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Working with water

Incorporating drought risk modelling as a planning tool for climate change adaptation measures in Saint Kitts and Nevis

Stakeholder map

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1 Introduction

1.1 Project summary

In an effort to address the impacts of climate change and climate variability in a sustainable way, access to critical information within the water sector is vital. Drought prediction models can identify areas most susceptible to water supply variability and shortages, and therefore facilitate early action to manage risks. In doing so, this will increase resilience in the water sector to improve agricultural use of water resources and therefore ensure food security and water usage including from the domestic sector and the tourism sector in Saint Kitts and Nevis.

The overall objective is to incorporate drought risks modelling as a planning tool for climate change adaptation measures in Saint Kitts and Nevis. The main outputs include:

- Map stakeholders and establish a stakeholder working group;
- Assess drought risk and water resources in Saint Kitts and in Nevis;
- Benchmark, design and implement a drought prediction model in Saint Kitts and in Nevis;
- Train administrators and users of Saint Kitts and Nevis to the drought prediction model.

The Project outcomes respond directly to SDG 13 ‘Taking early action to combat climate change and its impacts’ by providing a system that will support planning and decision-making for the sustainable management and conservation of water resources in Saint Kitts and Nevis. The Project will also contribute to SDG 1 (End poverty), SDG 2 (Food security) and SDG 6 (Availability and sustainable management of water) as the drought prediction model will improve agricultural and use of water resources, improve food security and increase the income of rural communities.

1.2 About this report

The Project requires stakeholder engagement and this report provides guidance to facilitate the participatory processes required to achieve the project’s objectives. It takes a forward-looking view of engagement activities to be completed during the assignment and more generally for wider dissemination of the main output – the drought prediction tool.

Another purpose of the stakeholder mapping activity is to identify possible and relevant stakeholders for the Stakeholder Working Group (SWG). This group, of up to 10 persons will be agreed and formalised, taking account of gender balance and an adequate representation of vulnerable groups. It is important that the Stakeholder Working Group can provide a technical overview and high-level guidance at each stage of assignment whilst members of the restrictive working group should have the capacity to make sound decisions on some key aspects of the assignment such as the collection of climate and meteorological data needed for the vulnerability study (Output 2), the definition of the drought prediction model (Output 3), and the training of the official representatives of Saint Kitts and Nevis to the drought prediction system (Output 4).

A more in depth, stakeholder analysis will be conducted for the SWG once members have been selected, and presented in a report in which each member will be linked to his/her sector of expertise, gender and include individual contact details.

The various stakeholders may or may not be contacted as part of the mapping exercise. More relevant stakeholders are likely to identified during project execution. Then, the additional stakeholder information should be added to this report for project record.

2 Principles of stakeholder mapping

Stakeholder analysis is a well-established tool that provides a systematic approach to understanding the interests and influence of identified stakeholders in water security and climate resilience. It supports the achievements of the following outputs: (1) a formal appraisal of roles, responsibilities and objectives of the identified stakeholders and (2) an understanding of how stakeholders can benefit or obstruct the implementation of a process – in this case incorporating drought risk modelling a planning tool for climate change adaptation measures in St. Kitts and Nevis – and how that same process may benefit stakeholders.

It is important that the emphasis is on stakeholders representing both the 'supply' and 'demand' sides of water service provision, particularly as climate change adaptation measures such as drought risk and water use assessment and drought prediction modelling often benefits substantially from demand-side measures. The analysis typically involves identifying relevant stakeholders and characterising them with the following attributes using a table:

- Category – for example government, private sector, NGOs and community groups engaged in water issues;
- Organisation or agency name;
- Mandate and role in the water sector and climate change adaptation – how does the stakeholder relate to the water sector and other stakeholders;
- Role within the adaptation planning process – what level of involvement is anticipated (for example: decision making, championing and leadership within organisations, providing opinions and guidance, receiving and disseminating information);
- Influence in the implementation of planning tools for climate change adaptation – how influential the stakeholder is in supporting or blocking the implementation process;
- Interest in the adaptation planning process and associated decision-making tools – how supportive and committed the stakeholder is to the success of the implementation of a drought prediction model.

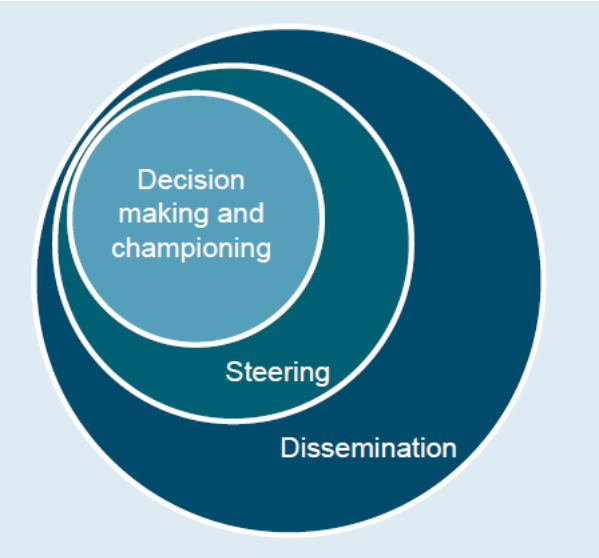
This type of analysis will in turn help mapping stakeholders into an importance/influence grid (as shown in Table 2.1) and clarify the level of interaction and type of engagement which is more adequate for each stakeholder for the achievement of the project outcomes.

