

MISSION REPORT

UNDP-ICCAS Mission to Grenada, August 5th to 8th

Full Participants List:

Kadjiah Edwards	Technical Officer - UNDP / ICCAS
Lorenzo Harewood	Technical Administrative Associate - UNDP / ICCAS
Merina Jessamy	Permanent Secretary – Ministry of Agriculture
Byron Campbell	Program Manager - Market Access and Rural Enterprise Development Programme (MAREP)
Andre Joseph-Witzig	Technical Officer - GIZ ICCAS
Justin Rennie	Chief Fisheries Officer – Fisheries Division, Ministry of agriculture
Orlando Harvey	MPA Biologist - Fisheries Division, Ministry of Agriculture
Roland Baldeo	Technologist - Fisheries Division, Ministry of Agriculture
Allan Neptune	Production & Quality Manager - National Water and Sewerage Authority (NAWASA)
Kerry Pierre	Budget Officer - Ministry of Finance, Planning, Energy & Cooperatives
Yolande Newton	Project Officer - Ministry of Finance, Planning, Energy & Cooperatives
Raj Naraine	Accounts Officer – Ministry of Finance, Planning, Energy & Cooperatives
Martina Duncan	Community Coordinator) - Ministry of Agriculture
Trevor Thompson	Land Use Department, Ministry of Agriculture
Paul Phillip	Retired Senior Environmental Officer - Ministry of Agriculture



On behalf of:



of the Federal Republic of Germany

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Lisa Chetram	General Manager - Gouyave Fish Market
Desmond Gill	Fisherman - Gouyave Fish Market
Yacouba Toussaint	Farmer
Joshua Lewis	Director – Grenada Poultry Association
Lennon Thomas	Farmer



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Mission Summary:

The UNDP-ICCAS project team conducted a series of site visits between August 5th and 8th with a view to obtaining a better understanding and appreciation of how climate change is impacting various communities in Grenada. These site visits were spread across all four coastlines of the country, as well as within centrally located farming communities.

Three projects were identified to be closely aligned to the objectives of the ICCAS components and informal agreements were made to explore the possibilities of formalizing a closer relationship.

Meetings were also held with the Ministry of Agriculture and the Ministry of Finance to clarify some aspects of administrative and financial arrangements respectively



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MAREP MEETING

Present:

Kadijah Edwards	Technical Officer - UNDP / ICCAS
Lorenzo Harewood	Technical Administrative Associate - UNDP / ICCAS
Andre Joseph-Witzig	Technical Officer - GIZ / ICCAS
Byron Campbell	Program Manager - Market Access and Rural Enterprise Development Programme (MAREP)

The team made its first stop to the MAREP office in St. Patricks, where a discussion with Mr. Byron Campbell, Program Manager, identified numerous similarities amongst the objectives of ICCAS and his organization. This discussion provided a basis for future collaboration and follow-up discussions on initiatives, particularly pertaining to community based activities of an environmental nature. Mr. Campbell welcomed the arrival of the latter components of the ICCAS project and expressed his willingness to jointly tackle issues associated to Climate Change at the community level.

SITE VISITS

- St. Johns – Gun Bath
- Fisherman’s Association - Gouyave
- St. Marks – Victoria
- St. Georges – Carenage, Morne Rouge, River Road
- St. Patricks – Sauteurs Bay

Present:

Martina Duncan	Community Coordinator - Ministry of Agriculture
Kadijah Edwards	Technical Officer - UNDP / ICCAS
Lorenzo Harewood	Technical Administrative Associate - UNDP / ICCAS
Andre Joseph-Witzig	Technical Officer - GIZ / ICCAS



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Trevor Thompson	Ministry of Agriculture
Paul Phillip	Retired Senior Environmental Officer - Ministry of Agriculture
Lisa Chetram	General Manager - Gouyave Fish Market
Desmond Gill	Fisherman - Gouyave Fish Market
Yacouba Toussaint	Farmer
Joshua Lewis	Director – Grenada Poultry Association
Lennon Thomas	Farmer



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SAUTEURS – ST. PATRICKS

The team visited Sauteurs Bay and was accompanied by Mr. Paul Phillip, a retired public servant from the Ministry of Agriculture, who volunteered to guide us around the area. Mr. Phillip, also a resident of the district, highlighted key Climate Change concerns while providing a historic overview of the Sauteurs Bay area, with specific focus on its once vibrant fishing

industry and coastal community. From an elevated view in the yard of St. Patrick’s Roman Catholic Church the team was shown various locations along the bay that have been directly affected by sea level rise, flooding and land slippage; all resulting from climate change. A regularly used playing field was identified less than 30 meters away from the shoreline and added to the social risk associated to rising sea levels.

