GOVERNMENT OF ANGUILLA
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DEPARTMENT OF DISASTER MANAGEMENT
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INTERNSHIP REPORT

A REVIEW AND GAP ANALYSIS OF ANGUILLA'S CURRENT LEGISLATION AND PLANS

A Critical Comprehensive Review and Gap Analysis of the National Disaster Management Policy Frameworks of the British Overseas Territory of Anguilla

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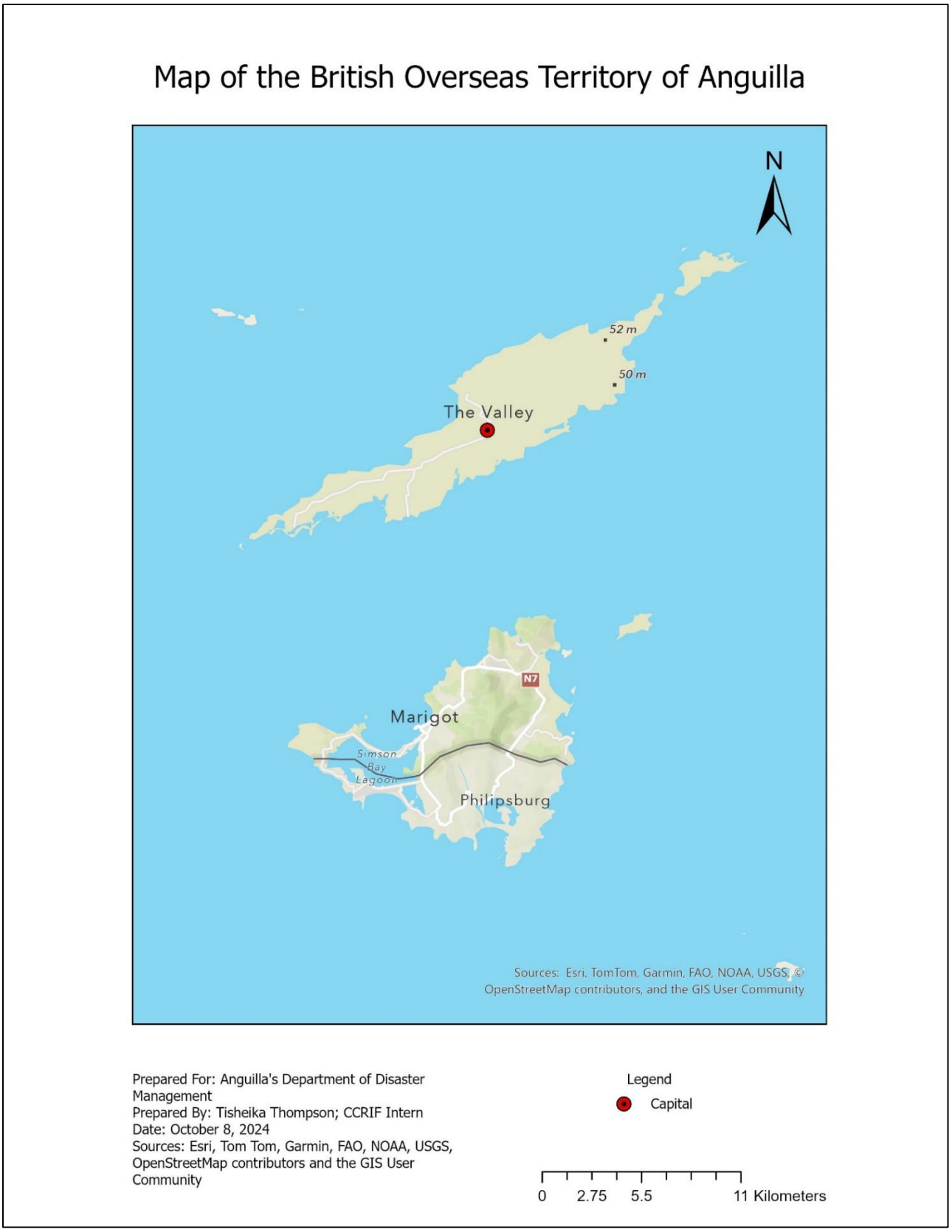

LIST OF ABBREVIATIONS

BVI	**BRITISH VIRGIN ISLANDS**
CDM	**COMPREHENSIVE DISASTER MANAGEMENT**
CDEMA	**CARIBBEAN DISASTER EMERGENCY MANAGEMENT AGENCY**
CDMA	**CARIBBEAN DISASTER MANAGEMENT ACT**
DDM	**DEPARTMENT OF DISASTER MANAGEMENT**
DM	**DISASTER MANAGEMENT**
EOC	**EMERGENCY OPERATIONS CENTRE**
NDMC	**NATIONAL DISASTER MANAGEMENT COMMITTEE**
NEOC	**NATIONAL EMERGENCY OPERATION CENTRE**
TOR	**TERMS OF REFERENCE**
UKOTS	**UNITED KINGDOM OVERSEAS TERRITORIES**

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EXECUTIVE SUMMARY

This report provides a review and analysis of Anguilla's current disaster risk management frameworks, particularly their legislation, policy, and plans. In providing a review of these frameworks, readers are given a glimpse into the make-up of their contents which will further prepare them to better understand the gap analysis, which will be done on each policy framework. This gap analysis will allow policymakers and other relevant stakeholders to adequately amend Anguilla's disaster management frameworks, foster a culture of resilience, and reduce loss of life and property.

