

Performance Audit of the Management of Impacts of Climate Change on Water Resources Management in Nevis



SAI: St. Kitts and Nevis

Table of Contents

Executive Summary.....	3
Introduction.....	4
Audit Objectives and Audit Questions.....	5
Audit Scope.....	6
Audit Methodology.....	6
PART TWO – Findings and Recommendations	
Audit Question 1 – Identification of Climate Change Impacts to Water Resources.....	7
Audit Criteria and sources	
Audit Finding	
Audit Recommendation	
Audit Question 2 - Existing Climate Change Adaptation Measures to Water Resources.....	9
Audit Criteria and sources	
Audit Finding	
Audit Recommendation	
Audit Question 3 - Policies or Developed plans for Climate Change Adaptation Actions	11
Audit Criteria and sources	
Audit Finding	
Audit Recommendation	
Audit Question 4 – Legal Provisions for implementing Climate Change Adaptation Measures.....	13
Audit Criteria and sources	
Audit Finding	
Audit Recommendation	
Audit Question 5 – Resources to implement Adaptation Measures	16
Audit Criteria and sources	
Audit Finding	
Audit Recommendation	
Audit Question 6 – Climate Change observations and projections in program or project planning	18
Audit Criteria and sources	
Audit Finding	
Audit Recommendation	
Audit Question 7 – Measurement and Evaluation of Adaptation progress	20
Audit Criteria and sources	
Audit Finding	
Audit Recommendation	
Audit Question 8 – Viability and Attractiveness of risk-reduction (adaptation) measure efforts	22
Audit Criteria and sources	
Audit Finding	
Audit Recommendation	
Audit Question 9 – Identification of vulnerable/marginalized groups and provisions in Climate Adaptation Measures	24
Audit Criteria and sources	
Audit Finding	
Audit Recommendation	
Audit Question 10 – Government’s engagement with non-governmental partners	25
Audit Criteria and sources	
Audit Finding	
Audit Recommendation	
Management Responses.....	27

Executive Summary

The INTOSAI Development Initiative (IDI) initiated the Cooperative Audit on Climate Change Adaptation Actions (CCAA) in partnership with the INTOSAI Working Group on Environmental Audit (WGEA) and various other stakeholders. In conjunction with IDI, the Nevis Audit Office performed a performance audit focusing on the management of the impacts of climate change on water resources management.

Following the completion of this audit, we have determined that the management of water resources in the context of climate change has not been entirely effective in its execution.

1. The current approach to implementing climate change adaptation policies in water resource management is insufficient.
 - a. The Nevis Water Resources Management Unit lacks an official policy document that clearly defines its operational framework.
 - b. The existing Water Bill is outdated and requires revision to incorporate strategies aimed at addressing climate change adaptation.
 - c. The Unit has recognized the various impacts of climate change on water resources, which include rising sea levels, an increase in drought frequency, and the intrusion of saltwater into freshwater wells.
2. The government has made minimal progress in incorporating climate change risks associated with water resources into relevant planning and programs.
 - a. There is a notable absence of proactive assessments regarding the influence of water resources on development projects, with evaluations taking place only after project has started.
 - b. Although the effects of climate change on water resources are acknowledged, there remains a considerable gap in public awareness and understanding of these issues.
 - c. The monitoring and evaluation of climate change adaptation efforts are insufficient, and collaboration with other sectors vulnerable to climate change is limited.

Introduction

The INTOSAI Development Initiative (IDI) has launched the Cooperative Audit on Climate Change Adaptation Actions (CCAA), in which the Nevis Audit Office will be conducting an audit of Water Resources Management. This initiative aims to encourage SAIs around the world to produce high-quality audits and recommendations that are compliant with the International Standards of Supreme Audit Institutions (ISSAI) regarding government efforts for climate change adaptation in specific relevant areas, such as disaster risk reduction, water resource management, sea level rise and coastal erosion, and the implementation of climate change adaptation planning or actions (SDG 13).

According to the United Nations, climate change refers to long-term shifts in temperatures and weather patterns. While natural variations in the solar cycle can affect climate, human activities, particularly the burning of fossil fuels like coal, oil, and gas, have been the primary driver of climate change since the 1800s. The burning of fossil fuels releases greenhouse gas emissions that trap the sun's heat and contribute to rising temperatures.

