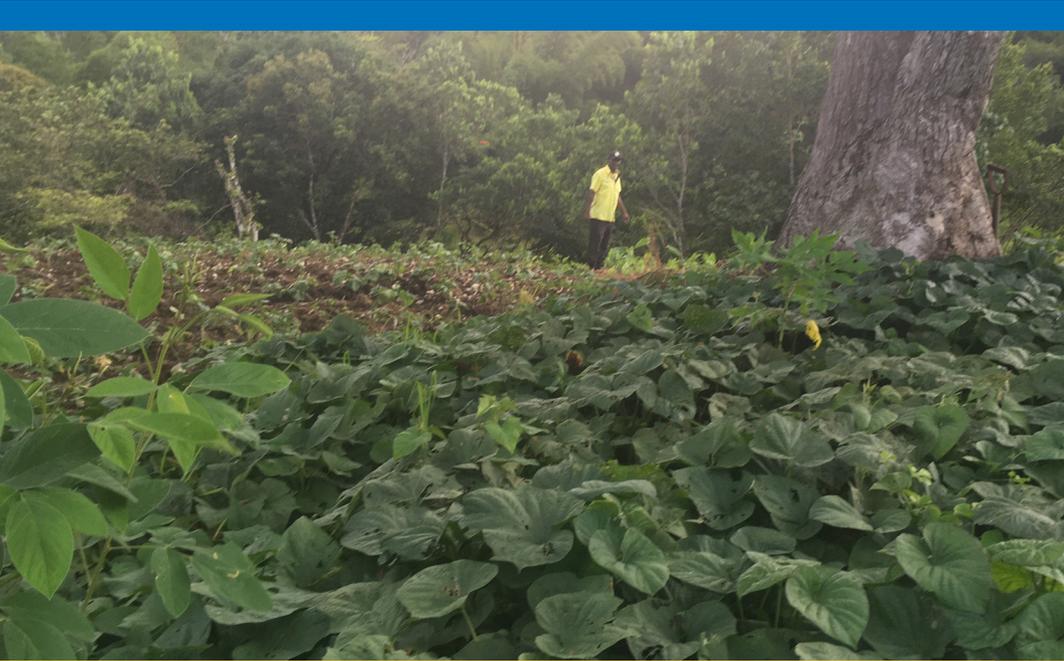


Canada



A CASE STUDY

Building Climate Change Resilience
and Reducing Disaster Risk
in Peckham, and Surrounding
Communities, Clarendon, Jamaica

Prepared by: Donovan Campbell, PhD

(revised in February 2021)

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in collaboration with

The Community Disaster Risk Reduction Fund
Caribbean Development Bank

Wilkey, St. Michael, Barbados

Date: August 10, 2019

INTRODUCTION

Agriculture plays an important role in Jamaica as it presently employs 19 percent of the country's population and contributes 7.3 percent to its GDP (Planning Institute of Jamaica 2018). Despite the many benefits associated with agriculture, weather related disasters have had negative effects on the Jamaican society. To further compound this matter, there is scientific consensus of increased storms and wet conditions (Taylor et al. 2018) as well as stronger drought periods and climate variability in the Caribbean region (Herrera & Ault, 2017).

Over USD 129 billion has been spent regarding weather related damages, according to the climate studies Group, Mona (2012). Such damages have been as a result of floods, hurricanes, droughts and tropical storms. Cumulatively, these weather-related damages have had negative effects on islandwide livelihoods and economic growth. This has serious implications for poverty reduction, food security, rural development and eco-system resilience.



A farmer in the EHF project stands in a newly planted area of a community replication plot.

In Jamaica, land is mainly used for agricultural purposes, thus climate related changes all pose continuous threats to livelihoods across the island. It has also resulted in devastating losses of agricultural produce and degraded farmlands.

Against this backdrop, key lessons from the *“Building Resilience and Adaptation to Climate Change while Reducing Disaster Risk in Peckham, Clarendon and Surrounding Communities”* project have been summarised in this case study. The project which was funded by the Caribbean Development Bank’s Community Disaster Risk Reduction Fund (CDRRF) was implemented by the Environmental Health Foundation (EHF). This case study will highlight the role of community engagement in the project’s success; its achievements and impacts on the community and best practices that similar initiatives can build on.

THE SITUATION

Background

The community of Peckham has four districts and is situated in Northern Clarendon. It has a population of approximately 900 people (Environmental Health Foundation, 2018). A 2019 report by the Planning and Statistical Institutes of Jamaica lists Peckham as having a 25% poverty rate, while its nearby communities Johns Hall and Grantham have poverty levels of 39% and 35% respectively. Under the project, Peckham as well as the neighbouring districts of Johns Hall, Morgans Forest, Grantham, Sanguinetti, Frankfield, Silent Hill and Top Alston have therefore been targeted by the CDRRF. Cumulatively, they have an estimated population of 3,200 persons (Environmental Health Foundation, 2018).

With a heavy dependence on agriculture and limited alternative ways to earn a livelihood Peckham and its surrounding communities have been impacted by a variety of environmental issues such as deforestation, land slippage, bush fires, drought, hurricanes and soil erosion (The Environmental Health Foundation, 2018). Additionally, drought and

intermittent rainfall have negatively affected diversification of crops and quantity yielded. Poor environmental practices like slash and burn and charcoal burning, also threaten the livelihood of the farmers.