Presented within this report will therefore be:

1. Background information and a history of Anguilla's multi-hazard environment.

2. A Comprehensive Review of the Disaster Management Act, 2007, the National Disaster Management Plan, and the Comprehensive Disaster Management Policy 2015.
    a. Comparisons through meta-analysis of these vital disaster management records with international benchmarks to highlight gaps and provide recommendations to enhance disaster risk preparedness and responsiveness.

3. Comparisons through meta-analysis of the Disaster Management Plans of the Top 5 Hazards: National Hurricane Plan National Water Shortage Plan, Marine Incidents Plan, National Earthquake Contingency Plan, and the National Tsunami Plan, to similar plans of international bodies. The gaps within these plans will also be identified after comparison with the planning frameworks of external bodies.

1.1 Structure of Paper

This paper will be divided into 4 sections:

a) Section 1 – Review of the frameworks: Legislations, and Policies

b) Section 2 - Review of the National Disaster Management Plans for the major hazards: Hurricane, Earthquake, Tsunami, Water Shortage and Marine Incidentss

c) Section 3 - Matrix of Interconnectivity of Anguilla's Top 5 Hazard Plans

INTRODUCTION

2.1 Purpose of Review

To review and highlight the gaps for amendment within Anguilla's Disaster Management Legislation, Policy and Plans.

2.2 Scope of Review

This review focuses on the Legislation, Policy and Plans for the multi-hazard environment of Anguilla. In detail, this report reviews the Disaster Management Act, 2007, the National Disaster Management Plan, and the Comprehensive Disaster Management Policy 2015. A review is also provided of Anguilla's five major hazard plans: National Hurricane Plan, National Water Shortage Plan, National Earthquake Contingency Plan, National Tsunami Plan and National Marine Incidents Plan. The gaps within these policy frameworks are identified, providing recommendations for possible future amendments of these documents.

2.3 Background Information

The Caribbean Region exists in a multi-hazard environment rendering it vulnerable to a myriad of natural, anthropogenic, and biological hazards. Their citizens and visitors are made even more vulnerable due to the high levels of socioeconomic instability that exist within the Caribbean states, coupled with their high exposure as high population densities are situated along the coastline and within unstable squatter settlements. In particular, the Caribbean Small Island Developing State (SIDs) and United Kingdom Overseas Territory of Anguilla, located at latitude 18°25'46.20" North and longitude 63°10'31.80" West, exists with a multi-hazard environment exposed to hazards inclusive of hurricanes (Table 1), earthquakes, drought, tsunamis, and water shortage; all listed within the Top 5 major hazards affecting the island. Noteworthy is the 1840s droughts that affected Anguilla causing a decrease in agricultural production and a widespread famine that forced citizens to relocate to neighboring Caribbean countries (Government of Anguilla Comprehensive Disaster Management Policy, 2015). Other past disasters such as the September 2017 Hurricane Irma which made landfall on the island as a Category 5 Major Hurricane, with a sustained wind speed of 185mph, caused much damage to over 42% of buildings (International Charter Space and Major Disasters, n.d.).

Table 1: Hurricanes that have impacted Anguilla

Hurricane	Category	Date	Impact
Hurricane Irma	5	Sept 2017	• Major injuries and one (1) fatality • Disrupted communication, damages to the Princess Alexandra Hospital, airport, shelters, schools, the prison, emergency services, and homes • 507 million Eastern Caribbean Dollar (XCD) worth of damages reported
Hurricane Gonzalo	1	Sept 2004	• Flooding and flood damage to buildings
Hurricane Luis	4	Aug 1995	• Major damages to buildings and critical infrastructure • The island was without electricity for months (Enhancing Knowledge and Application of Comprehensive Disaster Management (EKACDM), n.d.).
Hurricane Lenny	4	Nov 1999	• 65.8 million in damage to the island's coastline. • $7.7 million to the social sector • $410,410 to the health sector. • Widespread flooding in the flood-prone areas
Hurricane Donna	4	Sep 1960	• 5 deaths • 500 houses destroyed, leaving over 1,000 homeless • Prompted a shift from wooden to concrete and steel houses that would withstand major hurricanes (Enhancing Knowledge and Application of Comprehensive Disaster Management (EKACDM), n.d.).

Hurricane Dog	5	Sep 1950	• Of the 1,185 houses, 411 were severely damaged, along with the shipping fleet, crops, and livestock (Enhancing Knowledge and Application of Comprehensive Disaster Management (EKACDM), n.d.).

As a Small Island Developing State with a significant vulnerability to the adverse effects of climate change, coupled with its great dependency on tourism, which has been severely affected by past disasters, and its flat coastal relief, the island's complex multi-hazard environment signals the need for the government, alongside relevant stakeholders to design and adopt policies aimed at mitigating these risks and enhancing their resilience to possible future hazards.

A comprehensive and integrated framework for disaster management was therefore conceptualized by the Government of Anguilla, with the creation of the Disaster Management Act, 2007 which considers all pillars of comprehensive disaster management: risk identification, risk financing, prevention, preparedness, response, and recovery. Following this, the National Disaster Management Plan was drafted after a thorough assessment of Anguilla’s multi-hazard environment and outlined the roles of the government, non-government, private, and public sector agencies in coordinating disaster risk responses island-wide.