As a coastal community, Sauteurs is historically aligned to the fishing industry. As depicted in the above photo, its original fish market was situated to the extreme west end (*yellow circle*) but was destroyed in the 1980s as a result of rapid structural erosion due to the rising sea level. The new fish market (*yellow square*) was constructed in the 1990s less than 100 meters west of the original structure along the coastline. Its proximity to the shoreline, in the absence of any substantial efforts to buffer the impacts of the waves, places it heavily at risk.



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Along the bay also exists a collection of make-shift wall and corrugated galvanise structures serving as housing units, as well as a galvanised bar. All of the galvanise housing structures are built directly on the shoreline. This small community shares the shoreline with various fishing vessels, all exposed to the risks of the rising sea levels and unpredictable waves. Much of the roots of the existing vegetation (mainly coconut trees) are severely exposed and indicate the constant imposition of the waves. As depicted in the photo to the right (*yellow arrow*), the waves come within meters of the designated docking area for the fishing boats in Sauteurs Bay.



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VICTORIA – ST. MARKS

A brief drive-through was done in Victoria, St. Marks to view the gabion river walls, which represent a collaboration between the Chinese government and the government of Grenada. These water barriers are intended to protect the communities, which live along the river bed, from the traditional swells of the river, especially during hurricane season. The river is known to be very active during this particular

time of the year with swells sometimes up to 10 feet. However an observation was made that no water mark levels were on the gabion structure, indicating that the river may have been consistently at its current low level for quite some time. Some members of the community situated on the riverbed still fully utilize the river for cooking, drinking and washing.

RIVER ROAD, CARENAGE – ST. GEORGES

The team also observed the River Road and Carenage areas, which are susceptible to the effects of rising river and sea levels respectively. In the case of the River Road district, there has been little activity in recent times in which the water levels posed a severe threat to structures on the bank. However, this lack in activity may also reflect a decreasing provision of natural water in the river which could be utilized as an alternative fresh water source.



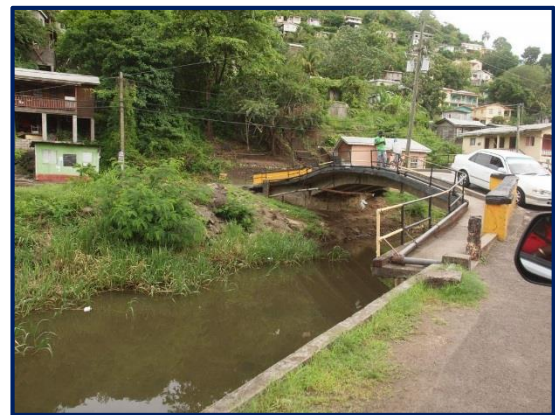
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Carenage in St. Georges



River Road in St. Georges

GOUYAVE FISH MARKET – ST. JOHNS

The team met with Lisa Chetram, Manager of the Gouyave Fish Market and Desmond Gill, a local fisherman and member of the Fishermans’ Association with a view to grasping a better appreciation and understanding of the impacts of climate change on the fishing industry.

Mr. Gill shared and compared his experiences between the 1980s and 2014, highlighting the level of disruption climate change has had on the fishing industry. He shared his longstanding view that the roads and communities were too close to the shoreline and inevitably vulnerable to the effects of rising sea levels. Some human impositions such as coral bleaching were identified as key threats to the industry. Natural occurrences, such as the storm surge brought on by Hurricane Lenny in the 1999, were identified as critical factors that would have destroyed the marine habitat around the island.

Mr. Gill expressed concern over the overwhelming influx of lion fish in the area, which added to the dwindling variety of other species traditionally seen around the reef. There is no natural predator of the lion fish, while it is known to attack numerous species of reef fish such as snappers and tavalies. Other species such as jacks and yellow-fin tuna are being harvested further and further out in the sea as the warmer waters around the island are not the preferred habitat of these species. This in turn means that fishermen have to allocate more resources (e.g. gas) to venturing further out for a decent catch.



