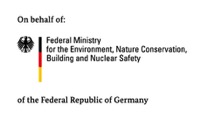
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| Monitoring and Evaluation Report for the Community Climate Change Adaptation Fund |
| Prepared by: Ms. Saudia Rahat, M&E Specialist |





10/17/2017

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# List of Acronyms

|  |  |
| --- | --- |
| **Acronym** | **Meaning** |
| CARICOM | Caribbean Community |
| CC | Climate Change |
| CCA | Climate Change Adaptation |
| CCCAF | Community Climate Change Adaptation Fund |
| CCCCC | Caribbean Community Climate Change Centre |
| CCM | Climate Change Mitigation |
| CDB | Caribbean Development Bank |
| CDEMA | Caribbean Disaster Emergency Management Agency |
| CDM | Comprehensive Disaster Management |
| CIF | Climate Investment Fund |
| CLOs | Community Liaison Officers |
| CSA | Climate Smart Agriculture |
| CSP | Country Strategy Paper |
| FAD | Fish Aggregating Device |
| GHG | Green House Gas |
| GIZ | Deutsche Gesellschaft für Internationale Zusammenarbeit |
| GoG | Government Of Grenada |
| GPRS | Grenada’s Growth And Poverty Reduction Strategy |
| ICCAS | Integrated Climate Change Adaptation Strategies |
| IPCC | Intergovernmental Panel On Climate Change |
| KPA | Key Priority Areas |
| LMMS | Land and Marine Management Strategy |
| M&E | Monitoring And Evaluation |
| MOALFFE | Ministry Of Agriculture, Land, Forestry, Fisheries And The Environment |
| NAWASA | National Water And Sewerage Authority |
| PMF | Performance Monitoring Framework |
| PPCR | Pilot Program For Climate Resilience |
| RBM | Results Based Management |
| SDGs | Sustainable Development Goals |
| SFDRR | Sendai Framework For Disaster Risk Reduction |
| SPCR | Strategic Program For Climate Resilience |
| TA | Thematic Areas |
| UNDP | United National Development Programme |
| UNFCCC | United Nations Framework Convention On Climate Change |
| WHO | World Health Organisation |

# Executive Summary

The Programme on Integrated Climate Change Adaptation Strategies (ICCAS), which is being co-implemented by the United Nations Development Programme (UNDP) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), is an initiative that will support Grenada in achieving climate resilience by using an integrated adaptation approach to increase the resilience of vulnerable communities and ecosystems to climate change risks. Outcome 3 of the ICCAS initiative is to increase the adaptive capacity of communities through the implementation of concrete community-based adaptation activities and incentives in the islands of Grenada, Carriacou and Petit Martinique. This outcome will be realized through the institutionalization of a Community Climate Change Adaptation Fund (CCCAF) that responds to the needs of Grenada’s vulnerable communities. The grants are intended to support activities related to agriculture and land use, fisheries and marine resources, coastal protection and water resources management.

The Monitoring and Evaluation of the CCCAF was designed post approval of 29 community climate change adaptation projects (of which 27 were operationalized). The benefit of developing the M&E framework for the CCCAF post operationalization of the fund is that the 29 projects could be reviewed together to developed indicators that are applicable across multiple projects to promote rationalization of indicators. As a result, it was agreed that the M&E framework for the CCCAF would follow a core indicator methodology, which essentially agrees on a number of indicators that will be used as the basis to aggregate information across the projects. Aggregation is the mechanism by which the overall performance of the CCCAF will be determined. A total of 34 core indicators were agreed to.

The overall aim of this M&E report is to provide a performance monitoring report on the core indicators. It is not intended to be a final evaluation exercise. This report was envisaged to be based on the final reports of community projects. However, at the time of data collection (September 2017) only 16 of the 27 projects (59%) were completed and of these 16 projects, only 11 projects had final M&E reports completed. Hence there were gaps in the M&E data. As a result, the Performance Measurement Framework (PMF was updated based on information available to the CLOs. This meant that qualitative questions – such as success rates etc. could not be included in the analysis for the projects that did not have final reports since wider stakeholder perspectives would be required. The 11 projects that have completed final reports would have included interviews from multiple stakeholders including grantees, direct and indirect beneficiaries. A key limitation with the existing M&E data is that the project leads did not seriously address the routine data collection needs such as tracking and recording of yields (fish and/or crops) and attendance register for meetings/workshops/training. This could be due to the fact that the M&E process was launched late and was not outlined in the original requirements when approval of funding was given, which would have been the best approach to set clear expectations.

There were a total of 180 interviewees from the 11 projects that completed final reports. The remaining 16 projects obtained data directly from the CLOs. A closer look at the profile of the interviewees indicated that slightly more females (57%) than males (43%) were interviewed. This could be attributed to the timing of interviews when mostly women are home during community visits. There is no surprise that most of the interviewees were from primary level since there were quite a number of projects that targeted children in schools and groups.

In terms of the performance of the CCCAF – the 16 projects that are completed are individually performing between exceptional to good, which is overall very good. However, there are two projects – girl guides and heritage – that needs attention if it is to attain a better achievement rating by the end of the implementation period. For the CCCAF funded projects that are still ongoing (11 projects) majority of the projects are scheduled to be completed with a satisfactory or exceptional achievement rate. However, there are three projects that require urgent attention – Grencoda (#08), Slade (#101) and Seamoon (#150).

For the impact level indicators, the aggregated data signals that there is an overall good achievement rating for the targets that were set. One of the main areas that the projects performed well is providing benefits to more stakeholders than originally targeted. This could be attributed to the fact that majority of the projects that prepared final reports indicated that the community representatives that led the implementation of the project did a job of informing persons on the project since the majority of persons were made aware through them. Others indicated that they were informed by UNDP, while others found out based on observation and inquiry. Further, the data in these final project reports also suggest that there were not barriers to restrict persons from benefitting from the project. Other notable findings are that 269 jobs were created, which is about 20% below the target. However this shortfall in meeting the target is mostly because there are outstanding reports on employment levels for approximately 6 projects. More importantly is that the sex distribution of the people that gained employment is primarily males (83%) but this was expected since most of the jobs reported were in the construction sector (contractor, laborer, architect, and engineer). Almost 95% of the jobs were reported to be short-term. One area of key concern moving forward is the need for more focus on supporting and ensuring strategies that promote the sustainability of the initiatives are in place. To this end, it would be beneficial if the success stories are promoted in the future, particularly if the CCCAF is institutionalized. Also, the project proposal phase could have included a section for applicants to state what will be done and what support is needed to ensure sustainability of the benefits after the funding is utilized. This will promote sustainability as a requirement for the approval of the interventions.

In terms of the food security thematic area (indicators) the achievement rating is between exceptional to good with two indicators not being able to be rated (yields and area of land under functional irrigation) due to insufficient data. Key findings include the fact that there are only males benefiting from the ice box and FAD projects since fishing is a male dominated activity in Grenada. Further, there are more females using the irrigation systems installed across the relevant projects because there were a few projects that were predominantly females such as the 4H club initiative. Furthermore, an estimate of 17,500 square ft. of area has been cultivated with approximately 13 seamoss plots; the level of success with the FADs did not go according to plan- out of the 10 FADs installed, only 2 are operational and approximately 8600 square ft. of land is under functional irrigation system due to the investments made by the CCCAF.

The water resources thematic area (indicators) have the best achievement rating than any other thematic area. Three indicators were rates as exceptional and one as very good. Unfortunately two indicators could not be rated due to insufficient data (water quality and school attendance). The notable findings are that there is enhance capacities across communities to store up to 216,789 gallons of water due to the support of the CCCAF. There is also a high level of success reported in reducing the incidence of flooding through infrastructures installed.

Two of the environmental protection thematic area (indicators) were rated to have exceptional and very good achievement rates, respectively. However, most of the indicators (4 out of 6) could not be rated since these indicators were tied to a particular project that is not completed to date and hence there was insufficient data available. This highlights one of the key challenges that was initially faced when identifying suitable core indicators that would be applicable to all projects – because there were a few projects that were very unique and stand alone; such as the Ramsar and Climate Kids App projects- the indicator development ran into two separate challenges. For the Ramsar project, a few indicators were identified by stakeholders that were unique to this project (alone). The case for the climate kids app project is different since this project was detailed after the establishment of the core indicators and most of the existing indicators turned out not to be very applicable to this project.

Two of the forestry indicators were rated to have exceptional achievement rates and the remaining 4 indicators could not be rated at this time. A key finding is that over 1380 trees were planted either on slopes, along rivers (to check flood mitigation and erosion) and in once forested areas.

The education and awareness indicators have a mixed achievement rating – three indicators had exceptional achievement rates and two indicators were satisfactory and unsatisfactory, respectively. The key achievements are that 88 visual and aural products were developed to promote education and awareness on the effects of climate change (by thematic area). Thereported number of individuals reached by these products is at least 5 times what was targeted (2888 people reached). However, there is no way of verifying this information since the mediums used such as audio channels (Radios etc.) is hard to track. Also, as noted earlier, there was no routine practice of taking registration at public meetings/events to verify numbers for some of the workshops/meeting that promoted education and awareness on climate change. Feedback was also solicited from direct beneficiaries that were interviewed as to whether they understand climate change better based on the education and awareness materials they were exposed to. The reviews are quite mixed, meaning that there is a relatively close distribution of the people that indicated they have some, most or all (1,2,3) understanding of the materials covered. In terms of training to build skills relevant to the roll out of the community projects; a total of 39 topics were set as the aggregate target; but 24 topics were completed to date, which include - Bamboo, Weiss and pine craft, Climate Smart Agriculture Techniques, Water Conservation Techniques, Ice Box construction, Livestock Management, Plant propagation techniques and Construction of FADs, among others.

The report could not assess the contribution the CCCAF on key economic indicators such as income and social indicators such as adaptive capacity, awareness and understanding of climate change. This was due to the fact that data on income was not collected during the surveys, and there was not adequate baseline data on the initial adaptive capacities of the beneficiary communities to assess the change. Also, assessing adaptive capacities would require a more detailed and comprehensive assessment of changes in risks (social, environmental etc.) that would be very costly.

The report was successful in documenting the lessons learned as it pertains to the various thematic areas of the CCCAF. The documentation process focused on success stories which are project specific and aim to share lessons as well as highlight the effects of the project. Nine stories were prepared that feature the following projects – ***FAD, Icebox, Limes Rain Water Harvesting, Reforestation and Slope Stabilization in Petite Martinique, Seamoss, Ramsar, Bamboo Craft, Crochu Rain Water Harvesting and Climate Kids Adventure***. The documentation of lessons by thematic area was intended to group common and notable activities that worked well or didn’t go well. Key lessons related to the management and operationalization of the CCCAF were also covered. The common lessons were that a petty cash system needs to be institutionalized for small payments, there is need for a dedicated account for the CCCAF, community projects should confirm availability of local knowledge/experts before hiring foreign experts, there should be the practice of following up with references for consultants to ensure good reviews are received prior to the contracting of them.

The M&E system for the CCCAF also included indicators and targets related to M&E capacity building. As such, the performance of the M&E component of the CCCAF was assessed. It was found that most of targets set for indicators had a very good to good achievement rate. Only two indicators were satisfactorily achieved and this was due to the loss of trained CLOs during the lifetime of the project and the delay in the collection of M&E data due to the extension of the CCCAF timeframe. Some key lessons as it relates to the M&E system were that there is need for dedicated on-the-ground M & E technical support to provide support to CLOs, the M&E should have been launched earlier so that baselines could be more realistic, and any excessive funding should be put towards M&E such as M&E data collection up to 6 months after the close of the projects.

# Background of ICCAS and CCCAF

Grenada is a tristate consisting of Grenada, Carriacou and Petit Martinique and like many other Small Island Developing States, it is characterized by its relatively small size and remoteness, limited natural resource base, limited human capacity and technical capability, and fragile ecosystems. Therefore it comes to no surprise that Grenada is susceptible to natural hazards like hurricanes and other extreme weather events. For instance, Hurricane Ivan, which impacted the country in September 2004, destroyed almost 90 percent of residential buildings, tourism facilities and agricultural land. Following the recovery from Hurricane Ivan, Hurricane Emily struck the Northern part of the island, further affecting the food crop sector.

The onset of the climate change phenomenon has imposed new hazards on Grenada and exacerbated existing ones. It is projected that an increase in the sea level of half a meter would destroy up to 83 percent of the beaches. The most vital sectors susceptible to climate change in Grenada are: water resource management, coastal infrastructure, human health, agriculture and tourism, which are being adversely affected by climate related hazards such as rising sea level, longer periods of droughts, beach erosion, and loss of coastal areas or flooding.

As a relatively low greenhouse gas emitter, Grenada has placed the primary emphasis of its national climate resilient agendas/programs on climate resilience, while contributing to emission reductions through the forestry sector. The Programme on Integrated Climate Change Adaptation Strategies (ICCAS), which is being co-implemented by UNDP and GIZ, is one such initiative that will support Grenada in achieving climate resilience by using an integrated adaptation approach to increase the resilience of vulnerable communities and ecosystems to climate change risks. The ICCAS targets government, including its sectorial agencies, and communities already being impacted by climate change. The overarching objective of the ICCAS Programme is ***to increase resilience of vulnerable communities and ecosystems to climate change risks in Grenada through integrated adaptation approaches.***

ICCAS has four components to achieve this goal, which include:

|  |  |
| --- | --- |
| **OUTCOME 1** | *Strengthened capacity of the Government of Grenada to mainstream adaptation considerations into national development planning (at various scales), supporting inter-sectoral mechanisms for climate change adaptation also including the private sector* |
| **OUTCOME 2** | *Improved planning, management and efficient use of the water and coastal zone resources thought the establishment of integrated water resource management approaches and the formulation of CZM policies and management plans* |
| **OUTCOME 3** | *Increased adaptive capacity of communities through the implementation of concrete community-based adaptation activities and incentives in the islands of Grenada, Carriacou and Petit Martinique* |
| **OUTCOME 4** | *Capacity to access climate finance and knowledge management:*  *4 (a) Enabled access to public (bilateral and multilateral) and private funding for climate change measures*  *4 (b) Strengthened understanding and awareness of climate change risks and adaptation measures (adaptation plan) and disseminate lessons learned and best practices at the local, national, regional and international levels.* |

Outcome 3 of the ICCAS initiative is to increase the adaptive capacity of communities through the implementation of concrete community-based adaptation activities and incentives in the islands of Grenada, Carriacou and Petit Martinique. This outcome will be realized through the institutionalization of a **Community Climate Change Adaptation Fund (CCCAF)** that responds to the needs of Grenada’s vulnerable communities. The grants are intended to support activities related to agriculture and land use, fisheries and marine resources, coastal protection and water resources management. Given the diversity of climate change adaptation (CCA) activities that will be supported across these sectors, it is important to adequately track and measure the results, not only for accountability purposes, but also to promote learning.

The final results chain for the CCCAF, as agreed to by stakeholders, is detailed in Table 1 below, which includes 16 result statements: 1 impact, 5 outcomes, and 10 outputs. As the arrows indicate, there is an upward logic in the results which means that outputs support the achievement of outcomes and the combined outcomes support the achievement of the overall impact.

The M&E of the CCCAF was designed post approval of the 29 community climate change adaptation projects, all of which have draft M&E frameworks that are unique to their projects’ objectives. The benefit of developing the M&E framework for the CCCAF post operationalization of the fund is that the 29 projects could be reviewed together to developed indicators that are applicable across multiple projects to promote rationalization of indicators. As a result, it was agreed that the M&E framework for the CCCAF project should follow the **core indicator methodology**, which essentially agrees on a number of indicators that will be used as the basis to aggregate absolute information across the projects. Aggregation is the mechanism by which the overall performance of the CCCAF will be determined.

The final core indicators that were agreed to by stakeholders at the July 5-7, 2016 workshop are in Tables 2-7. A **total of 34 core indicators** were agreed to: *4 impact level core indicators and each of the 5 outcome level results have six core indicators*. It should be noted that the final core indicator set do not include economic type indicators since these are harder to measure and require more household level surveys

## 1.1 Purpose of Report

The overall aim of this M&E report is to provide a **performance monitoring report on the core indicators**. It is not intended to be a final evaluation exercise.

The specific objectives of the technical M&E report would be to:

1. *Assess the performance of the CCCAF in the context of the targets that have been established (versus the established baseline) and to the best extent possible, provide reasons for the level of performance documented. Performance information will be disaggregated by TA.*
2. *To the best extent possible, and for those areas that will allow, determine the contribution the CCCAF on key economic indicators such as income and social indicators such as adaptive capacity, awareness and understanding*
3. *Document lessons learned as it pertains to the various thematic areas that were supported by the fund*
4. *Document lessons in undertaking a participatory monitoring and evaluation exercise for the community climate change adaptation*

Table 1: CCCAF Result Chain

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IMPACT  Increased ecosystem resilience and adaptive capacity of communities in response to and in preparation for climate change induced stresses through the implementation of concrete community-based adaptation activities and incentives in various sectors in the islands of Grenada, Carriacou and Petit Martinique | | | | |
| OUTCOMES | | | | |
| Outcome 1  Residents, farmers and/or fishers are more knowledgeable and equipped to cope with the effects of climate change by increasing production yields and/or reduced operational costs to improve livelihoods, reduce unemployment and sustain food security for communities | **Outcome 2**  Strengthened capacities to cope with water stresses to boost health, productivity and livelihoods of individuals (farmers, senior citizens, students and/or households) | **Outcome 3**  Enhanced capacities to protect/conserve ecosystems/environment through research and actions that mitigate risks to climate change | **Outcome 4**  Reduced vulnerability of coastal settlements and ecosystems to the effects of climate change and enhanced ability to support climate change mitigation through reforestation of mangroves and other plant species | **Outcome 5**  Strengthened understanding of climate change as well as capacity building and lesson learning to cope with climate change (by sector) |
| OUTPUTS | | | | |
| *Output 1.1*  Farmers (crops or livestock) and fishers have implemented/adopted new practices and/or equipment | ***Output 2.1***  Water saving measures implemented or expanded/updated | ***Output 3.1***  Enhanced ecosystem health and environmental sanitation to adapt to climate change | ***Output 4.1***  Residents are trained in the care of seedling and nurturing of plants until they are fully matured/established. | ***Output 5.1***  Education and information materials on climate change developed |
|  | ***Output 2.2***  Flood mitigation infrastructure and measures  implemented | ***Output 3.2***  Monitoring systems and research have been conducted to better inform management of ecosystems/environment | ***Output 4.2***  Trees successfully planted in vulnerable coastal habitats and are properly maintained on an ongoing process. | ***Output 5.2***  Training/certification of stakeholders to deliver educational and informational materials on climate change |
|  |  |  |  | ***Output 5.3***  Stakeholder have benefitted from relevant training to improve their operations in the face of climate change |

**Source: Author**

Table 2: IMPACT LEVEL INDICATORS

|  |  |
| --- | --- |
| Result Statement | Core Indicators |
| IMPACT: Increased ecosystem resilience and adaptive capacity of communities in response to and in preparation for climate change induced stresses through the implementation of concrete community-based adaptation activities and incentives in various sectors in the islands of Grenada, Carriacou and Petit Martinique | I1. # of stakeholders (individuals/communities/agencies) directly and indirectly benefitting from vulnerability reduction and improved adaptive capacity activities as a result of support under the CCCAF (disaggregated by sex for residents) [coverage indicator] |
| I2. Rate of success of the interventions in delivering improvement in options to cope with climate change threats [adaptive capacity indicator] |
| I3. Level of capacity of beneficiaries to maintain/sustain adaptation strategies introduced or strengthened via CCCAF [sustainability indicator] |
| I4. # of employment opportunities created (by parish, sex, thematic area) |

Table 3: FOOD SECURITY CORE INDICATORS

|  |  |
| --- | --- |
| Result Statement | Core Indicators |
| Outcome 1: Residents, farmers and/or fishers are more knowledgeable and equipped to cope with the effects of climate change by increasing production yields and/or reduced operational costs to improve livelihoods, reduce unemployment and sustain food security for communities. | 1.1 Yield/Quality of produce (by type of technique in fishery and agriculture sectors) |
| 1.2 Rate of change in food security due to the measures implemented |
| Output 1.1: Farmers (crops or livestock) and fishers have implemented/adopted new practices and/or equipment | 1.1.1 # of farmers/fishers practicing/benefiting from new techniques (specified per type of technique and sex) |
| 1.1.2 #/sq. ft. of new sea moss farms operational |
| 1.1.3 # of equipment introduced/installed and operational (by type) |
| 1.1.4 Area of land (sq. ft.) under functional irrigation system |

