Petite Martinique Women in Action – A local green-blue enterprise in Grenada

CASE STUDY #13: Local Green-Blue Enterprises in the Caribbean

This case study reflects findings of a process using CANARI’s Local Green-Blue Enterprise Radar. This is a tool to help local community small and micro-enterprise assess how they are delivering ‘triple-bottom line’ benefits (economic, environmental and social) and good governance, and what are possible areas for improvement. A focus group session is facilitated with members of the enterprise and they are asked to assess how they think that the business is doing based on a set of indicators. Each indicator is discussed, and members agree on a ranking for each. The ranking for each indicator is placed on a spider diagram, which visually represents a snapshot of how the enterprise is delivering benefits. The rich discussion helps members of the enterprise work together to assess how they are doing and areas where they want to grow.

Introduction

Local food production is good for local economies, but in small islands like Petite Martinique that have scarce water resources, some degree of innovation is needed to grow crops year-round. The smallest of the islands that make up the tri-island state of Grenada, Petite Martinique has an area of 2.5 km² and a population of about 900 people who live mainly in coastal villages. It is located just north of Grenada and is accessible only by boat.

Petite Martinique has no rivers or streams, so residents have traditionally relied on rainwater harvesting for fresh water and, more recently, on a newly installed desalination plant that provides water for domestic and commercial use. Heavy reliance on rainwater makes the island vulnerable to drought.

This vulnerability is increasing due to changes in weather patterns resulting from climate change. Water harvesting and reliable water storage systems are essential for the people of Petite Martinique. Due to limited water resources and harsh temperatures that can destroy young plants before they mature, food crops are only grown on a small scale on the island. As a result, most food is imported into the island, and fresh food is very limited.

One group that has been taking steps to increase the availability of fresh food is Petite Martinique Women in Action (PMWIA). Operating out of the community of Madam Pierre since 2016, PMWIA is a local civil society organisation that aims to empower women and youth on the island through gender balance initiatives and livelihood creation geared at sustainable economic development. Taking growing conditions on Petite Martinique into account, PMWIA opted to produce vegetables commercially using a greenhouse and aquaponics system powered by solar energy. The system combines greenhouse farming, hydroponics and aquaculture, allowing the women and youth farmers of PMWIA to produce food year-round, including during periods

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1 | Petite Martinique Women in Action – A local green-blue enterprise in Grenada
of water scarcity. The system produces approximately 400 pounds of leafy green vegetables and other short crops each quarter for sale on the local market in Petite Martinique.

The fish in the aquaponics system are not reared for sale, but rather to provide fertiliser for the plants. PMWIA’s aquaponics system relies heavily on harvested rainwater. However, major challenges to the group’s operations have been proper rainwater harvesting and adequate storage for harvested rainwater. Their rooftop capture capacity was constrained by limited roof space, and the system’s two 1,000-gallon water storage tanks did not provide enough of a buffer during periods of severe drought.

**Economic Benefits of the Enterprise**

PMWIA is dependent on rainwater for the survival of the business. As the enterprise is in the start-up stage, the focus is on building operating capacity, initially through increasing the catchment and storage of rainwater followed by expanding the growing space for vegetables. In 2019, the members rated the enterprise low on profit generation and consequently the sharing of benefits to members was minimal. Funds are being managed prudently to grow the business and networking activities are underway to support business development. Job creation is critical for the survival of the enterprise as the management is undertaken by eight volunteers. Financial sustainability is wholly dependent on increasing operational capacity.

While the aquaponics system is efficient, improving the water infrastructure in 2020 increased the sustainability of their operations in the following ways:

**Increased rainwater catchment capacity.** By constructing a roof over the new platform, PMWIA increased the available roof area for water capture. Rainwater that would have been otherwise lost to surface runoff and infiltration into the soil can now be captured and channelled into water storage tanks. The roof has other benefits. It protects the gravity flow tank platform from water damage and shades the fish tanks of the aquaponics system from direct sunlight exposure. Shade protection decreases evaporation, helps moderate the water temperature, and inhibits the growth of algae that poses a risk to both the fish and plants in the aquaponics system.
**Additional water storage capacity.** Installation of an 800-gallon tank increased PMWIA’s water storage capacity from 2,000 gallons to 2,800 gallons. The 800-gallon water tank provides supplementary capacity for the operation of the aquaponics system during drought periods on Petite Martinique. Stored water is used to replenish water taken up by the plants and lost to evaporation.

**Expanded growing space.** By relocating the fish tanks from the greenhouse to the newly constructed platform, PMWIA freed up additional growing space in the greenhouse where the tanks had been previously housed. PMWIA estimates that the additional growing space will increase their capacity to produce an additional 100 pounds of vegetables per quarter through the addition of new grow beds.

**Environmental Benefits of the Enterprise**
Climate change projections for the Caribbean foretell a drier future and an increase in the frequency and intensity of extreme weather events. By shoring up its ability to harvest and store rainwater, PMWIA is taking steps to strengthen the climate resilience of its agriculture production system and prepare for future conditions. Water resources and catchment management are critical for the sustainability of Caribbean agriculture, even in small-scale, water-efficient systems like PMWIA’s aquaponics farm.

PMWIA rated itself highly in water conservation and with no fertiliser runoff into the watershed, soil pollution is also minimal to zero. Although the energy used is less than in traditional farming, the enterprise has room to improve on efficient energy use.

**Social Benefits of the Enterprise**
PMWIA was established on August 15, 2016 with the objective of empowering women and youth within the community. The majority of men on the island are dedicated to boatbuilding, fishing and seafaring activities. Very few women work and many stay at home to tend to children.

PMWIA has two objectives: to tackle the limited agricultural production and to promote the creation of sustainable livelihoods for young rural women. PMWIA builds capacity among women in farming, production and packaging, whilst improving the quality and availability of freshly grown food. The enterprise rated itself as strong in encouraging all members to express their opinions and contribute to decision making.

At present, the responsibility of forging networks and partnerships is undertaken by the President. There is greater opportunity for capacity building and creating more opportunities for women who the enterprise views as a marginalised sector of the Petite Martinique community.

**Governance of the Enterprise**
Leadership is undertaken by the President, Akeisha Clarke Frank. Ideas are shared within the group for clear execution and participatory decision making is encouraged. While reports are promptly communicated to donors and supporting agencies, PMWIA agrees that more can be done to engage stakeholders. Recently an award was given to PMWIA by the Ministry of Carriacou and Petite Martinique.
Affairs in recognition of their achievement in introducing a new sustainable farming venture into the community.

**PMWIA Local Green-Blue Enterprise Radar**

The Radar for PMWIA was developed by members based on their self-assessment in June 2019. This identifies areas where they can strengthen their triple-bottom line and governance to continue to enhance their contribution to conservation of marine and coastal biodiversity and development of sustainable and resilient livelihoods.

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