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The only way for the fishing industry to survive is for the fishermen to be made aware of the challenges and changes occurring around the ocean and to be prepared to make necessary changes to adapt. This might even imply a temporary abandonment of regular harvesting spots to ensure that future generations in the fishing industry have sufficient supplies to make a living. Mr. Gill also indicated that the fishermen in the association were “very difficult” at times to speak to regarding change so consideration should be given to how they are approached when the time comes.



GOUYAVE – ST JOHNS

A tour of the shoreline community in Gouyave followed discussions at the fisheries complex. This area is similar to that of Sauteurs in terms of vulnerability to rising sea levels as many structures are built directly on the sand bank. One noticeable difference was the level of activity of younger persons in and around the various fishing vessels, possibly highlighting a meaningful target group in that community for future climate change awareness projects.



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MARQUIS – ST. ANDREWS



The team visited Marquis, which is on the eastern coastline of Grenada. Its trademark black-sand coastline exposed much of the risks associated with rising sea levels as the waves constantly settled within meters of household structures. This area was traditionally known to be a tourism driven hub with a local craft shop nearby. However, there was no sign of any such economic activity.



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TELESCOPE – ST. ANDREW

Mr. Lennon Thomas gave the team a brief but detailed tour of his farmlands located in the Telescope/Sea Moon area. He highlighted the fact that in year gone by, this time of the year being within the rainy season, there would have been a higher frequency of rainfall. Mr. Thomas indicated his awareness of the changing weather patterns and warmer climate. While acknowledging the fact that water



levels are far less than they were before, he concluded that the current impact on his crops and yield were not negative because the water levels were still sufficient. However, he noted a drastic reduction water levels of the nearby river (The Great River), which is his primary source for irrigation.

The team also saw an abundance of mosquitos, particularly near the river bed on his farmlands. While Mr. Thomas acknowledged that their presence is nothing out of the ordinary, he did express some concern over his observation that the numbers are far higher now than in recent years in spite the fact that there was less water in the river than before. Team members recognized this development as applicable to the Awareness aspect of the project, specifically highlighting how insects such as mosquitos have already adapted to the changing conditions in the environment with a view to showcasing its implications on health risks.

TIVOLI – ST. ANDREW

Mr. Joshua Lewis accompanied the team to Tivoli, where local farmer, Mr. Yacouba Toussaint was introduced and asked to display his Solar Powered Water Irrigation System. Mr. Toussaint gave an overview of his background, highlighting his formal training in micro-electronics at college and his long standing passion for agriculture. The aim of this small project was to utilize the natural power of the sun and wind to compliment efforts of farming.

With his understanding of electronic application, Mr. Toussaint has created a basic, home-made system comprising of:



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- 2 small solar panels
- 1 miniature wind turbine
- 1 voltage regulator (*yellow circle in below image*)
- 1 amplifier (*yellow rectangle in below image*)
- 2 reused boat batteries (*white circle in below image*)

This basic system generates up to 2000 watts of energy and is stored in the reused batteries. This is enough power for him to supply the electronic pump with enough energy to collect water from the river, which is located to the very bottom of his farmlands.



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Mr. Toussiant agreed that there is some need for intervention as far as water harvesting was concerned. He was open to suggestions of expanding his basic system to nearby farmers with a view to forming a central water depository to be utilized by the farming community as dryer spells are experienced. As depicted in the following image (*yellow arrows in below image*), via the water marks on the river stones, the water levels have decreased even though it is the rainy season.



The estimated cost of this basic system is EC \$12,000. The team pledged to work with Mr. Toussaint in the coming weeks to help him develop a formal proposal for a broader project at the community level.

ANNANDALE – ST. GEORGES

The Annandale Water Treatment Plant was visited to gain a greater appreciation of the how various aspects of climate change can pose a broader threat to the sustainability of NAWASA's operations. The team learned that this facility on average has a reserve capacity of roughly 3 million gallons per month. This figure is estimated against the backdrop of monthly averages of 50 million gallons of treated water and approximately 47 million gallons per month distributed. There was no overwhelming evidence that the plant had lost the capacity to service its traditional



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consumers but some level of concern was expressed over the lengthy dry spell being experienced during the rainy season.

