

GWP-C Breaks New Ground by Developing a Caribbean Regional Framework for Investment in Water Security and Climate Resilient Development

The Global Water Partnership-Caribbean (GWP-C) is breaking new ground with the development of a comprehensive “*Caribbean Regional Framework for Investment in Water Security and Climate Resilient Development.*”



Three (3) of the nine (9) final Investment Framework materials which are:
The Regional Framework for Investment Document, Executive Summary Brief and Project Brief.

This initiative is one of the first of its kind for the Caribbean region and has been rolled out under GWP-C’s Water, Climate and Development Programme (WACDEP); a programme executed in partnership with the Caribbean Community Climate Change Centre (CCCC).

According to Dr. Natalie Boodram, Programme Manager of the GWP-C WACDEP “This is a really exciting initiative that once funded and implemented, will make tremendous strides in building climate resilience in the Caribbean region.”

The new Caribbean Investment Framework, provides an outline of critical climate resilience programmes and projects, which the Caribbean Community (CARICOM) national stakeholders have identified as priority for implementation by regional institutions working on water security issues. Funding will be sought for the Framework initiatives by regional agencies (singly or jointly) working with national counterparts.

The Framework’s inherent coordination mechanisms will allow for better collaboration among regional agencies. Moreover, it will provide potential funders with an overarching view of where the individual regional institution initiatives fit into the overall regional effort to build climate resilience in the Caribbean water sector.

The development of the “Caribbean Regional Framework for Investment in Water Security and Climate Resilient Development” is the product of a solid partnership between the GWP-C and the CCCC and other regional partners such as CARICOM agencies and Universities along with financial support from the Climate and Development and Knowledge Network (CDKN).

Critical to the development of this resource was an extensive process of consultation with national stakeholders, including workshops and surveys. National inputs were fed into regional discussions and shaped into the final Investment Framework.

The CCCC’s partnership with GWP-C on the Framework fit seamlessly into the CCCC’s work as articulated in the CARICOM Implementation Plan for a Regional Framework for Achieving Development Resilient to Climate Change. It is also important to point out that the CARICOM’s Implementation Plan identifies priority actions and highlights the water sector as the single most important cross-cutting issue for climate compatible development.

Thematic Programme of Action A
Climate resilient water infrastructure

Relevant regional partners*
Cap-NEL, CARMA, CCCC, CDEMA, CMI, CMAA, IIS, UWI

Relevant national partners*
Water Utilities, Ministries of Finance, National Emergency Management Organisations, Meteorology Departments, Ministries of Works

Summary
Caribbean islands are amongst the most heavily exposed locations on earth to natural hazards. While the ECCLJ considers a natural disaster taking damage equivalent to more than 1% of the affected country's GDP can be expected to hit the ECCLJ around once every two and a half years. Flooding, landslides and high sustained winds to water sources threaten drinking water infrastructure leading to loss of service for businesses and communities. This places a heavy financial burden for repair costs. When Hurricanes Fiona and Sula hit in 2020, half of the population went with limited water supplies due to a landslide which damaged the main reservoir and auxiliary pumping and power systems. These natural hazards are compounded with aging water infrastructure and a low level of investment in replacement and rehabilitation in many cases. A more comprehensive approach to risk management for water infrastructure is needed, ensuring that new and replacement infrastructure is resilient to natural hazards. This should be coupled with increased investment in asset management.

The Programme in this Thematic Programme of Action focuses on the effective management of climate hazards and risks to the extent of water supply and wastewater infrastructure resilience, ensuring enhanced reliability and resilience of water services.

Programme A.1 – Strategic climate risk assessment and investment planning
Programme Objectives: Supporting water utilities to assess and manage climate risks to infrastructure assets, ensuring reliable and climate proofed water services.

Programme A.2 – Operational climate risk management
Programme Objectives: Supporting water utilities to integrate climate risk management within operational practices, enhancing disaster risk management.

www.gwp-caribbean.org | 1

Thematic Programme of Action B
Water efficiency, re-use and augmentation

Relevant regional partners*
CARMA, CMAA, CCCC, CDE, CMAA, GWP-C, IIS, PAHO, UNEP-CAR/ECCLJ, UWI

Relevant national partners*
Ministries responsible for Water Resources and supply, Ministries of Finance, Ministries of Environment, Water Utilities, Industry Associations

Summary
Caribbean water utilities suffer high rates of non-revenue water. On some cases up to 30% due to a combination of factors including high levels of leakage, aging infrastructure and the proliferation of non-revenue over maintenance programmes. These losses compound the effects of droughts by reducing the demand placed on water sources. Climate change is likely to impact on water availability and compound water scarcity issues in the future. In addition, leakage associated with high concentrations of energy required for pumping and treatment, with some utilities expending 40% of their budgets on energy. Managing the demand for water will help countries manage before one of existing water resources, reducing the need for expensive desalination and maintaining more water for other users and the environment. Demand management at the household, business and utility level through technological, pricing and behavioural change is required to support the overall efficiency of water use across the region.