Table 4: WATER RESOURCES CORE INDICATORS

|  |  |
| --- | --- |
| Result Statement | Core Indicators |
| Outcome 2: Strengthened capacities to cope with water stresses to boost health, productivity and livelihoods of individuals (farmers, senior citizens, students and/or households) | 2.1 Rate of water consumption OR Storage Capacity |
| 2.2 Quality of water |
| 2.3 School attendance (disaggregated by sex) |
| Output 2.1: Water saving measures implemented or expanded/updated | 2.1.1 # of water and sanitary facilities installed (tanks, compost toilets, showers etc.) |
| Output 2.2: Flood mitigation infrastructure and measures implemented | 2.2.1 # of flood mitigation intervention erected (by type) |
| 2.2.2 Rate of success of flood mitigation intervention implemented in affected areas |

Table 5: ENVIRONMENTAL PROTECTION CORE INDICATORS

|  |  |
| --- | --- |
| Result Statement | Core Indicators |
| Outcome 3: Enhanced capacities to protect/conserve ecosystems/environment through research and actions that mitigate risks to climate change | 3.1 # natural assets monitored/researched for protection |
| 3.2 # of key lessons identified from the research and monitoring projects to inform better management and/or protection of the ecosystems |
| 3.3 Rate of implementation of recommendations from research on ecosystems |
| Output 3.1: Enhanced ecosystem health and environmental sanitation to adapt to climate change | 3.1.1 Quantity/ volume of solid waste collected at clean-ups (by area)  3.1.2 # bins (compost and garbage) installed |
| Output 3.2: Monitoring systems and research have been conducted to better inform management of ecosystems/environment | 3.2.1 # of research / monitoring protocols completed and implemented/operational (by theme) |

Table 6: FORESTRY CORE INDICATORS

|  |  |
| --- | --- |
| Result Statement | Core Indicators |
| Outcome 4: Reduced vulnerability of coastal settlements and ecosystems to the effects of climate change and enhanced ability to support climate change mitigation through reforestation of mangroves and other plant species | 4.1 Evidence that biodiversity has increased (meiofauna, invertebrates etc.) in reforested area (by site) |
| 4.2 Evidence of change in coastal profile, erosion, shoreline width  4.3 # of households that are protected by newly planted areas. |
| Output 4.1: Residents are trained in the care of seedling and nurturing of plants until they are fully matured/established. | 4.1.1 # of seedlings propagated (to transplanting stage) |
| Output 4.2: Trees successfully planted in vulnerable coastal habitats and are properly maintained on an ongoing process. | 4.2.1 Total height above ground (Avg) of Seedlings (from soil mark to the apical bud)  4.2.2 Carbon accumulation rate (by site) |

Table 7: EDUCATION AND AWARENESS CORE INDICATORS

|  |  |
| --- | --- |
| Result Statement | Core Indicators |
| Outcome 5: Strengthened understanding of climate change as well as capacity building and lesson learning to cope with climate change (by sector) | 5.1 # of lessons learned (by thematic areas) |
| Output 5.1: Education and information materials on climate change developed | 5.1.1 # of education and awareness materials/activities (by type) on the effects of climate change developed (by thematic area) |
| 5.1.2 # of stakeholders engaged with the education and awareness materials on the effects of climate change (by thematic area) |
| Output 5.2: training/certification of stakeholders to deliver educational and informational materials on climate change | 5.2.1 # of stakeholders trained/certified in the delivery of educational and educational materials on climate change |
| Output 5.3: Stakeholder have benefitted from relevant training to improve their operations in the face of climate change | 5.3.1 # Training and education programs to enhance skulls and capacities (by topic)  5.3.2 # of beneficiaries of training and education programs (by topic, sex, location) |

# Methodology and Data Collection

This report was envisaged to be based on the final reports of community projects. However, at the time of data collection (September 2017) only 16 of the 27 projects (59%) were completed and of these 16 projects, 11 projects had final M&E reports completed. Hence there were gaps in the M&E data. As a result, the PMF was updated based on information available to the CLOs. This meant that qualitative questions – such as success rates etc. could not be included in the analysis for the projects that did not have final reports since wider stakeholder perspectives would be required.

The **11 projects** that would have completed final reports would have included interviews from multiple stakeholders including grantees, direct and indirect beneficiaries. The primary tools developed to collect information on the community projects included:

1. *A Master Survey*
2. *Standardized Forms*

The master survey contains both open and close ended questions, which is translated into qualitative and quantitative data, respectively. The qualitative questions in the survey will help us to explore the “why”, “how”, “when”, “what” and “who” questions. The Master Survey is detailed in **APPENDIX I**, and it can be seen that each question is specific to a core indicator and the source of the information are grantees, beneficiaries, or relevant ministries. The Master Survey forms the backbone for the development of project specific surveys, which will only contain questions specific to the core indicators relevant to that community project.

The standardized forms focused on tracking registration at education and awareness events, school attendance, fish yields, crop yields, # of seedlings grown and sold, volume of organic compost and protein from waste.

Due to the plethora of stakeholders engaged across the 29 projects, it was not feasible to interview all cases; therefore, invitations were sent to as many as possible with final interviews to be conducted with those that were readily available and willing (convenient). The main disadvantage of this is that selection bias and sampling errors are easily introduced into the research.

In research the sampling method and sample size are questioned particularly when the external validity and the ability to generalize findings to the wider population, are raised. For sample size, the arguments are different for qualitative versus quantitative research: “quantitative researchers usually have an idea of how many cases they will need in order to test their hypotheses at the beginning of a project. In contrast because qualitative research is exploratory by nature, qualitative researchers may not know how much data to gather in advance” (Baker and Edwards, n.d.: 4-5). Generally, in qualitative research you stop interviews when you have met “theoretical saturation”, which is the point where the researcher is no longer learning new information on the topic.

The M&E of the CCCAF is participatory in nature; hence, qualitative research techniques such as interviews are being utilized. Also, given that convenient sampling will be done, it is difficult to establish an appropriate sample size in advance, since it is largely driven by the availability of the participants.

## 2.1 Data Storage and Analysis

Microsoft Excel and Word were utilized to store the data collected in the field from the standardized forms and the surveys. For the most part, the close-ended questions were stored in excel whilst the open-ended questions were analyzed using qualitative data analysis in Microsoft Word. Quantitative data that is entered into the excel workbook were easily analyzed and presented using tables or graphs.

## 2.2 Limitations

**The following limitation should be noted as it pertains to data collection and the M&E data:**

1. The number of people that showed up for interviews varied from project to project for a combination of reasons - the timing of the interviews, the weather conditions and village events such as funerals, to note a few
2. Due to the loss of CLOs during the timeframe of the projects – the reassignment of projects to new CLOs meant that there were delays in that project since a new focal point (CLO) had to become familiar with the scope of the project, the project implementers and the M&E plan for that project. This lead to the delay in the scheduling of M&E data collection for these projects
3. At the time of data collection (September 2017) there were gaps in the M&E data, as noted above. This was compensated for by allowing the CLOs to provide updates, particularly for the quantitative indicators, for the ongoing projects and those with no final report (although the project is completed). This combined information was used for the aggregation of the information and analysis of the performance of the CCCAF to date.
4. The findings from the analysis point to the fact that project leads did not seriously address the routine data collection needs such as tracking and recording of yields and attendance register for meetings/workshops/training. This could be due to the fact that the M&E process was launched late and was not outlined in the original requirements when approval of funding was given. This would have been the best approach to set clear expectations.
5. Timing of M&E data collection for some projects - especially water harvesting, is important to ensure that the benefits and effects are truly captured. The greatest benefits are demonstrated during the wet season.

# Analysis

There were a total of **180 interviewees** from the 11 projects that completed final reports. The remaining 16 projects obtained data directly from the CLOs. The profiles of these 180 interviewees are as follows.

|  |  |  |
| --- | --- | --- |
| **Types of Interviewees** | | |
|  | # | % |
| Grantee | 11 | 6% |
| Direct Beneficiary | 143 | 79% |
| Indirect Beneficiary | 26 | 14% |
| **Total** | **180** | **100%** |

There are only 11 grantees since there was generally one focal point per project that would be consulted.

|  |  |  |
| --- | --- | --- |
| **Sex Distribution of Interviewees** | | |
|  | # | % |
| Male | 77 | 43% |
| Female | 102 | 57% |
| Missing | 1 | 1% |
| **Total** | **180** | **100%** |

Slightly more females than males were interviewed. This could be attributed to the timing of interviews when mostly women are home during community visits.

|  |  |  |
| --- | --- | --- |
| **Highest Education Level of Interviewees** | | |
|  | # | % |
| Primary | 72 | 40% |
| Secondary | 49 | 27% |
| Tertiary | 54 | 30% |
| No Schooling | 4 | 2% |
| Missing | 1 | 1% |
| **Total** | **180** | **100%** |

There is no surprise that most of the interviewees were from primary level since there were quite a number of projects that targeted children in schools and guide groups.

## 3.1 Report Objective #1: Assess the performance of the CCCAF in the context of the targets that have been established and to the best extent possible, provide reasons for the level of performance documented. Performance information will be disaggregated by TA.

To provide diverse perspectives of the performance of the CCCAF, the individual project performance for those that are completed will be ranked against the achievement rating system (see below) and ongoing projects will be assessed against an established criteria for “likelihood of the achievement of targets” (see below).

### 3.1.1 Individual Project Performance (For Completed Projects)

The following achievement rating and justification were provided by CLOs, which was subsequently verified in a plenary discussion during the final M&E workshop convened October 2-5, 2-17. The rating scale was also agreed to by stakeholders prior to application to the completed projects.

The table below indicates that for **the CCCAF funded projects that are completed to date (16 projects) majority are individually performing between exceptional to good, which is overall very good. However, there are two projects – girl guides and heritage – that needs attention if it is to attain a better achievement rating by the end of the implementation period.**

|  |  |  |
| --- | --- | --- |
| Score | Achievement Rate and Meaning | |
| 1 | Exceptional | Achievement above 100% |
| 2 | Very Good | Achievement between 90-100% of target set |
| 3 | Good | Achievement between 70-89% of target set |
| 4 | Satisfactory | Achievement between 40-69% of target set |
| 5 | Unsatisfactory | Achievement between 0-39% of target set |

| Project # | Nickname  For Project | Thematic Area | Rating | Justification for Rating |
| --- | --- | --- | --- | --- |
| 2014-03 | The Limes Project | Water Resources | 1 | Achieved all targets plus more (built the tanks, set up solar water pumps, Education awareness in community, plus renovated an old shed which is used as a plant nursery).  Selling surplus crops not used by special needs school on the farmers’ market, to hotels and some supermarkets. Made over 2000 EC to date, which is being used to maintain the project equipment and other aspects. Surplus seedlings also being sold.  The shed was renovated which was not originally planned for. |
| 2014-05 | PM project | Forestry | 2 | Reforestation of the Madam Pierre Area (hillside area).  Although its first of its kind there is still work to be done. This includes the continuation of the tree planting effort. Nursery constructed to propagate seedlings for planting. There is a component to repair water cistern, which was achieved. The fencing around the cistern was not constructed. Only 50% of the funding spent to date. Key lesson: they need bigger check dams to manage the flow of water in the valley. |
| 2014-11 | Bishop’s College | Water Resources | 2 | Constructed box drains which are of good quality. No flooding since its installation. |
| 2014-35 | GOAM | Food Security | 2 | Organic practices.  4 demonstration farms were targeted and then they were to go out into the wider community. Compost bins and permaculture were erected. Shredders were purchased.  All that was set out to be achieved was achieved.  M&E report outstanding |
| 2014-40 | Ice Box | Food Security | 3 | Although the targets were met, such as number of ice box (30) introduced etc, not all of the fishers are using the ice boxes for the purpose it was intended. Additionally, the number of persons targeted for E&A component did not attend the training sessions. |
| 2014-41 | Seamoss | Food Security | 1 | This project would have met and surpassed the targets that were set. Number of farmers practicing and benefitting from the new technique have increased after the project proposal was submitted (decision taken at a meeting with stakeholders, and with a general consensus) The project was targeting 10 new sea moss plots, however 13 set moss plots. Targeted 15 persons to be trained in sea moss mariculture, but 21 persons were trained in total |
| 2014-43 | Heritage | Education and Awareness | 4 | Completed 5 out of the 8 communities targeted  Supposed to train people in 8 communities in theatre style education and awareness on climate change issues unique to the community. However, there was poor management of funds and they were only able to implement 5. Six plays were written, 5 convened and the other 2 cannot be accounted for (convened). |
| 2014-45 | Isle de Rhonde | Water Resources | 2 | Thus far, this project has yielded tremendous results. Most of the indicators have already been met the target set. The only area that has to be ascertained is the number of employment opportunities created and the M&E reporting. |
| 2014-51 | PFW | Food Security | 1 | Project achieved a very good rating as it was able to achieve its targets of using waste into a healthy alternative feed for poultry. All activities were done in a timely manner |
| 2014-72 | Crochu | Food Security | 2 | Several indicators were able to achieve their targets, however, there are areas where improvements could be made. The water tank had some hiccups during construction. Resources were used to correct the contractor’s inefficiency. |
| 2014-82 | Top Hill | Water Resources | 2 | Renovate the community cistern, which has been achieved. |
| 2014-94 | Harvey Vale | Water Resources | 2 | Renovate the community cistern, which has been achieved. |
| 2014-100 | Bamboo | Environmental Protection | 1 | Project was exceptional as it was targeted to trained 10 persons, however 16 persons were trained. Creating livelihoods have begun as craft has already begun selling. |
| 2014-102 | Girl Guides | Environmental Protection | 4 | Failed to complete some education and awareness activities – pamphlets developed but not distributed, TV and radio awareness programs never developed.  The 4 participating schools (beneficiaries) requested more training and information since it was the first time they were exposed to this type of information. An iterative process is required. Composting was successfully done in 4 of 4 schools. For one school it did not succeed. The other schools liaised with agriculture experts. |
| 2014-145 | Luthbur | Water Resources | 3 | Rainwater harvesting project. Although the project was able to achieve its targets based on the area of water resource (storage capacity); there are internal issues within the community group, which would affect the level of sustainability. |
| 2014-151 | La Poterie | Environmental Protection | 2 | Flood mitigation intervention.  Most of the targets were met, while some were surpassed. For the education and awareness component, there were community meetings held for which no details regarding registration was provided. Further, the last session held, a number of persons refused to sign the register as such a true reflection of the attendance was recorded. |

### 3.1.2 Likelihood of Achieving Targets (For Ongoing Projects)

The meeting in October also sought to provide insight into the likelihood of meeting the targets for the 11 community projects that are still ongoing.

As seem in the table below, **majority of the projects are scheduled to be completed between a satisfactory and exceptional achievement rate. However, there are three projects that require urgent attention – 08, 101 and 150**.

|  |  |  |
| --- | --- | --- |
| Score | Likelihood of Achieving Targets | |
| 1 | Highly Likely | The project will more than likely achieve between a very good to exceptional achievement rate, when completed |
| 2 | Moderately Likely | The project will more than likely achieve between a satisfactory and good achievement rate, when completed |
| 3 | Not very likely | The project will more than likely achieve an unsatisfactory achievement rate, when completed |

| Project # | Nickname for Project | Thematic Area | Rating | Rationale for Rating (at September 2017) |
| --- | --- | --- | --- | --- |
| 2014-08; | Grencoda | Food Security | 3 | Composting for farmers – demonstration plots (climate smart agriculture)  4 activities outstanding – training in book-keeping, community mapping of resources available, radio education and awareness programs and install an automatic weather station. Project disbursement has been delayed because there are issues with the use of previous funding. Noted that the rate of implementation of the project has been slow. |
| 2014-19; | FAD | Food Security | 2 | FAD Project: Training programs are expected to be done in the month of November after which the project can be evaluated. The training will allow for the introduction of administrative framework to sustain the project. In additional another FAD in East is to be constructed. The collection of M&E data soon to be initiated. |
| 2014-71; | Dover 4H | Food Security | 2 | Plant propagation project: Project is approximately 75% completed in terms of the construction (green house, nursery, beds, tables, drip irrigation etc.). So far most of the target line were meet; the only major challenge right now is the water source. Initially a verbal agreement was made between the school that was in proximity of the green house and the location of the green house. However, the Principal says that given water scarcity, the project will no longer be able to supply water to the nursery. Options to implement water-harvesting technology was investigated; but there is no more funding to support this. This system is the first of its kind in the island of Carricou. |
| 2014-73, | Clozier Project | Environmental Protection | 1 | Reducing flooding and upgrading of the playing field.  Project has begun benefitting from the use of the playing field as well as the constructed drainage that has significantly reduced the impacts of flooding for the playing field area. The field is to be upgraded to GFA standard to host games. However, the construction has not completed due to financial reasons. There is not sufficient funding to complete the required construction. The community secured funding from the Australian to install lightning around the field. The field will need to be done to install it. |
| 2014-79 | SPYO | Forestry | 1 | This project was able to meet most of the targets (all of the trainings, competitions, etc. has been completed). The only activity outstanding is the recording of the jingles. It is already paid for and should be done shortly. |
| 2014-101 | Slade | Food Security | 3 | This project (harvest water from well) might no longer be happening although the solar pump has been purchased. One of the major challenges is land ownership - the land where the pump is located and the farming is to be done is family owned. It is not suitable to invest in a project on private land. This information was not known during the approval stage of the project. |
| 2014-122; | App | Education and Awareness | 1 | They have already completed the majority of their activities; 5 surveys of students completed; books (2) have been completed printed and distributed to all primary schools on the tri-island state. Two apps have been completed, website establish and has had over 3000 views and persons viewing and downloading the books and mobile application. Only thing outstanding is to do an end survey to determine the impacts of the books on education and awareness on climate change for children – which is currently being initiated. |
| 2014-128, | Ocean Spirits | Environmental Protection | 1 | Some targets for this project have already been met. Reef health and water assessment reports are still outstanding. |
| 2014-144; | Lionfish | Food Security | 2 | This project was delivered island wide which surpassed its target.  However there are about 4 outstanding activities – school visits, meetings, derby to be hosted. Project implementers need to submit original invoices to process payments. The community project officer has moved onto another job so not sure it will be advanced. |
| 2014-150; | Seamoss | Forestry | 3 | Project focuses on bee keeping, mangroves etc. This project had to be redesigned and no indicators (and targets) have been set. The project has been initiated. Evidence suggests the people are not interested in the bee keeping training. 3 out of 10 persons are consistent. Hard to determine performance since no targets were set. |
| 2014-46 | J.W. Fletcher | Education and Awareness | 1 | Most activities have been completed, students are very knowledge about the information and training done with them, only thing that hasn’t been 100 % completed is the implementation of the toolkit into the curriculum.  Train students in beach profiling so that they understand the effects of climate change on the coast. Teachers developed a draft toolkit on the incorporation of climate change into 5 topics in the school: geography, mathematics, English language, English literature and art. The teachers met at two workshops and the toolkit was drafted. It is to be reviewed and endorsed by the Ministry (Environment Division). This has not been done to date (submitted in June 2017) and therefore the Teachers were unable to officially implement the toolkit into the curriculum. The draft toolkit is good quality hence a good score. However, endorsement and mainstreaming into the school curriculum is key (and is still outstanding). |

### 3.1.3 Achievement by Thematic Area

A participatory approach was also used to assign the rating per indicator for each thematic area the CCCAF supported. The final decisions of the plenary is detailed in the table below.

|  |  |  |
| --- | --- | --- |
| Score | Achievement Rate and Meaning | |
| 1 | Exceptional | Achievement above 100% |
| 2 | Very Good | Achievement between 90-100% of target set |
| 3 | Good | Achievement between 70-89% of target set |
| 4 | Satisfactory | Achievement between 40-69% of target set |
| 5 | Unsatisfactory | Achievement between 0-39% of target set |

#### Impact Level Indicators

|  |  |  |  |
| --- | --- | --- | --- |
| Result Statement | Core Indicators | Achievement Rating | Justification |
| IMPACT: Increased ecosystem resilience and adaptive capacity of communities in response to and in preparation for climate change induced stresses through the implementation of concrete community-based adaptation activities and incentives in various sectors in the islands of Grenada, Carriacou and Petit Martinique | I1. # of stakeholders (individuals/communities/agencies) directly and indirectly benefitting from vulnerability reduction and improved adaptive capacity activities as a result of support under the CCCAF (disaggregated by sex for residents) [coverage indicator] | 1 | Number of stakeholder reached was well over the targeted amount. |
| I2. Rate of success of the interventions in delivering improvement in options to cope with climate change threats [adaptive capacity indicator] | 3 | Some surveys are still missing but from what have been collected thus far, the target was around 90% high and the final result counted 70% of high.  The results are not perfect but very satisfactory |
| I3. Level of capacity of beneficiaries to maintain/sustain adaptation strategies introduced or strengthened via CCCAF [sustainability indicator] | 4 | The target was to achieve the majority of high result and results counted more medium than high with one been low. |
| I4. # of employment opportunities created (by parish, sex, thematic area) | 2 | The total number of employment fell short of the target by approximately 10%. |

More details on each indicator from aggregating the information collected is outlined below.