The Project

To address the challenges faced by Peckham and its neighbouring communities, in 2018 the EHF launched a two-year project to strengthen the resilience of communities and their farming systems to climate change. This project included improving priorities, knowledge and capacities of local people. The project's objectives included:

1. *enhanced food security and livelihoods, through a renewable energy powered aquaponics system*
2. *improved land and water management,*
3. *preparation of hazard maps and completion of vulnerability assessment and disaster risk reduction (DRR) strategies for the community, and*
4. *increased public awareness on the impact of climate change.*

The significant strides made in building capacity for improved land management is noteworthy as approximately 400 farmers from eight Farmers' Groups have been trained via forty training sessions. These sessions emphasised community specific sustainable farming practices and highlighted improper agricultural practices. Training topics included small-scale poultry food safety principles as well as the establishment of sweet potato demonstration and replication plots. Other topics included small business/farm planning strategies, ginger treatment and fertiliser management, land husbandry, post-harvest practices and marketing strategies and the Tweedside Farmer's Group benefitted from training in good governance and financial management. Due to poultry management challenges two livestock feed companies were contracted to train farmers in small-scale poultry management. This training complemented the upgrading of the physical infrastructure on selected poultry farms to boost their climate related resilience.

The establishment of demonstration farm plots to help promote good agricultural techniques and climate smart agriculture is another major



Under the EHF project farmers in 8 communities are exploring climate smart crops

project achievement. By providing farmers with needed agricultural inputs, one sweet potato demonstration plot and 24 replication plots have been established. The “Uplifter” sweet potato variety continues to be utilised for its drought and soil erosion resilient properties. It was introduced by the project as it was considered a climate resilient crop. It has good capacity to withstand drought conditions and soil erosion. It has been well received by the farmers. Demonstration plots were also established for ginger and different methods are being used to good effect to try to control the rhizome rot disease which has been reducing ginger yields in Jamaica. Pineapples are also grown on demonstration plots as barrier crops to reduce soil erosion and diversify income for the farmers who welcome the diversity and how it helps them to adapt to climate change.

To help communities increase their awareness of climate change and reduce their risk from natural disasters, The Office of Disaster Preparedness and Emergency Management (ODPEM) and the Disaster Unit in the Clarendon Municipal Corporation were engaged to work with community representatives. To date, over 60 community representatives from more than 15 community organisations have



Farmers in upper Clarendon learn to use the A-Frame.

developed Community Adaptation Plans (CAPs) for their communities. Plans also included Disaster Risk Reduction (DRR) activities and hazard maps.

Additionally, community members who were trained in DRR Initial Damage Assessment, Shelter Management, First Aid and Light Search and Rescue were asked to be members of the newly developed community emergency response teams (CERT). Through their respective executive CERT teams, the disaster response needs of each community will be relayed to ODPEM and the Disaster Unit in the Municipal Corporation. Other ongoing activities include: the establishment of five pilot aquaponics systems, installation of rainwater harvesting tanks for 200 farmers, the enhancement of one emergency shelter, procurement of the Revofarm 1 mobile phone application for farmers, as well as public awareness activities related to climate change impacts and disaster risk reduction. The Revofarm app marks strides in technological advances for the farmers as it allows them to more actively engage markets for their crops and access weather related information to make crucial planting and farming decisions among other things.

ANALYSIS

Through this project, the diversification and adaptation of climate smart agricultural practices have helped to sustain the livelihoods of more than 200 farmers in Peckham and surrounding districts who rely on agriculture for their income. The many positives include the replicable demonstration plots, the resilient “Uplifter” variety of sweet potato and the training the farmers have received. The Uplifter has tremendous potential for export. Together, these will increase the potential to earn more and decrease agricultural losses. The trained CERTS are another positive output as they can now act as first responders who provide emergency support in natural disasters. This is also important as it boosts the community’s capacity to function and deal with minor injuries if it is cut off from assistance after a disaster.

Inherent to the success of the project has been EHF’s commitment to community engagement, participation and ownership. For example, there has been over 400 farm visits by the Project Extension Officer (PEO). Community engagement has also been achieved through sensitisation meetings; data collection via the Caribbean Development Bank’s Community Engagement Survey; collaborations with the Member of Parliament (MP) and other key political authorities and stakeholders. These strategies helped to build trust and secure ongoing community buy-in. The farmers’ negative experiences with previous climate related activities have also encouraged their participation in the project.

While outstanding project inputs such as the Revofarm app is expected to improve decision making via access to real time weather and agronomic data, farmers’ inability to utilise the app may reduce its effectiveness. Similarly, the project’s plan to establish five small scale aquaponics systems has the potential to diversify income and reduce poverty, yet start-up costs may make this inaccessible to many farmers and financial support will therefore be required. For the trained CERTS, ongoing training may be required to ensure the knowledge base is current and for the Community Adaptation Plans (CAPS), (including hazard maps and DRR information), data should be updated periodically to match changing contexts.

LESSONS AND RECOMMENDATIONS

A key lesson learnt from this EHF project has been that strong and consistent community engagement and buy-in are critical for successful project implementation. It is also good where possible to encourage political actors buy-in and engagement.

Future projects could take note that early, ongoing and consistent engagement results in successful project implementation and sustainability.

It is also important to encourage partnerships between community members and key organisations. This will ensure that follow-up trainings and opportunities can be maximised by the community actors as needed to ensure longevity of project training and knowledge.



Diversion ditch - one of the methods used by farmers to reduce flooding risk.

OTHER

Project website:

<https://www.ehfjamaica.com/categories/featured-projects/building-resilience-adaptation-to-climate-change-while-reducing-disaster-risk-in-peckham-clarendon-surrounding-communities>



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