SECTION 1

A Critical Comprehensive Review and Gap Analysis of the

National Disaster Management Policy Frameworks of the British Overseas

Territory of Anguilla

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REVIEW OF LEGISLATIONS, POLICIES AND STRATEGIES

Policy Frameworks

1. Disaster Management Act, 2007
2. National Disaster Management Plan
3. Comprehensive Disaster Management Policy 2015

3.1 Disaster Management Act, 2007

The Disaster Management Act of 2007 serves as the singular legislation for Disaster Management on the Island of Anguilla. The act provides regulations and policies for a comprehensive and integrated approach to the management of disasters that impact the island. The 2007 Disaster Management Act extends only within the British Overseas Territory of Anguilla and the sections outlined only apply to the territory's practices (Disaster Management Act, 2007).

The Act is structured in 10 Parts and further divided into 47 Sections. Outlined within its contents is the role of the Director of Disaster Management, the framework for the institutional structure of the National Management Committee, and the management of Emergency Operations Centers and Shelters (EOCS).

1. Part 1, Section 1 of the Act, defines key terms that will be used throughout the Act.

2. Following this is Part 2, Section 2 – 4 which puts forward the role of the Director of Disaster Management, their Functions, and Directions in *"coordinating the general policy of the Government relating to the mitigation of, preparedness for, response to and recovery from emergencies and disasters in Anguilla"*.

3. Under Part 3, Sections 5 – 8, the matters of the National Disaster Management Committee, Policy Review, and Plan were detailed. The National Disaster Management Committee, spearheaded by the Governor (and the Deputy Governor in their absence) functions as the key authority responsible for reviewing and developing disaster management policies and strategies. Detailed are also the requirements of the Disaster Management Review, and Natural Disaster Management Plan to be prepared by the Director of Disaster Management

4. Parts 4, Section 9 – 10 focuses on the maintenance and operation of Emergency Operations Centers and Emergency Shelters by the director of DDM. The maintenance of the EOC ensures the smooth and effective

creation and dissemination of strategies to forces undertaking disaster response efforts.

5. Other areas of focus were the identification of vulnerable areas for adequate risk mitigation and preparedness. Other areas outline the standards of protections the Crown and other agents against actions taken by individuals for loss or damage to property or person, and safeguarding employees from unlawful termination or loss of salary post-disaster.

3.2 Comprehensive Disaster Management Plan

In 2015 the Executive Council of Anguilla approved the Comprehensive Disaster Management Policy, which provides a framework for the integration of disaster risk management into all policies, programs, plans, and ongoing activities at national and community levels. From this, the National Disaster Management Plan of Anguilla was designed. This plan outlined:

1. The Institutional framework for disaster risk management, detailing the internal structure of the National Disaster Management Committee (hereafter referred to as NDMC), chaired by the governor, and responsible for the conceptualization of strategies and policies in enhancing disaster risk reduction. The NDMC is categorized into 3 subcommittees that work

together to ensure that all strategies and policies defined are carried out efficiently to reduce disaster risk: the Strategic Planning Subcommittee, the Essential Services Subcommittee, and the Community Services Subcommittee.

2. The operations and functions of Anguilla's Department of Disaster Management (Hereafter referred to as the DDM), a part of the government responsible for *"overseeing, planning, coordinating and managing the Comprehensive Disaster Management (CDM) programme for Anguilla"* (Department of Disaster Management 2018). The plan outlined the role of the DDM alongside other stakeholders in the activation of the National Emergency Operations Centre (Hereafter referred to as NEOC) in responding to disasters was also thoroughly discussed.

3. The management strategies to be employed by relevant stakeholders in the event of a disaster and the overarching role of the NEOC in ensuring that the policies and strategies conceptualized are executed to ensure the safety of all citizens.

3.3 Comprehensive Disaster Management Policy, 2015

This Policy Paper highlights the strategies that will allow Anguilla to foster a 'Culture of Resilience' to disasters through an aggregate of effective disaster prevention and preparedness efforts. This policy is guided by the Comprehensive Disaster Management Approach, a holistic and integrated strategy that coordinates disaster management through all phases of the disaster management cycle, prevention, mitigation, preparedness, [financing] and response, recovery and rehabilitation. Outlined within the Policy Paper are the 9 priority objectives that will ensure that CDM is achieved. In summary, these are:

1. To ensure that key stakeholders/National Disaster Management Committee (NDMC) have policies and plans that support climate change adaptation (CCA) and comprehensive disaster management (CDM), and undertake periodic and timely exercising.
2. To provide a legal framework that outlines the institutional structure and functions for Anguilla's Comprehensive Disaster Management (CDM) Programme.
3. To utilize community outreach preparedness and education programme to instill a culture of safety in citizens.
4. To develop a team of skilled and trained officers in key sectors to effectively implement CDM and climate change adaptation measures.
5. To ensure that an equipped National Emergency Operation Center is maintained for proper emergency response coordination.

6. ‘To develop a national recovery framework and continuity of government plan.’
7. To ensure systems are put in place to support access to shelters, relief, and rehabilitation.
8. To create a framework to monitor safer buildings and occupational health.
9. To protect economic, social, and environmental sectors through partnerships and enforcement.

