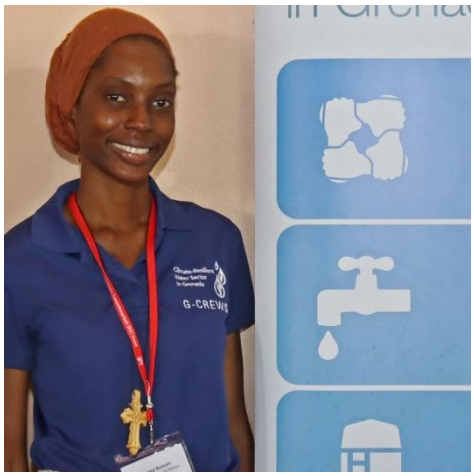
Thematic Area: Water Security in an Uncertain Climate – Water Conservation: Stakeholder Involvement and Appropriate Technology

Title: Water is Everyone's Business: Analyzing Water Conservation Strategies at Multiple Stakeholder Levels through the Climate -Resilient Water Sector in Grenada Project (G-CREWS)



Leyana Romain has worked in the Climate Policy and Environmental Management for over 10 years. She holds a Masters Degree in Urban and Regional Planning with a special focus on sustainable land management and people centered land governance. Currently she works as a Technical Advisor with the German Development Corporation – GIZ, on the Climate Resilient Water Sector in Grenada Project GCREWS where she manages the integration of the water sector in Climate Policy processes as well as regional outreach and replication of the G- CREWS Project

Leyana Romain; Technical Advisor – GIZ GCREWS Project | GIZ, The Carenage, NAWASA Building | Leyana.romain@giz.de - 1473 417-6257

Table of Contents

1 Introduction

Water is a precious resource that affects the lives of everyone directly. For islands in the Caribbean, this resource is not only a basic need but holds cultural, social and historical significance, commonly linked to our shared identity. Water is everyone's business. From the time our islands were inhabited by indigenous peoples from South America, the availability of water governed settlement patterns. Naturally and most intuitively, the indigenous settled along coastlines and close to rivers and freshwater wetlands which provided an abundant source of food (Martin 2024). Through their traditional practices, they lived a harmonious way of life being able to sustainably manage and understand their resources well. It can be argued that this close, intimate connection to the resource influenced their values and perspectives. Firstly, water being understood not just as a commodity and service to paying customers. Secondly, water as a resource being part of a larger web of interactions that were necessary for life on earth.

Today the provision of water is largely dependent on a centralized system that connects people to their water resources through pipes. To meet the demands of emerging economic trends, this singled piped system carries treated water to customers from a wide cross section of stakeholders. The more demand increases, the greater the need to increase supply and this traditional approach to water provision is what has worked for years. However, against the backdrop of a severely changing climate, water resources are highly vulnerable to climatic exposures especially increasing temperatures and intense drought. As a result, people who may be affected by Climate Change or can influence decision making processes all need to be engaged. This collaboration is most effective when there is mutual education of all parties involved. The paper will analyze

strategies employed by the G-CREWS Project in Grenada, to collaborate with stakeholders on multiple levels to increase their responsibility and ownership in response to the threats of Climate Change.

1.1 Climate Change is a Threat

In 2024, low levels in water supply, led to one of the most severe water crisis in 14 years on the island of Grenada (CIFRC 2024). Restrictions led to temporary water rationing measures between the period May – June 2024. Consumers made complaints against the government and water utility company for lack of water supply in times of drought. Although the severity of the dry season ranged from parish to parish, the southern region which appears to be the most densely populated was affected the most. With increasing demand for water resources and worsening conditions during the dry season, the southern areas are dangerously at risk. The Annandale treatment plan, supplying water to these areas, typically produces 8706.45 m^3 of water daily. Under the drought like conditions, it produced only at 5285.86 m^3, with a temporary boost of 2273.04 m^3 from Grand Etang Lake. The Petite Etang water system was served by two dams that were severely challenged. Despite having the capacity to distribute an average of 1227.44 m^3 , the distribution during the crisis stood at just 681.91 m^3. The Les Avocat dam, a crucial water reservoir, though it is designed to supply 1363.82 m^3, was only able to distribute 818.3 m^3. It is no doubt that humans are the cause of the warming of the atmosphere, ocean and land. This human caused Climate Change affects significantly the water cycle, changing rainfall patterns, above average hurricane seasons and more drought. The 6th IPCC assessment revealed that “compound extreme events with low likelihood in past and current climate will become more frequent, and there will be a higher likelihood that

events with increased intensities, durations and or spatial extents unprecedented in the observational record will occur". What the research seeks to explain is that not only will events become more intense but the possibility of experiencing multiple hazards at the same time or one after the other is more likely to occur. Within the period June to July 2024, Grenada not only experienced severe drought, with significant heat wave with temperatures consistently exceeding 31.7 degrees Celsius for several consecutive days, but also bush fires within the period caused by intense heat. Within a few weeks of lifting water restrictions, the tri- island state was under a state of emergency once again, soon to be hit by Hurricane Beryl, the earliest hurricane 5 on record.