***I1: # of stakeholders (individuals/communities/agencies) directly and indirectly benefitting***

|  |  |
| --- | --- |
| Aggregate Targets Year:2017 | |
| Item | #/Amt |
| Individuals | 5247 |
| Communities | A few nation-wide projects and the community specific ones target over **36 communities.** Some communities benefit from more than 1 project |
| Agencies | > **32 agencies** (NGOs, schools, government and private institutions) |

|  |  |  |  |
| --- | --- | --- | --- |
| **Achievements:** | **Direct & Indirect Beneficiaries** | | |
|  | Individuals | Agencies | Communities |
| **Grand Total** | **7962** | **49** | **70** |

|  |  |
| --- | --- |
| **Sex Distribution of Direct Beneficiaries** | |
| Females | Males |
| 51% | 49% |

Noting that a target of 5247 beneficiaries (direct and indirect) were targeted by the projects (excluding the national wide interventions) it can be seen that this target was well surpassed by the collective community projects. More importantly, data collected per community projects shows that there was a good balance in the sex of the direct beneficiaries. This is also reflective of the sex distribution of the population of Grenada. The Grenada Live Population Clock indicates that the ratio of men to women is roughly 1:1 (<http://countrymeters.info/en/Grenada>).

Majority of the projects that prepared final reports (11 projects) indicate that the community representatives that lead the implementation of the project did a job of informing persons on the project since the majority of persons were made aware through them. Others indicated that they were informed by UNDP, while others found out based on observation and inquiry.

The data in these 11 project reports also suggest that there were not barriers to restrict persons from benefitting from the project. That is, project implementers did not implement any systems that would limit some people from benefiting. There appears to be equal opportunity to access the benefits made available through the community projects.

It is not expected that the number of beneficiaries will increase significantly, since most of the projects have submitted information on this indicator. Although there are 13 projects still ongoing; it is not expected that many more beneficiaries will be engaged since majority of these projects are between 80-90% complete.

***I2. Rate of success of the interventions***

|  |  |  |
| --- | --- | --- |
| **Rate of Success of Projects** | | |
|  | # | % |
| High | 111 | 62% |
| Medium | 62 | 34% |
| Low | 4 | 2% |
| Missing | 3 | 2% |
| **Total** | **180** | **100%** |

The aggregated stakeholder feedback indicate that majority of the projects were rated as having a high and medium success rate. Whilst the target was to have closer to 90% reported high success rate it was agreed by stakeholders that this was a good achievement level. It should be noted that this average is only based on the aggregated information from the 11 final reports and therefore as more final reports are completed, a more realistic perspective of beneficiaries will be portrayed.

Some of the key lessons and best practices attributing for these success rates are highlighted in sections 3.3.1 and 3.3.2 of this report.

***I3. Level of capacity of beneficiaries to maintain/sustain adaptation strategies***

|  |  |
| --- | --- |
| **Level of Capacity to Maintain /Sustain Benefits** | |
|  | # responses |
| High | 10 |
| Medium | 13 |
| Low | 1 |

The target was to have close to 80% reported high level of capacity among beneficiaries to maintain/sustain the adaptation strategies that were funded by the CCCAF. However, the feedback from interviewees, including the CLOs, indicate that this was not achieved (at the aggregated level). This suggests that there is need for more focus on supporting and ensuring strategies that promote the sustainability of the initiatives are realized. There are case studies where sustainability was well achieved by some of the projects; for instance the craft project that generated revenues from the sale of the craft and now recognition of the work of the group that has resulted in several invitations to sell at fairs and other events. This report aims to document some of the key lessons coming out of projects such as these. It would be beneficial if they are promoted in the future, particularly if the CCCAF is institutionalized. Also, the project proposal phase should include a section for applicants to state what will be done and what support is needed to ensure sustainability of the benefits after the funding is utilized. This will promote sustainability as a requirement for the approval of the interventions.

***I4. # of employment opportunities created***

|  |  |  |
| --- | --- | --- |
| **# Employment (Direct Beneficiary)** | | |
|  | Male | Female |
| # | 222 | 47 |
| % | 83% | 17% |
|  | **TOTAL** | **269** |

Whilst the target envisaged was approximately 303 employment opportunities, the estimate of 269 that was obtained at the time of data collection is still a conservative estimate since approximately 6 projects did not report the total employment created to date. These projects are pending the final report preparation. It can be assumed that when all the final reports are in, this target will be closer to being achieved or even surpassed; particularly since most of the projects that did not report to date were within the thematic areas of food security and environmental protection – which are two areas that attract employment for the construction of key infrastructure.

The sex distribution of the people that gained employment does not come as much surprise, since most of the jobs reported were in the construction sector (contractor, laborer, architect, and engineer). This is a sector primarily dominated by males. Almost 95% of the jobs were reported to be short-term jobs. However, it was noted that a community forest ranger for the reforestation project in Petite Martinique might result in a 2 year contract, key fishermen trained in the ice box construction now get consistent work as the use of ice box is being promoted and the fishery projects such as the FADs and seamoss is promoting sustainable livelihoods for the fishers in these communities.

#### Food Security Core Indicators

|  |  |  |  |
| --- | --- | --- | --- |
| Result Statement | Core Indicators | Achievement Rating | Justification |
| Outcome 1: Residents, farmers and/or fishers are more knowledgeable and equipped to cope with the effects of climate change by increasing production yields and/or reduced operational costs to improve livelihoods, reduce unemployment and sustain food security for communities. | 1.1 Yield/Quality of produce (by type of technique in fishery and agriculture sectors) | No rating | There is not sufficient data to assign a rating. |
| 1.2 Rate of change in food security due to the measures implemented | 3 | Achievement below set target by around 20% |
| Output 1.1: Farmers (crops or livestock) and fishers have implemented/adopted new practices and/or equipment | 1.1.1 # of farmers/fishers practicing/benefiting from new techniques (specified per type of technique and sex) | 3 | Five categories achieved or reached close to the achievement level set where as two were way under targets and three were unknown (0) |
| 1.1.2 #/sq. ft. of new sea moss farms operational | 1 | Target was set for 10 plots, but 13 plots was achieved. |
| 1.1.3 # of equipment introduced/installed and operational (by type) | 2 | Aggregating shows that most of the targets were met however, for the FADs, only 2 are still operational and the lionfish harvest units were not confirmed. |
| 1.1.4 Area of land (sq. ft.) under functional irrigation system | No rating assigned | It is believed that the target was grossly overestimated for project #101 – 87,120 sqft. |

***1.1 Yield/Quality of produce***

Not sufficient data for this analysis.

Majority of the project leads for did not record the yields obtained for crops or fish catch over time. Only 2 projects for crops – 72 and 03 collected data every month. For project #72 data is only available for the baseline period and not after so the change resulting from the intervention is unknown. For project #03 there is evidence of change in the types of crops being cultivated at Limes. For instance they cultivated peas, sorrel and corn in the past and due to the project, they are now able to harvest pakchoy, cucumber, lettuce, spinach, mellongen every month.

In terms of fish yields, only the icebox project collected data which shows an average monthly yield of 21,388 lbs. However, no baseline information was provided to confirm if there was a change is yield. Also, the most important parameter was the quality of the fish, which was also to be reported on since this is the ultimate goal of the ice box. There is zero data on fish data to verify the reports of this project. There is a full success story on the icebox project and the FAD project (which also has no data on yields) at Section 3.3.1.

***1.2 Rate of change in food security***

Food Security is related to affordability, accessibility and availability to food at all times. Food security means access by all people at all times to enough food for an active, healthy life. Affordability: measured by its cost relative to the amount that the purchaser is able to pay. Accessibility: able to be used or obtained.

Availability: ready for use

|  |  |  |
| --- | --- | --- |
| **Rate of Food Security** | | |
|  | # | % |
| High | 22 | 45% |
| Medium | 22 | 45% |
| Low | 5 | 10% |
|  |  |  |
| **Total** | **49** | **100%** |

The target for this indicator was to have approximately 80% of the respondents reporting a high rate of food security. The aggregated results is well below this value and it could be due to lack of clarity of the term ‘food security’. Whilst the term was explained to the enumerators, it is not 100 % certain that it was clarified during the interviews. Also, with limited data collected on yields there is no way of cross checking the perceptions of the interviewees as it relates to food security.

***1.1.1 # of farmers/fishers practicing/benefiting from new techniques***

|  |  |
| --- | --- |
| Aggregate Targets  Year: 2017 | |
| Item | #/Amt |
| PFW | 200 |
| FAD | 40 |
| Organic Agri (inc compost) | 54 |
| Icebox | 30 |
| Irrigation | 76 + 1 school |
| Water harvesting | 272 |
| Seamoss | 21 |
| Lionfish | 800 |
| Vermaculture | 4 |
| Green house | unknown |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Males Practicing Technique** | | | | | | | | | | **Females Practicing Technique** | | | | | | | | | |
| Protein from Waste | FAD | Organic Agriculture | Ice Box | Irrigation System | Water harvest | Seamoss  farm | Lionfish | Vermaculture | Greenhouse | Protein from Waste | FAD | Organic Agriculture | Ice Box | Irrigation System | Water harvest | Seamoss  farm | Lionfish | Vermaculture | Greenhouse |
| 0 | 40 | 8 | 24 | 36 | 54 | 8 | 0 | 8 | 0 | 0 | 0 | 4 | 0 | 52 | 52 | 15 | 0 | 4 | 0 |

There are only males benefiting from the ice box and FAD projects since fishing is a male dominated activity in Grenada. There are more females using the irrigation systems installed across the relevant projects because there were a few projects that were predominantly females such as the 4H club. No data is available for the number of males and/or females practicing the PFW, lionfish and greenhouse techniques. However, these are all ongoing projects and it is expected that their final reports will contain data for the final M&E report.

***1.1.2 #/sq. ft. of new sea moss farms operational***

An estimate of 17,500 square ft. of area has been cultivated with approximately 13 seamoss plots. With a target originally set for 10 seamoss plots, the project delivered above expectation. The success story of the seamoss project is detailed at Section 3.3.1.

***1.1.3 # of equipment introduced/installed and operational***

|  |  |  |
| --- | --- | --- |
| Equipment | Targets: 2017 | Achievements |
| PFW | 1 art's roller mill | 1 roller mill  1 coaster |
| FAD | 10 units | 10 installed; only 2 operational |
| OrganicAgri (inc compost) | 4 bins (unknown composting) | 4 compost bins |
| Icebox | 30 | 30 |
| Irrigation | 3 solar pumps, 3 drip irrigation sys | 3 solar pumps, 3 drip irrigation systems |
| Seamoss | 1 drying house, 10 drying tables, 5 solar driers | 1 drying house, 10 drying tables, 0 solar dryers |
| Lionfish | 50 units | not confirmed how many harvest units |
| Vermaculture | 4 units | 4 |
| Greenhouse | 1 | 1 green house |

Whilst the planned equipment have been purchased and installed, the level of success with the FADs did not go according to plan. Out of the 10 FADs installed, only 2 remain operational to date. Key lessons have been learned and are documented at Section 3.3.1.

***1.1.4 Area of land (sq. ft.) under functional irrigation system***

The data indicates that approximately 8600 square ft. of land is under functional irrigation system due to the investments made by the CCCAF. However, no rating was assigned to this indicator because it is believed that the target was grossly overestimated for one of the projects that skewed the aggregated target. Nevertheless, the projects reported to be satisfied with the irrigation systems since they utilize drip irrigation that is more effective and saves water. The installation of solar pumps has also made the investments more cost efficient. Overall, the installments are considered to be good investments for the beneficiary communities.

#### Water Resources Core Indicators

|  |  |  |  |
| --- | --- | --- | --- |
| Result Statement | Core Indicators | Achievement Rating | Justification |
| Outcome 2: Strengthened capacities to cope with water stresses to boost health, productivity and livelihoods of individuals (farmers, senior citizens, students and/or households) | 2.1 Rate of water consumption OR Storage Capacity | 1 | Above target was achieved for water storage capacity. Rate of water consumption was not measured |
| 2.2 Quality of water | No rating | No targets were met. There were some unknowns (suggesting that data was not collected) |
| 2.3 School attendance (disaggregated by sex) | No rating | There was one district/project which presented good data (87%). However, there was insufficient data for a conclusive analysis. |
| Output 2.1: Water saving measures implemented or expanded/updated | 2.1.1 # of water and sanitary facilities installed (tanks, compost toilets, showers etc.) | 1 | Targets were met for some and superseded for others |
| Output 2.2: Flood mitigation infrastructure and measures implemented | 2.2.1 # of flood mitigation intervention erected (by type) | 1 | All targets superseded |
| 2.2.2 Rate of success of flood mitigation intervention implemented in affected areas | 2 | Targets met |

***2.1 Rate of water consumption OR Storage Capacity***

The rate of water consumption could not be measured since the CCCAF was unable to secure water meters to install at the reservoirs. However, the water storage capacity was recorded. A total of 29 water tanks with an average storage capacity of 1000 gallons per tank were installed (29,000 gallons total). Also 6 cisterns with varying storage capacities were installed – 55,000 + 50,000 + 27,000 + 20,000 + 20,000 + 20,000 = 192,000 gallons. This brings the overall water storage capacities to 221,000 gallons of water. The aggregate target that was set was **216,789 gallons** of water.

***2.2 Quality of water***

This was not completed. It was hoped that support would be provided by NAWASA to test the quality of water from the reservoirs installed but this did not come to fruition.

***2.3 School attendance***

This is another parameter not consistently completed by relevant project leads. Only two projects submitted data on school attendance - #72 and #03. However, #72 only included baseline information, no data on school attendance after the intervention were submitted to measure its true effects. Therefore, there is insufficient data for a conclusive analysis.

***2.1.1 # of water and sanitary facilities installed***

|  |  |  |
| --- | --- | --- |
| Facility Installed | Target: 2017 | Achievement: 2017 |
| water tanks | 26 | 29 |
| compost toilets | 0 | 12 |
| flush toilets | 0 | 0 |
| shower | 0 | 0 |
| cistern | 2 | 6 |
| sinks | 0 | 0 |
| Total | **28** | **47** |

The projects installed more water and sanitation facilities than originally planned. As noted above, there is not enhance capacities across communities to store up to 216,789 gallons of water due to the support of the CCCAF.

***2.2.1 # of flood mitigation intervention erected***

|  |  |  |
| --- | --- | --- |
| Intervention | Target: 2017 | Achievement: 2017 |
| Drainage widen | 284ft | 384ft |
| Clean drainage | 500ft | 520ft |
| Treeplant |  |  |
| Total | **784ft of drains extended and widened** | **904ft of drains extended and widened** |

***2.2.2 Rate of success of flood mitigation intervention implemented in affected areas***

Fortunately all the projects that included a flood mitigation component had final reports completed. Therefore, the data required to assess the success of the flood mitigation interventions was representative. The perceptions of stakeholders as it relates to the level of success of the flood mitigation interventions is detailed in the table below. It can be seen that majority of the respondents believed that there was a high level of success.

|  |  |  |
| --- | --- | --- |
| **Flood Mitigation**  **Rate of Success** | | |
|  | # | % |
| High | 40 | 73% |
| Medium | 12 | 22% |
| Low | 3 | 5% |
|  |  |  |
| **Total** | **55** | 100% |

#### Environmental Protection Core Indicators

|  |  |  |  |
| --- | --- | --- | --- |
| Result Statement | Core Indicators | Achievement Rating | Justification |
| Outcome 3: Enhanced capacities to protect/conserve ecosystems/environment through research and actions that mitigate risks to climate change | 3.1 # natural assets monitored/researched for protection | 2 | Met the targeted amount |
| 3.2 # of key lessons identified from the research and monitoring projects to inform better management and/or protection of the ecosystems | No rating | Not enough information to give a rating |
| 3.3 Rate of implementation of recommendations from research on ecosystems | No rating | No data available |
| Output 3.1: Enhanced ecosystem health and environmental sanitation to adapt to climate change | 3.1.1 Quantity/ volume of solid waste collected at clean-ups (by area) | No rating | No data available |
| 3.1.2 # bins (compost and garbage) installed | 1 | Exceeded their targeted number of bins |
| Output 3.2: Monitoring systems and research have been conducted to better inform management of ecosystems/environment | 3.2.1 # of research / monitoring protocols completed and implemented/operational (by theme) | No rating | Data not available |

***3.1 # natural assets monitored/researched for protection***

This indicator is relevant to one of the 27 community projects - #128 (Ramsar). Although the final report is not prepared to date, it was reported by the project leads that the five sites that were targeted to be monitored/researched, have been completed. A few reports are currently being finalized. The key lessons from this project is highlighted at Section 3.3.1.

***3.2 # of key lessons identified from the research and monitoring projects to inform better management and/or protection of the ecosystems***

As noted above, these monitoring reports are still being finalized. The total # of lessons identified are not known at the time of this M&E report. The data should be available for the final M&E report.

***3.3 Rate of implementation of recommendations from research on ecosystems***

Given that some of the research is now being finalized, the implementation of the recommendations is not started and it is expected to be low by the end of the CCCAF programme, which is anticipated to be completed in December 2017.

***3.1.1 Quantity/ volume of solid waste collected at clean-ups***

It was reported that 9 bags of solid waste was collected at clean-up activities. However, a rating could not be assigned since no target was established for this indicator.

***3.1.2 # bins (compost and garbage) installed***

|  |  |  |
| --- | --- | --- |
| Type of Bins | Target: 2017 | Achievement: 2017 |
| Garbage bins |  | 12 |
| Compost bins | 4 | 6 |
| Total bins | **4** | **18** |

***3.2.1 # of research / monitoring protocols completed and implemented/operational***

This is also related to the Ramsar project that is ongoing. Therefore, data to confirm this indicator is not available at this time to provide a rating.

#### Forestry Core Indicators

|  |  |  |  |
| --- | --- | --- | --- |
| Result Statement | Core Indicators | Achievement Rating | Justification |
| Outcome 4: Reduced vulnerability of coastal settlements and ecosystems to the effects of climate change and enhanced ability to support climate change mitigation through reforestation of mangroves and other plant species | 4.1 Evidence that biodiversity has increased (meiofauna, invertebrates etc.) in reforested area (by site) | Not rating | Not sufficient date available. Baseline and goals was not clearly define to determine what was needed. |
| 4.2 Evidence of change in coastal profile, erosion, shoreline width | No rating | Not sufficient date available. Baseline and goals was not clearly define to determine what was needed. |
| 4.3 # of households that are protected by newly planted areas. | No rating | Not sufficient date available. Baseline and goals was not clearly define to determine what was needed. |
| Output 4.1: Residents are trained in the care of seedling and nurturing of plants until they are fully matured/established. | 4.1.1 # of seedlings propagated (to transplanting stage) | 1 | Target was to propagate 520 seedlings and a total of 762 was achieve. They exceeded by 46% |
| Output 4.2: Trees successfully planted in vulnerable coastal habitats and are properly maintained on an ongoing process. | 4.2.1 Total height above ground (Avg) of Seedlings (from soil mark to the apical bud) | 1 | Target was 3.6 per height. However, 7.5 was achieve. Target was exceed by appox 100% |
| 4.2.2 Carbon accumulation rate (by site) | No rating | Not sufficient date available. Baseline and goals was not clearly define to determine what was needed. |

***4.1.1 # of seedlings propagated and 4.2.1 total height above ground (Avg) of Seedlings***

Whilst a total of 1200 seedlings were propagated to the transplanting stage, estimates indicate that over 1380 tree were planted either on slopes, along rivers (to check flood mitigation and erosion) and in once forested areas. This means that some seedlings were sourced directly for planting whilst majority were propagated. The average height of the trees reported was approximately 7.5 ft, which is above the target (3.7ft).