The Programme in this Thematic Programme of Action focuses on enhancing water security through improved efficiency in water use.

Programme B.1 – Household demand management
Programme Objectives: Supporting community initiatives to drought through enhanced water efficiency and water augmentation at the household level.

Programme B.2 – Water and energy efficiency for water utilities
Programme Objectives: Supporting water utilities energy savings, non-revenue water, energy demands and carbon emissions for multiple environment and economic benefits.

Programme B.3 – Water user efficiency for large scale water consumers
Programme Objectives: Large scale investment aimed at large consumers of water to increase efficiency, prevent cost savings and enhancing resilience to drought risks.

www.gwp-caribbean.org | 1

Thematic Programme of Action C
Drought resilient water supplies

Relevant regional partners*
CARMA, CMAA, CCCC, CDEMA, CMI, CMAA, GWP-C, IIS, DECS, PAHO, UWI

Relevant national partners*
Ministries responsible for Water Resources and supply, Ministries of Finance, Ministries of Environment, Water Utilities, National Emergency Management Organisations

Summary
A combination of seasonally variable rainfall coupled with inefficient storage infrastructure and limited data for strategic planning means that many Caribbean islands suffer from seasonal water shortages. The issue is exacerbated in drought years, manifested as saline intrusion into aquifers or the emptying of storage reservoirs. This exacerbates conditions often with expensive tracking of water. For example, the 2010-2011 drought in Jamaica resulted in industries in water production of up to 90% at some plants. This led to widespread disruption and health impacts as consumers were obliged for safe storage sources. In the future, rainfall is projected to reduce over much of the Caribbean region. Furthermore, population growth and changing patterns of water demand could also compound drought impacts. Action is needed to enhance the reliability of water supplies and secure their long-term sustainability through more effective management of drought and strategic planning.

The Programme in this Thematic Programme of Action focuses on enhancing the resilience of water services to drought through investment in infrastructure and operational management.

Programme C.1 – Strategic water supply planning for sustainable supplies
Programme Objectives: Support to water utilities in developing strategic investment plans to enhance resilience and secure water supplies in the medium to long term (decades).

Programme C.2 – Drought management planning
Programme Objectives: Supporting water utilities to plan for and manage drought events, reducing disruption to essential services.

www.gwp-caribbean.org | 1

Thematic Programme of Action D
Climate resilient agricultural water management

Relevant regional partners*
CARMA, CMAA, CCCC, CMI, CMAA, GWP-C, IIS, PAHO

Relevant national partners*
Ministries of Agriculture, Ministries of Finance, Agricultural Trade Associations, Farmers Associations, Meteorology Departments

Summary
Agriculture makes a significant contribution to the GDP of several Caribbean countries. Despite its declining contribution to most national economies in the region, the agricultural sector plays a critical role in food and livelihood provision and the creation of other economic anchors such as tourism and manufacturing. Agricultural employment accounts for 16% of total employment in some countries and is close to 30% in Barbados, Dominica and Guyana. The profiles suggest that many investments across the region are in agriculture and a significant proportion are directed to water. The majority of the region's agriculture is rain fed and production and profitability is strongly influenced by variations in rainfall and, in particular, rainfall intensity. In 2009 and 2010, a severe drought caused millions of dollars in loss to the Caribbean agricultural sector which was worsened by increased back fires on farms resulting from the hot, dry conditions.

In the absence of available water from formal irrigation schemes, many small scale farmers have developed innovative ways of irrigating and storing rainwater runoff but the quantities are insufficient to meet shortfalls in agricultural water demand during dry periods. In general, water for irrigation was necessary to a major constraint for most small scale farmers.

In order to safeguard this key sector from drought, increased investment in securing water supplies for agriculture is needed alongside improving the efficiency of agricultural water management to improve crop yields which. This will be especially important given climate change projections of a reduction in rainfall across much of the region. As an operational practice, seasonal forecasting would be a low-regret climate resilience measure to further assist in the effective management of water resources for agriculture.