In achieving these objectives, a Comprehensive Disaster Management Approach will be used in conjunction with a Comprehensive Disaster Management Enabling Framework and A Comprehensive Disaster Management Mainstreaming Framework.

Policy Strategies and Strategy Intervention were also drafted to meet the 9 Policy Objectives. These are highlighted in Table 2.

Table 2: Policy Strategies and Strategy Intervention drafted to achieve the 9 priority objectives

	Key Actions
Policy Strategy	**Strategies to be put in place that will aid in CDM. This includes:** • Structural and non-structural measures to reduce the impact of hazards. • Inclusion of the Phases of CDM Cycle into development planning.

	• Generating knowledge for public awareness, forecasting, monitoring and early warnings. • Developing governance systems for CDM.
Strategy Interventions	**Programmatic Interventions:** • Structural and non-structural measures used to reduce the impact of hazards through the installation of a fully equipped and functional NEOC, and national warehouse with emergency supply. **Strategic Interventions** • Creating policies and legislations to build the institutional capacity and strengthening the capacity of the NDMC for CDM. • Maintaining EWS and emergency communication systems • Upgrading critical infrastructure (Schools, Hospitals & Clinics, Utilities); among others **Mainstreaming interventions** for risk reduction and resilience • Integrating Disaster Risk Management in key sectors, ie education, health, government and private sector. • Investing in insurance as a disaster risk financing mechanism. • Developing tools, and methodologies for disaster risk management **Enabling interventions**

	• Fostering public awareness and education on CDM. • Initiating trainings across sectors for better preparedness in DRM. • Mainstreaming the use of ICT for fact based decision making.

(Department of Disaster Management 2015)

Detailed within Section 4.2 of the Policy Paper are the Policy Implementation Agencies and Structures that will be adapted to ensure that all priority objectives are achieved through the installation of 'institutional structures and agencies' that will contribute to the phases of the CDM Cycle. Continuing, highlighted in Section 4.3 are the financing options that will ensure that the objectives of the policy paper are met. National Disaster Management Fund, National Budget, Donor Funding, Community Partnerships and Local Engagements were mentioned as current financing sources.

GAP ANALYSIS OF TOP 5 MAJOR HAZARDS

National Disaster Management Act, 2007

Based on comparisons done with the Disaster Management Act of regional bodies such as the British Virgin Islands, located in a similar hazard environment to that of Anguilla, gaps were found in Anguilla's Disaster Management Act and suitable recommendations were provided to improve the effectiveness of their disaster preparedness and response mechanisms.

National Disaster Management Plan

The Disaster Management Plan has put forward a framework for the policies for disaster management, risk reduction, and response within Anguilla. However, despite its design, various gaps exist with its contents that reduce its effectiveness in managing disasters that may affect the island. Through a comprehensive review of the Plan, and comparisons with international best practices, gaps of exclusion of vulnerable groups (i.e. the disabled), no consideration for climate change, and a lack of coordination between integral agencies involved in the disaster management process were found. Recommendations were put forward by the reviewer to improve the effectiveness of the National Disaster Management Plan.

National Disaster Management Policy

A review of the policy paper highlighted areas of gaps and suitable recommendations were put forward by the reviewer.

Table 3: Anguilla's Top 5 Hazard Plans and gaps identified based on comparative analysis with the plans of other international governments and bodies

Disaster Management Policy Framework	Gaps	Recommendations
National Disaster Management Act, 2007	• The British Virgin Islands Disaster Management Act, 2019 mentions in PartXII, Section 72 the ability of telecommunication companies to enter into roaming agreements with each other so that their users can freely call or use mobile data on whatever device network without worry during disasters. On listening to the conversations of stakeholders, during key meetings held at the NEOC, there was a shared emphasis on the need to strengthen Anguilla's telecommunication network's ability to allow citizens to receive hazard updates/ warnings	• Strengthening Anguilla's telecommunication networks can be done by investing in Wireless Emergency Alerts (WEA) that allows messages to be sent out to the mobile phones of individuals located in geographic proximity to the location of the potential disaster

	quickly and to communicate with others without difficulty pre and post disaster. In doing this, loss of life and property can be avoided. • While detailed in part in Part 4, Section 9 of The National Disaster Management Act, referencing the maintenance of a NEOC that will function as the headquarters for strategizing and coordination disaster risk response in the event of a disaster, there needs to be a more detailed guideline within the legislation that guides the usage of the NEOC so that any renovations to be made/ equipment's to be replaced, will be done with consideration for its functions as the site for disaster risk response coordination.	