Climate change poses significant risks to water resource management, including changing precipitation patterns, increased droughts, more severe floods, and the melting of ice fields. Adaptation actions can address various aspects, such as ensuring access to clean water for all, including vulnerable populations in remote areas, implementing innovative approaches to managing scarce water resources in semi-arid and arid regions, promoting water-saving practices, and adopting smart strategies for utilizing water resources in agriculture. It is crucial for effective water resource management to maintain a balance between water consumption and preserving enough water to sustain ecosystems.

The Ministry of Communications, Public Works, Water Services, Physical Planning, Environment, Posts, Labour and Disaster Management has the overall responsibility for managing the water resources within the island of Nevis. This ministry includes a Water Resource Management Unit that was established in 2019, collaborating with the Nevis Water Department; in an effort to incorporate measures to manage the island water resources and uses in infrastructure. The main goals of the Ministry regarding Water Management are to ensure the delivery of safe and plentiful potable water at sufficient pressure to meet customer needs, protect citizen health, and enhance the distribution network to minimize unaccounted water while collecting accurate data on water production and distribution promptly.

Audit objectives and Audit questions

Audit Objectives

- To evaluate the extent to which the government has implemented climate change adaptation policies in the water resource management framework.
- To evaluate the extent to which the government has incorporated climate change risks to water resources into relevant planning and programs.

Audit Questions

1. To what extent has the government identified current and potential climate change impacts to water resources?
2. What existing climate change adaptation measures are there in relation to water resources?
3. Has the government formulated appropriate policies or developed plans for specific climate change adaptation actions?
4. Are there adequate legal provisions in place for implementing climate change adaptation measures?
5. Does the government have in place the required resources e.g. financing, skills, and other capabilities to implement adaptation measures?
6. To what extent does the government consider climate change observations and projections in relevant water resources program or project planning and implementation?
7. How, if at all, does the government measure and evaluate adaptation progress and effectiveness?
8. To what extent could the government's efforts to make risk-reduction (adaptation) measures more viable and attractive?
9. Has the government identified vulnerable/marginalized groups and made provisions in climate change adaptation planning and/or adaptation measures?
10. To what extent could government's efforts engage non-government partners in reducing risks to water resources?

Audit Scope

The audit concentrated on the initiatives implemented by the Water Resources Management Unit to enhance the efficiency and effectiveness of the water resource in Nevis from April 2024 to December 2024.

We interviewed key staff members to delve deeper into the operations, evaluate departmental policies and procedures, particularly concerning Climate Change, and review existing systems for adapting to climate change impacts on water resources.

Audit Methodology

The methods that were utilized by the Nevis Audit office to gather data about the current and future status of the water resource management of Nevis included an interview with the water resource management unit and site visits to observation wells and to newly drilled wells across the island.

The interview was conducted on October 9th, 2024 by the Nevis Audit Office to ask the questions previously listed and obtain necessary data from the Water resource management unit about the measures that were implemented to manage the island's water resources.

The site visit was conducted on November 7th, 2024 to observe and physically inspect an observation well at Paradise Estate, two newly drilled wells at Maddens and Butlers and a desalination plant at maddens. During the site visit, the audit team learned that a total of nine wells are to be drilled and each well is expected to supply a minimum of about 50 gallons per minute and maximum of about 350 gallons per minute. Moreover, the audit team also learned that desalination plant was developed to provide an additional water source and form part of the island's water, climate adaptation and implementation resilience.

Part Two – Findings and Recommendations

Audit Question 1 – Identification of Climate Change Impacts to Water Resources

To what extent has the government identified current and potential climate change impacts to water resources?

Audit Criteria and Sources

All nations are anticipated to develop adaptation plans, strategies, and policies aimed at assessing the effects of climate change, as outlined in Article 7, Part 9 a-e of the Paris Agreement.

The island faces a significant risk regarding the availability of groundwater as a result of these climate impacts.

Audit Finding

In 2018, St. Kitts and Nevis took a significant step towards developing a comprehensive National Climate Change Adaptation Strategy. This strategic framework not only outlines the main impacts of climate change on the nation but also places a particular emphasis on the critical issue of water resources. Water is a vital resource for both the population and the ecosystem, and the Strategy highlights the vulnerabilities that climate change poses to this essential commodity.

Despite the establishment of this strategic plan, public awareness regarding the effects of climate change remains alarmingly limited. Many residents may not fully understand the implications of climate change on their daily lives, particularly concerning water availability and quality. This education is essential for fostering a culture of resilience and preparedness, enabling individuals and communities to adapt to changing conditions and mitigate potential adverse impacts.

Moreover, a significant gap exists in the assessment of the critical vulnerabilities and adaptation measures identified in the Strategy Plan. This oversight could lead to missed opportunities for implementing effective adaptation strategies that could mitigate the adverse effects of climate change on water resources and other sectors.