NAWASA – ST. GEORGES

Present:

Kadijah Edwards	Technical Officer - UNDP / ICCAS
Lorenzo Harewood	Technical Administrative Associate - UNDP / ICCAS
Allan Neptune	Production & Quality Manager - National Water and Sewerage Authority (NAWASA)

Mr. Allan Neptune welcomed the ICCAS team to the NAWASA head office in St. Georges. Kadijah established our objective for the meeting following a brief overview of the various aspects of the ICCAS project. Mr. Neptune admitted that there was at times considerable strains on the water distribution network of NAWASA, owing largely to the lack of consistent rainfall and diminishing water levels of the rivers and other natural streams on the island. Carriacou and Petit Martinique were identified as two of the more vulnerable districts which are experiencing very low levels of rainfall.

Efforts to address this dilemma came in the form of a desalination plant on Carriacou but it proved unprofitable at the time as the locals were not in favor of the different taste resulting from this type of treatment. As a result, this plant was closed. Mr. Neptune said that currently there are building 2 desalination plants on Carriacou as the dire situation there has surpassed expectations and water is far scarcer. There is a need for greater awareness campaigns to educate the people of Carriacou about the efforts to sustain life on the island via these plants. Mr. Neptune welcomed ICCAS collaboration with NAWASA in such initiatives.

Given the prevailing economic circumstances in Grenada, water consumption has remained marginal while the supply of resources has reduced, creating a supply strain in some areas such as St. Patricks. However there is a 'rain shadow' effect which allows for situations where one side of the island is experiencing severe drought while the other side may be flourishing in constant rain water.



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LION FISH PROJECT, FISHERIES DEPARTMENT – ST. GEORGES

Present:

Kadijah Edwards
Lorenzo Harewood
Justin Rennie
Orlando Harvey
Roland Baldeo

Technical Officer - UNDP / ICCAS
Technical Administrative Associate - UNDP / ICCAS
Chief Fisheries Officer – Fisheries Division, Ministry of agriculture
MPA Biologist - Fisheries Division, Ministry of Agriculture
Technologist - Fisheries Division, Ministry of Agriculture

The ICCAS team met with the key members of the fisheries division in St. Georges, who developed the Lion Fish Action Plan (LFAP).



This action plan presented a double approach to Climate Change Adaptation; one focusing on awareness and the other specifically on adaptation measures. In specific, the awareness activities involve sensitizing the youth about climate change and its implications via environmental summer camps. The other aspect targets the overwhelming perception of lionfish as dangerous marine creature and seeks to alter that view significantly to allow residents and fisheries officials to see it as a delicacy. Mr. Rennie outlined the broader net effect if that perception were to be successfully changed, noting the capacity to generate alternate sources of income and a boost to



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tourism. Mr. Baldeo confirmed the project's readiness for implementation, having already submitted a detailed project proposal to the ICCAS team.

Both parties agreed that some revision to the initial figures in the proposal was needed in light of the fact that a broader structure of activities surrounding awareness was aligned to the intentions of the UNDP-ICCAS components. Mr. Baldeo informed the team that he would call a meeting of the Lion Fish Action Plan Committee at its earliest convenience to discuss the offer of assistance from UNDP-ICCAS.

The project team expressed its full support for the objectives of the LFAP and indicated that subject to the pending revisions to be made, UNDP-ICCAS would be willing to partner with this project as it offers a sustainable model of intervention and impact monitoring.

The team was then shown a video of the recently concluded environmental summer camp which caught the attention of top officials in the government. The videos, in addition to the structure and activity details of the LFAP proposal, indicate that UNDP-ICCAS intentions may be well represented in this initiative. The team welcomed participation of other stakeholder organizations as a collective effort toward the project but indicated that it had the capacity to service this project and would be hoping to expedite implementation in partnering.

Brief mention was made of the Ridge to Reef Project which was noted as more of an intervention project than a climate change adaptation initiative. It was also identified as a collaboration between the Fisheries Department and the Ministry of Agriculture representing the interests of the marine habitat and farmers association respectively. Mr. Baldeo indicated that preliminary tests conducted at particular points around the reef showed excessive levels of ammonia and sulphur, common agents in fertilizers, as well as a much more acidic overall presence. The ridge to reef project aims to change the irrigation practices of farmers while sensitizing them to the risks posed to the marine habitat as a result of current practices.



