15,312.00

**Dates:** February 2018 – September 2019

**Focal area:** Land Degradation and CCM

### Background

Young people are rising to find solutions to Climate Change and Climate Change variability in Saint Lucia.

For their risk-taking and their innovation, these two young men, working in partnership with the Saint Lucia Coalition of Service Industries (SLCSL) had already won a national and a regional award for best new farming idea, from the Caribbean Tech Entrepreneurship Programme, when they came to SGP. All they needed was funding for implementation of the project which would address the challenges of Food and Nutritional Security in this era of Climate Change.

To achieve that goal, SGP recommended a partnership with the SLCSI and the parties agreed and later formalized that relationship with a notarized agreement of mutual benefits. With this legal process

completed, the criteria was met for a Tri-Partite Partnership, with the SLCSI, the community Sole Proprietors and the GEF Small Grants Programme, which is implemented by UNDP.

### Project Objectives and Key Activities

The first component of the project is to complete the design and construct a closed system in which crops can grow and within which most plant parameters can be controlled and managed. The result will be a system in which temperature and humidity can be controlled and plant inputs administered on a need to basis, as determined by sensors in the ground linked to a smart app. The system will also be designed to be easily built, broken-down and re-built before and after hurricanes.

The second component is to build an online marketplace which brings together all buyers and producers of crops, this connecting producers and buyers. A buyer could access the app at any time to shop and find a producer or producers with the requisite amount of produce needed in real time, and complete a transaction.

The third component is to create a Centre of Learning for Climate Smart Agriculture for people willing to learn and who would like to obtain the National or CARICOM vocational training certifications. The final component is about marketing, advocacy and awareness raising to promote the system and maintain effective demand.

The project has also brought together a number of experts and stakeholders to assist, including the Inter American Institute for Cooperation on Agriculture (IICA), the Ministry of Agriculture, SGP and the largest supermarket chain in Saint Lucia. This group has become the Advisory Group to the project.

**Environmental Impact:**

The carbon footprint of the system will be close to zero as soon as it is fully solarized, saving the environment in excess of 10,000 Kg of CO<sub>2</sub> per month. The plant growth parameters as well as inputs and outputs will be under 24/7 monitoring and management through internet technology and the result is likely to be a more productive and efficient system. It is projected that by September 2019, the project would have proven how to control production parameters and achieve maximum yield per square meter.

Mechanical flaps and air condition units will also be used to control temperature in real time to ensure maximum productivity. *Inputs will be organic or as close to organic as can be sourced*, thus ensuring environmental and public health.



**Socio-Economic Impact:**

Food projections are expected to rise to 680 Kg per month for cherry tomatoes and 1150 Kg. per month for bell peppers, within a production area is about 174 square metres. Revenue is expected to increase to US\$50,000 in 2020 and US\$150,000 in 2021. This project will demonstrate how to achieve food security at minimum carbon footprint.

The project will make provisions for theory and practical teachings for any person willing to learn and become certified.

**Lessons Learned:** They are as follows:

- (i) ***Innovating is an iterative process*** in which more challenges are faced during the implementation, than during the conceptual stage. The original concept had to be modified several times as unanticipated challenges were confronted and new lessons learned.
- (ii) ***Create a mechanism for partners*** early in the implementation process. This will reduce errors and help to launch the technology and help to create effective demand for the outputs.
- (iii) ***Perseverance is a pre-requisite*** for any successful innovation.
- (iv) ***An innovator must of necessity be a dreamer who takes risk.***
- (v) ***A motivator or champion like SGP, makes the difficult days disappear, thus maintaining momentum.***