The Nevis Water Resources Management Unit has recognized the pressing impact of climate change on water resources, particularly in light of increasing drought events and the alarming occurrence of saltwater intrusion into groundwater wells. Rising sea levels, a direct consequence of climate change, exacerbate this issue, threatening the quality and availability of groundwater supplies. As a result, the island is facing a serious situation where insufficient water resources are available to meet the essential needs of its population, including drinking water, sanitation, and agricultural irrigation.

Audit Recommendation

The Nevis Water Resources Management Unit need to comply the current and potential climate change impacts to water resources that they have identified and raise awareness in the communities; by providing clear, accessible information so the public can understand the challenges posed by climate change and the importance of sustainable water management.

It is important for the Nevis Water Resources Management Unit to engage in collaborative efforts with various agencies, including the Agriculture Department, the Department of Physical Planning, and the Department of Climate Action in St. Kitts. Such collaboration allows for the pooling of diverse expertise and perspectives, which can lead to more comprehensive and innovative solutions that will address any climate change impacts these different agencies face.

Audit Question 2 – Existing Climate Change Adaptation Measures to Water Resources

What existing climate change adaptation measures are there in relation to water resources?

Audit Criteria and Sources

All nations are anticipated to develop adaptation plans, strategies, and policies aimed at assessing the effects of climate change, as outlined in Article 7, Part 9 a-e of the Paris Agreement.

Insufficient policies aimed at addressing climate change.

Audit Finding

The National Climate Change Adaptation Strategy for St. Kitts and Nevis has identified key gaps and necessary measures for adaptation in response to the challenges posed by climate change. The Government of Nevis has taken proactive steps to implement some actions specified in this strategy. A key focus of these efforts is to mitigate the vulnerability of the water supply system, which has been significantly impacted by changing climate patterns. To address this, the Water Resources Management Unit is actively working on climate-proofing the infrastructure for water storage, supply, and distribution, ensuring that it can withstand the adverse effects of climate variability.

With the Water Resources Management Unit evaluating the volume of water present in wells and storage tanks provides valuable insights into the current status of water resources and aids in forecasting future availability. One of the most pressing challenges faced by the Water Resources Management Unit is the reduction in rainfall, which has led to significant difficulties in delivering adequate water to the public. This decrease in water availability has had a direct impact on the community, affecting both daily life and agricultural practices.

In response to this critical situation, several recent efforts aimed at strengthening the water supply has been undergone such as the installation of new water storage tanks to increase capacity, investments in retrofitting old wells to enhance their efficiency, and the drilling of new wells to tap into additional groundwater resources. Furthermore, the establishment of a Water Treatment Plant and a Desalination Plant represents a significant investment in technology aimed at

improving the overall water supply, ensuring that the community has access to clean and safe water and being able to evaluate the volume of water present.

In addition to these infrastructural improvements, to assist homeowners and educational institutions in this endeavor, rainwater catchment systems have been introduced as a practical solution for conserving water. These systems allow for the collection and storage of rainwater, which can be used for various non-potable purposes, thereby reducing the demand on the public water supply. Water tanks have been strategically incorporated into various facilities, including schools and police stations, to enhance water capacity and support agricultural practices, ensuring that these essential services can continue to operate effectively even during dry spells.

Audit Recommendation

To ensure the effectiveness of current climate change adaptation measures, the Water Resources Management Unit should implement regular monitoring of water levels in wells and storage tanks. Additionally, it is essential to establish a maintenance schedule for these storage facilities to ensure their ongoing functionality.

Audit Question 3 – Policies or Developed plans for Climate Change Adaptation Actions

Has the government formulated appropriate policies or developed plans for specific climate change adaptation actions?

Audit Criteria and Sources

All signatory countries of the Paris Agreement are anticipated to participate in adaptation planning procedures in order to formulate a national adaptation plan.

There should be implementation of policy and institutional reforms and ensure consistency with federal policies and institutions.

Audit Finding

In 2018, St. Kitts and Nevis took a significant step towards addressing climate change by developing a National Climate Change Adaptation Strategy which is the responsibility of the Department of Climate Action in St. Kitts. The establishment of a National Climate Change Committee, which is essential for overseeing the implementation and effectiveness of the adaptation strategy, has not occurred and should have individual representation from both island. The delay can largely be attributed to the disruptions caused by the COVID-19 pandemic, as well as the political changes that followed the 2020 government elections. These elections resulted in shifts in ministerial positions, which likely contributed to a lack of continuity and focus on climate change initiatives during the period of transiting into office.

