



Groundwater Management in Integrated Water Resource Management Workshop

On February 19-21, 2020, The Caribbean WaterNet (Cap-Net) in collaboration with The University of the West Indies (UWI), Global Water Partnership-Caribbean (GWP-C), the Caribbean Agricultural Research and Development Institute (CARDI), the Caribbean Water and Wastewater Association (CWWA) and The Bahamas Agricultural Health and Food Safety Authority (BAHFSA), facilitated the first of two Integrated Water Resources Management (IWRM) training workshops in The Bahamas entitled, “**Groundwater Management**”.

The Executive Director of BAHFSA, Mr. Christopher Worrell, welcomed all to the Workshop followed by remarks from the CARDI representative for The Bahamas, Dr. Michele Singh. Dr. Ronald Roopnarine from Caribbean WaterNet/CapNet UNDP brought brief remarks as the main facilitator who accentuated his agency’s commitment to building regional capacity in integrated water resource management. The main address by the Minister of Agriculture & Marine Resources, The Hon. Michael C. Pintard, emphasized that “*there must be a political will to make the tough decisions needed to protect our groundwater resources*”. He further emphasized that agencies need to know their role so that there is less duplication of responsibilities and that more inter-sectorial cooperation is fostered. The Minister stressed the need for capacity building and public/private partnerships to invest in the ecosystem, the latter critical in the establishment of opportunities in economic and social entrepreneurship that would bring attention to the threat that exists with very limited water resources. Also of great importance, notes the Minister, “*is the need to strengthen an enforcement regime to deal with those who contaminate our marine and terrestrial environments due to unregulated development*”. The Hon. Michael C. Pintard concluded with three takeaway points:

1. All stakeholders should have access to the quantity and quality of water resources;
2. There needs to be more focus on economic value that looks at new technologies that use less water and less land, e.g. hydroponics and aquaponics; and finally,
3. There should be a focus on sustainability, and this occurs with the implementation of regulations and enforcement that will ensure that there are water resources for future generations.

Closing out the opening ceremony was Dr. Patricia Johnson, the Food Safety and Quality Director (BAHFSA).

The workshop was attended by sixteen (16) public and private agencies with responsibility for some form of water management. Nine (9) modules were covered on topics such as “*Water Resources Management in Caribbean SIDS*”; “*Integrated Groundwater Management in Practice*”; “*Stakeholder Participation in Groundwater Management*”, just to name a few. Two of the key expected outcomes are the participant’s ability to “*understand strategic development and adaptation planning for effective groundwater management*” and “*understand the*



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importance of legislation and regulations as it pertains to effective groundwater management”.
The workshop

also provided an opportunity for discussion on current water management issues and agencies with similar focus, to form better coordination efforts. Twenty-three (23) participants received certificates and were charged with sharing their experiences and knowledge gained with their peers to help build the country’s capacity to better deal with future groundwater management challenges.



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Hydro-climatic Disasters in Integrated Water Resource Management Workshop

On February 24-26, 2020, the second workshop, on “**Hydro-climatic Disasters**” in Integrated Water Resource Management was organized by the Caribbean WaterNet and facilitated in collaboration with The University of the West Indies (UWI), Global Water Partnership-Caribbean (GWP-C), the Caribbean Community Climate Change Centre (CCCCC), the Caribbean Agricultural Research and Development Institute (CARDI) and The Bahamas Agricultural Health and Food Safety Authority (BAHFSA).

The Executive Director of BAHFSA, Mr. Christopher Worrell, welcomed all to the Workshop, most of whom, attended the workshop on ground management, followed by remarks from the Deputy Dean, Faculty of Food and Agriculture at UWI, Dr. Gaius Eudoxie. Mr. Ryan Zuniga from the Caribbean Community Climate Change Centre (CCCCC) also brought brief remarks followed by Ms. Simone Lewis who represents the Global Water Partnership for the Caribbean (GWP-C). Dr. Michele Singh, the CARDI representative for the Bahamas, in her remarks, noted that natural disasters such as drought, hurricanes, earthquakes and floods have had devastating impacts on Caribbean economics and livelihoods over the last decade with damages over the 2019 hurricane season amounting to about 3.1 billion (US) with catastrophic impacts to the gross domestic product (GDP) of member countries, particularly here in the Bahamas of up to 200% of the GDP. She added that climate models predict that the Caribbean will become up to 30% drier during May to November (typically the wettest periods) and further that annual precipitation will reduce by 5-15% and temperatures will increase between 1-5°C where as a result, hurricanes and droughts will become more frequent and severe. Dr. Singh also notes the possibility of increased occurrence of salt intrusion locally as a result of over-extraction of groundwater for irrigation. She stressed the need for increased integration of disaster risk management as the projected impacts of climate change present a great risk to food security of Caribbean countries. Partnerships and collaboration on such workshops assists The Bahamas in being better prepared to mitigate the negative effects of disasters that continue to threaten livelihoods and sustainable economies.

The workshop was attended by nineteen (19) public and private agencies with responsibility or interest in disaster management. Nine (9) modules were covered on topics such as “*Disaster Risk Management in Caribbean SIDS*”, “*Water Related Disaster and IWRM*”, “*Emergencies and Humanitarian Responses*” and “*Flood Risk Assessment*”, just to name a few. Some of the key expected outcomes were the participant’s ability to



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“understand hydro-climatic disasters as it relates to Caribbean SIDS”, “identify and describe water related disasters and its impacts in relation to climate change and variability” and “understand the importance of Disaster Risk Reductions strategies”.

Participants were placed in groups and charged with developing a system or mode by which transportation could be enhanced to deal with the possibility of massive flooding as seen with hurricane Dorian. Twenty-seven (27) participants received certificates and were

charged with sharing their experiences and knowledge gained with their peers to help build the country’s capacity to better deal with Hydro-climatic disasters such as hurricanes, floods and droughts.