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MINISTRY OF FINANCE – ST. GEORGES

Present:

Kadijah Edwards	Technical Officer - UNDP / ICCAS
Lorenzo Harewood	Technical Administrative Associate - UNDP / ICCAS
Kerry Pierre	Budget Officer - Ministry of Finance, Planning, Energy & Cooperatives
Yolande Newton	Project Officer - Ministry of Finance, Planning, Energy & Cooperatives
Raj Naraine	Accounts Officer – Ministry of Finance, Planning, Energy & Cooperatives

UNDP-ICCAS and specific officers of the Ministry of Finance met to discuss financial arrangements regarding credits and debits to the Ministry's Grants account, specifically as it pertained to the ICCAS project activities. Reference was made to the UNDP's POPP where suggestions were made to have a single account to service each individual project. This, as the document outlined, presented less challenges for auditors when reconciling various activities. Mr. Naraine confirmed his awareness of this UNDP suggestion and also indicated that this was once the method used in Grenada, a number of years ago, for the various projects being undertaken. Although it is an ideal approach for the purposes of exact accounting and auditing, it places a significant burden on the Ministry to micro manage the activities of all of these accounts. Mr. Naraine indicated that there was very little risk of financial mis-information regarding the current arrangement; all Grants Projects being placed under one account. This, he said, was as a result of the effectiveness of the Smart Stream accounting system which allows precise tracking of activities for various projects lumped under one depository.

The Ministry was also made aware of the reasons behind the decision to make a duplicate submission of Face Forms every quarter as opposed to one. Mr. Harewood explained that not all activity under the project will be captured from the account in Grenada and the second Face Form will report specifically on all expenditures from the main account located in Barbados. These expenditures include but are not limited to:

- Salary payments for staff members
- GMS
- Billings

The ministry expressed an interest in being regularly updated on these external expenditures so as to have an appreciation of the total budgetary drawdown of the project.



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Mr. Kerry Pierre was also identified as another resource in the Ministry to contact for anything related to the financial arrangements of the project.

It was suggested that for internal accounting purposes, the ICCAS project team keep a cash book to account for all expenditures incurred. These individual records could then be verified and reconciled with records generated in Smart Stream to facilitate auditors whenever they come.

MINISTRY OF AGRICULTURE – ST. GEORGES

Marina Jessamy	Permanent Secretary – Ministry of Agriculture
Kadijah Edwards	Technical Officer - UNDP / ICCAS
Lorenzo Harewood	Technical Administrative Associate - UNDP / ICCAS

Detailed discussions were held with PS. Marina Jessamy regarding the outstanding administrative arrangements and possible amendments to the July – December Workplan. The team expressed some concern about the size of the project's current office, in light of the fact that some accommodation will be necessary to facilitate consultancies as well as various other meetings. PS Jessamy asked that the team give some consideration to other locations within the Complex which could easily service these needs. As far as meetings are concerned, there are numerous conference rooms in the complex and arrangements and bookings can be easily facilitated.

The National Climate Change Committee (NCCC) met on July 31st to discuss a wide range of activities in the Ministry. There was very little reference to the Climate Change Adaptation Fund in that meeting. PS Jessamy explained that it would be ideal to have an officer of the ICCAS project there to make a formal presentation to the NCCC for them to have a greater understanding of the parameters of the Fund and the Project. However, PS Jessamy expressed that she was pleased with the progress made this far in identifying potential adaptation projects. Members of the NCCC focusing on Adaptation are:

- 1) Paul Phillip
- 2) Trevor Thompson
- 3) Edward Lorde

Either September 18th or 19th were identified as the most possible dates for the Project Steering Committee (PSC) to convene. Some members of the NCCC would also be drafted to sit on the PSC.

On the matter of the general financial arrangements of the ministry, PS Jessamy echoed the position of the Ministry of Finance by affirming the effectiveness of the Smart Stream system,



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which operates on the basis of a Unique Identification Number (UIN). The UIN is essential for tracking all financial activities of the project. Day to day payment requests can be easily facilitated by forwarding the relevant documents through the registry.

PS Jessamy thanked the team for their work and reassured us of her commitment to implementing various aspects of this project as it was an important project for Grenada.

Actions to follow up

- 1) Formalize proposal on Solar Irrigation System – Yacouba Toussiant, Joshua Lewis, Kadajah Edwards
- 2) Revise Lion Fish Action Plan – Roland Baldeo
- 3) Verify alternative office space in ministerial complex – PS Jessamy
- 4) Arrangements for ICCAS PSC for September – PS Jessamy
- 5) Complete internal cash book for Project Office - Lorenzo Harewood



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