#### Education and Awareness Core Indicators

|  |  |  |  |
| --- | --- | --- | --- |
| Result Statement | Core Indicators | Achievement Rating | Justification |
| Outcome 5: Strengthened understanding of climate change as well as capacity building and lesson learning to cope with climate change (by sector) | 5.1 # of lessons learned (by thematic areas) | 1 | Many lessons have been documented as featured in this report at section 3.3.2 |
| Output 5.1: Education and information materials on climate change developed | 5.1.1 # of education and awareness materials/activities (by type) on the effects of climate change developed (by thematic area) | 1 | Most of the activities have already been completed and the numbers suggest that more materials have been produced than planned. |
| 5.1.2 # of stakeholders engaged with the education and awareness materials on the effects of climate change (by thematic area) | 1 | The number of stakeholders engaged far exceeds the amount targeted. |
| Output 5.2: training/certification of stakeholders to deliver educational and informational materials on climate change | 5.2.1 # of stakeholders trained/certified in the delivery of educational and educational materials on climate change | No rating | No rating could be assigned. There is not sufficient data available. |
| Output 5.3: Stakeholder have benefitted from relevant training to improve their operations in the face of climate change | 5.3.1 # Training and education programs to enhance skills and capacities (by topic) | 4 | Approximately 60% of the targeted topics have been completed to date. |
| 5.3.2 # of beneficiaries of training and education programs (by topic, sex, location) | 5 | Only approximately 40% of the targeted beneficiaries benefitted from training. |

***5.1 # of lessons learned (by thematic areas)***

Whilst the exact # of lessons learned are not counted; it is known to be well above the targets outlined below. This is based on the fact that there are over 9 success stories documented (see summary in the table below) and a number of lessons by thematic areas are featured at section 3.3.2 of this report.

|  |  |
| --- | --- |
| Thematic Area | # of lessons |
| Education and Awareness | 2 |
| Environmental Protection | 2 |
| Food Security | 3 |
| Forestry | 1 |
| Water Resources | 2 |
| Total | **10** |

|  |  |
| --- | --- |
| Thematic Area | Success Story - Projects |
| Education and Awareness | climate kids adventure |
| Environmental Protection | craft, ramsar |
| Food Security | Crochu, FAD, Special Education school, ice box, seamoss |
| Forestry | PM project |
| Water Resources |  |

***5.1.1 # of education and awareness materials/activities (by type) on the effects of climate change developed (by thematic area)***

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| education and awareness materials on CC | | | CC materials on food security | | | CC materials on water resources | | | CC materials on Environmental protection | | | CC materials on forestry | | |
| Visual | Print | Aural | Visual | Print | Aural | Visual | Print | Aural | Visual | Print | Aural | Visual | Print | Aural |
| 63 | 199 | 13 | 2 | 60 | 0 | 1 | 0 | 0 | 3 | 4 | 6 | 0 | 0 | 0 |

Total = 351 materials

Total materials (less prints) = 88

A target of 70 materials/activities made up of a combination of visual, print and aural mediums were targeted. The target did not count the number of prints but the aggregated information counted the prints. However, even if the prints are removed from the total, the sum of 88 remains for visual and aural products (materials), which still surpasses the target that was established. Most of the data on the education and awareness materials from all projects have been included in the count for this indicator since these types of activities have been completed for most projects and the CLOs were aware of the E&A materials to provide accurate reports.

***5.1.2 # of stakeholders engaged with the education and awareness materials on the effects of climate change (by thematic area)***

The target that was set was to reach approximately 556 people through the localized education and awareness materials noting that a few projects would have nation-wide beneficiaries. However, the nation-wide number was not included in the target. The findings from the data collection are detailed in the table below and the reported number of individuals reached is at least 5 times what was targeted. However, there is no way of verifying this information since the mediums used such as audio channels (Radios etc.) is hard to track. Also, there was no routine practice of taking registration at public meetings/events to verify numbers for some of the workshops/meeting that promoted education and awareness on climate change.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Direct Beneficiaries of Education and Awareness Materials | | | | | | | | | | | | | | |
| Climate Change Direct Beneficiaries | | | **Food Sec Direct Beneficiaries** | | | **Water Direct Beneficiaries** | | | **Env Protection Direct Beneficiaries** | | | **Forestry Direct Beneficiaries** | | |
| Individuals | Communities | Agencies | Individuals | Communities | Agencies | Individuals | Communities | Agencies | Individuals | Communities | Agencies | Individuals | Communities | Agencies |
| 1743 | 20 | 9 | 125 | 14 | 4 | 50 | 10 | 2 | 681 | 6 | 13 | 289 | 0 | 0 |

**Total:**

Individuals = 2888

Communities = 50

Agencies = 28

Feedback was also solicited from direct beneficiaries that were interviewed as to whether they understand climate change better based on the education and awareness materials they were exposed to. The response scale and the summary findings are detailed below.

|  |
| --- |
| 0 – you do not understand any of the information or materials |
| 1 – you understand some (basics) of the information or materials covered |
| 2 - you understand most (basics + advanced) of the information or materials covered |
| 3 - you understand all of the information or materials covered |

|  |  |  |
| --- | --- | --- |
| **Understanding of climate change** | | |
| Scale | # | % |
| 0 | 11 | 9% |
| 1 | 35 | 29% |
| 2 | 43 | 35% |
| 3 | 33 | 27% |
| **Total** | **122** | 100% |

The reviews are quite mixed, meaning that there is a relatively close distribution of the people that indicated they have some, most or all (1,2,3) understanding of the materials covered.

***5.2.1 # of stakeholders trained/certified in the delivery of educational and educational materials on climate change***

Not sufficient data to assign a rating

***5.3.1 # Training and education programs to enhance skills and capacities***

The following topics were noted to be covered to ensure that the projects were sustainably implemented:

1. Bamboo, Weiss and pine craft
2. Climate Smart Agriculture Techniques
3. Water Conservation Techniques
4. Ice Box construction,
5. Icebox care
6. Icebox maintenance
7. Livestock Management
8. Plant propagation techniques
9. Nutritional & Health benefit using local herbs
10. 3R's & Waste Management
11. Erosion Control
12. Environmental protection beach profiling climate change toolkit video production workshop
13. Construction of FADs
14. Composting and its use
15. Sea moss plot set up
16. sea moss mariculture
17. Feed mixing and calibration
18. Debating Workshops;
19. Soil and Water Conservation;
20. Crop Management;
21. Effects of Deforestation
22. Bee keeping workshops
23. soil protection
24. Lion fish derby

39 topics were set as the aggregate target; which means that 60% have been completed to date. Given that most of these core skills were to be done in the inception phases of projects – which has passed for most projects – it is not anticipated that many more training will be completed by the end of the program.

Some of the training not reported to be completed to date (but were targeted) include:

*compost tea and its benefits, cultural practices for successful organic farming, establishment and management of vermaculture, organic seedling production, crop nutrition and site management, lionfish handling, lionfish harvesting, school awareness on lionfish, nursery management, germination of seedlings, science and technology of FAD, handling and processing of fish, monitoring of FAD, solar pump and irrigation management, Quality in the farm enterprise; Harvesting and Post Harvest handling of fresh produce; Fresh Produce Marketing & Production planning; Value Chain and markets; Agriculture Value Chain; Ploughing and land preparation; Types of adaptation options (green, grey, soft, combined); Adaptation plan for the area; adaptive capacity and factors affecting same; socmon training,*

***5.3.2 # of beneficiaries of training and education programs***

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Male | | | | Female | | | |
| Child <18 yrs | Adult 18 yrs or over | Disabled | Elderly | Child <18 yrs | Adult 18 yrs or over | Disabled | Elderly |
| 57 | 253 | 0 | 1 | 245 | 96 | 0 | 5 |

Total=657

A target of 1652 was established. Given that several training did not occur, it is not surprise that there are less beneficiaries of trainings.

## 3.2 Report Objective #2: To the best extent possible, and for those areas that will allow, determine the contribution the CCCAF on key economic indicators such as income and social indicators such as adaptive capacity[[1]](#footnote-1), awareness and understanding of climate change

This question could not be fully answered for the following reasons:

* The data on income was not collected during the surveys.
* In terms of an assessment of the contribution of the project to adaptive capacities of communities – there was not adequate baseline data on the initial adaptive capacities of the beneficiary communities to assess the change that would take place. Also, assessing adaptive capacities would require a more detailed and comprehensive assessment of changes social, economic, environmental conditions etc. that would be very time consuming and costly given the spread of the community projects.
* In terms of awareness and understanding of climate change, the survey instrument included a question on this and the findings are reiterated below. As seen there is mixed reviews, meaning that there is a relatively close distribution of the people that indicated they have some, most or all (1, 2, 3) understanding of the materials covered. A key message coming out of most of the projects is the need for ongoing education and awareness on climate change. It was noted that the one time presentations etc. are not adequate to relay the information and to build the knowledge base.

|  |  |  |
| --- | --- | --- |
| **Understanding of climate change** | | |
|  | # | % |
| 0 | 11 | 9% |
| 1 | 35 | 29% |
| 2 | 43 | 35% |
| 3 | 33 | 27% |
| **Total** | **122** | 100% |

## 3.3 Report Objective #3: Document lessons learned as it pertains to the various thematic areas that were supported by the fund

Outcome 4 (b) of the ICCAS project is to strengthen understanding and awareness of climate change risks and adaptation measures (adaptation plan) and disseminate lessons learned and best practices at the local, national, regional and international levels. To this end, a key area of focus during the M&E process for the CCCAF was to ensure that lessons learned in the operationalization of community projects within the water, agriculture, forestry, environmental protection and education and awareness sectors were documented for sharing.

The documentation process focused on success stories and lessons/best practices by thematic area. The success stories are project specific and aim to share lessons as well as highlight the effects of the project. The documentation of lessons is intended to group common and notable activities that worked well or didn’t go well across thematic areas. Both the success stories and lessons were derived using a participatory process during the workshop in October 2-5, 2017. Nine success stories were prepared that feature the following projects – ***FAD, Icebox, Limes Rain Water Harvesting, Reforestation and Slope Stabilization in Petite Martinique, Seamoss, Ramsar, Bamboo Craft, Crochu Rain Water Harvesting and Climate Kids Adventure***. The details of these success stories are in the next section of this report.

## 3.3.1 Success Stories

## Change Agents: Using Invasive Species, Building Resilience and Creating Employment

*Documented by:*

*Amanda Boldeau, Denelle Mark and Bertin Morris*



On the western coast of the island of Grenada, lies the smallest parish of St. Mark. This community predominantly depends on fishing and agriculture for a livelihood. After the passage of Hurricanes Ivan, and Emily in 2004 and 2005, respectively, the farm lands were devastated resulting in loss of jobs and an increase in the unemployment rate. This led to an increase in invasive species such as the bamboo which is very difficult to control as it can re-establish rapidly. Although bamboo offers some protection to the soil, it is not the best option for soil protection and water conservation. Ms. Emma, a retired microbiologist, felt compelled to assist the youths as she did not like seeing them walking the streets idle. A signal was made for proposals by the United Nations Development Programme under its community climate change adaptation fund, where ideas like Emma’s can be realised.

Funding was secured and choosing persons who were unemployed was easy, but choosing persons who were interested was another process. Emma’s dream of seeing the community sell its own hand made craft had to be achieved. She walked the streets inviting persons to be part of a training for six weeks, hoping they would answer the call.

Excitement reverberated Emma’s heart, she awoke before dawn ensuring she got fully prepared, a new day has begun, change had finally arrived; the first day of the training and she couldn’t keep quiet. A group of young people climbed unto the back of a small van and journeyed to the mountains of St. Mark’s. Two strange men and a lady accompanied them, later to realise it was the two men who were going to teach the classes and the lady was representing the persons who had given Ms. Emma the funding.

We stopped at a site where there were lots of bamboos which was also easy to cut and carry back to the van. The men were introduced and the bamboo selection begun. One of the trainers, whose name is Mr. Andre, provided a synopsis of selecting the right type and size of bamboo for making craft. Participants were amazed to see the type of bamboo that was selected to make craft.

We continued to find Weiss which is normally tucked away in trees. We stopped on the hill side and the men went to look for Weiss. A guy came pulling this long snake like rope from the bushes, excitement filled the air as he loaded the truck. Our first day had paved the way for the rest of the future for young people.

Our classroom began the next day and 16 new persons were introduced to one another. The hard, dangerous, but exciting work had officially begun. The class was divided into two groups where Weiss, and screw pine and bamboo craft were taught. A bond was created and soon we became like a family working together. The Weiss teacher went beyond what was expected of him as he ensured that all his members finished and understood their tasks before moving on, however the bamboo teacher was not as patient with the students and so much of the bamboo craft was unfinished, or students were left behind due to the time constraint.

We worked from Monday to Thursday for six weeks in a workshop from 9 am to 1 pm. We surprised ourselves to see what was accomplished in a week. Visits were done by people from the ministry of Environment, interested persons and well-wishers. We were getting attention, yes, St. Marks was finally getting some well-deserved attention! This little parish which is considered the poorest on the island will rise to the pinnacle of Grenada’s economy.

During the third week of the class, it was suggested that we put the project on hold due to the disbursement of funds to pay the driver who was transporting the trainers daily, among other business places where materials were taken from. The participants decided that they were continuing without the trainers as they had an idea of what is required. However, by the end of the day it was resolved and classes resumed normally the next day. During the period of training we were regularly under hurricane watches and warnings which would have cancelled classes, however we braved the weather and went out to classes even if the teachers were absent.

Members cooperated with one another, laughing, sharing and helping to ensure that the task given was accomplished. The unexpected happened, on the final week of the class, a call of sorrow came from the community as one of the participants had died. We were frozen, he was one of the electrical sparks of the bamboo class. He had succumbed to his sickness while enduring pains to finish the class. This affected the entire class and we couldn’t function properly. On the last day, we were told that a stipend would be given and we were not sure how long it would take, but it was hoped that it would not take too long. We were shocked.

A wind of change stepped in, members became lackadaisical. During that period, it was the carnival season and Ms. Emma and the community liaison officer along with the president of the St. Mark’s Development Committee agreed that it would be a great time to showcase what was done at the monthly Food festival which attracts hundreds of people around the island including visitors who entice in St. Mark’s food and culture. Planning was done and persons were assigned to stay at booths, however this was not done as only four persons stayed at the booth which included Emma herself. Frustration stepped in as the vision of forming a cooperative to sustain the project had to be wondered about. Visitors flooded the booth, fliers were given out, items were sold and promises were made. During the week, the Liaison officer greeted us with the news that the Grenada Tourism Authority wanted to support this initiative. We didn’t anticipate all this exposure in such a short space of time. We were then invited to an EXPO held at the Grenada Trade Centre. In that exposition over 50 % of the products were sold and orders were received. Lack of cooperation was seen again as persons were not fully engaged in the making of the craft or staying in the booths again. The Weiss trainer however, extended his services in helping us prepare when we had activities.

Two days of extensive training in group dynamics, marketing and promotion and forming of cooperatives were held where participants were educated on the topics before venturing into forming a cooperative.

In conclusion, a lot of work was done, however six weeks of training was not sufficient to cover as much as we expected. Because of the limited time in the class, there wasn’t any time for the teacher to have one and one session with students, which resulted in some students not being able to finish their product. Nevertheless, the project highlihgts the potential for changes in a community through commitment and dedication. This project has been given exposure in such a short space of time that was not expected. We were given invitations to attend to festivals as soon as we participated in an event and someone saw us.

For future projects such as this one, persons should be interviewed where serious ones are selected. In doing this, cooperative will be formed without disputes as persons will be motivated to work together seeing the long-term investment rather than just doing a training because you do not have anything to be done. Proper management is key to the success of any business and so responsibilities must be equally distributed to ensure that everyone is involved. Another key factor is that the production centre should be in an enclosed environment to avoid unnecessary distractions and outsiders walking in during sessions. Marketing and promotion is also very important as groups need to be able to have adequate market after training to avoid discouragement of members. Materials and trained resource persons should always be available if there is a demand for craft to ensure sustainability. Projects like these should be modelled throughout the Caribbean as a means of building livelihoods and resilience that can support coping with climate change.

## Making My School Self-Sustainable

*Documented By:*

*Renae Baptiste, AnnBelle Pierre and Nazaria Williams*

The impacts of climate change are felt all over the world; and Grenada is no exception. Changing weather patterns have severely impacted various sectors of the economy; including agriculture. Increased rates in temperature leads to extremely hot dry seasons; while fluctuating rainfall patterns are recorded.

The Crochu Roman Catholic School (Crochu RC) has an active 4H[[2]](#footnote-2) Club with a thriving garden. The club has a membership of 105 students, both boys and girls, and at least 88 students actively engage in the planting of short crops and root vegetables, which is used in the school’s kitchen, whilst the excess crops are sold to the community. Despite the children’s enthusiasm and hard work, water shortage has always been an issue; especially during the dry season. The students had to go around with buckets of water to wet the plants. Before long, another concern emerged; the garden started deteriorating and experienced severe land slippage. Also, since the school is located very close to the road, the garden was subject to Praedial Larceny and stray animals, which ate the crops and ‘soil’ the garden.

In 2014, the school became aware of the United Nations Development Programme (UNDP) Integrated Climate Change Adaptation Strategies (ICCAS) project; that was providing funding to community groups through the Community Climate Change Adaptation Fund (CCCAF) to undertake climate change initiatives. The school quickly took the opportunity and submitted a proposal, which was approved. The project idea was created primarily to increase the availability of water during dry periods. This would be done by storing excess water during the rainy season, which could then be used when the dry season comes around. It would also help to reduce the school’s dependence on treated water. Rainwater harvesting is not a new concept to Grenada, however, it was new to the school environment. It is an innovative approach to storing rainwater for later use. Another component of the project is that of a retaining wall to help prevent rapid soil erosion, along with the fencing of the school garden to deter the occurrence of Praedial Larceny.

Once the project was approved, there were several consultations with various stakeholders from the ministries of works and agriculture; as well as the UNDP ICCAS team. After a tendering process, the project was awarded to a local contractor, and work commenced in July 2016 with the construction of the cistern. The process started off very slowly and was not without challenges. The contractor seemed to have lacked the required skill set for a project of this magnitude. This prompted the need for a Site Clerk to be hired to oversee the construction phase until completion. Too much time and resources were spent on the tank; and as a result, the fencing of the garden could not be accomplished, which was quite disappointing for the students and teachers alike. The students really looked forward to the day when the garden would be fully protected.



**Completed Water Storage**

Despite the hiccups, there were some positive outcomes; several things worked out well. Education sessions about the project and other important issues such as water conservation, climate smart agriculture and Praedial Larceny were held to sensitize parents, students and the wider community. This helped to raise awareness of climate change and its impacts on the school environment. It also created an opportunity for parents, teachers and community members to collaborate towards being stewards of the school garden. In addition, the installation of a solar pump and drip irrigation system aided in the watering of the plants. This technique helps to save water and preserve nutrients in the plants as the water is slowly distributed directly to the roots of the crops. The students are very excited about the benefits of the project. They no longer have to fetch buckets of water to wet the plants; and this prompted eagerness to engage more in farming. It is a platform to work with many students to help develop an appreciation for the agriculture sector from an early age.



**Students eager to answer questions at the awareness session**

What this project has taught us was the need for greater consultation when making important decisions, such as hiring a contractor for major construction work. Further, it is imperative to ensure that work is done according to specification; in terms of engineering plan and design. According to Mrs. AnnBelle Pierre, teacher and 4H leader at Crochu RC School, “this project was one of my dream to developing and improving the school garden. With the club’s drive and motivation, we are appreciative of what we achieved thus far; and we will work to continue farming in a modern way”.