Table 2.1: Stakeholder mapping in the context of Drought Risk Modelling: importance/influence grid

	High influence	Low influence
High importance	Key stakeholder to engage for driving through the development and implementation of the drought prediction model	Key stakeholder who may be under-represented; ensuring participation and protection of interests is important
Low importance	Low importance stakeholders must be managed carefully as their priorities may not align with the implementation of the drought prediction model	Non-key stakeholders who should be involved in wider consultation

Following stakeholder identification and analysis, a good understanding of the stakeholder base will have been achieved. Stakeholder engagement is the final step in the process of operationalising the stakeholder base to fulfil its intended function. The form of engagement is likely to fall into four categories, as follows:

- **Decision making** – A small subset of key stakeholders may be engaged in decision making processes themselves.
- **Championing** – All stakeholders champion the cause to some extent by representing their organisation in the stakeholder base. However, as an explicit role championing involves promoting the Framework application and main activities in related organisations.
- **Steering the process** – Some stakeholders may be consulted for their views in order to maintain the legitimacy of the climate change adaption process especially the implementation of drought prediction models and steer the work in useful directions. This advisory role does not carry as much power over the process as a direct role in decision making.



- **Dissemination** – A wider stakeholder base can be consulted in order to gather opinions and disseminate the ongoing work to organisations outside the core stakeholder base.

3 Stakeholder identification and analysis

The Tables below present a list of the key stakeholders and their primary functions and roles, divided by target groups.

3.1 Stakeholder map for Saint Kitts

Table 3.1: Stakeholder map for Saint Kitts

Stakeholder	Primary function / role	Relevance for the water sector	Influence in the development and implementation of a drought prediction model	Interest in the development and implementation of a drought prediction model
Department of Economic Affairs and Public Sector Investment Planning (PSIP) Ministry of Sustainable Development	Land administration Undertakes economic and social analysis, monitor and evaluate public sector investment Facilitates donor and aid coordination and provide sound advice to public and private sectors	Coordinate and promote the management of finance for the Water Utility Climate Change Adaptation Plan and other related initiatives at a federal level. Coordinate the federal elements of the relevant programmes, for example development of federally harmonised water policies in conjunction with the relevant ministries on both islands.	Medium	Medium

Stakeholder	Primary function / role	Relevance for the water sector	Influence in the development and implementation of a drought prediction model	Interest in the development and implementation of a drought prediction model
Department of Environment Ministry of Environment and Cooperatives (federal level for St. Kitts and Nevis)	Primary focal agency for climate change action in St. Kitts and Nevis, with responsibility for compliance with the reporting requirements under the UNFCCC.	In terms of inter-sectoral coordination, the DOE is responsible for ensuring coherence among the various government departments (physical planning, water, health, agriculture, and tourism) and agencies (including NEMA and units with responsibility for data management and statistics).	High	High
Water Services Department, Ministry of Public Infrastructure, Utilities, Posts and Urban Development	Maintains control over water production and distribution.	Management of freshwater resources and water services provision and conservation.	High	High
Public Works Department, Ministry of Public Infrastructure, Utilities, Posts and Urban Development	Responsible for developing and maintaining public infrastructure projects.	Technical inputs on engineering works including ghaut stabilisation techniques, drainage, bridges and culverts. Providing support for water related infrastructure investments to be completed by the Water Services Department.	Medium	Low
Department of Physical Planning, Ministry of Sustainable Development	Responsible for the physical development of the country, taking account of all the relevant social, economic and environmental factors. Houses the National GIS lab	Technical inputs on land use, land degradation, coastal zone management, and protected areas.	Medium	Medium

Stakeholder	Primary function / role	Relevance for the water sector	Influence in the development and implementation of a drought prediction model	Interest in the development and implementation of a drought prediction model
Department of Agriculture, Ministry of Agriculture, Fisheries and Marine Resources	Provides technical support that is needed to ensure that the citizens and residents of the Federation are food and nutritionally secured through various initiatives and programmes.	Provides a range of services to farmers including provision of technical advice through its extension services and land preparation services in keeping with reduced water use and soil loss.	Medium	High
Environmental Health Unit, Ministry of Health	Vector Control Pollution Control Communicable Disease Control Disaster Management	Technical inputs on appropriate sewage systems and potable and nearshore water quality.	Low	Low
National Emergency Management Agency	Coordinates and facilitates pre and post disaster management activities at the community and National levels.	Managing droughts and floods are part of their remit.	Medium	High
St. Kitts Meteorological Services St. Christopher Air and Sea Ports Authority (SCASPA)	Provides reliable meteorological and aviation information to the general public and to aircraft. observes the weather elements, report the observation to aviation personnel, businesses and media houses, prepare and transmit the observations, and compile climatological data	Management of main weather station at the RLB Airport and focal agency for CIMH and WMO.	Medium	Medium