2 G-CREWS Intervention

The G-CREWS project Jointly financed by the Green Climate Fund (GCF) and the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) under its International Climate Initiative (IKI), the Government of Grenada and the German Development Cooperation (GIZ supports the transformation of Grenada's water sector through a comprehensive, multi-level approach that includes appropriate governance, regulation, economic incentives, and awareness-raising. The project aims to increase the amount of water available not only through infrastructure development and supply side management but also through behavioral changes campaigns. Despite the clear and decisive conclusions of the most recent IPCC Assessment Report which is the technical source of scientific information related to Climate Change, evidence still shows that many of the population are unprepared to adapt to the changes that are

expected to occur. During a KAP survey conducted under the G-CREWS project in Grenada in 2023, 60% of Grenadians were slightly to moderately concerned about the future of water availability. Although many reports reveal that Climate Change is expected to affect the availability of water, a variety of responses established nonchalant attitudes. These were mixed with various conspiracy theories based on the belief that there is no scientific consensus. Some of the challenges with getting consumers to acknowledge the need for behavioral changes related to their water consumption is affected by several perceptions: (i) perceived vulnerability tends to be low except during times of severity (ii) It is often difficult to establish a relationship between behavior and the consequences of limited water supply (iii) water is often times perceived to be limitless and cheap. It thus becomes important for consumers to have an in-depth understanding of the environmental and factual information related to Climate Change and how they can be affected so that behaviors change. Under component 2.2 of the project, awareness raising activities coupled with outreach efforts have target general citizens of Grenada.

3 Water Is Everyone's Business

3.1 Knowing the Facts: The Role of Youth

A KAP survey conducted by the G-CREWS project revealed that 75% of youth opted to learn about water conservation through face to face engagements with youth organizations followed by social media. Youth are not only a valuable resource to engage other youth in their communities but also in developing a culture of conservation for the future. Through the project's awareness campaigns/ initiatives, youth between the ages of 16-25 were engaged in a G-CREWS Water Ambassadors Program or GWAP

developed to sensitize youth about factual information related to Grenada's water resources and climate change that will enable them to make decisions and take action. As part of the mandate for the G-CREWS project, stakeholder engagement is crucial for meaningful participation throughout the project cycle as it provides opportunities for feedback and help to promote information sharing. Specific objectives of the program included: (i) Empower youth with the knowledge and skills to promote water conservation practices in their communities and gain support from decision makers (ii) Show how to collaborate with local partners to address lack of awareness about demand side management. The core principles of the program were: (i) Coaching (ii) Sense of Belonging (iii) Ease of Communication (iv) Access to resources (v) Ownership. The program looked at theoretical concepts and practical solutions to solving local water problems such as water shortages and insecurity. The main water technology promoted throughout this program was the uptake of Rainwater Harvesting (RWH). As an appropriate technology selected as a solution for increasing storage on a household level, the youth sought to implement their plans by conducting site surveys, interviews and community outreach events. In total, five vulnerable homes were equipped with rainwater harvesting systems based on findings from community walk through exercises. The RWH systems were installed by the GAWP members and community residents, with the technical support of GIZ technical officers and a specially hired consultant. This resulted in great hands-on implementation which achieved the expected learning experience, capacity building and familiarity with components of RWH system.

3.1.1 Attributing Value and Meaning

As a long-term behavioral change strategy, the G-CREWS project also sought to promote water conservation by focusing on the meaning individuals within the wider community attribute to water, seeing it not only as a commodity but a precious resource. The management of this precious resource is not only a technical decision, but one based on values. Focus on the value of water required collaboration with the creative community and key governmental ministers to bring forward these new meanings to a wider stakeholder audience.

3.1.2 "Water Why We Need It"

Water Monologue by Akino Romain (youtube.com)

"Water Why We Needed It" was one monologue developed as a spoken word piece by a poet. Utilizing storytelling and visual representation that appealed to self-directed responses. Heavy emphasis was placed on water as a precious resource hence the title

of the monologue “Water Why We Need It” enabling users to take action and conserve water.

3.1.3 Water Resilient Institutions

Under the theme “Water Resilient Institutions” and “Water Concious users” - six (6) art pieces were commission by the project to bring meaning to the call for climate action through art. With the support of the local art community, six pieces creatively painted on canvas depicted the essence of water resilient infrastructure and institutions, as the project used unconventional approaches to bring the message across. During interviews done with the artists they had the following thoughts to share about the message behind their pieces:

“The human adult is about 65% water and children are about 60(%) or there about. So, we already have water in our DNA. It’s just a matter of getting us to think that so that water conservation becomes like breathing. It is effortless, it is unconscious, we do it.”

Climate-Resilient Institutions - Suelin Low Chew Tung (youtube.com)

“This painting, I am calling it Conserve Park, it is the idea that conservation is something that as opposed to being mandated and drilled to you is something that we should be excited about. Similar to our own identities that we are so ingrained with the idea that conservation is imperative to being a good citizen, to be a good human on earth. So, conserve park is the idea that we have made the word conserve monumental with these giant letters that people can go and visit see a lush landscape with different sorts of water environments”

Water Conscious Users - Asher Mains (youtube.com)

One lesson learnt is that new meanings are attributed to water especially in times of crises taking on a whole new role in water conservation efforts. The saying “You never miss the water till the well runs dry” can be most active in the imagination of water consumers

during these periods presenting opportunities for reeducation especially prioritizing those that will generate value based responses.