**Drip lines installed in the garden** **First batch of Cabbage planted in the garden**

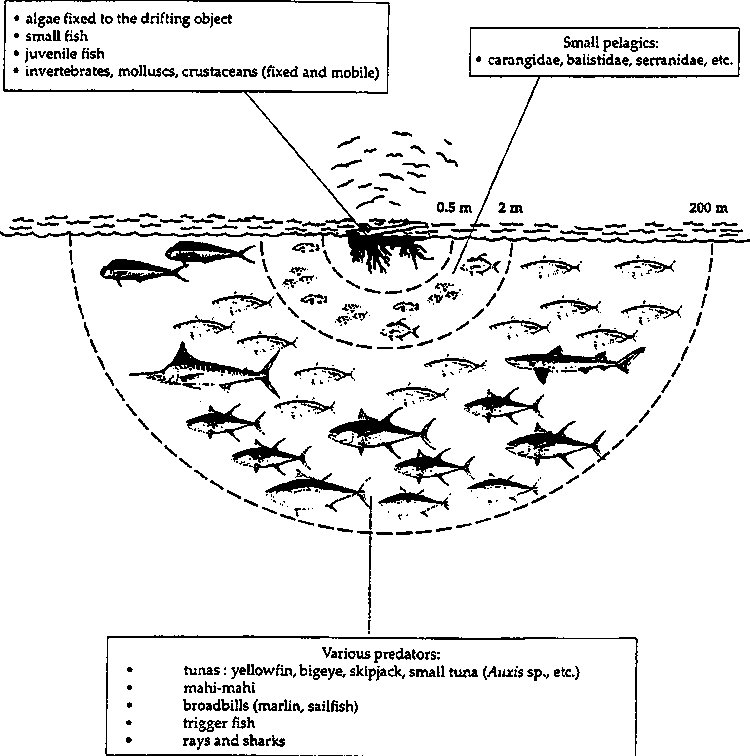
## New Fishing Techniques to Address Alternative Livelihoods

*Documented by:*

*Bryan Whyte, Sheddona Richardson, Andris Douglas and Valdon Charles*

A large percentage of the population in Carriacou depend on fishing for their livelihoods. Some of the common fishing practices on the island are spearfishing, sane and setting of fish pots on the near coast. As a result of these activities coupled with the effects of climate change; the surrounding coastlines, coral reefs including the seagrass bed have been negatively impacted. This led to the establishment of the Marine Protected Area (MPA) which was geared towards protecting nursery areas, increase fish stock and improve overall coastal resilience. Over one hundred fisher-folks were affected by this MPA implementation and therefore fishers were forced to seek alternative livelihood. In some cases, the fisher-folks were forced to fish further out in the ocean which demanded greater resources. The Carriacou fisher-folks took advantage of the Community Climate Change Adaptation Fund (CCCAF) available through the Integrated Climate Change Adaptation Strategy (ICCAS) and established the Fishing Aggregation Devices (FAD) project to alleviate some of these challenges.

The FAD project was aimed simply at providing alternative methods of fishing to improve the livelihoods of dependants of fisher-folks and the fishing industry in Carriacou. FADs works by a simple chain reaction mechanism of providing food for fishes which then provide food for us. FADs are built using canvas material which traps microorganisms that attract small fishes to spawn on it which then attract larger fishes due to the density of the smaller fishes.



The diagram shows a Fishing Aggregate Device

At the start of the project, the idea was to set up two FAD farms on the east and west of the island (Carriacou) each containing 5 FAD devices (10 total). Forty fishers were incorporated and trained, after which the project official launch took place. The coordinates were established and approval was given by the Grenada Port Authority.

At the initial building stage of the anchors and FADs, the basic methods were used in the construction but later had to be changed after advice was given by Mr. Howard Mitchell, a local FAD expert from Petite Martinique. He noted that the method used would result in loss and would not be sustainable in the long term. The concrete from the drums were hammered out and tires were placed in the drums with special connecting ropes to reduce friction when deploying the anchor.

  
Photos illustrating the building process of the anchors



Structure of one of the FADs

A total of four devices were later deployed at Pa Walter and Tocumbe on the West of Carriacou and at Green Gold and Wash –U – Pot on the East of Carriacou.

Within one month of deployment, three FAD devices were destroyed by passing ships which left one viable FAD on the East, which is Green Gold. A replacement was later deployed on the West of Carriacou at Fifi Bay, which was closer to the shoreline.

Through continuous monitoring it became apparent that the Green Gold FAD became extremely productive. It has since been utilized by fishermen from Grenville, Carriacou, Petite Martinique, Union Island, Canouan and Mayreau. No records are available from the early catches of the Grenville fishers however recent records indicates that within the span of a week one Marlin was caught with a mass of 400lbs and 20 tunas with a total mass of approximately 2000 lbs. Other varieties of fish were also caught including Dolphin, King fish and Black-fin tuna. One fisher folk named Mojo, an owner of a boat which is 14ft long carrying a 15 horse power Yamaha engine was able to travel from L’Esterre bay up to Green Gold, which is 25 miles away. He caught a 67lb Tuna and several other fishes around the FAD. Today he is able to earn an income and provide for his family using the FAD as an alternative to being displaced by the introduction of the MPA in Carriacou. From the technique learned fishers have since adapted to it and are now able to teach others and improve their livelihoods.

Dropping of anchor in the ocean



Photos of Mojo Catches at Green Gold

Coming out of the project several lessons were learnt which were that wider consultations with fisher-folks in the sub- region was needed to raise greater awareness. The construction and deployment of more robust equipment e.g. use of 14mm anchor ropes rather 12 mm should have been used. In addition, submersion of the FAD device in the shipping lane would have alleviate the challenge of the ships cutting and damaging the FADs. Improved equipment to locate FADs both during the night and day would also be needed going forward. The use of eco-friendly materials should be considered instead of plastic in the ocean. As data collection and documentation is deemed to be very important, the fishermen would need to receive training on how to effectively use the FAD and how the records could have been documented. An institutional framework needs to be developed to serve as a platform so that fisher folks can network effectively and promote sustainability since the FAD only has a lifespan of two to four years, if properly maintained.

It should be noted that as a result of the ICCAS, Project the membership of the Carriacou Fisher folk group has grown from six to twenty members. This project further encouraged team work as one member of the group provided his personal residence as the meeting centre. As no formal training was received on the construction of FADs, members’ learned through trial and error and sharing of ideas. However exchange with different fisher folks within the region would encourage of the most suitable techniques. It is hoped that this story with our experiences would promote awareness of the FAD and its benefits and encourage other fish-folk communities to work together to secure their livelihoods.

## Dead Fish Needs Ice: A Success story on introducing Ice Boxes to Grenville Fishers in Grenada

*Documented By:*

*Martin Barriteau, Royan Isaac and Nazaria Williams*

Selling fish that is not placed on Ice is a thing of the past in the fishing town of Grenville. The revolutionizing of the mentality of accepting Fish-On-Ice did not happen overnight. Historically in the entire state of Grenada fish without ice was considered fresh and fish spoilage has not only been prevalent but accepted.

Over 100 fishers operate from the town of Grenville and every year they bring in more fish than what the local market can absorb. The Grenville Fishing Aggregating Devices (FAD) fisher’s organisation (GFFO) was born with the aim of getting fishers to bond and work together; to deliver a quality product in order to reduce spoilage and to land an export market for Grenville fish. Finding an export market for fish was something that was never done before. With the effects of climate change and pollution from the land, fishers are forced to make longer journeys and therefore require ice to preserve fish quality. When the United Nations Development Programme Integrated Climate Change Adaptation Strategies (UNDP ICCAS) project was launched, which is a German-Grenada Government bi-lateral project that provided grant funding to communities to adapt to climate change, the FAD fishers was the first Organisation to grab unto the opportunity and was able to equip 50 percent of the fishers with locally design ice boxes and in so doing, changed the mentality of fishers, venders and consumers towards consuming fresh fish – which is fish on ice.

Fish on Ice

The timing was right for change in the fishing town of Grenville – not only were the fishers on a mission to bring about change but also the international fish marketing organisations. In 2013, fish exports contributed US$25 million to the national economy (which was better than Agriculture) and producing quality fish for export was not only demanded but was an ultimate requirement by the export market.

With the introduction of FAD through the Caribbean Fisheries Co-management project (CARIFICO) Grenville fishers were landing more fish including larger pelagic. A FAD is a canopy anchored to the seabed in the open ocean, which attracts fishes. However the quality of landed fish remained poor because they were not on ice.

The infrastructure is ready for change – The Japanese CARIFICO project, which was operating within the OECS region based on a bi-lateral relationship with Japan government and these OECS countries, directly worked with the Grenville fishers to prepare all the necessary structures to increase amount of fish caught. First the CARIFICO project trained the Grenville fishers to build, deployed and maintain FADs. Then they formed the fishers into a co-management grouping called Grenville FAD Fisher’s Organisation who collect fees from the fishers for sustain resource management. Lastly the CARIFICO project trained the fisher to build icebox using fiberglass and foam sheets tailor-fit for every fishing boat.

With all of these intervention something was still missing – And the Grenville fishers continued to land more poor quality fish. According to Mr. Royan Isaac, a fisher and the leader of the FAD fisher’s organisation, “the ICCAS project which introduce ice boxes and trained fishers in delivering a quality product could not come at more opportune time. It was the missing link to bring about change in the mentality of fishers to the Icing of their fish.” Mr. Isaac went on to say “every component of the ice box project was implemented smoothly and the project was completed within the stipulated timeframe. The lessons learned from this project could be modelled for any community intervention wanting to introduce a new technology.”

In summary, the factors that contributed to the success of ice box project included:

* Availability of technical experts: The CARIFICO project introduced the new technology and trained local persons to build the iceboxes. The CARIFICO project continued to provide technical support to the project and created a manual for the construction of iceboxes.
* Availability of funding: The ICCAS project provided a grant of US$30,500.00. General implementation went very well and there was swiftness in signing the proposal and starting the project. The disbursement of funds went without any hindrance.
* Availability of building materials: The procurement of materials was smooth, which were ordered through a local company. When the project ran into challenges with materials running out this was quickly corrected by the company.
* Availability of local experts to manufacture the products: the persons involved in the construction was already involved in the Japanese pilot procedure and had the skills to build the ICE boxes. The ice boxes are now being replicated currently where one of the trainers is now building ice boxes for other communities.
* Availability of appropriate construction site: A well ventilated area away from the public was chosen as the project site.
* Monitoring of the Project: The FAD fishers organisation that was also the leader of the project took full ownership of implementation and monitoring.

The change from not using ice to putting fish on ice did not happen overnight. The project involved a great deal of ground work. A lot of convincing had to be done to the fishers and sensitization on the effects of climate change and the importance of putting fish on ice following the correct procedures. This took some time because the concept wasn’t generally accepted by the fishers. Fishers thought that the ice boxes were too bulky and will make them burn more fuel. However the GFFO didn’t give up, the efforts continued and gradually the concept was generally accepted. Fishers were shown that climate change is real. Evidence of climate change that were present in the area was shown to them and they were convinced. The amount of applications received for ice boxes surpassed what the project had catered for, therefore a very difficult selection process had to be done. The turning point came when the Japanese CARIFICO Project Coordinator said to Fishers, “When people die we move quickly to give them flowers - when fish die we must be quick to give them Ice.” That phrase really resonated with fishers and it is now a commonly use phrase among the fishing community in Grenville.

Different sizes of Ice Boxes to fit different sizes of boats

Currently 90 percent of the fishers in Grenville are using the Ice boxes. With CALFICO and ICCAS project inventions there have been change in the economic status and confidence of the fishers. So much so that fisher’s credit worthiness has improved and the financial institution are providing more loan to fishers. The next major goal for this community is finding an export market for their fish which is a process that has started and will soon be a reality.

Closing Ceremony of the UNDP ICCAS ICE Box project

## Roslyn Austin’s Vision: A School’s Goal to Adapt to Climate Change through Agriculture

*~ Where there is no vision the people perish ~*

*Documented by: Roslyn Austin, Renae Baptiste and Maxine Welsh*

During the dry season the south of Grenada, in particular the Grand Anse Area, suffers from severe water shortages which result in the cessation of gardening activities and crop die out. This water shortage can be attributed to the changing climate as a result of global warming coupled with non-climatic factors such as urbanisation. Starting as a small backyard farmer at my village and being involved in a farming co-operative, agriculture has always been something dear to my heart. Being attached to the Grand Anse School for special education and having responsibility for the 4H group, I was always inspired to do more. This story is about the vision of Ms. Roslyn Austin, a teacher from the Grand Anse School for special education, who envisioned the possibility of doing more within the Agricultural sector at the school with the aim of providing the students with the produce required to attain and maintain a balanced diet.

My journey to the implementation of the Rain-Water Harvesting (RWH) system started in March 2014 when the school received some farming tools from the Zero Hunger Initiative Challenge. Though I was grateful for receiving these items, I was now faced with the challenge of sustaining a garden with wonderful tools, but limited water resources. Therefore, I approached the Permanent Secretary with responsibility for Agriculture to discuss the possibility of obtaining two black tanks which would be used to store water for the garden’s irrigation system. At no point did I ever visualise the possibility of getting so much more than just two black tanks since months had passed since the discussion with the Permanent Secretary about the need for two black tanks, and the idea had left my mind. I thought that nothing was going to be done to help the school out. However, at the start of the new school term that same year the 4H coordinator came, as a saving grace, to inform the school that a rainwater harvesting and drip irrigation system was going to be installed in the school.

This required a series of consultations among the United Nations Development Programme Integrated Climate Change Adaptation Strategies (UNDP ICCAS) team, teaching staff, and technical personnel who came to explain the process of the project development which included: water collection, drip irrigation, tank location, and solar panel water pump installation. After much ado the ICCAS project award ceremony took place in November of 2015, and the school for special education received a cheque in excess of XCD $67,000. The construction of the tank commenced in December 2015 and ended in January 2016. During the construction phase I was excited and elated, but there was some reluctance from other members of the teaching staff. Their concerns were with regards to the construction site and the students being in close proximity to the site, even though there was a fence between the school and the construction work. Nevertheless, the construction was conducted swiftly and there were no issues. As a result, the smooth installation of the drip irrigation system and the solar panel water pump system.

***Image showing completed tank Image showing solar panel installation***



***Irrigation system installed in garden***

A seedling supplier was paid to provide the school with cauliflower, cabbage, lettuce, and kale. However, although he was paid in advance for the supplies, he provided them to the school at a snail’s pace. To date, the supplier still has not provided all plants and therefore a key lesson learned is that suppliers should be paid upon the delivery of material to avoid further losses.

After the installation, I thought to myself that prior to the ribbon cutting ceremony we should have some crops in the ground. This is when the idea came to mind for the renovation of a small abandoned chicken house which could be used for seed germination. Added to this, the tardiness of the seedling supplier gave more reason for the justification of the start of the seedling house. The first seedlings sown were Pakchoi and some cucumber were done straight on the beds. The UNDP provided seeds (including lettuce, cabbage, watermelon, and eggplant), fertilizer, potting soil, seedling trays, and a wheelbarrow as starting materials for the project.

After the ribbon cutting ceremony on June 23rd, plants which were transplanted prior to the launch were harvested on June 29th. During this time members of staff were not as eager as I anticipated to support the school’s business of agriculture, either through purchasing items or marketing the activity. However, as time passed, gardening activities were created for both junior and senior students to develop an appreciation for all stages of gardening from nursery to bedding to transplanting and molding as well as fertilizing, harvesting and marketing. One can say that best practices were attained in composting, with even the cooks cooperating with regular garbage selection from provision peels. This compost material was eventually utilised in the beds to increase productivity. The students gainfully engaged mostly with the sowing of seeds which produced seedlings regularly, and the garden was able to supply the school’s kitchen with produce to provide better nutrition for the students. A wide variety of crops were grown including: sorrel, tomatoes, lettuce, pakchoi, cucumber, seasoning peppers, celery, parsley, corn, rosemary, beet, sweet potato, chive, and thyme. The excess produce were sold to communities and markets, including Real Value Supermarket and the Grenadian by Rex Resorts.

***Garden filled with vegetation Crops harvested being sold to local supermarket***

Some noted benefits of the project are that student’s involvement have improved as this gave them an increased appreciation for the different stages of gardening. Given that this is now one of the important aspects of life skills that students are being taught, this gives them a chance to obtain improved knowledge about these technical skills. Also,more nutritious and healthy foods were incorporated in the School Feeding Program. This allowed the provision of new dishes such as conkies, spinach bread, pumpkin bread, and spinach cakes -all of which were made from produce from the garden. There were also financial gains by the school from the selling of surplus were used to assist with contributions to other school activities. The monies generated also helped maintain the drip irrigation system and therefore promoted sustainability of the project when the project funding was completed. The project also provides contributions to environmental protection with the use of bins for composting which reduced the amount of organic waste that is sent to the landfill. This also includes more efficient use of water due to the presence of the drip irrigation system. From a social dimension, there has been an improved relationship with the surrounding community.

These benefits did not come with no challenges. Some that should be mentioned include the fact that the teachers used the garden as a way of punishment for students who behaved badly. So having to change the mindset of the students and teachers towards agriculture was a challenge. Also, the market to sell crops were a bit of a challenge, in times where everyone was selling the same crop the value of crops dropped as well as some supermarkets and hotels were not willing to take crops. Finally, consistency of drip irrigation line posed a problem as some beds were larger than other resulting in some beds getting more water than other.

Looking back at the project and the processes, the following could have improved the delivery of the project:

* More consultation with specialists, particularly the drip irrigation technician, would have provided greater knowledge and understanding about the system and the setup of the dispensers on the beds. This would have allowed us to use more appropriate dimensions for beds as some contained more dispensers than others causing inadequacies of the system in some cases.
* Short course or workshop in bookkeeping or accounting to assist in the business management aspect of the project would have been beneficial.
* Extension officers should visit the site regularly to provide guidance and feedback that would aid in the improvement and increased productivity of the project.
* More consultation can be done with both staff and parents through Parent-Teacher Association meetings to educate persons about the project, the importance and then get them more involved to alleviate the stress of one person having to do everything

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## Mermaids, Monsters and Marvin

*Documented By:*

*Kate Charles, Nazaria Alexander-Williams & Magali Bongrand-Henry*

My name is Marvin; I am 11 years old and a student at River Sallee Government School in the parish of St Patricks in Grenada. My family has been living in this area for as long as my grandfather remembers. Sunday afternoons are my favourite, spent with my grandfather learning about the mystical stories about the Levera area. Some say that there are monsters hiding in the depth of the pond, some others say that there are spirits in the woods. Now that I have participated as an environmental ranger with the Ramsar project, I know that the big red bird he is talking about was in fact a Scarlet Ibis and that the mermaids in the pond were Manatees. Both species are now extinct in the Levera area and I am very sad that I will never be able to see them for myself. I am also scared that some of the species that I now see in the area will not be there when I will tell stories about them to my children. This is why I want to tell you the story of the Ramsar project and share with others the importance of protecting our natural sites that I learned to appreciate.

Before I started as an environmental ranger, I did not even know that Levera was a Ramsar site or what Ramsar was. The leader of the rangers told us that Ramsar is a city in Iran where a conference was held to protect wetlands around the world. Levera was selected as Grenada’s only site to be protected under this convention. That made me really proud to think that my grandfather’s hunting ground was discussed in a place so far.

The site really needed some help - because of Climate Change, the wetlands of Grenada are at risk but they also have important qualities such as protecting our communities from heavy weather events. As a result, the Ramsar site was selected as a recipient for a grant from the United Nations Development Programme Integrated Climate Change Adaptation Strategies (UNDP ICCAS) Project, under its Community Climate Change Adaptation Fund. My grandfather told me so many times of the decline of the area. So many species that he used to hunt, fish or harvest were not to be found again. The Ramsar project aimed at collecting information about the species present in the area so that this information could be compared to historical studies made several decades ago and bring tangible data for decision makers to take action to protect the area.

In order to collect this data, the project trained over 50 local community members like me, a student, but also adults, like my uncle. There were some challenges in working with the local community members. Some of them did not have any knowledge of the environmental terms such as biodiversity or even the real name of the species in the area; some people did not even show up so our teams were smaller than expected. Also the leader ranger thought that data collectors could also input the data in the computer but most people did not have any computer skills. To overcome these challenges the project had to set about building the capacity of the community, which created delays but at the same time had a great educational impact. In order to gain the technical expertise to identify the species, the project had to rely on experts but this was not easy either because experts are busy, they cost a lot of money and often, they are not in Grenada.