Concerning Nevis Water Resources Management Unit, the National Climate Change Adaptation Strategy indicates that Nevis was expected to implement policy and institutional reforms outlined in the 2016 Nevis Strategic Framework for Water Resources Management. This framework was designed to align local water management practices with broader federal policies and institutional frameworks. However, this task remains unfulfilled, highlighting a significant gap in the governance and management of water resources on the island.

Through a series of interviews and comprehensive document reviews, we have determined that while a Plan for Water Resources does exist, it is not being fully utilized or recognized in an official

capacity. The 2016 Nevis Strategic Framework for Water Resources Management, which was developed by an external consultant, serves as a guiding document for water resource management in Nevis. Despite its potential to inform and shape effective water management practices, the framework is not an official document of the Government of Nevis.

One of the key recommendations of the framework was the creation of a Water Resources Management Policy. Unfortunately, this policy has yet to be enacted, leaving a critical void in the regulatory and operational framework necessary for effective water resource management. The absence of this policy not only hampers the strategic direction for water management but also limits the ability of stakeholders to engage in coordinated efforts to address water-related challenges.

The Unit has been developing a Model Water Policy, initially drafted in 2022; however, this document has yet to be finalized or acknowledged as an official government policy. The Unit depends significantly on the insights and suggestions from the consultant who created the Nevis Strategic Framework for Water Resources Management, given the absence of an official policy. This lack of a formal policy hampers the Unit's ability to implement essential reforms and adjustments needed for effective and sustainable management of water resources.

Audit Recommendation

The Water Resources Management Unit should enhance collaboration with the Department of Climate Action in St. Kitts, which is responsible for offering assistance regarding climate change initiatives for the broader federation and establishing the National Climate Change Committee that will help to develop, change and adapt plans for climate change.

Management should advocate for additional personnel to implement a new Water Resources Management Policy and Strategy and present it to the appropriate authority for official approval. Addressing this issue is essential for ensuring the sustainable management of water resources in Nevis and for aligning local practices with the National Climate Change Adaptation Strategy.

Audit Question 4 – Legal Provisions for implementing Climate Change Adaptation Measures

Are there adequate legal provisions in place for implementing climate change adaptation measures?

Audit Criteria and Sources

There should be legal provisions in place for implementing climate change adaptation measures.

Audit Finding

The National Climate Change Adaptation Strategy currently in place for St. Kitts and Nevis is characterized by its absence of strong legal provisions, which limits its effectiveness and enforceability. As it stands, the strategy functions primarily as an administrative policy, lacking the binding authority that a legal provision would provide. This situation presents a significant challenge, as administrative policies can often be subject to changes in political leadership or priorities, potentially undermining long-term climate adaptation efforts.

In the context of St. Kitts and Nevis, the Adaptation Strategy has identified critical gaps in the current approach to climate change. These gaps highlight the urgent need for comprehensive adaptation measures that are not only strategic but also legally enforceable. Among the essential adaptation measures identified, the development of a legal provision stands out as a priority. This legal provision should address climate change and its associated adaptation strategies. By doing so, the nation can enhance its resilience to climate impacts, protect its natural resources, and safeguard the well-being of its citizens.

Moreover, a legally binding framework would enable St. Kitts and Nevis to align its adaptation strategies with international climate agreements and commitments, thereby strengthening its position in global climate negotiations. It would also foster collaboration with regional and international partners, facilitating the sharing of best practices and resources.

On the island of Nevis, the Nevis Physical Planning and Development Control Regulations play a vital role in addressing challenges posed by climate change, particularly in relation to water supply. These regulations include specific provisions that require homeowners to implement rainwater

catchment systems, which serve as a sustainable measure for adapting to the impacts of climate variability and ensuring a reliable water source.

According to the Nevis Physical Planning and Development Control Regulations, 2021, specifically outlined in Part 7, Section 47, there exists a legal framework designed to promote the use of rainwater harvesting. Since the implementation of this regulation, it is evident that few housing developments across the island lack the rainwater catchment systems. This oversight not only undermines the intent of the regulations but also poses a significant risk to the island's water security in the face of climate change.

In response to this pressing issue, the Physical Planning Department has taken proactive steps by initiating a comprehensive review of building plans submitted by homeowners. This review process aims to ensure that all new developments incorporate the required provisions for rainwater harvesting or approval would not be granted. By scrutinizing these plans, the department seeks to reinforce the importance of sustainable water management practices and to hold developers accountable for compliance with the regulations.