National Disaster Management Plan	• Primarily, vulnerable groups within society should be prioritized by implementing targeted measures that can allow them to respond effectively to disasters, thereby reducing their vulnerability. In particular, individuals with disabilities remain largely overlooked within the Disaster management and risk reduction process. ○ Their inclusion is critical to ensuring that nations are equipped to address their needs, safeguard, their lives and their properties in the event of disasters. Article 11 of the United Nations Convention on the Rights of Persons with Disabilities highlights the need for member states to *"ensure the protection and safety of persons*	• In formulating a more comprehensive plan for disaster management the Government of Anguilla should ensure that they consider their vulnerable population in their planning.

	with disabilities in situations of risk, including situations of armed conflict, humanitarian emergencies and the occurrence of natural disasters." ○ The British Virgin Islands Disaster Management Plan outlines within its Operational Annexes a "Health and Welfare of Elderly and Disabled", within the Support Function Annex (SF). The Cayman Islands National Hazard Management Plan also outlines the regulations to shelter the disabled and elderly within the Older Persons & Special Needs Shelter in the event of a disaster. These shelters serve to provide a secure space for our most vulnerable, the disabled, and the elderly	

	where they may receive simple medical assistance in hazardous situations (Cayman Islands National Hazard Management Plan 2023). • Over the past decades, climate change has emerged as a growing force, posing as a significant threat to the lives and livelihoods of our nation's most vulnerable. As global temperatures rise, the intensity, magnitude, and frequency of natural hazards, with rising sea surface temperature fuels major tropical cyclones formed within the Atlantic Ocean and Caribbean Sea. These intensified tropical cyclones have disastrous impacts on the Caribbean Islands. To effectively respond to these changes adaptions in Disaster Management Planning	

	should be made, taking into consideration both the present and proactively changing future planning in response to climate change. Assessment of the Disaster Management Plans for Anguilla, British Virgin Islands, and the Cayman Islands did not provide any regulations for measures to be taken to reduce the impact of climate change-induced hazards. It is therefore recommended that the government of these states in partnership with relevant stakeholders, to effectively review their plans so that consideration can be made to safeguard both the lives and property of Anguillan citizens. • The plan should include a detailed institutional framework outlining key contacts and responsibilities during a	

	disaster. This framework should clearly indicate who to contact, as well as the flow and hierarchy of first responders to ensure an efficient and coordinated response.	
National Disaster Management Policy	• In the technologically advancing world and as a society that has positioned itself as being an upcoming technological and artificial intelligence (AI) hub in the world, it is pertinent that Anguilla implements the use of ICT within its policies in making CDM more efficient. This can be done through: ○ The creation of chatbots that allow users to view recent updates on hazards and access useful information on specific hazards easily. I.e., hurricane updates, fastest routes to tsunami	• Inclusion of the use of AI in areas of disaster management.

	evacuation zones, nearest emergency shelters, etc.... • The use of a hybrid approach to public awareness. Recent public awareness sessions hosted by the DDM have been met with low enthusiasm among citizens. This could be attributed to a lack of free time or availability of citizens. To combat this, online/hybrid sessions can be held via Zoom or streamed on platforms such as Facebook so that citizens can be 'Kept in the know on the go'. The prior recommendation would also assist in combatting this issue	

3.4 Fire and Rescue Service Act

Anguilla's Fire and Rescue Service is the primary authority tasked with responding to *"fires, distress calls, road traffic accidents, hurricanes and other natural and manmade disasters..."* (Fire and Rescue Service Act 2014). The interconnectivity of the services provided by the Fire and Rescue Service and the Department of Disaster Management is evident through a comprehensive review of the Fire and Rescue Service Act, R.S.A. c. F29; Fire Precautions and Safety Regulations which outlines the strategies and policies to be maintained by the Fire and Rescue Service to ensure that people and their property are safeguarded from the dangers of fires through the enforcement and issuing of a Certificate of Compliance as stated in Part 2 of the regulations, that presents proof that the regulations of the Fire and Rescue Service are being complied with. Under Part 4, Section 10-12 the fire safety precautions to be taken within businesses and industrial spaces were outlined. Outlined also were the Fire safety assessments and training to be carried out by employers to ensure that their employees are equipped with the knowledge to safeguard themself, their property and visitors from fire hazards.

3.4.1 Gaps and Recommendations for the Fire and Rescue Service Regulations

Despite advancements in disaster risk management, current systems remain inadequately scaled for addressing large-scale disasters, particularly in the context of cascading events such as large fires triggered by other natural hazards. Several key issues persist:

1. **Inadequate Regulation for Large-Scale Fires within bushy areas or shrublands**
   There is a notable absence of comprehensive regulations and protocols tailored for the management of large fires, especially when these fires occur in conjunction with other disasters. This gap presents a significant risk, as uncontrolled fires can exacerbate already critical situations, leading to increased property loss, environmental degradation, and potential harm to human life.

2. **Secondary Hazards: Fire as a Consequence of Natural Disasters**
   The absence of regulations governing the management of fires that arise as secondary hazards due to primary natural disasters, such as earthquakes, is particularly concerning. This creates a dual challenge, ensuring that affected populations are safe while simultaneously containing the fire to prevent its spread to adjacent areas. Current frameworks often lack provisions for managing such scenarios, which leaves vulnerable communities at greater risk of compounded impacts.

3.4.2 Interconnectedness of the Fire and Rescue Service Regulation with the Disaster Management Act, 2007

The roles and responsibilities of the Fire and Rescue Service and the Department of Disaster Management are both interconnected as they share a common goal of reducing risk through proper risk identification, recovery, mitigation, response, and recovery. In conversing with relevant personnel at the Department of Disaster Management it was found that both entities work closely with the Mitigation Working Group. The DDM partners with the AFRS in conducting fire safety and doing training sessions with members of the tourism sector in preparing them for best practices that should be employed in the event of fire hazards.