But the project did not stop there it extended its commitment to build awareness to children though involvements of schools. Eight schools, including my own in River Sallee, were invited on field trips to the site to learn about it and the project also gave presentations to the other schools within the parish. The project partnered with a local NGO, Ocean Spirits, to include the Ramsar site information in their turtle awareness classes. I am lucky to live near the site because Levera is located at the most northern tip of the island, which did not make it easy for any of the other schools in the country to visit due to their heavy curriculum and the duration of the journey to travel up the island. I hope that one day the other kids will also get to learn about the natural riches of our country.

Hopefully, the nature trail, that was cleared and marked, as well as the interpretation boards, that the project installed to make the area more attractive as an eco-tourism destination, will motivate some of those kids families to come on weekend visits. Soon there will even be flyers and a map available at the visitor’s information centre for people to know about all the great work we have undertaken. The project installed an additional eleven large billboards around the area and the country to advertise the site - there is one of these at the airport to welcome foreign visitors – and other boards are information boards about the nature around the site. Sometimes it was not easy because the site is away from main roads and the installation team did not expect to have to go off-road. They were not happy and that made me laugh to see St George people struggle in the mud!

The local community is very excited about the prospect of seeing more visitors to the site. This offers the opportunity of alternative livelihoods now that their traditional income through fishing and hunting has become unsustainable. They also realise, and they have witnessed first-hand, that the site needs more protection from further degradation but it is not easy for them to change their habits and they are afraid that this project will bring about more stringent rules about hunting and fishing in the area. Some people understand it and in the end, it will be showing them that the site has more value to them when kept pristine and rich in biodiversity.

The lead ranger is still working on the recommendations but I hope that the project will achieve the Marine Protected Area status for the coastal zone and that there will be regulations on fishing, hunting and harvesting, especially the mangrove for making charcoal. Most excitingly, they talk of having rangers maintaining and interpreting the site. Maybe when I grow up, this could be me!



## Our Little Island Does Not Have To Become A Rock

*Documented By:*

*Dexter Miller and Akeisha Clarke*

Petite Martinique the most northerly of the tri island state of Grenada is a very unique island with strong cultural heritage and a community based economy. With a population of just under 1000 people and an area of 500 acres, the island has seen serious climatic issues which are slowly reducing the size. Further, due to the loss of tree cover on the north-eastern side of the island of Petite Martinique and negative farming practices over the years, mass erosion is visible in the Madam Pierre area. The boat building industry on the island has seen unsustainable harvesting of cedar over the years and the local custom of only consuming the male sheep and goat has resulted in a spike of the livestock population resulting in many areas being heavily over-grazed.

Dexter Miller, a local environmentalist, who has been living in the Madam Pierre area over 25 years claims that “the sight of tons of soil getting into the sea and destroying the reef system is evident and alarming.” He further stated that “the island has seen the loss of most of its white sand beaches, which is evident in all the other Grenadines islands. Coastal erosion and reef loss is a result of the effects of large amounts of soil deposits from the land and there has been a great reduction in our fish stocks, with the extinction of some species”. All of this can be attributed to the massive land degradation happening on our lovely little island. There are many stories being told of how lush the Madam Pierre area used to be. The women grew a variety of crops like corn, peas, cotton, lime and ground nuts. Unsustainable farming practices and improper designs for road construction lead to the destruction of the area.

Since the island’s main source of income is derived from fishing; addressing the issue of erosion and deforestation was of great concern to every islander. The area to set up the pilot project was identified by the community and the method of approaching the issues were also discussed at the community level. A community forest ranger was hired to work along with the project, spear heading the reforestation and drainage control efforts.



*Massive Gully caused by the cutting of land areas for road construction*

*Site area chosen for reforestation, construction of Terraces has begun*

A consulting firm was contracted to design the project, unfortunately to date they did not come up with a valuable design or approach to address the issues facing the island. The local project team with the help of local engineering skills came up with a design based on local knowledge of the area. Using an ‘A’ frame to highlight the land contour, check dams were built within the gullies to reduce the force of the water and at the same time trap soil that would have been lost. No fixed design was used in constructing the check dams but the basic idea was adapted to the terrain. The entire process was very participatory with workers ideas taken onboard. Within a few weeks of building these dams the rains came and the positive effects of the check dams were evident. However, some check dams had to be raised because of the accumulation of soil after the rains and the community saw the need to build more check dams.

*A-Frame approach being applied to the site*

Livestock Management

Another key area is that the issue of over-grazing had to be tackled, which meant providing avenues for farmers to understand the need for proper livestock management and income generation. At first, it was a challenge, but farmers slowly bought into the idea. As a result, farmers could make their stock much more manageable and at the same time earn extra income.

A workshop session was held on the Island, inviting local farmers and others from the niebouring Island of Carriacou. Topics covered were proper livestock management practces for sustainble living and income generation from themselves and their families



*Workshop Held with livestock Farmers*

The Nursery

Local knowledge was used to construct a hoop nursery, which was used to propagate the plants for the reforestation component of the project. Since the island has no natural source of running water, we had to construct a catchment for irrigation of the plants in the nursey. A storage shed was built for the tools and the roof used as the catchment, which fed into a black plastic storage tank. The refurbishment of a public water cistern was done to provide additional storage.



*Finish Nursey and Plants been introduced*

The education and awareness program, addressed the issues as it relates to climate change on the island. The school and community were actively involved in the awareness, propagation and planting of the trees. The children were very excited and very keen to learn what was being taught. They got the opportunity to play their part too. They were brought on a field trip to the nursery, where they learnt even more about the importance of forest and the effects of erosion on both the land and sea.



*Education and Awareness session with the school and field trip to the Nursery*

The late disbursement of funds saw disruptions in the implementation of some components, and also disgruntled service providers. Since the project was pegged to Euro currency some training components had to be omitted due to currency fluctuations and loss from the exchange rate.

Nevertheless, the results of the project thus far have stirred great interest within the community, with many residents making the request for the Government to give further support once the present funds have been exhausted. This Project brought out local ideas, skills and the ability of the community to develop further environmental initiatives.

## A Sustainable Future for Sea Moss Farmers

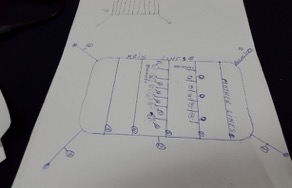
*Documented By: Willan Andrew, Dawne Mark and Nazaria Williams*

For generations, harvesting of wild edible sea moss as a viable income earner, have been practiced by economically challenged families in the Grenville Bay area, St. Andrew. In Grenada, Sea Moss is mainly used to make the Sea Moss Drink. However, Sea Moss can be used to make paint, gelatin and as an aphrodisiac.

Since the passage of Hurricanes Ivan and Emily in 2004 and 2005 respectively, the sea moss population have not fully recovered, due to the massive destruction of the bottom substrate upon which sea moss grows. In addition, overharvesting by local sea moss farmers have severely depleted the resources. Having witnessed the success of sea moss mari-culture (farming) in Union Island, Mr. Willan Andrew, a seamoss farmer from Grenville Bay had the idea to introduce this specialized branch of aquaculture involving the cultivation of marine organisms for food and other products on the island of Grenada. This created an avenue for a more reliable supply and a much better quality product.

Through the United Nations Development Programme (UNDP) Integrated Climate Change Adaptation Strategies (ICCAS) project Community Climate Change Adaptation Fund (CCCAF), sea moss farmers of Grenville Bay received funding to undertake this unique initiative. Several consultations and meetings were held and soon thirteen groups came on board to farm sea moss in Telescope, Soubise, Grenville and Petite Bacaye. There were twenty-four sea moss farmers, comprising six males and eighteen females from single-parent households whose only means of livelihood was sea moss farming. When Willan approached them, although they were very excited, their only concern was that they may have to pay back the start-up funds. The community members were elated when he explained that the project will be supported through grants, as all the start-up materials would be purchased and they would also receive training. With such great news they were geared up and ready to go!

The training sessions and plot set up was successfully set up in one week. The materials included ropes, anchors (cement blocks), buoys as floats, poly chord as streamers and plants. To set up a plot, lay the ropes as a rectangle, set anchors to the four corners on the main line; attach the mother lines from one main line to the other; then attach the streamers to the mother line and attach the sea moss to the streamers.



 **Setting up a sea moss plot Drawing of a sea moss Plot**

Monitoring was also an integral component of this project. Visits were made at least once a week for eight weeks. During these visits, Willan stressed the importance of maintaining the plots to ensure that they were not detached from the anchors and that no ‘foreign objects’ were attached to the plants. Within 6 to 8 weeks it was now time to harvest seamoss. This process took about one to three hours based on the size of the plots; and farmers caught other marine resources such as fishes, shrimps and lobsters that were living between the plants. So you see, even the sea moss plots are a good habitat for marine life.

**Cleaning the plots**

After harvesting, the sea moss was placed in special sheets of plastics on drying tables to be allowed to bleach by the sun for about three to four hours. Subsequently, the sea moss was removed from the plastics and then placed on solar driers and other tables to dry. Throughout the drying process, the farmers continuously turned the sea moss to ensure that they were properly dried.

In the Telescope community, 5 plots were established, yielding approximately 2,400 pounds of wet sea moss in 1 harvest; which is 120 pounds of dry sea moss; using a ratio of 20:1. The sea moss was then placed in special bags, stored and sold. At $40.00 per pound, these 5 plots can make approximately $4,800 XCD every two months. Isn’t sea moss mariculture lucrative?

Harvesting sea moss

This project has recorded tremendous success, however, it have not always been smooth sailing. There has been reluctance from some of the members to accurately record their sea moss yields. To them, this recording mechanism that has been set up will allow others to gauge the amount of income they earn from farming sea moss. Further, while there have been great yields to sea moss farmers, this now creates an issue of glut; there is not enough demand for the amount of sea moss on the market in the raw state. In the future, we hope that the sea moss farmers can work more co-operatively to pull their resources together to farm at a scale where they can produce more value added products and even export.

Bags of sea moss harvested



## Climate Kids Adventures: The Story Of How We Made Climate Change Cool

***Documented By****:*

*Kizzy-Ann Abraham*

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**About Climate Kids Adventures**

The Climate Kids Adventures Book Series, is a project by the UNDP under the ICCAS Project. The inspiration for this project stems from a desire to engage young children on climate change, adaptation, and risk reduction by communicating in a fun and understandable way the causes, impacts and measures we can all take to adapt to its effects. The book series features two books “Hurry, Hurry It's A Hurricane” and “Hike to Camp Cool” for distribution among grade two students, and an interactive mobile application based on the two books. It’s our belief that educating children on climate change awareness from a young age (between 5 to 7 years old) is necessary in order to empower knowledgeable and conscientious adults. According to Eldris.org “Research is now suggesting that children are effective risk communicators and agents of social change within their households and their immediate communities.”

**Our Adventure**

From the beginning of our adventure we realized that in order to better write a children’s book about climate change, we needed to understand how much our young audience understood the topic. We went out exploring the beautiful islands of Grenada, Carriacou and Petite Martinique conducting a survey to collect data on students understanding of climate change.

However, like all great adventures we did run into obstacles at the beginning. Our initial project name needed to be changed from Caribbean Climate Kids Series to the now awesome name of Climate Kids Adventures. As well having to change one of the book ideas, “Hot Head Jenny, a story about Kick ‘em Jenny” and come up with a new one because it did not have a strong enough climate change link.

We decided on a new story that spoke to our past experience with Hurricane Ivan and Emily and came up “Hurry, Hurry it’s a Hurricane!”.

The delay in approving the new project name and story coupled with the waiting to get the okay from the Ministry of Education kept us at the starting line for 3 months.

Conducting the survey was done during a period of two (2) and half months. Our pollsters had the opportunity of interacting with the best of our island’s young and brightest students and teachers. During that time, we saw the interest and energy for the students and teachers had in learning more about global warming and what we can do to prepare writing the upcoming books.

*“…I thought that getting the children involved in the whole idea of climate change. One of the reasons being they are smaller and their actions would have a longer lasting impact on what we do.”*  – Principal of Primary School visited

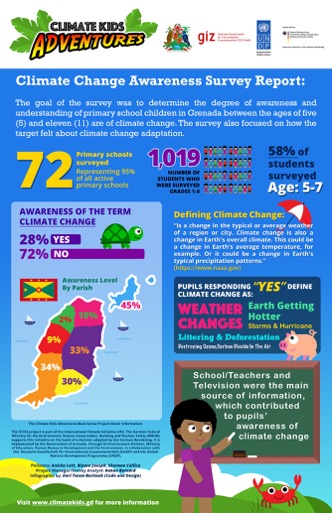
Our research study was conducted as a part of the monitoring and evaluation component, to determine the degree of awareness and understanding children between the ages of 5 and 11 years old have of climate change, and whether age or location had an impact on the degree of knowledge of climate change among children between the above-mentioned age range.

The study was done through a survey questionnaire, which was conducted in a total of 72 primary schools, representing 95% of all active primary schools within Grenada, Carriacou and Petite Martinique. A total of 1,019 surveys were successfully completed.

**Pollsters conducting survey with primary students**

The survey, acted as a template to the whole projects development. It gave us an idea as to what was known and what information needed to be added to help expand knowledge about climate change. The findings of the survey are in the infographic below.

Now, with our survey data collected and the approval of the book concepts for “Hike To Camp Cool” our climate change awareness story and “Hurry, Hurry It’s A Hurricane” a story about disaster risk reduction it was “***Kirani Speed Time***”!

Once both book scripts were drafted and submitted for review, we started the process of bringing our Climate Kids to life with the illustration process. Our passion in writing the stories was shared in the same process in designing our characters. Keep it simple, fun, and make it cool.

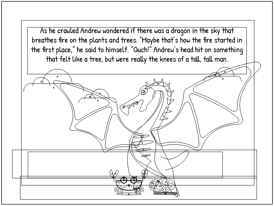
We learned during this phase of the project that conceptualizing earlier, in terms of the design aspect such as having concepts for characters and other brand design elements done earlier would have helped in completing the project a bit earlier. The early design elements would have also have helped with marketing the book and apps before they were fully completed. As well as getting people excited and knowledgeable about the project during the development phase.

**Marketing material designed and distributed during the project**

The script proofing and design approval as fun as it was, took time to come to a final draft ready for print. The consistent revisions and tweaks and tweaks and revisions felt like Hurricane Ivan making landfall in Grenada and not wanting to leave. But with the commitment to the success of the project from our CLO (Renae Baptiste) and the rest of ICCAS team we were able to get the books ready for print and the app development.

The app development phase was expedited due to the upcoming book launch. Finding a development environment that allowed an agnostic approach to deploy to both the iOS and Android app stores was vital. We ended up going with Adobe Animate, which provided the possibility to write our code and animate our characters with the time restraints.

**Wireframe design elements used to animate illustrations | Alyssa Goddard (Book narrator for mobile apps)**

Unfortunately, certain app stores like Apple’s App Store having criteria for what they consider an app prevent some mobile apps from being displayed in specific stores (ie. App Store Mobile App vs iBook Store). We ended up having to come up with a contingency to having other mediums to being able to distribute the books effectively on mobile devices. Accepting this realization early on ensured that we multiple mediums developed, such as iBook versions, PDF for download and an interactive desktop version of the apps were developed for showcasing purposes.

We would have loved to have spent more time improving the apps and other digital versions of the book. We believe in technology and would like to see the mobile app version become more interactive to make learning about climate change fun and informative.

We also looked into the idea of incorporating a VR component in the app to showcase different areas at risk on the island of Grenada so children can experience the effect of climate change without being there.

We have just completed the distribution of books to all primary schools in Grenada, Carriacou and Petite Martinique. Though, the reception of the books were very well received we did encounter challenges. The difficulty of contacting a few schools and fitting the distribution time with their schedule was unexpected. We did also have trouble finding certain school which slowed down our planned distribution time. To mitigate the issue, we started setting periods in the day when we would arrive to distribute the books.

We also ran into a setback with the first estimated quantity of books printed. We had expected to distribute 2000 books but ended up having to print an additional 2400 to meet the demand of our climate kids.

It has been a happy and welcomed surprise to how the books have become so popular among kids and adults.

**Some students receiving Climate Kids Adventures books**

The project has been featured locally on the evening news programs, newspapers and internationally. The Climate Kids Adventure: Hurry, Hurry It’s A Hurricane has been selected to be the “Story Gala Theme” for the upcoming Grenada Community Library fundraiser.

As we conclude our story, we have reflected over the fact that we did not anticipate how challenging it would be pulling the right team together to pull this off. We took for granted that the vision of the project could be absorbed by each team member seamlessly. At times that was not the case, and so we had to make adjustments.

If we had to do this over again we would have spent more time using the books as a catalyst to teach students about climate change while developing a conscious culture about the environmental protection and how they can actively contribute to developing resilient communities. We would have also organized a few events that would have encouraged further discussions about the impact climate change has on Grenada and our people. Nevertheless, we believe we were able to meet our object by make climate change topic that is cool to learn.

**So be a Climate Kid. Be cool!**

## 3.3.2 Lessons Learned By Thematic Areas and Key Recommendations

#### Environmental Protection

|  |  |  |
| --- | --- | --- |
| Problem/Success | Impact | Recommendation |
| PROJECT MANAGEMENT | | |
| Tools that were purchased by UNDP team members (CLOs) did not always meet the requirements of projects. | Slowed progress of the project and tools had to be borrowed e.g. from other Forest rangers | Community project leaders/organisers need to be explicit what is required – specifications, brand, quantity, material type, etc.  Community groups/representative should be involved in the purchase of equipment and other materials |
| Lack of communication between ICCAS team and on-the-ground project personnel | Confusion, loss of enthusiasm, conflicts | Better and more regular communication, for instance the use of whatsapp group chats |
| lack of commitment and interest from participants that were not guaranteed short term financial benefits from the project | Not enough members to form a cooperative | Interviews persons to clarify their interests and expectations and recruit the candidates within vision and support for wider community benefits.  Introduce a contract of agreement with suitable persons |
| Logistics and punctuality of dedicated participants was excellent | Allowed enough time for classes to run and opportunity to practices newly gained skills | Longer period for training and longer class sessions to allow more to be achieved |
| CONSTRUCTION AND REPLANTING | | |
| Check damns were established | Issues of soil erosion has been declined | Incorporate local knowledge in the design of structures  Data collection before and after is needed for better monitoring |
| Indigenous seedlings were used for planting at the site | These seedlings are already adapted to conditions and manpower and transportation was reduced | Always source seedlings locally when possible |

#### Water Projects - Rainwater Harvesting

|  |  |  |
| --- | --- | --- |
| Problem/Success | Impact | Recommendation |
| Lack of involvement of staff in the project | Drop/decrease in project productivity (due to lack of buy-in) | Publishing of gardening photos of sales and other activities that are done in the school’s newsletter  Education of the ICCAS project to the school body to encourage buy-in |
| Previously the school used gardening activities as punishment for misbehaving students | Students associated gardening as a horrible activity  Reduced motivation among students to see agriculture as future profession | Discussion at Parent Teacher Association (PTA) meetings and at general school assemblies to enlighten folks on the benefits of agriculture and agri-business |
| Slow delivery of nursery plants from supplier although that supplier was paid in total for gross amount | Delay in transplanting of seedlings to increase total gardening yield | Pay the supplier as plants are supplied (payment on delivery)  Consider having a plant propagation house on site, if it is feasible. This will promote sustainability |
| Misplacement of drip irrigation devices | Less production on some beds of similar size with less irrigation dispensers to those with more dispensers | Consultation with drip-irrigation specialist so as to ascertain uniformity of pipes on beds, prior to installation |