At present, a Water Resources Act or Bill that effectively incorporates Integrated Water Resources Management (IWRM) principles and addresses the challenges posed by climate change does not exist in our legislative system. The existing Water Acts are notably outdated, with the last substantial revision occurring in 2002, which fails to reflect the evolving understanding of water management and the pressing need for sustainable practices in the face of climate variability.

The 2016 Nevis Strategic Framework for Water Resources Management used by the Nevis Water Resources Management Unit highlighted the critical need for the development of an Integrated Water Resources Bill. This bill was envisioned to provide a solid approach to managing water resources, ensuring that all aspects of water use, conservation, and protection are considered in a full manner. However, despite this important recommendation, there has been a lack of initiative to advance the development of such legislation.

Audit Recommendation

Communication with the Department of Climate Action in St. Kitts to advocate for the establishment of a legal provision that addresses climate change and its associated adaptation strategies, that requires action by a certain date or within a set period of time.

Collaborate with the Physical Department to strengthen enforcement efforts for the rainwater catchment systems by raising public awareness and ensuring adherence to regulations.

Nevis Water Resources Management Unit need to adopt a proactive approach in advocating for the development of an Integrated Water Resources Bill. This includes drafting the Bill, submitting it to the relevant Minister, and ensuring it is presented to the cabinet for parliamentary consideration.

Audit Question 5 – Resources to implement Adaptation Measures

Does the government have in place the required resources e.g. financing, skills, and other capabilities to implement adaptation measures?

Audit Criteria and Sources

There should be adequate resources in place for adaptation measures.

Audit Finding

Through a series of interviews, it was found that the Water Resources Management Unit was established in 2019 with the goal of addressing the issues surrounding water resource management in the county. Initially, the Unit was staffed by only one individual, who faced the challenge of managing a wide array of responsibilities with limited resources and support. This solitary staff member dedicated themselves to establishing the Unit, but the lack of personnel and funding severely limited its ability to operate effectively.

As the years progressed, the Unit encountered numerous difficulties, primarily stemming from its insufficient staffing and inadequate resources. The challenges included a lack of outreach and educational programs aimed at informing the community about the importance of sustainable water management practices. The single staff member struggled to engage with residents and businesses, which limited the Unit's impact on promoting awareness and understanding of water resource issues.

In early 2024, the Unit experienced a much-needed expansion, growing to a team of three individuals. Among the members, two are trained and certified professionals in the field of water resource management, bringing valuable expertise and knowledge to the Unit. The third member serves in an administrative capacity, helping to streamline operations and support the team's initiatives. Despite this growth, the Unit still faces significant challenges due to the pressing need for additional qualified personnel. With only three members, the Unit struggles to reach a broad audience, limiting its ability to conduct workshops, seminars, and outreach programs that are essential for fostering a culture of water conservation and responsible usage. The need for more trained staff is evident, as the existing team is stretched thin, attempting to cover a wide range of

responsibilities that include community engagement, policy development, and resource management.

The current budget constraints severely hinder the Unit's ability to operate at peak efficiency, creating a difficult environment for its activities. It's Ministry has failed to provide the necessary resources needed to implement crucial adaptation strategies essential for the Unit's success. Presently, the Unit faces significant financial limitations, with only \$236,000 allocated for administrative costs and a mere \$4 million designated for improvements in water services. This funding is shared with the Nevis Water Department, which has priority access to these resources, as specified in the Nevis Budget 2024.

This funding allocation indicates a reduced budget for the Unit, primarily due to a lack of understanding and awareness of its vital roles and responsibilities. The Ministry's inadequate investment in the Unit not only weakens its operational effectiveness but also restricts its capacity to tackle urgent issues. Insufficient funding impacts various facets of the Unit's operations, including staffing, training, and the acquisition of necessary materials and technologies.

Audit Recommendation

Water Resources Management Unit should recruit individuals with the essential skills to carry out necessary tasks, including outreach and educational initiatives.

Water Resources Management Unit must advocate for an increase in financial resources within their budget allocation to support more initiatives and secure dedicated capital funding that is independent of the Water Department.

Audit Question 6 – Climate Change observations and projections in program or project planning.

To what extent does the government consider climate change observations and projections in relevant water resources program or project planning and implementation?

Audit Criteria and Sources

Adaptation planning processes includes the assessment of climate change impacts and vulnerability. There should be assessment of climate change impacts conducted.

There should be engagement with other related agencies for project planning and implementation.