3.2 Promoting Water Saving Technologies

3.2.1 Challenge Fund for Tourism

Through the Challenge Fund for Tourism, the project sought to reduce household water consumption by promoting water efficient devices such as faucets and toilets. The purpose of the Challenge Fund for Tourism is to increase the resilience in the tourism sector. To get a more accurate analysis of the efficiency of the devices that would be installed, data was collected before and after the intervention through water audits so that proper evaluation on the effectiveness of installing the devices can be disseminated and replicated to other hotels and water users. In evaluating the effectiveness of the interventions, some of the hoteliers had the following to say:

“It’s amazing, I am in awe to see the savings that we retrieved as a result of the new water sense toilets and sinks that we put down.”

“We air marked 60 toilets for replacement the ones we were replacing some of them were 25 years old. The technology from 25 years ago compared with the technology of today was very different and the modern toilet is certainly so much more efficient, and water is become more and more of a valuable asset. So, reducing our consumption by reducing the amount of water used for flushing made so much sense”

“I believe we have had a 30% reduction in our usage of water, so it has had a major impact on our operating expenses”

Challenge Fund for Tourism Success Stories - Water Savings (youtube.com)

Overall, the Challenge Fund for Tourism tackled one of the dominant water consumers on the island while promoting water conservation that can be adopted by all consumers. By enhancing and showcasing the lessons learnt, the project intends to inspire other hoteliers and stakeholders within the tourism sector to upgrade and adopt sustainable water management practices.

3.2.2 Market Based Solutions

More collaboration on the uptake of water efficient devices was sought through a workshop held with suppliers on Water Efficient Devices and Rainwater Harvesting. The objectives were to present the climate rationale for the uptake of water efficient devices and rainwater harvesting as well as securing supplier support for importing and stocking efficient devices.

Stakeholders, in particular, Ministry of Agriculture, Water Utility Company and Hardware Suppliers discussed barriers to the adoption of water-efficient technologies by the general

population and strategies for encouraging uptake. One of the key outcomes of the workshop included a pledge from the suppliers to support the availability and promotion of water-saving technologies. The project aims to encourage the Government to relief taxes on Water Efficient Devices to ensure their affordability. The pledges included ensuring that there was a constant supply of storage tanks and plumbing materials for RWH, ensure that by the end of 2024, procurement and supply will be predominantly 80% of Water Efficient Devices, ensuring that the technologies were affordable, ensure that items were sold at the lowest mark up prices resulting in affordability as well as profitability, ensure that appropriate water technologies were being promoted to foster a culture of water conservation.

4 Conclusion

In conclusion, the G-CREWS project follows the model of multi sector, multi-level approach to employ various strategies and tools aimed to change behaviors and present solutions. This ranges from engaging youth, collaborating with the creative community, and working along with the private sector to provide technical guidance and expertise especially within dominant sectors like the tourism industry. Lastly, increasing role of water suppliers and their collaboration with government and the water utility company is necessary to ensure a sustainable and constant supply of water efficient devices and rainwater harvesting components

5 References

Cauberghe, V. (2021). Perceptions of water as commodity or uniqueness? The role of water value, scarcity concern and moral obligation on conservation behavior. *Journal of Environmental Management*.

Charles, R. (2023). GCREWS KAP Midterm Grenada 2023.

CIFRC. (2024). Von https://www.ifrc.org/article/hot-and-dry-small-caribbean-island-nation-grenada-struggles-drought-heatwaves-and-fire abgerufen

GCREWS. (kein Datum). *Climate Resilient Water Sector in Grenada*. Von https://www.youtube.com/@gcrews473 abgerufen

IPCC. (2023). *Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I,II and III to the Sixth Assessment Report to the Intergovernmental Panel on Climate Change (Core writting Team, H.Lee and J Romero (eds).* Geneva, Switzerland: IPCC.

Jimenez, A. (2014). *Water, sanitation and hygiene and indigenous peoples: A review of the literature*. Von https://siwi.org/publications/water-sanitation-and-hygiene-and-indigenous-peoples-a-review-of-the-literature/ abgerufen

Langsdale, S. M., & Cardwell, H. E. (2022). Stakeholder engagement for sustainable water supply management: what does the future hold? *AQUA - Water Infrastructure, Ecosystems and Society*.

Martin, J. A. (2024). Never Bad Talk River While Sitting On River Stone.

NAWASA. (2024). Dry Season Challenge.

Reuben, G. (2020). Communications Strategy for Climate Resilient Water Sector in Grenad (GCREWS) Project (2019 - 2025).

Zentouro. (2023). *Summarizing the entire IPCC report in 5 minutes featuring*. Von https://www.youtube.com/watch?v=NCEGcXs_lt4 abgerufen