#### Food Security – Fisheries and Agriculture

|  |  |  |
| --- | --- | --- |
| Problem/Success | Impact | Recommendation |
| PROJECT MANAGEMENT | | |
| Projects without a structured organisation ended up with capacity and consultation problems | Lack of consultation resulted in land ownership problems; project management and governance problems | Have community members formalize a group as part of the implementation requirements |
| Not having written documentation for agreements - in cases where people gave their verbal agreements to project activities | Delays in project implementation and in some instances deviation from project plan. This can also lead to legal implications | All agreement although simple must be in writing and signed by all parties. |
| Inefficient project planning both at the community level in financial and programmatic aspects | Activities keep changing as project activities were implemented  Many activities were either under budgeted or over budgeted | Need for better project development planning  Need for training in scope of work and ToR development and procurement development |
| Need for planning approval for all construction projects | Delays in construction activities, which needed approval from the relevant ministry | Need for better project develop planning  Need to understand government policies, legislation and procedures for construction projects. |
| Quantity surveys provided accurate costing for construction project | Save the projects lots of headaches and other implementation problems | Undertake quantity surveys to have more realistic budget |
| Community leaders do not always following the chain of commands | Miscommunication and information  Delay in implementation  Break down in working relationship with all parties. | Need to clearly outline and adhere to the chain of commands to all parties. |
| Lack of capacity by registered organisations to effectively and efficiently implement project activities | Serious delays in implementation  Misuse of funds for unbudgeted activities  Changing of project activities without notice to the donor | Having standard fiduciary procedures (templates and guidelines) for the CCCAF |
| Misuse of project equipment; tangible items and materials | Project equipment; tangible items and materials not being used for the propose it was meant for  Poor PR to the donor and community group  Poor project results | Following up with monitoring by donor agencies which should be tied to project agreement  Agreements (MoU) between donors and project recipient to return items not used for the proper purposes. |
| Selection of inexperienced contractors to do construction projects; especially when community groups favor these persons | Wastage of resources  Weak and malfunctioning structures  Additional cost to project | Hire an independent project supervisor  Be firm on community groups to follow existing procedures and processes for hiring contractors |

#### Education and Awareness

| Problem/Success | Impact | Recommendation |
| --- | --- | --- |
| The decision making process of Grenada government institutions (Ministry of Education and Environment Division) kept the project from staying on schedule and making key deadlines. | Additional work had to be undertaken to accommodate the institutions’ delays which in return led to key resources not being made available at the time of restarting the project. This further led to delays in the project completion. | The ministries need to prioritize and streamline the process of approval and providing feedback to time sensitive funded projects.  Future projects should also consider making accommodations for long delays caused by government entices in their implementation plan. |
| The human capacity to implement educational programs were underestimated. | Pollsters hired were overwhelmed with workload of traveling throughout the island and the need to engage with multiple students during each visit. Which led to a slow turn over of data collected. | Increase the pool of potential hires allowing the project to select the best candidates for the job at hand. This can be achieved through broader recruitment process.   Being explicit with what the project expectations are and having contingencies to roll over hires if necessary to stay on the target deadline. |
| Lack of project awareness due to a poor use of marketing tools and strategies to inform the public of the educational sessions within the community. | Educational sessions were poorly attended. Leading to poor communication of the project and its impact (and awareness thereof). | Use of multiple mediums (letters to businesses, radio PSA, community drive through etc.) that could advertise or broadcast the events. Increasing public awareness. For projects that multiple mediums were used there is evidence of better attendance |
| Venues selected were unsuitable to a large audience, either due to their location or what they represented. Example: A Presbyterian Church that was used for a meeting venue would not be attended by members of other religions. | Educational sessions were poorly attended. Leading to poor communication of the project and its impact. | A need to find and select a central and neutral location is required in order to accommodate all persons. If time and resources permit, multiple events should be convened. |
| Selected content was effectively geared towards the target audience and spoke to their interest. | The audience was engaged and messages were well received. | Ensure to tailor messages to target audience (age, gender, professional background, educational levels etc.), and make sure to have a streamlined story to communicate. |
| Presentations were well received by having interactive tools and visuals. | The audience was engaged and message was well received. | It is important to make use of interactive tools such as games, visuals such as videos and pictures and when needed tangible objects such as 3D models and memorabilia. |

#### Common Lessons Across TAs

| Problem/Success | Impact | Recommendation |
| --- | --- | --- |
| Late payment to some contractors | Project was not implemented on time. Lower workers (construction workers and ICCAS staff) morale. CLOs were verbally abused. | Avoid the Government of Grenada payment system  Allow a petty cash system to be institutionalized  Have a dedicated account for the CCCAF |
| Having technical expertise greatly helped with the smooth implementation of projects and its overall success; however, there were a few instances where the Consultants hired for the projects did not always provide the expected guidance needed | Less wastage of materials and time  Guidance had to be found elsewhere and impacted timelines | Confirm availability of local knowledge/experts before hiring foreign experts.  Follow-up with reference for consultants to ensure good reviews are received prior to contracting of them |

## 3.4 Report Objective #4: Document Lessons in Undertaking a Participatory Monitoring and Evaluation Exercise for the Community Climate Change Adaptation Fund

The M&E system for the CCCAF also included indicators and targets related to M&E capacity building. As such, the performance of the M&E component of the CCCAF was assessed. The rating system assigned by the team is in the Table below.

## 3.4.1 Achievement Rating for M&E Capacity Building

|  |  |  |
| --- | --- | --- |
| Score | Achievement Rate and Meaning | |
| 1 | Exceptional | Achievement above 100% |
| 2 | Very Good | Achievement between 90-100% of target set |
| 3 | Good | Achievement between 70-89% of target set |
| 4 | Satisfactory | Achievement between 40-69% of target set |
| 5 | Unsatisfactory | Achievement between 0-39% of target set |

| Expected Results | Indicators | Baseline Data  Year: 2016 | Target  Year: 2017 | Achievement  Rating | Rationale |
| --- | --- | --- | --- | --- | --- |
| Impact:  Capacity enhanced to independently design, implement and manage a basic M&E system at the community level and within key ministries in Grenada | Quality of the M&E plan | None exists | High quality M&E plan[[3]](#footnote-3)[[4]](#endnote-1) | Very Good | High quality M and E plan, with an M and E specialist, some target indicators were not fully completed and there was no one dedicated to monitor the projects on the ground and verify the information being reported.  Because there are persons who started and left the project, the project implementation were at different levels of implementation. As such, some CLOs would have started the project and suggest M and E targets, did not complete and moved on to other endeavors. |
| Outcome:  1. CLOs and relevant stakeholders are capable to implement M&E roles and responsibilities under the CCCAF project | Level of capacity to implement M&E roles and responsibilities in Grenada | Low level of capacity exists: funding for M&E exists, 1 CLO exposed to training, a governance framework exists, draft M&E plans exist per project. No data collection tools, storage capacities, 5 CLOs need to be trained, processes for M&E to be elaborated. | High Level of Capacity achieved[[5]](#endnote-2) | Good | Lack of capacity: loss of staff and lack of continuity. These persons would have been exposed to M&E training. Newer recruits were not exposed to all the M&E training. However, the remaining CLOs have all been able to implement the M&E plan, collect M&E data, undertake analysis at the project level and prepare results based reports. |
| Outputs:   * 1. M&E training on core principles and a second training on the M&E plan convened | # of M&E training convened | 1 M&E training was done in 2015 | 2 additional M&E training on basic M&E concepts, data collection techniques and report writing | Very Good | Targeted training competed but the training was affected by the slow implementation of projects. Limited M&E data available during training to be applied |
| * 1. 6 CLOS + 5 representatives from ministries related to the 5 key thematic areas of the CCCAF are trained in basic M&E skills and are fully aware of the M&E plan to be used for the CCCAF project | # of CLOs trained and supporting the M&E system  # of representatives from Ministries trained and supporting the M&E system | 1 exposed to M&E training in the past | 7 CLOs  5 government officials | Satisfactory | Although six CLOs, staff from the Ministries and some community groups were trained, the CCCAF has lost staff, there is little follow-up with the staff from the Ministries in terms of giving support. |
| * 1. M&E baseline and targets completed | Existence of aggregated baseline and targets | No comprehensive PMF exists for the CCCAF | PMF with aggregate information for core indicators completed | Very good | A few targets were not completed, and for some indicators there were non-existence and inappropriate targets since they were they were set mid-point of the project and some were hard to judge |
| * 1. M&E data collected and M&E report completed and disseminated | # of M&E reports completed and disseminated | No results based performance measurement report prepared to date. Most reports are narrative focused on activities. | 1 final M&E technical report | Satisfactory | 11 of 27 project level M&E reports completed. No aggregated M&E report completed to date.  Because we are still at implementation stage for some projects and we have not collected data for other projects. Therefore the aggregated report could not be done prior to September 2017. |

## 3.4.2 Lessons and Recommendations in Setting Up and Management Of The Fund And M&E Processes

Lessons related to the management and operationalization of the CCCAF and M&E was also documented. Key recommendations have been identified for similar projects.

#### Perspectives of the PMU

| Problem/Success | Impact | Recommendation |
| --- | --- | --- |
| SETTING-UP AND MANAGEMENT OF THE FUND | | |
| Inflexibility of the policies of implementing agency (IA - UNDP) to respond to local conditions | Financial – payments and procurement modalities via the IP (Government) restricted timely implementation  Financial – restriction of useful provisions (petty cash) significantly hamper the payments to small vendors  Institutional – Reputational risks and confidence in project to service goods/services provided  Administrative – Large portion of staff time dedicated to tracking and following up on payments | Implementing Agency (IA - UNDP) should undertake more frequent (quarterly) evaluations on the systemic flows of these modalities  There should be the provision of a petty-cash system to facilitate transactions with small vendors  IA needs to draw from prior experiences of initiatives in the country to advise their future interventions |
| Selection process for projects was flawed. Selections based on national needs but not on the quality of the proposals | Some projects grossly overestimated and/or under-estimated the resources needed to implement and therefore presented issues of meeting milestone targets. | The project team should have a presence at the meeting on the final evaluation for project proposals. National Climate Change Committee should incorporate the views of the project team.  There should be a pre-audit of project submissions to ensure that budgets were realistic |
| Misalignment of project proposals from donors (BMUB) and IA (UNDP) | Multiple reporting issues on indicators were absent from substantive documents (Project document)  As a result, some significant activities under the project could not be implemented | IA and Donor should ensure there is alignment of guiding project documents and specific aspects (Indicators, targets, etc.) shared with the PMU |
| Inefficiency within government payment system | Negatively impacted morale of staff paid through the gov’t system | Project resources should be channeled through a separate payment modality (bank account) |
| Constant changes in organizational structure of government (ministries etc.) | Adjustments cause a halt in activities as new officers familiarize and re-familiarize themselves with project activities. | Contractual arrangements establishing one project director/ ministry assigned to the project for its lifetime/duration |
| Constant loss of staff | Negatively affects implementation as different staffare reallocated to other projects. Increases the amount of work  Time needed to re-establish relationships between CLOs and Project leads.  Loss of capacity as trained staff move onto other functions/posts | Benefits need to be extended  Contractual arrangements need to be structured to create more stability |
| Effectiveness of the CLO Network | CLO network facilitated implementation of the community groups (more effectively than established NGOs)  Increased buy-in of community groups  Allowed for the M&E data collection and analysis to be sustained | Consideration should be given to broaden field networks to assist in implementation and M & E |
| Quantity of projects selected | Consumed a lot of time in terms of administrative (financial) arrangements  Resulted in slow rate of implementation | 10 to 15 projects would be ideal for initiatives with these resources |
| Lack of capacity of Government | Staff capacities created bottlenecks in various areas critical to functioning of the government | Having a separate payment system. This way the burden on the government system is reduced. |
| Tranche payments from donors to IA affected the project | Project exposed to foreign exchange shocks. | One payment to be made at the start of the project from donors. Residual funding will be reimbursed to the donor. |
| Did not benefit from the wealth of resources of the UNDP | Lag in technical support that CCCAF supported in communities | IA should focus on establishing greater synergies within the UN system |
| M & E | | |
| Overlap in thematic areas caused issued in M & E indicators alignments and definitions  Extensive M&E processes | Difficult to identify representative data for some projects | Dedicated on-the-ground M & E technical support to provide support to CLOs  Develop the M&E earlier so that baselines can be realistic.  Any excessive funding should be put towards M&E such as M&E data collection up to 6 months after the close of the projects. |

#### Perspectives of CLOS:

| Problem/Success | Impact | Recommendation |
| --- | --- | --- |
| M & E | | |
| Questions were not project specific, they were too generic  Absence of a complete baseline  Lack of interest of persons to partake in M & E  M&E questions did not take into consideration the age range of all beneficiaries | Inability to fully capture everything that was done in each of the project thus not giving a true representation of the result/ impacts each project would have had on the various communities  Baselines were not truly represented of what was there hence estimations were made | More project specific questions  Baseline should be done before project implementation  Find ways of getting respondents more interested and maybe increasing community interest before things are implemented. E.g. visit communities prior to the launch of projects; entertainment allowance to allow meetings to be interesting. E.g. purchase of drinks and snacks.  Timing of data collection is important. Ensure to be honest of the time needed for interviews |
| SETTING UP & MANAGEMENT OF THE FUND | | |
| Poor Communication through the CLO and Community groups  Poor Communication within the Project team | Chain of command ignored resulting in cases where CLO has no knowledge of things occurring which resulted in delays and placed the CLO in compromising position where they appear that they are not doing their job.  Issues are not addressed when they occur throughout the project team (internally)  Not everyone is informed about what is going on with the entire project at all times  Tardiness in relaying of information (e.g. For participation in displays and exhibitions) | There should be transparency of information sharing as to activities or thing happening within each project e.g. more frequent and routine planning meetings with all of the team  When issues come up they should be addressed immediately at dedicated “issues related meetings”  Dedicated office space for entire team so they can work together when needed. E.g. 1 day per week.  There is a need to outline clearly what the line of communication is between grantees and CLOs, which should be reinforced by the entire team.  Promote flexibility among project team |
| Government payment process is too lengthy – inefficiency increases  Community awarded certain amount, however due to the devaluation of currencies, community groups were not given what was initially awarded by the fund | Vendors receive payments months after providing services and as a result vendors most times do not want to continue business with projects  CLO are placed in a compromising position as vendors often exchange harsh languages for not receiving their payments  Projects had to cut activities had to be re-structured and cut to facilitate drop in value of currency  Staff receive salaries late which can be demotivating  Documents have to ‘pass through’ too many persons before approval | The establishment of a special project fund, independent of the Government system  A petty cash system should have been in place to take care of short falls and urgent but small purchases |
| No bonus, low salaries and incentives for staff  Staff having to pay their own NIS and other Insurance  No compensation for work done on weekends | Inability to secure loans from financial institutions  Lack of job stability and job security  Staff turnover  Staff gives up family time to attend to project activities and are not adequately compensated | Better incentives and pay packages for staff, especially given that projects only last for a specific period; oftentimes short (and to be able to take care of other expenses such as insurance)  Staff should be given either pay or a day off (lieu days) when work is done; especially on weekends |

#### Perspectives of Grantees:

|  |  |  |
| --- | --- | --- |
| Problem/Success | Impact | Recommendation |
| PROJECT MANAGEMENT | | |
| Capacity for community groups to manage and run projects.  Inability of groups to manage finances.  Communication gaps in the management system. | Delays in implementing certain aspect of projects.  Improper record keeping  Timeline deficiencies in the implementation of the project. | Determine capacity of groups before projects are rolled out.  Develop a standard template that groups can follow to enter data.  Website should be a management tool rather just marketing or PR. EG: SmartyGrants (or other electronic management platform) |
| Delays in the paying of providers for services.    Groups have limited knowledge of the financial administrative structure of implementing agency | Delays project implementation.  Conflict between groups and implementing agencies, insecurity and lack of motivation to continue with project. | Make funds available to groups on a need to get basis. Groups can make smaller payments with administrative fees.  Setting up an agency outside of Government. |
| M&E | | |
| No prescribe process to collect data as the project is rolled out.  M&E processes is a challenge for groups to follow | No data is available.  Inconsistencies in data provided | Clear TOR at the inception of the project. Data should throughout the lifecycle of the project.  Simplify the process so that community groups can carry out their own internal M&E |

# Appendix I – Master Survey Questions

**INTRODUCTORY NOTE:**

You’ll be asked to answer thirteen questions and your participation will take

approximately fourteen minutes.

You will receive no payment for your participation.

If you decide to participate in this survey, your participation is voluntary

and you have the right to discontinue at any time. You have the right to

refuse to answer particular questions. Your answers will be con/dential and

known only to the UNDP Team members. The summary results of this

research study may be presented at a community meeting, but your

individual responses will remain con/dential.

If you have any questions, concerns or complaints about this research, its

procedures, risks or bene/ts, please call Nicole Cambridge at 419 0756.

You’ll be asked to answer thirteen questions and your participation will take

approximately fourteen minutes.

You will receive no payment for your participation.

If you decide to participate in this survey, your participation is voluntary

and you have the right to discontinue at any time. You have the right to

refuse to answer particular questions. Your answers will be con/dential and

known only to the UNDP Team members. The summary results of this

research study may be presented at a community meeting, but your

individual responses will remain con/dential.

If you have any questions, concerns or complaints about this research, its

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You’ll be asked to answer thirteen questions and your participation will take

approximately fourteen minutes.

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and you have the right to discontinue at any time. You have the right to

refuse to answer particular questions. Your answers will be con/dential and

known only to the UNDP Team members. The summary results of this

research study may be presented at a community meeting, but your

individual responses will remain con/dential.

If you have any questions, concerns or complaints about this research, its

procedures, risks or bene/ts, please call Nicole Cambridge at 419 0756.

You are kindly being requested to participate in this interview to assist the Environmental Unit of the Ministry of Education to monitor the performance of the “name of project”. You are being engaged because you were identified as a direct beneficiary (or grantee) for this project. You’ll be asked to answer several questions and your participation will take approximately twenty-five minutes or less. You will receive no payment for your participation as your participation is considered as voluntary. You have the right to discontinue at any time or to refuse to answer a particular question. Your individual responses will remain confidential and your identity will remain anonymous. If you have any questions, concerns or complaints about this research, its procedures, or benefits, please call Mr. Martin Barriteau, Project Coordinator for the UNDP ICCAS project, at (473) 440-2708, extension 3027.

**TO BE COMPLETED BY THE INTERVIEWER:**

What Parish is this project being implemented in?

* Carriacou
* Petite Martinique
* St. Andrew
* St. George
* St. John
* St. Patrick
* St. David
* St. Mark
* Nationwide

What Thematic Area does this project address?

* Education and Awareness (EA)
* Environmental Protection (EP)
* Food Security (FS)
* Forestry (F)
* Water resources (WR)

What is the project number? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**PRELIMINARY QUESTIONS (Applicable to ALL projects)**

1. The interviewee belongs to which category?

* Grantee
* Direct Beneficiary
* Indirect Beneficiary

1. Sex of interviewee

* Male
* Female

1. Age range

* Under 18 years
* 18 to 24 years
* 25 to 34 years
* 35 to 44 years
* 45 to 54 years
* 55 to 64 years
* Age 65 or older

1. Highest education level completed (**certificate obtained**)

* No schooling
* Primary
* Secondary
* Tertiary

1. Employment status

* Employed – including self-employed (Part-time)
* Employed – including self-employed (Full-time)
* Unemployed
* Retired
* Unable to work
* Student
* Stay at home parent

1. If unable to work, please state reasons why this is so.
2. If employed, what is your job title or what do you do?
3. Type of household?