Audit Finding

There is a lack of thorough consideration during the planning phase of projects. The manager of the Water Resources Management (WRM) Unit noted that there is no collaboration with the Physical Planning department in the initial stages of Developmental Projects; interaction only takes place at the end when the projects are set to begin. This limited collaboration may stem from a lack of awareness regarding the significance of water resources in these developmental initiatives.

Adequate and reliable access to water is essential for the success and sustainability of various developmental projects and programs. Inadequate access to water presents significant challenges for large-scale developments, such as hotels, residential complexes, and other long-term projects. Additionally, the impacts of climate change could significantly affect the success, failure, or sustainability of these developmental programs or projects. Climate change-induced factors, such as changes in precipitation patterns, water scarcity, and extreme weather events, could jeopardize the viability and long-term success of these initiatives. This could potentially lead to inefficient expenditure and wasted investments if the water resource implications are not properly considered and addressed during the planning and implementation stages.

The recent decision by the Ministry to drill more wells and establish a Desalination Plant reflects a proactive approach to addressing the pressing challenges posed by climate change. This initiative not only acknowledges the ongoing impacts of climate change on water resources but also aligns

with the various adaptation strategies outlined in the SKN National Climate Change Adaptation Strategy.

As climate change continues to exacerbate environmental conditions, the island has been dealing with limited water availability, which has resulted in inadequate distribution for both residential and commercial needs. The persistent drought conditions have further strained the water supply, leading to a situation where the demand for water often exceeds the available resources. This imbalance highlights the urgent need for enhanced water management strategies, including the drilling of additional wells to boost the island's water supply.

The decision to drill more wells is a step in addressing the immediate water shortage issues. However, it is essential to consider the long-term implications of climate change on water levels when determining the depth and placement of these wells. If the potential impacts of climate change are not adequately factored into the planning process, there is a significant risk that the newly drilled wells may not yield the expected results. This oversight could lead to a scenario where additional wells are required sooner than anticipated, further straining resources and complicating water management efforts.

Moreover, the establishment of a Desalination Plant represents a forward-thinking solution to the water shortage problem. By converting seawater into potable water, the plant can provide a reliable source of fresh water, particularly during periods of drought. This technology not only diversifies the island's water supply but also enhances resilience against the unpredictable impacts of climate change.

Audit Recommendation

Water Resources Management Unit should enhance cooperation among departments that could have an effect on water resources within their proposed projects and consider the measures detailed in the National Climate Change Adaptation Strategy in their planning process.

Audit Question 7 – Measurement and Evaluation of Adaptation progress

How, if at all, does the government measure and evaluate adaptation progress and effectiveness?

Audit Criteria and Sources

Monitoring & evaluation are essential for tracking adaptation progress & learning about adaptation success and maladaptation.

Audit Finding

At present, there is no established system in place to measure and evaluate the progress and impact of its climate change adaptation efforts. This gap in assessment mechanisms is particularly concerning given the urgency of climate change impacts on the Federation. The Updated Nationally Determined Contribution (NDC) for 2021 does acknowledge some advancements since the establishment of the SKN National Climate Change Adaptation Strategy. However, it also highlights a persistent lack of measurement and evaluation frameworks that are essential for understanding the efficacy of these initiatives.

The SKN National Climate Change Adaptation Strategy was developed prior to the COVID-19 pandemic, which not only strained resources but also shifted governmental priorities, leading to a transitional phase in leadership following the 2022 elections. Unfortunately, the new administration has yet to take influential action on the strategies outlined in the existing policy framework. This delay further exacerbates the challenges faced in implementing effective adaptation measures.

This absence of clear benchmarks means that the government is unable to gauge the effectiveness of its initiatives or to identify areas that require improvement. Without a structured governance framework to systematically assess these activities, the government remains largely uninformed about the success of the initiatives have to the Federation's environment, economy, and communities.

The Nevis Water Resource Unit lacks the adequate tools and methodologies for assessing and measuring progress in adaptation strategies related to water resource management. This gap in capability hinders the Unit's ability to effectively evaluate the progress of adaptation strategies in place and other environmental factors on water availability and quality.

Despite these limitations, the Water Department plays a crucial role in monitoring water stability on the island by tracking the number of consecutive days with a stable water supply. This metric serves as a vital indicator of the overall reliability and consistency of water resources available to the community. By analyzing this data, the unit can gain insights into the resilience of the water supply system and identify potential vulnerabilities that may need to be addressed. Given the nature of the data maintained by the Water Department, the Water Resource Unit finds itself in a position where it must rely heavily on this information to inform its strategies and initiatives. The collaboration between the two entities is essential, as the Water Resource Unit can leverage the insights gained from the Water Department's data to better understand trends, forecast future water needs, and develop effective adaptation measures.