SECTION 2

A Critical Comprehensive Review of the

Top Hazard Plans of the British Overseas

Territory of Anguilla

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4.1 The Anguilla National Hurricane Plan

The Anguilla National Hurricane Plan is a subsection of the National Disaster Management Plan (NDMP) and functions as a comprehensive strategy outlining the preparedness, response and recovery strategies put in place in the event of a hurricane event. Hurricanes are ranked first on the risk index for Anguilla and pose a disastrous hazard, particularly during the Atlantic Hurricane Season (Department of Disaster Management 2024). The plan highlights the roles and responsibilities of government, non-government, public and private sectors, pre and/ post the passage of a hurricane as well as a comprehensive action Checklist that seeks to ensure that all tasks have been checked on receipt of information that Anguilla is within the path of a developing tropical system (Department of Disaster Management 2024).

4.2 National Earthquake Contingency Plan

Much of the ongoing tectonic activity within the Northeastern Caribbean is a product of the subduction of the North American Plate below the Caribbean Plate. The shaking caused by the release of accumulated stress within these tectonic plates leads to significant structural damage and loss of life. Additionally, such events can often trigger disastrous secondary hazards including building collapse, tsunamis, fires, and landslides, among others. Earthquakes are sudden and often appear without warning, making it difficult to

predict their occurrence. The sudden, unpredictable nature of earthquakes signals the government to proactively plan for the impending dangers that can be caused by earthquakes. The Anguilla National Earthquake Contingency Plan 2024 provides a comprehensive strategic framework for effectively responding to earthquake disasters to ensure that there is minimal loss of life and property (Department of Disaster Management 2024).

GOALS AND OBJECTIVES OF THE NATIONAL EARTHQUAKE CONTINGENCY PLAN

1. Ensure public safety and minimize loss of life.
2. Protect critical infrastructure and essential services.
3. Facilitate efficient coordination among agencies
4. Restore normalcy as quickly as possible

((Department of Disaster Management 2024))

Outlined within the plan are key agencies and their responsibilities in ensuring that recovery and restoration efforts, post hazard, are efficient Organizations such as:

- MICHU&T, responsible for areas such as assessing damage to infrastructure, debris removal, access to transport systems, etc....,
- Anguilla Fire and Rescue Service, responsible for rescue efforts and addressing potential fire hazards.
- Department of Natural Resources. Their responsibility of monitoring and managing potential risk to natural environments caused by the hazard.
- Emergency Medical Services (EMS) in efficiently coordinating, responding to and providing medical care to individuals in need.
- Department of Health Services

- Royal Anguilla Police Force
- Education Department
- External Agencies: Anguilla Red Cross (Department of Disaster Management 2024)

The plan also references a Damage Assessment and Needs Assessment (DANA) to be completed post-hazard that ensures the timely collection of data of the estimated damages caused by the hazard, the immediate needs of the individuals affected, the effect of the hazard on the health and safety of the population, among others. Additional focus was placed on a Joint Emergency Service Interoperability Programme (JESIP) which intends to improve the connectedness and coordination of the operations of blue light workers (health care, armed forces….) as they address emergencies in times of disaster (Department of Disaster Management 2024).

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4.3 National Tsunami Plan

The National Tsunami Plan 2024, provides the basis for the effective "coordinated alert dissemination, mobilization, coordination and response procedures" for tsunami response island-wide (Department of Disaster Management 2024). The plan outlines the strategic responses of key agencies for all phases of the disaster management cycle Mitigation, Preparedness, Response and Recovery. In doing so it ensures that all roles and

responsibilities of these agencies are accounted for; in ensuring that there is a reduction of loss of life and property (Department of Disaster Management 2024).

GOALS AND OBJECTIVES OF THE NATIONAL TSUNAMI PLAN

1 Establishment of reporting, alerting procedures.
2 Identifying the chain of command and related responsibilities
3 Identifying the resources available in Country
4 Clarifying the roles and responsibilities of departments and agencies which are expected to function prior to, during and after the incident.
5 Promoting coordinated actions among all agencies involved in the Tsunami response

(National Tsunami Plan 2024)

4.4 National Water Shortage Plan

The National Water Shortage Plan 2024, provides a strategic framework for addressing issues of water scarcity affecting Anguilla, identifying ways to safeguard vulnerable populations, while strategically maintaining current water resources (Department of Disaster Management 2024).

GOALS AND OBJECTIVES OF THE NATIONAL WATER SHORTAGE PLAN

1. Ensure public safety and minimize loss of life.
2. Provide alternative water supply to Anguilla as soon as possible.
3. Provide procedures, roles and responsibilities, communication channels and any other resource or activity required for mitigation, effective response to a water shortage event.

The National Water Shortage Plan (2024)

The plan outlines drought response plans across 3 phases: Early Stages, Moderate Drought Conditions and Severe Drought Conditions, providing a concise outline of what should be done and the end goal to be achieved based on the strategies implemented (Department of Disaster Management 2024). Additionally, the plan contains the roles of internal stakeholders inclusive of the DDM, Department of Water Services, Department of Natural Resources and the Anguilla Fire and Rescue Service, in responding during events of water shortages and their responsibilities (where applicable) in managing current water supply.