* Nuclear
* Extended
* Single-headed
* Other

**IMPACT LEVEL INDICATORS (Questions applicable to ALL projects)**

| **Result Statement** | **Indicators** | **Survey questions** | **Target Audience/**  **Source of Data** | | |
| --- | --- | --- | --- | --- | --- |
| Grantee | Beneficiary | Observation/Specific Data Form |
| **IMPACT: Increased ecosystem resilience and adaptive capacity of communities in response to and in preparation for climate change induced stresses through the implementation of concrete community-based adaptation activities and incentives in various sectors in the islands of Grenada, Carriacou and Petit Martinique** | I1. # of stakeholders (individuals/communities/agencies) directly and indirectly benefitting from vulnerability reduction and improved adaptive capacity activities as a result of support under the CCCAF (disaggregated by sex for individuals.  [coverage indicator] | 1. How many stakeholders (categorized by individuals, agencies and communities) directly and indirectly benefitted from the community project?  |  |  |  |  | | --- | --- | --- | --- | |  | Individuals | Agencies | Communities | | ***Direct*** |  |  |  | | ***Indirect*** |  |  |  | |  |  |  |
| 1. For those direct beneficiaries classified as “**individuals**”, how many were men, women, child, adult and vulnerable groups (disabled, elderly)?  |  |  |  |  | | --- | --- | --- | --- | | ***Female distribution*** | | | | | Child  <18 yrs | Adult  18 yrs or older | Disabled | Elderly | |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | ***Male distribution*** | | | | | Child  <18 yrs | Adult  18 yrs or older | Disabled | Elderly | |  |  |  |  | |  |  |  |
|  | 1. How did you **find out** about this project and became involved? (e.g. involved in training, adaptation infrastructure/technology introduced etc.) |  |  |  |
|  | 1. Do you think there are barriers or things that prevented and will continue to prevent others from accessing the benefits provided by this project? If yes, what are the barriers? How do you think we can reduce the barriers? *Answer in the space provided below:*   What are the barriers –  What can be done - |  |  |  |
| I2. Rate of Success of the interventions in delivering improvement in options to cope with climate change threats  [adaptive capacity indicator] | 1. Would you say that the initiative achieved a high, medium or low level of success in **improving options for coping with climate change threats** in your community?  * High – the interventions funded by the project addressed the priority hazards and have **significantly** increased and/or improved options to cope with climate change threats in the community. * Medium – the interventions funded by the project have only addressed some of the priority hazards and have **moderately** increased and/or improved options to cope with climate change threats in the community. * Low - the interventions funded by the project did not address any of the priority hazards and have **minimally** increased and/or improved options to cope with climate change threats in the community. |  |  |  |
| 1. List what were the reasons for the rate of success reported in improving options to cope with climate change threats – that is, what worked well and what could be improved?   What **worked well** under this project to help you to better cope with climate hazards (e.g. drought, rainfall, flooding) in your community:  What **could have been done better** under this project to help you to better cope with climate hazards in your community: |  |  |  |
| 1. Do you think there are other factors outside of this project that could have contributed (positive or negative) to the level of success you think was achieved? |  |  |  |
| 1. Were you invited to design or develop this project from the beginning? |  |  |  |
| 1. Did you notice a change within your household and/ or the wider community as a result of this project? If yes, please describe the changes and who was affected.   \*\* Note: change can be related to behaviour/practices, well-being (health, income) etc., positive or negative |  |  |  |
|  | 1. Do you think there are any vulnerable groups that were excluded or forgotten from this project? How can we strengthen their inclusion? |  |  |  |
| I3. Level of capacity of beneficiaries to maintain/sustain adaptation strategies introduced or strengthened via CCCAF  [sustainability indicator] | 1. What is the level of capacity that exists to maintain /sustain the adaptation strategies introduced or strengthened through this initiative?   \*\*Notes: Capacities include:   1. ***Asset base*** *– skills, money, community infrastructure and ecosystems exist within the community/sector that can support the longevity of the intervention* 2. ***Knowledge and information*** *– systems are in place to collect relevant information that will assist in the management and maintenance of the intervention.* 3. ***Governance and management systems*** *–community network, leadership and communication mechanisms exist to coordinate management and sustainability of the interventions*  * High –**all of the requirements** as it relates to asset base, knowledge and information and governance and management arrangements are in place to sustain the intervention * Medium –**some of the requirements** as it relates to asset base, knowledge and information and governance and management arrangements are in place to sustain the intervention * Low - **little to none of the requirements** as it relates to asset base, knowledge and information and governance and management arrangements are in place to sustain the intervention |  |  |  |
| 1. What do you recommend is needed to promote sustainability of this project? That is, when the project funding is completely utilized, what is needed to ensure the benefits of the project do not end? |  |  |  |
| I4. # of employment opportunities created (by parish, sex, thematic area) | 1. How many individuals gained employment, both short-term and long-term, as a result of this intervention?  |  |  | | --- | --- | | Sex: | # Direct Beneficiaries | | Male |  | | Female |  | |  |  |  |
| 1. What type of work did they perform?  * Construction/Laborer * Teaching/instructing * Project manager/Coordinator * Accounting * Design/architecture/engineering * Other |  |  |  |

**FOOD SECURITY CORE INDICATORS**

| **Result Statement** | **Indicators** | **Survey questions** | **Target Audience/ Source of Data** | | |
| --- | --- | --- | --- | --- | --- |
| Grantee | Beneficiary | Observation/ Specific Data Form |
| **Outcome 1: Residents, farmers and/or fishers are more knowledgeable and equipped to cope with the effects of climate change by increasing production yields and/or reduced operational costs to improve livelihoods, reduce unemployment and sustain food security for communities.** | 1.1 Yield/Quality of produce (by type of technique in fishery and agriculture sectors) | There will be no question on this for the survey tool.  **Form 3 (Yield of Produce), Form 4 (Fish Yield and Quality), Form 5 (# of seedlings), Form 6 (Yield of organic compost) or Form 7 (Yield of protein from waste)** will be utilized for the analysis of trends |  |  |  |
| 1.2 Rate of change in food security due to the measures implemented | 1. How would you rate the change in food security as a result of the support provided by the project in this community?  * High – the intervention has significantly improved the affordability, accessibility and availability of (list product e.g. fish/seamoss/organic agriculture/other) in this community. * Medium – the intervention has moderately improved the affordability, accessibility and availability of (list product e.g. fish/seamoss/organic agriculture/other) in this community. * Low - the intervention has not improved the affordability, accessibility and availability of (list product e.g. fish/seamoss/organic agriculture/other) in this community. |  |  |  |
| 1. For agriculture projects, is there a noticeable increase in the availability of crops, particularly during the dry season? Describe |  |  |  |
| **Output 1.1: Farmers (crops or livestock) and fishers have implemented/adopted new practices and/or equipment** | 1.1.1 # of farmers/fishers practicing/benefiting from new techniques (specified per type of technique and sex) | 1. How many farmers/fishers are practicing/ benefiting from the new technique(s) introduced and what is the sex distribution? *Fill out the box relevant to the project.*  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | Protein from Waste | FAD | Organic Agriculture | Ice Box | Irrigation System | Water  Harvesting | Seamoss agri | Lionfish | Vermaculture | Greenhouse | | Male |  |  |  |  |  |  |  |  |  |  | | Female |  |  |  |  |  |  |  |  |  |  | |  |  |  |
| 1.1.2 #/sq. ft. of new sea moss farms operational | 1. How many sq. feet of land is being cultivated for sea moss farms? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |  |  |
| 1.1.3 # of equipment introduced/installed and operational (by type) | 1. List the **number/amount and type(s)** of equipment installed under this project? |  |  |  |
| 1. If equipment was installed but not operational, please provide reason why it has not been operational to date. |  |  |  |
| 1.1.4 Area of land (sq. ft.) under functional irrigation system | 1. How many sq. feet of land is being cultivated using a functional irrigation system? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |  |  |

**WATER RESOURCES CORE INDICATORS**

| **Result Statement** | **Indicators** | **Survey questions** | **Target Audience/Source of Data** | | |
| --- | --- | --- | --- | --- | --- |
| Grantee | Beneficiary | Observation/ Specific Field Survey |
| **Outcome 2: Strengthened capacities to cope with water stresses to boost health, productivity and livelihoods of individuals (farmers, senior citizens, students and/or households)** | 2.1 Rate of water consumption OR Storage Capacity | No questions for interviews are required since the readings obtained from the meters (to be installed by NAWASA - TBC) over time would be used to assess the changes in water consumption particularly during the various seasons of the year. |  |  |  |
| 2.2 Quality of water | No questions required for the survey form as the results from testing would be accumulated over time to track changes. This information would be compared with international standards to determine the level of quality of the water (high, medium or low). NAWASA to support water testing. TBC |  |  |  |
| 2.3 School attendance (disaggregated by sex) | The actual change in attendance rates would be calculated based on the attendance registration (**Form 2**) provided by the Principals of relevant schools |  |  |  |
| 1. Do you think there are other factors outside of the support provided by the project that could have contributed to the change (positive or negative) observed in the average attendance rates recorded by the school? |  |  |  |
| **Output 2.1: Water saving measures implemented or expanded/updated (e.g. rainwater harvesting, water conservation campaigns)** | 2.1.1 # of water and sanitary facilities installed (tanks, compost toilets, showers etc.) | 1. How many water and/or sanitary facilities were installed/renovated? *Fill out the box that is relevant to the project*  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | |  | Water tanks | Compost toilets | Flush toilets | Shower | Sinks | Cistern | | Amount |  |  |  |  |  |  | |  |  |  |
| **Output 2.2: Flood mitigation infrastructure and measures (widen streams, reinforce dams, drainage, sloping, soil protection measures) implemented** | 2.1.2 # of flood mitigation intervention erected (by type, length) | 1. How many flood mitigation intervention was implemented, by type? *Fill out the box that is relevant to the project*  |  |  |  |  | | --- | --- | --- | --- | |  | Drainage widening | Clearing of drainage | Tree planting on slopes/rivers | | Amount |  |  |  | | Length |  |  |  | |  |  |  |
| 2.1.3 Rate of success of flood mitigation intervention implemented in affected areas | 1. How would rate the success of the infrastructure provided in the reduction of flash floods and/or interruptions to school operations, closure and damage?  * High – the infrastructure funded by the project addressed majority to all of the priority activities pertaining to flood mitigation and have significantly reduced the incidence of flash floods and/or disruption to school operations resulting in school closures and damage. * Medium – the infrastructure funded by the project addressed some the priority activities pertaining to flood mitigation and have moderately reduced the incidence of flash floods and/or disruption to school operations resulting in school closures and damage. * Low - the infrastructure funded by the project addressed little to none of the priority activities pertaining to flood mitigation and have minimally reduced the incidence of flash floods and/or disruption to school operations resulting in school closures and damage. |  |  |  |

**ENVIRONMENTAL PROTECTION CORE INDICATORS**

| **Result Statement** | **Indicators** | **Survey questions** | **Target Audience/**  **Source of Data** | | |
| --- | --- | --- | --- | --- | --- |
| Grantee | Beneficiary | Observation/ Specific Field Survey |
| **Outcome 3: Enhanced capacities to protect/conserve ecosystems/environment through research and actions that mitigate risks to climate change** | 3.1 # natural assets monitored/researched for protection | 1. How many natural assets/ecosystems were researched to promote monitoring and protection? \_\_\_\_\_\_\_\_\_\_   *\*\*Note: Count natural assets or ecosystems based on the boundary of the community.* |  |  |  |
| 3.2 # of key lessons identified from the research and monitoring projects to inform better management and/or protection of the ecosystems | 1. How many lessons were identified from the research and monitoring protocols? \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |  |  |
| 3.3 Rate of implementation of recommendations from research on ecosystems | 1. What is the rate of implementation of recommendations from studies?  * High: ≥75% of recommendations from project research based projects are implemented * Medium: 26%-74% of recommendations from the project research based projects are implemented * Low: ≤25% of recommendations from the project research based projects are implemented |  |  |  |
| 1. What were the reasons for the rate of implementation of the recommendations – what factors supported implementation and what factors slowed implementation? |  |  |  |
| 1. What do you think would increase the rate of implementation of the recommendations of the research? |  |  |  |
| **Output 3.1: Enhanced ecosystem health and environmental sanitation to adapt to climate change** | 3.1.1 Quantity/ volume of solid waste collected at clean-ups (by area) | 1. How **many bags or what weight (kg)** of solid waste were collected during clean ups activities? \_\_\_\_\_\_\_\_\_\_ |  |  |  |
| 1. What are the factors that contribute to the success/failure of solid waste cleanup campaigns?   Success:  Failure: |  |  |  |
| 3.1.2 # bins (compost and garbage) installed | 1. How many bins have been installed by type? *Fill the box that is relevant to the project*      |  |  |  | | --- | --- | --- | |  | Garbage bins | Compost bins | | Number/ Amount |  |  | |  |  |  |
| 1. What is the change observed from installing compost/ garbage bins? |  |  |  |
| **Output 3.2: Monitoring systems and research have been conducted to better inform management of ecosystems/environment** | 3.2.1 # of research / monitoring protocols completed and implemented/operational (by theme) | 1. How many research studies have been completed and what were the topics? |  |  |  |
| 1. Do you think the findings from the research and the information in the monitoring protocols are relevant to support better management of the ecosystems? Explain |  |  |  |

**FORESTRY CORE INDICATORS**

| **Result Statement** | **Indicators** | **Survey questions** | **Target Audience/Source of Data** | | |
| --- | --- | --- | --- | --- | --- |
| Grantee | Beneficiary | Observation/Specific Field Survey |
| **Outcome 4: Reduced vulnerability of coastal settlements and ecosystems to the effects of climate change and enhanced ability to support climate change mitigation through reforestation of mangroves and other plant species** | 4.1 Evidence that biodiversity has increased (meiofauna, invertebrates etc.) in reforested area (by site) | 1. Has there been an observed changed in the biodiversity since the reforestation of the area? What types of plant and animal life are being observed? |  |  |  |
| 1. Area of land (sq.ft) under tree cover? \_\_\_\_\_ |  |  |  |
| 4.2 Evidence of change in coastal profile, erosion, shoreline width | No questions needed since data collection will be an extensive field exercise with reports prepared. |  |  |  |
| 4.3 # of households that are protected by newly planted areas. | No questions needed. Field observation and mapping will determine the count of households protected |  |  |  |
| **Output 4.1: Residents are trained in the care of seedling and nurturing of plants until they are fully matured/established.** | 4.1.1 # of seedlings propagated (to transplanting stage) | 1. What was the total number of seedlings propagated? \_\_\_\_\_\_ |  |  |  |
| 1. How many survived and were transplanted at the reforestation site?\_\_\_\_\_\_\_\_ |  |  |  |
| **Output 4.2: Trees successfully planted in vulnerable coastal habitats and are properly maintained on an ongoing process.** | 4.2.1 Total height above ground (Avg) of Seedlings (from soil mark to the apical bud) | No questions needed. Data collection will be an extensive field exercise with reports prepared. |  |  |  |
| 4.2.2 Carbon accumulation rate (by site) | No questions needed. Data collection will be an extensive field exercise with reports prepared. |  |  |  |

**EDUCATION AND AWARENESS CORE INDICATORS**

| **Result Statement** | **Indicators** | **Survey questions** | **Target Audience/Source of Data** | | |
| --- | --- | --- | --- | --- | --- |
| Grantee | Beneficiary | Observation/Specific Field Survey |
| **Outcome 5: Strengthened understanding of climate change as well as capacity building and lesson learning to cope with climate change (by sector)** | 5.1 # of lessons learned (by thematic areas) | 1. How many lessons were learned from the various thematic areas?  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  | Food security | Water resources | Environmental protection | Forestry | Education and Awareness | | Amount |  |  |  |  |  | |  |  |  |
| **Output 5.1: Education and information materials on climate change developed** | 5.1.1 # of education and awareness materials/activities (by type) on the effects of climate change developed (by thematic area) | 1. What type of and how many education and awareness materials specific to climate change were developed with support from the project?  |  |  |  |  | | --- | --- | --- | --- | | Categories | Visual | Print | Aural | | Amount |  |  |  | |  |  |  |
| 1. What type of and how many education and awareness materials on climate change that is specific to the following thematic areas were developed with support from the project?  |  |  |  |  | | --- | --- | --- | --- | |  | Visual | Print | Aural | | Food Security |  |  |  | | Water resources |  |  |  | | Environmental protection |  |  |  | | Forestry |  |  |  | |  |  |  |
| 5.1.2 # of stakeholders engaged with the education and awareness materials on the effects of climate change (by thematic area) | 1. How many stakeholders were directly exposed to the education and awareness materials on climate change, including materials on the effects of climate change on a particular thematic area?  |  |  |  |  | | --- | --- | --- | --- | |  | Individuals | Communities | Agencies | | Climate Change |  |  |  | | Food Security |  |  |  | | Water resources |  |  |  | | Environmental protection |  |  |  | | Forestry |  |  |  | |  |  |  |
| 1. For those direct beneficiaries classified as “individuals”, how many were men, women, children, adults and vulnerable groups (disabled, elderly)?   Thematic area: \_\_\_\_\_\_\_\_\_   |  |  |  |  | | --- | --- | --- | --- | | ***Female distribution*** | | | | | Child  <18 yrs | Adult  18 yrs or older | Disabled | Elderly | |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | ***Male distribution*** | | | | | Child  <18 yrs | Adult  18 yrs or older | Disabled | Elderly | |  |  |  |  | |  |  |  |
|  |  | 1. List what **worked well and could be improved** in the execution of the training and/or education programs to build awareness of climate change   What worked well:  What could be improved: |  |  |  |
|  |  | 1. How did you find out about and became involved in the education and awareness programmes offered by this project? |  |  |  |
|  |  | 1. How well do you understand the term ‘climate change’?  * 0 – you do not understand any of the information or materials * 1 – you understand some (basics) of the information or materials covered * 2 - you understand most (basics + advanced) of the information or materials covered * 3 - you understand all of the information or materials covered |  |  |  |
| **Output 5.2: training/certification of stakeholders to deliver educational and informational materials on climate change** | 5.2.1 # of stakeholders trained/certified in the delivery of educational and educational materials on climate change | 1. How many stakeholders (categorized by individuals, agencies and communities) received training/certification to administer training on climate change (training-of-trainers)?  |  |  |  | | --- | --- | --- | | Individuals | Communities | Agencies | |  |  |  | |  |  |  |
|  |  | 1. For those direct beneficiaries classified as “individuals”, how many were men, women, child, adult and vulnerable groups (disabled, elderly)?  |  |  |  |  | | --- | --- | --- | --- | | ***Female distribution*** | | | | | Child  <18 yrs | Adult  18 yrs or older | Disabled | Elderly | |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | ***Male distribution*** | | | | | Child  <18 yrs | Adult  18 yrs or older | Disabled | Elderly | |  |  |  |  | |  |  |  |
|  |  | 1. How did you find out about and became involved in the training of trainer programmes offered by this project? |  |  |  |
| **Output 5.3: Stakeholders have benefitted from relevant training to improve their operations in the face of climate change** | 5.3.1 # training and education programs to enhance skills and capacities (by topic) | 1. List what topics were covered in the training and education programs provided to residents/farmers/fishers to enhance their capacities to achieve the objectives of the project? |  |  |  |
| 5.3.2 # of beneficiaries of training and education programs (by topic, sex, location, age) | 1. How many individuals benefited from training and education programs to enhance their capacities to achieve the objectives of this project, by topic and how many were men, women, youths and vulnerable groups (disabled, elderly)?   Topic 1: \_\_\_\_\_\_\_\_\_\_\_   |  |  |  |  | | --- | --- | --- | --- | | ***Female distribution*** | | | | | Child  <18 yrs | Adult  18 yrs or older | Disabled | Elderly | |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | ***Male distribution*** | | | | | Child  <18 yrs | Adult  18 yrs or older | Disabled | Elderly | |  |  |  |  | |  |  |  |
| 1. How did you find out about and became involved in the training offered by this project? |  |  |  |
| 1. List what **worked well and what could be improved** in the execution of the training and education programs to build capacities within this sector?   What worked well:  What could be improved: |  |  |  |
|  |  | 1. How well do you understand the material you were taught in the training?  * 0 – you do not understand any of the information or materials * 1 – you understand some (basics) of the information or materials covered * 2 - you understand most (basics + advanced) of the information or materials covered * 3 - you understand all of the information or materials covered |  |  |  |

1. Adaptive Capacity is the “ability of a system to adapt” (IPCC in Villanueva, 2011: 14). There is general consensus that investments in adaptation actions will facilitate the building of our abilities to adapt; signaling that adaptation leads to enhanced adaptive capacity (Hedger et al., 2008). [↑](#footnote-ref-1)
2. 4H stands for four H’s: Head, Heart, Health and Hands [↑](#footnote-ref-2)
3. |  |  |
   | --- | --- |
   | High | there is an M&E plan that addresses all of the components outlined by Görgens and Kusek, 2009 |
   | Medium | there is an M&E plan that addresses some of the components Görgens and Kusek, 2009 |
   | Low | there is no comprehensive M&E plan or the details of the M&E plan are scattered across various documents and not implemented (or implemented in an ad hoc manner) |

   [↑](#footnote-ref-3)
4. [↑](#endnote-ref-1)
5. |  |  |
   | --- | --- |
   | High | All the requirements (asset base, knowledge and information and governance and management systems) are in place to sustain the roll out of the M&E system of the CCCAF |
   | Medium | Only some of the requirements (asset base, knowledge and information and governance and management systems) are in place to sustain the roll out of the M&E system of the CCCAF |
   | Low | Little to none of the requirements (asset base, knowledge and information and governance and management systems) are in place to sustain the roll out of the M&E system of the CCCAF |

   [↑](#endnote-ref-2)