Audit Recommendation

Engage in dialogue with the Federation representatives for Climate Action regarding strategies to measure and evaluate initiatives that would support the Water Resources Management Unit.

The Nevis Water Resources Management Unit must advocate for the acquisition of critical tools necessary for measuring and evaluating adaptation progress, as well as assessing their effectiveness.

Ongoing partnership with the Water Department would greatly benefit the Nevis Water Resources Management Unit, as valuable data collected could enhance the Unit's efforts.

Audit Question 8 – Viability and Attractiveness of risk-reduction (adaptation) measure efforts

To what extent could the government's efforts to make risk-reduction (adaptation) measures more viable and attractive?

Audit Criteria and Sources

Incentives Principle which outlines that financial and other incentives should be provided while disincentives should be reduced.

Audit Finding

Efforts to enhance the viability and appeal of adaptation measures remain limited. The SKN National Climate Change Adaptation Strategy, which was developed to address these challenges, outlined a variety of approaches aimed at improving the resilience of communities and ecosystems to the impacts of climate change. These approaches included specific actions, policies, and frameworks designed to facilitate adaptation across different sectors.

However, the change in government in 2022 after this policy has introduced a new political dynamic, and the current administration has yet to take significant actions in line with the recommendations set forth in the adaptation policy. This delay in implementation raises concerns about the Federation's ability to effectively respond to the ongoing and future challenges posed by climate change.

Moreover, there appears to be a pervasive lack of awareness among the general population and decision-makers regarding the full extent of climate change's impact on the Federation. This gap in understanding can hinder public support for necessary adaptation measures and limit the urgency with which these issues are addressed. Without widespread recognition of the threats posed by climate change, it becomes increasingly difficult to mobilize resources and political will for effective action.

There are opportunities for the public to benefit from tax concessions when purchasing pumps specifically designed for use with rainwater catchment systems. The primary goal of these tax incentives is to alleviate the reliance on groundwater resources, particularly during periods of

drought when water scarcity becomes a pressing issue. By encouraging the adoption of rainwater harvesting systems, the government aims to promote a more sustainable approach to water usage, helping to conserve precious groundwater supplies.

This financial relief makes it more feasible for homeowners to invest in water catchment systems, ultimately leading to increased adoption rates. As more individuals and businesses become willing to implement these systems, the collective impact on water conservation can be substantial, fostering a culture of sustainability within communities.

Moreover, it is vital to raise public awareness regarding the available tax incentives and the benefits of rainwater catchment systems. Many potential users remain unaware of the financial assistance available to them, which could hinder the widespread adoption of these systems. Public awareness campaigns, educational programs, and outreach initiatives can help inform homeowners and businesses about the advantages of rainwater harvesting, the associated tax concessions, and the long-term benefits of reducing reliance on traditional water sources.

Audit Recommendation

The Water Resources Management Unit collaborates with the agencies responsible for property development on the island to encourage the inclusion of water catchment systems in current properties and the installation of such systems prior to granting occupancy permits for new constructions.

The Unit should raise public awareness about climate change, legal enforcements and tax incentives relating to water management on the island.

Audit Question 9 – Identification of vulnerable/marginalized groups and provisions in Climate Change Adaptation Measures

Has the government identified vulnerable/marginalized groups and made provisions in climate change adaptation planning and/or adaptation measures?

Audit Criteria and Sources

Leave no-one behind principle which is a commitment to reduce inequalities.

Build the resilience of the poor and those in vulnerable situations.

Audit Finding

The government has taken significant steps to address the pressing issue of water affordability for vulnerable and marginalized populations, recognizing that access to clean and affordable water is a fundamental human right. In light of this, the Water Department has rolled out a comprehensive initiative aimed at reducing water rates specifically for those who are most in need, including low-income families, seniors, and agricultural workers. This initiative is designed not only to alleviate the financial burden on these groups but also to ensure that they have reliable access to essential water services.

The reduced rates for farmers are particularly noteworthy, as they play a vital role in boosting food security on the island. By easing the financial strain on agricultural workers, the government is not only supporting their livelihoods but also promoting sustainable agricultural practices that contribute to the overall well-being of the community. This strategic approach helps to create a more resilient food system, ensuring that local produce remains accessible and affordable for all residents.

Audit Recommendation

Annual verification of the occupancy status for households receiving reduced water rates is essential to protect the program from potential misuse. The Unit should collaborate with the Water Department in this effort.