4.5 National Marine Incidents Plan

The National Marine Incidents Plan 2024 provides a framework for ensuring efficient emergency response to marine incidents involving vessels. This includes oil spills, death or injury of a person on a vessel, accidental collision/ capsizing of a vessel, and incidents surrounding weather systems that may have an impact on the operations of a vessel, among other scenarios (Department of Disaster Management 2024). This plan outlines a key framework for quick responsiveness to marine hazards by private (ferryboat operators, cruise line owners/ operators), government (AFRS, RAPF, AASPA, DNR) and non government (Anguilla Red Cross) agencies. The plan also references the application of a Joint Decision Model which focuses on a situational awareness that exists between

agencies, allowing them to coordinate their operations to safeguard lives and property during hazardous situations (Department of Disaster Management 2024).

GAP ANALYSIS OF TOP 5 MAJOR HAZARDS

Table 4: Anguilla's Top 5 Hazard Plans and gaps identified based on comparative analysis with the plans of other international governments and bodies

Disaster Management Plan	Strengths	Gaps	Recommendations for Improvement
National Hurricane Plan	• Written within the checklist are the measures to be taken by sectors in the preparation phases of a hurricane. Its detailed nature is commendable as it thoroughly outlines measures to be taken by various sector in ensuring a high degree of readiness.	• No measures identified to ensure that the homeless or individuals of unsound minds, and unable to comply to evacuation orders. • The plan does not highlight the measures to be taken within the recovery/ rehabilitation phase post-disaster.	• A focus on the recovery phase will ensure that there are precautionary measures put in place to streamline recovery efforts and prevent further loses from the onset of possible secondary hazards.

		○ Measures taken by the tourism sector (resort/ Airbnb in ensuring that they can meet the needs of all guests (*Were sections of resorts compromised so guests have to be accommodated elsewhere?)* ○ Obtaining information from residents to surmise what work has been done so that they can accurately record what level of damage was caused by the system (Residents are 'first	

		responders', being some of the first to provide help to neighbours in time of need, clearing falling trees from roads, assisting their neighbours in clean ups, restoring major to minor damages on their property etc...)	
National Earthquake Contingency Plan		• The Damage and Needs Assessment appears to be misplaced. Having it after the overview of key organizations in response and recovery efforts would improve the flow of the document.	• Addressing this gap would strengthen the plan's inclusivity and effectiveness in protecting vulnerable populations. • The current expansion of the Anguilla-Clayton J. Lloyd Airport will create

		• The plan lacks emphasis on the appropriate procedures to be carried out within the tourism sector (hotels, motels, Airbnb etc…) in ensuring that tourists are safe after an earthquake. • The Toussaint L'Ouverture Airport in Port-au-Prince, Haiti Suffered major Damages after the catastrophic 7.0 Mw Earthquake that struck the island in 2010. This coupled with a lack of ramps made it difficult for aircrafts transporting critical relief	more space allowing larger and a greater number of aircrafts to land in the event of the need for international relief.

		(food, water, clothing) into the country to land and provide the relief needed. This plan should therefore detail best practices in ensuring that there is quick response in ensuring that activities of ports re are restored. ○ The plan does not adequately address how tourists and visitors are able to return home safely. • An Action Checklist Should be created to guide response and recovery coordination among agencies within Anguilla. This will	

		ensure that all possible measures are being carried out to prevent further loss of life and property.	
National Tsunami Plan	• A detailed Model Tsunami Warning Protocol Illustrated showing the hierarchy of information from international and regional centers to the public via multiple communication channels. • A detailed SOP is provided outlining the guidelines that should be followed in multiple tsunami scenarios.	• Focus was not placed on the importance of structural controls in reducing damage caused by tsunamis; a function of the MICHU&T. Reports highlights the importance of structural and nonstructural measures to minimize exposure and vulnerability to hazards. ○ Enforcing zoning regulations by managing development in	• A contingency plan should be created providing alternative sites for that landing aircrafts (if possible).

		areas with a higher exposure would be ideal. Regulations enforcing reduced density or regulated setbacks to vulnerable coastlines (National Tsunami Hazard Mitigation Program, 2001). • Low lying areas may be inundated days after the tsunami's landfall. The Valley, the capital of Anguilla, was highlighted as an area that would be affected. Within this area critical infrastructure such as the airport will be inundated preventing	

		aircrafts transporting relief from landing.	
National Water Shortage Plan	• Scope, Goals and objectives are clearly outlined. • Relevant stakeholders and their roles are highlighted, internal and external (United Nations Convention to Combat Desertification 2018).	• The plan only outlines measures to be taken with the onset of a drought and lacks strategic measures across other phases of the disaster management cycle: Mitigation and Preparedness. • In identifying the gaps present within this plan the Model National Drought Plan (United Nations Convention to Combat	• Promoting water conservation practice through various media channels.

		Desertification 2018) was utilized as a benchmark. • The report serves as a model for providing a framework for the creation of a National Drought Plan globally. • Based on documentations provided the model, areas in need of review included: ○ Creation of a vulnerability map displaying vulnerability to droughts.	

Marine Incidents Plan	• Major stakeholders and their roles in marine incidents recovery were identified.	As with the previous plans the Marine Incidents Plan only highlights the strategies to be used when responding to a marine incident. The plan lacks critical information on the mitigation and prevention phases of the disaster management cycle.