Stakeholder	Primary function / role	Relevance for the water sector	Influence in the development and implementation of a drought prediction model	Interest in the development and implementation of a drought prediction model
Farmers' cooperatives (several groups in SKN)	Farmers are able to pool resources to aid in various types of agricultural activities including supply of inputs and marketing of products.	Main user of water and in need of reliable information related to droughts	Low	Medium

3.2 Stakeholder map for Nevis

Table 3.2: Stakeholder map for Nevis

Stakeholder	Primary function / role	Relevance for the water sector	Influence in the development and implementation of a drought prediction model	Interest in the development and implementation of a drought prediction model
Department of Economic Planning Ministry of Finance	Investment planning and development of incentive measures	Investment planning as it relates to water infrastructure	Medium	Medium
Nevis Water Department Ministry of Communications	Maintains control over water production, distribution and utilisation	Management of freshwater resources and water conservation. Testing of potable water supply as well as cistern water on private properties	High	High
Integrated Water Resources Management Unit Ministry of Communications	Responsible for the identification, upkeep and protection of water supply sources on Nevis.	Management of freshwater resources and water conservation.	High	High
Projects Unit Ministry of Communications	Responsible for oversight and project management services of all infrastructure related projects implemented by the NIA.	Providing oversight for water related infrastructure investments to be completed by the Water Department.	Medium	Medium

Stakeholder	Primary function / role	Relevance for the water sector	Influence in the development and implementation of a drought prediction model	Interest in the development and implementation of a drought prediction model
Department of Public Works Ministry of Communications	Responsible for developing and maintaining public infrastructure projects.	Providing oversight for water related infrastructure investments to be completed by the Water Department.	Medium	Medium
Department of Physical Planning and Environment Ministry of Communications	Responsible for the physical development of the island of Nevis, taking account of all the relevant social, economic and environmental factors.	Technical inputs on land use, land degradation and coastal zone management, protected areas, administration systems and awareness building. GIS unit provides mapping services to the Water Department	Medium	Medium
Department of Agriculture, Ministry of Agriculture	Responsible for the promotion of the economically sustainable development of agriculture.	Provide a range of services to farmers including provision of technical advice through its extension services and land preparation services in keeping with reduced water use and soil loss. Assists in the management of the rainfall gauges network in Nevis	Medium	High
Environmental Health Unit, Ministry of Health	Vector Control Pollution Control Communicable Disease Control Disaster Management	Technical inputs on appropriate sewage systems and potable and nearshore water quality. Technical inputs on appropriate sewage systems and potable and nearshore water quality.	Low	Low

Stakeholder	Primary function / role	Relevance for the water sector	Influence in the development and implementation of a drought prediction model	Interest in the development and implementation of a drought prediction model
Nevis Department of Disaster Management, Ministry of Agriculture	The Nevis Disaster Management Department is a coordinating agency providing core functions of Coordination, Policy Development and Resilience Building. Rehabilitation.	Managing drought and floods are part of their remit. Co-management of network of rainfall gauges and flood early warning systems on Nevis since 2017 with the Nevis Met Office.	Medium	High
Nevis Meteorological Services Nevis Air and Sea Ports Authority	Provides reliable meteorological and aviation information to the general public and to aircraft. observes the weather elements, report the observation to aviation personnel, businesses and media houses, prepare and transmit the observations, and compile climatological data	Management of main weather station located at the Vance Amory Airport in Nevis	Low	Medium

Based on the stakeholder map outlined above and preliminary discussions with the Department of Environment, the recommended stakeholder working group is highlighted below (Table 3.3).

Table 3.3: Recommended stakeholder working group

Stakeholder/Organisation/Agency	Contact Information
Department of Environment Ministry of Environment and Cooperatives	Cheryl Jeffers, Conservation Officer II
Nevis Water Department Ministry of Communications	Tonya Bartlette, Manager
Integrated Water Resources Management Unit Ministry of Communications	Floyd Robinson, Director
Nevis Department of Disaster Management Ministry of Agriculture	Brian Dyer, Director
Department of Agriculture Ministry of Agriculture	Randy Elliott, Director
Department of Physical Planning (GIS Lab) Ministry of Sustainable Development	Jay Farier, Director
Water Services Department Ministry of Public Infrastructure, Utilities, Posts and Urban Development	Cromwell Williams, Manager / Water Engineer
National Emergency Management Agency	Abdias Samuel, National Coordinator
St. Kitts Meteorological Services St. Kitts Air and Sea Ports Authority	Elmo Burke, Senior Met Officer

As noted in the technical proposal and kick-off meeting, it will be beneficial to work with the Caribbean Institute of Meteorology and Hydrology to access national and regional data sets given their experience in producing quarterly drought outlook forecasts for the region. The St. Kitts Met Office is the main national focal agency for the CIMH and will be able to coordinate any requests for data on behalf of the stakeholder working group.

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