The Programme in this Thematic Programme of Action focuses on investment in securing agricultural water supplies, efficient water management and effective management of agricultural drought risk.

www.gwp-caribbean.org | 1

Thematic Programme of Action E
Resilient and healthy water resources systems

Relevant regional partners*
Cap-NEL, CARMA, CARMA, CCCC, CMI, CMAA, GWP-C, IIS, PAHO, UNEP-CAR/ECCLJ, UWI

Relevant national partners*
Ministries and government agencies with responsibility for environmental, agricultural, forestry, land use planning, tourism, works and coastal zone management, Water Utilities, representatives of agricultural, tourism and fisheries communities and industry associations

Summary
Integrated governance and management of water resources to a continuing level across the region and within Integrated Water Resources Management has been implemented through the development of plans and policies, that institutional risk action has been limited. Many effective existing policies, only with within sectoral risks, rather than taking a catchment wide planning approach. Further, the management of water and pollution within the freshwater and receiving environment is an area requiring substantive investment, in line with the Cartagena Convention's Protocol on Land-based Sources of Marine Pollution. It has been estimated that 8% of wastewater entering the Caribbean Sea remains untreated. Action will be crucial in order to protect the water resources and ecosystems on which Caribbean tourism and livelihoods depend.

The Programme in this Thematic Programme of Action focuses on the holistic management of water resources and of pollution and wastewater to the water environment.

Programme E.1 – Cross sectoral water resources management and planning
Programme Objectives: Supporting the effective governance and management of water resources across sectors to ensure long-term water security in a changing climate.

Programme E.2 – Investing in wastewater management
Programme Objectives: Supporting investment in wastewater management to deliver multiple benefits to public health, pollution reduction and maintaining the health of Caribbean ecosystems in a changing climate.

Programme E.3 – Integrated land and water management for environmental resilience
Programme Objectives: Supporting integrated and sustainable water and land use practices which reduce pollution, sedimentation and other risks to water resources and water-related ecosystems.

www.gwp-caribbean.org | 1

Thematic Programme of Action F
Integrated flood management

Relevant regional partners*
CCCC, CDEMA, CMI, GWP-C, IIS, UNEP-CAR/ECCLJ

Relevant national partners*
National Emergency Management Organisations, Ministries of Finance, Ministries of Works, Departments of Planning, government agencies responsible for drainage and hydraulic works, Irrigation system managers

Summary
Flood risk ranks high amongst the disaster risks facing Caribbean islands, and considerable work is ongoing in the region under the umbrella of CDKN. However, approaches to flood risk management can be improved and vary from country to country. Opportunities exist at the regional level to strengthen and harmonise flood risk management tools and planning processes. Ensuring that modelling, mapping and decision making tools are fit for purpose, and that relevant stakeholders have the capacity and mandate to use these tools is crucial to managing flood risk especially as climate changes in future. Furthermore, opportunities exist to take a more strategic, long term view of flood risk management considering future development in a changing climate, as well as focusing on shorter term disaster responses. This thematic area does not attempt to overlap with the body of work already ongoing in the region, but to strengthen the tools and approaches specific to integrated flood management.

The Programme in this Thematic Programme of Action focuses on the effective management of flood risk in terms of both strategic management and the detailed support tools which underpin flood risk management.

Programme F.1 – Integrated flood management policy and planning
Programme Objectives: Supporting planning authorities and NEMOs to take a strategic and integrated approach to managing flood risk.

Programme F.2 – Flood risk management tools and evidence
Programme Objectives: Providing evidence support tools to support planning departments, NEMOs and other stakeholders to assess and manage flood hazards and risks.

www.gwp-caribbean.org | 1

Six (6) Briefs forming part of the Investment Framework suite of material, each covering a specific thematic programme of action.

The Framework focuses on six (6) thematic programmes of action, which through consultations were identified as priority areas for investment at the regional level. They are:

▪ Climate Resilient Water Infrastructure
▪ Water Efficiency, Re-Use and Augmentation
▪ Drought Resilient Water Supplies
▪ Climate Resilient Agricultural Water Management
▪ Resilient and Healthy Water Resources Systems
▪ Integrated Flood Management

Each thematic programme of action is further elaborated into priority programmes and specific projects for immediate implementation once funding is secured. For instance, the “Drought Resilient Water Supplies” theme, includes programmes on Water Supply Planning and Drought Management Planning.

The Caribbean Regional Framework for Investment is a process, which has been founded on a partnership approach and this principle will be carried forward into its implementation. Having produced the Framework, regional institutions are now focused on securing funding, to be followed by further programme development and then implementation.

Under the Framework, the GWP-C is exploring options for Climate Financing such as the Green Climate Fund (GCF) as well as other opportunities through development partners and funding agencies. The intent is to take a multi-pronged approach towards funding working at different scales depending on available funding opportunities. Another important part of the process is the development of project appraisal documents and fleshing out of the initial concept notes.

The nine (9) documents making up the “*Caribbean Regional Framework for Investment in Water Security and Climate Resilient Development*” can be downloaded from GWP-C’s Water and Climate Knowledge Platform [here](#).

The Investment Framework resources are complemented by a video on the initiative. The video showcases the key elements of the Regional Framework, with a view to enhance understanding of the resource and assist in securing funding for its programmes and projects. Watch the video here: <http://tiny.cc/FrameworkVideo>
