

**CASE STUDY: ICCAS PROJECT**

**Enhancing Food Security and Improving Livelihoods: Marine Resources**

**Submitted**

By

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| **Integrated Climate Change Adaptation Strategies (ICCAS): Case Study** | | | |
| **Title:** Enhancing food security and improving livelihoods | | **Period:** January 2016 – August 2017 | |
| **IMPLEMENTING AGENCIES** | | | |
| United National Development Programme (UNDP) | Ministry of Education Human Resources Development & Environment, NAWASA | | German Development Cooperation (GIZ), BMUB |

**Background**:

**ICCAS Project**

The Integrated Climate Change Adaptation Strategies (ICCAS) project was designed to provide a holistic approach to climate change adaptation and mainstreaming in Grenada. The overall aim of the ICCAS project was to increase resilience of vulnerable communities and ecosystems to climate change risks on the three islands: Grenada, Carriacou and Petite Martinique. The project, which has four Components, uses a comprehensive, integrated approach for analysing and implementing adaptation strategies. It also used a unique approach of establishing the institutional and operational framework for building adaptation and resiliency with direct support for the implementation of small-scale adaptation initiatives through a community based climate change adaptation fund which contributed immensely in informing ordinary citizens about the impacts of climate change and demonstrating through actual interventions, how they can initiate various activities, in their homes, schools and communities to build resiliency.

The complete ICCAS Programme was comprised of four (4) components out of which a number of projects were conceived and executed. These projects can be grouped along the following themes:

* + Agriculture and water
  + Marine and coastal areas
  + Education and awareness
  + Flood mitigation
  + Recycling
  + Land degradation

Three of the 27 projects funded under the umbrella ICCAS programme fall within the thematic area of Agriculture and Water, more specifically focussing on enhancing food security and improving livelihood.

**Project Summaries**

**Fishing Aggregate Devices in Carriacou**:

Fishing has been the source of sustainable livelihood for many families on the South-West Coast of Carriacou. The effects of climate change have adversely affected the ecosystem, and fishers are now left to seek new and innovative methods to continue to ply their trade as “no-take’ marine protected areas were established to allow for recovery of reef species adversely affected by climate change. As a result, Fishers were required to go further out at sea but faced with unsuitable equipment were bringing home less fish and experiencing loss of revenue. The purchase and construction of Fishing Aggregate Devices was intended to address the issue of depleted fishing and the resulting loss of revenue since these devices attract the small fish to the centre of the device, which then attracts the large fish on the edges of device making them easier to catch.

The value of the grant to this project wasm$50,000. The project entailed the purchase of equipment and FAD construction and deployment of 5 FAD units, as well as training in resource management. Over 100 fishermen benefited from the use of the FAD farms daily. The training component of the project provided an enhanced appreciation for fishing habitat and bio-diversity and developed resilience to climate change.

**Ice Box Construction – St Andrews Fishers**

Fishing is the main source of revenue for many small communities in Grenada, Carriacou and Petite Martinique. However, with increased temperatures due to global warming the fishermen were losing increasing numbers of fish due to spoilage on board the vessels. The value of the grant to this project was $30,507.

The main activities that took place during the implementation of this project included:

* Design and construction of durable fiberglass ice boxes with proper insulation for the storage of fish.
* Outfitting of thirty (30) fishing vessels with fiberglass ice boxes.
* Training of fishermen in quality assurance, to maintain fish quality.
* Development of a user manual for guidelines on the proper use and maintenance of the ice boxes, as well as proper handling of fish post-harvest.

**Seas Moss Harvesting – St Andrew**

This project was carried out by a local community group, the Sea moss Farmers of Grenville and had a value of USD 15,000. This group earned a living through the harvesting of wild edible sea moss for several years. However, one of the most detrimental impacts of climate change is the increase frequency and severity of storm systems. In 2004 and 2005 Grenville Bay was severely and adversely affected by hurricane Ivan and Emily resulting in the bottom substrate upon which sea moss grows to be destroyed. This loss significantly affected the villagers’ source of income. Consequently, the project introduced sea moss mariculture as an adaptation strategy to climate change. The project included training in the operation and construction of drying tables and solar dryers and provides a more reliable supply and improved quality of sea moss as well as providing the wild stock with enough time to sufficiently recover from the impacts of climate change and prevent them from further degradation as a result of overharvesting.