SECTION 3

Nexus: The Interconnectivity between the

Major Hazards Plan

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Interconnectivity between the Major Hazards Plans

Interconnectedness refers to “the state of having different parts or things connected or related to each other”. Climate change can increase the frequency and magnitude of natural disasters and pose the threat of increasing the secondary and cascading hazards that emerge as a result of primary hazards. This creates a multi-hazard environment of interconnected disasters that must be comprehensively addressed. The interconnectivity of these risks that have the potential to cause great harm to our environs highlights the need for collaborative efforts across the various disaster management planning across different hazard situations. As a Caribbean nation, existing within a multi-hazard environment, Anguilla’s disaster management plans should have areas of interconnectivity (where possible) to ensure that there is effective response to multi hazard situations.

The interconnectedness of Anguilla’s top hazard Plans was surmised after a thorough review and analysis of all Plans. Based on analysis done, interconnection areas were seen within these plans. The identified areas of interconnection are presented in the interconnectivity matrix as seen below:

Table 5: Interconnectivity Matrix of Anguilla's Disaster Management Act, 2007 and the Top 5 Hazards

PLANS	NATIONAL HURRICANE PLAN	NATIONAL EARTHQUAKE CONTINGENCY PLAN	NATIONAL TSUNAMI PLAN	NATIONAL WATER SHORTAGE PLAN	MARINE INCIDENTS PLAN
NATIONAL HURRICANE PLAN		**Response and Recovery** • Communication Systems: Wireless Emergency Alerts, Broadcast Systems (Section 1.2, Earthquake Contingency Response Plan) • Search and Rescue coordination among uniform groups • Use of Evacuation shelters	**Response and Recovery** • Communication Systems: Radio, Television, Social Media • Use of Evacuation shelters	**Response and Recovery** • Water monitoring and sanitation (Section 1.7, Earthquake Contingency Response Plan) ○ Water supply reduced to the public (Sections 3.2, National Water Shortage Plan); Mentioned water restriction 1	**No Interconnection**

				day before landfall (Preparation Phase), Water May be unavailable for days after the passage of the system (Concept of Operations, National Hurricane Plan) • Public health monitoring • Declaration of alert to inform populous	
NATIONAL EARTHQUAKE CONTINGENCY RESPONSE PLAN	---		**Preparedness** • Training and Educational Exercises • Shelter Maintenance	**Response and Recovery** • Water monitoring and sanitation (Section 1.7, Earthquake	**No Interconnection**

			• Evacuation site and assembly points coordination **Response and Recovery** • Use of Evacuation shelters • Tsunami alert generated in response to an earthquake (Sections 1.5, Earthquake Contingency Response Plan) • SOP B Drafted within the Tsunami Plan of guidelines to be followed in response to an earthquake of a particular magnitude	Contingency Response Plan) • Infrastructure protection: Water Facilities safeguarded in the event of a water shortage (Section 2, 2.2.7 Earthquake Contingency Response Plan) • Waste Management • Water quality monitoring and management (Sections 1.4 Earthquake Contingency Response Plan)	
NATIONAL TSUNAMI PLAN	---	---		**Response and Recovery** • Water Quality Monitoring and management (Sections 5.0,	**No Interconnection**

				National Tsunami Plan)	
NATIONAL WATER SHORTAGE PLAN	**---**	**---**	**---**		**No Interconnection**
MARINE INCIDENTS PLAN	**---**	**---**	**---**	**---**	

The interconnectivity of Anguilla's top 5 hazards was analyzed using a matrix to find the areas where their plans were interconnected. Analysis of the drafted matrix showed a strong interconnection between the National Hurricane Plan, the National Tsunami Plan, and the National Earthquake Contingency Plan. On the other hand, less interconnectivity was noted between the National Water Shortage Plan and Marine Incidents Plan with the other plans. Notable inferences were made in areas where the interconnectivity of plans could be improved.

The Marine Incidents Plan had no direct relationship with the other disaster management plans within the matrix. While hurricanes and tsunamis were identified as types of marine responses within the plan, the National Hurricane Plan and National Tsunami Plan did not detail specific response protocols for addressing marine related disasters arising from these events. It is therefore recommended that amendments be made to the National Hurricane Plan and National Tsunami Plan detailing the SOP for marine hazards scenarios.

Similarly, the National Water Shortage Plan did not specifically address the other hazards within the matrix. Nevertheless, similar strategies were seen across the National Hurricane Plan, the National Earthquake Contingency Plan and the National Tsunami Plan, with their shared similarity of including water monitoring and sanitation procedures, as these hazards may result in contamination of water sources by debris and/ disconnection of water supply during and post hazard. The incorporation of aspects of the National Water Shortage Plan into the hazard plans highlighted would therefore be beneficial as it will allow Anguilla to enhance its

capacity to address issues of water shortages that may arise during hurricane, earthquake, or tsunami scenarios.

CONCLUSION

This report provided a comprehensive review of Anguilla's National Disaster Management Act, Disaster Management Plan and Disaster Management Policy. After reviewing, the gaps in these frameworks were highlighted. The Disaster Management Plans of the top 5 hazards were also reviewed, providing a gap analysis of the plans outlined. Finally, the interconnectivity matrix of the top 5 Disaster Management Plans was drafted. The National Water Shortage Plan and National Marine Incidents Plan were identified as the least interconnected of the plans and recommendations provided for improving their interconnectivity.

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