Audit Question 10 – Government’s engagement with non-governmental partners

To what extent could government’s efforts engage non-government partners in reducing risks to water resources?

Audit Criteria and Sources

Incentives Principle which outlines that financial and other incentives should be provided while disincentives should be reduced

Integrating the efforts of various partners can help decision makers take coherent and coordinate adaption (resilience) actions.

Audit Finding

Many non-governmental organizations (NGOs), while dedicated to various social and environmental causes, often underestimate the urgent consequences that climate change poses to water resources. This lack of recognition can lead to a reluctance to commit to necessary investments in water conservation and management strategies, as these issues may be perceived as lower priorities compared to other pressing concerns. Consequently, the potential for effective action is diminished, and the urgency of the situation is not adequately addressed.

By providing targeted training and resources, the Water Resources Management Unit can significantly increase understanding among non-governmental partners about the critical importance of water conservation and effective waste management practices. This education should focus on the direct implications of climate change for water resources, including altered precipitation patterns, increased frequency of droughts and floods, and the degradation of water quality.

Likewise, it is essential to emphasize the interconnectedness of climate change and water issues, illustrating how changes in climate can exacerbate existing water scarcity and quality challenges. By fostering a deeper understanding of these relationships, NGOs will be better equipped to prioritize water-related initiatives and advocate for necessary investments in sustainable practices.

In recent times, there has been a notable increase in commercial water usage rates, prompting the government to take action by revising its water pricing structure for Non-Government entities.

Under the new rate schedule, businesses in the Commercial, Hotel, and Industrial sectors will now be charged \$32.50 for every thousand gallons of water consumed, applicable to the initial 10,000 gallons. However, for any water usage that exceeds this threshold, the cost escalates to \$45.00 per thousand gallons, creating a tiered pricing system that reflects the growing demand for water resources.

The primary objective behind this increase in water fees is to encourage business owners to adopt more sustainable practices by reducing water waste and enhancing water security across the island. By implementing these adjusted rates, the government aims to instill a sense of responsibility among Non-Government partners, motivating them to recognize the critical importance of conserving water.

This strategic adjustment in pricing is expected to serve as a facilitator for change, prompting businesses to explore and implement water conservation practices actively. By harnessing rainfall, businesses can significantly reduce their dependence on public water supplies, thereby mitigating the financial impact of the rising water costs.

Furthermore, the government envisions that by fostering a culture of water conservation among commercial entities, the overall demand for water can be managed more effectively. This, in turn, will contribute to the long-term sustainability of water resources on the island, ensuring that both current and future generations have access to this vital resource.

Audit Recommendation

The Nevis Water Resources Management Unit has a unique opportunity to collaborate with non-governmental organizations (NGOs) to create and implement educational initiatives that specifically address the effects of climate change on water resources. This partnership is essential, as there is currently a significant gap in awareness among these organizations regarding the critical nature of climate change and its profound impact on the availability and quality of water.

Management's Response



Integrated Water Resources Management

Ministry of Communications, Public Works, Water Services, Physical Planning & Environment, Posts, Labour
and Disaster Management

Wednesday, July 9, 2025

Tanisha Mills

Senior Audit Manager
Nevis Audit Office
Nevis Island Administration
Heritage Plaza Phase II
Main Street
Charlestown
Nevis

Floyd Robinson
Director
Integrated Water Resources Management Unit
Main Street
Charlestown, Nevis

**Response to Audit Report: Performance Audit of the Management of Impacts of Climate
Change on Water Resources Management**

Dear Ms. Mills,

This is no major objections to the overall contents of the report. As I have acknowledged in the interviews conducted, the efforts to formally establish the unit have not progressed to my expectations. The unit is, however, heavily relied on for the execution of a number of projects currently being conducted.

These projects include:

1. The drilling project to develop additional water in general
2. The provision of water for the geothermal drilling
3. The development and implementation of the TransWater Project, which is a US\$50 million federal water project, funded by the Green Climate Fund (GCF)
4. The Sustainable Land Management project implemented by the Department of Agriculture
5. Rehabilitation and development of water sources in the New River area for the New River Farmer's Co-operative.

So, we are very much involved despite the understaffing and lack of resources indicated in the audit.

We agree with most of the recommendations save for the one in the last paragraph of page 13 of the report. There is no need for a new strategy, as is the case with many proposals submitted to Nevis Island Administration (NIA), but only for implementation of the strategies, allowing for the necessary upgrades in the future.