**Project Objectives/Goals**

Outcome 3 of the ICCAS initiative is to increase the adaptive capacity of communities through the implementation of concrete community-based adaptation activities. All three projects aimed at adapting the main livelihood generating activity in the community to improve its resilience to climate changes occurring in environment.

*The FAD Project* aimed to develop resilience to Climate Change by increasing the quantity of fish caught and sold which had been declining steadily through improved fishing techniques and the provision of adaptation training in the construction and deployment of FADS.

*The Ice Box Project* focused on improving the post-harvest storage and quality of seafood as an adaptation strategy to the warming effects of climate change which was causing losses due to increased spoilage of the fish catch.

*The Seamoss Project* aimed to move the community away from wild seamoss harvesting which was proving to be unsustainable by developing and implementing a program of sea moss mariculture and processing and improving post -harvest processing of sea moss.

**Climate Change Adaptation impact**

All three projects demonstrated, in a significant way how climate change was impacting on their daily lives and the pressing need to adapt and make changes to how they do business. While they initially might not have understood the reasons for the establishment of the “no-take zones” in the newly established marine protected areas, they later came to appreciate how global warming was impacting on reefs and the size and quantity of fish caught in those areas. More importantly, the projects demonstrated to villagers that they can make improvements to their livelihood through the introduction of technology, some ow which were quite inexpensive, while at the same time responding to the impacts of climate change. This resulted in significant improvements in the quality of life and the sustainability of their activities.

**Positive Lessons that can be Extracted from this Project**

In all three projects the main achievement is the provision of tools and techniques that move the community away from unsustainable practices to new practices that are enhancing livelihood generation. In the case of sea moss harvesting the project has exceeded expectations with estimate of 17,500 square ft. of area cultivated with approximately 13 seamoss plots where originally only 10 had been planned. Additionally, 15 persons were originally targeted for training but 21, in total, were trained.

In the case of the ice box construction, fishermen report that use of the ice boxes has improved the quality of fish sold tremendously and has also allowed them to remain at sea for longer periods therefore allowing them to catch more fish.

The cooperation of the fishers in installation and maintenance of the FADs has demonstrated, in a very practical way, that much more can be accomplished when they work together. This has spurred a desire among fishers to pool their resources to acquire and construct additional FADs. The potential for greater varieties and increased catch has also enabled fishers to market and sell their catch outside of the traditional areas, also raising the prospects of increased revenues.

Most importantly, as a wider variety of fish are caught and consumed, there is less pressure on the traditional reef resources which were dwindling, both in terms of size and quantity, as a result of overfishing.

The training provided through these projects have long term benefits within the larger community as they have provided new skills to benefit the community. In terms of the FAD one very positive outcome was the knowledge sharing with fishermen from Grenville going to Carriacou to assist them with the FADs and with resource management when the latter were having difficulties in the project implementation phase. In terms of the Ice box project, key fishermen trained in the ice box construction now get consistent work as the use of ice box is being promoted.

**Areas for improvement when replicating this Project Approach**

Key findings include the fact that there are mainly males benefiting from the ice box and FAD projects since fishing is a male dominated activity in Grenada. However, the seamoss project was 50% female.

Due to lack of baseline information in terms of normal fish catch both in terms of quantity and quality, only anecdotal evidence is available on the improvements in amount and quality of fish catch. This suggests that baseline and post project data collection would improve the project evaluation element of the project.

The FAD devices can result in overfishing and catching fish that are too small to use so resource management training is integral to the project and resource monitoring must be a key component of post project activity.

There were some initial difficulties within the Carriacou community in accepting the change in the catch from redfish to the bigger deep-water fish caught using FADs. That shift in taste is taking place slowly.

Although the targets were met, such as number of ice box (30) introduced etc, not all the fishers are using the ice boxes for the purpose it was intended. The numbers attending education and awareness sessions were not as large as forecasted which could have a negative impact on the resource management component of the projects.

**Key Comments on Project Success from Stakeholders**

**Resources:**

<http://www.iccas.gd/?q=about-iccas>

<http://www.iccas.gd/?q=news/160701/sea-moss-farmers-launch-new-project-st-andrews>

<https://www.youtube.com/watch?v=rbcaG5UuzQo>

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Location of Project: Caribbean/OU/Grenada/St Andrew

MHT: What is the Major Habitat Type for this partnership? Farming community?

Types of Partners: Government, Place-based NGO, International NGO, Community Based Organization etc.

Priority: Freshwater

Date: May 2018