

The Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030

National Voluntary Report - Brunei Darussalam



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Acronyms and Abbreviations

AADMER	ASEAN Agreement on Disaster Management and Emergency Response
ABCI	Authority on Building Control and Construction Industry
ACDM	ASEAN Committee on Disaster Management
ADRC	Asian Disaster Reduction Center
AEC	ASEAN Economic Community
AEP	Airport Emergency Plan
AHA Centre	ASEAN Coordinating Centre on Humanitarian Assistance on disaster management
AJDRP	ASEAN Joint Disaster Response Plan
AMMDM	ASEAN Ministerial Meeting on Disaster Management
APSC	ASEAN Political-Security Community
ASCC	ASEAN Socio-Cultural Community
ASEAN	Association of Southeast Asian Nations
ASEAN-ERAT	ASEAN Emergency Response and Assessment Team
ASEAN SHIELD	Strategic and Holistic Initiative to Link ASEAN Responses to Emergencies and Disasters
BCP	Business Continuity Plan
BDMD	Brunei Darussalam Meteorological Department
BFI	Brunei Fertilizer Industries
BIBD	Bank Islam Brunei Darussalam
BFRD	Brunei Fire and Rescue Department
BLNG	Brunei LNG Sdn Bhd
BMC	Brunei Methanol Company
BNSC	Brunei National Seismic Centre
BSP	Brunei Shell Petroleum
CBDRM	Community-Based Disaster Risk Management
CAE	Canadian Aviation Electronics Inc.
CCA	Climate Change Adaptation



DARe	Darussalam Enterprise
DCA	Department of Civil Aviation
DCC	Disaster Command Centre
DDMC	District Disaster Management Committee
DELSA	Disaster Emergency Logistic System for ASEAN
DEPR	Department of Environment, Park and Recreation
DES	Department of Electrical Services
DMSPF	Disaster Management Strategic Policy Framework
DRR	Disaster Risk Reduction
EMAS	Emergency Medical Ambulance Services
EWS	Early Warning Systems
HFA	Hyogo Framework for Action 2005-2015
ICP	Incident Command Post
IoT	Internet-of-Things
LLIA-IERP	Liang Lumut Industrial Area Integrated Emergency Response Plan
MKIS	National Council on Social Issues
MOD	Ministry of Development
MOE	Ministry of Education
MoU	Memorandum of Understanding
MOFE	Ministry of Finance and Economy
MOHA	Ministry of Home Affairs
MOH	Ministry of Health
MORA	Ministry of Religious Affairs
MPABD	Maritime and Port Authority of Brunei Darussalam
MSMEs	Micro, Small and Medium Enterprises
MTIC	Ministry of Transport and Info-Communications
MUIB	Islamic Religious Council Brunei



NaSOP	National Standard Operating Procedure
NDC	National Disaster Council
NDMC	National Disaster Management Centre
NGO	Non-Governmental Organisations
NOSOP	National Oil Spill Contingency Plan
OAOR	One ASEAN, One Response
PDC	Pacific Disaster Center
PMO	Prime Minister's Office
PTWC	Pacific Tsunami Warning Center
RBAF	Royal Brunei Armed Forces
PWD	Public Works Department
SASOP	ASEAN Standard Operating Procedure for Regional Standby Arrangements and Coordination of Joint Disaster Relief and Emergency Response Operations
SCP	Supplemental Contributory Pensions
SDG	Sustainable Development Goals
SFDRR	Sendai Framework for Disaster Risk Reduction
SNAP	Strategic National Action Plan for disaster risk reduction
SOP	Standard Operating Procedure
TAP	Employees Trust Fund
TSO	Transport Safety Office
UNDRR	UN Office for Disaster Risk Reduction
UNISSA	Universiti Islam Sultan Sharif Ali
UNOCHA	UN Office for the Coordination of Humanitarian Affairs
WHO	World Health Organization
YSHHB	Sultan Haji Hassanali Bolkiah Foundation



Executive Summary

Since the adoption of the Sendai Framework for Disaster Risk Reduction (SFDRR) 2015-2030, Brunei Darussalam has made notable progress at its own pace, building upon the achievements of the successor known as the Hyogo Framework for Action 2005 - 2015. This report captures the outcome and the national efforts thus far in accomplishing the frameworks which coincide with the country's commitment to Sustainable Development Goals (SDGs), towards achieving sustainability, partnerships, and prosperity. Brunei Darussalam reaffirms its support to strengthen disaster risk reduction to reduce losses and disruption of lives and assets from disasters.

Nonetheless, there is room for improvement to ensure Brunei Darussalam remains on track to achieve the four priorities indicated under the SFDRR. Throughout the formulation of this report, it has revealed the gaps and challenges in implementing SFDRR on the national level. This creates an opportunity to provide recommendations that drive the framework to be more inclusive and bridge the gaps between vulnerable groups and communities and empower them to take ownership of disaster management.

Given the country's unique disaster landscape and geographic location, Brunei Darussalam is not excluded from the impact of climate change and its future threat, including sea level rise. Through a whole-of-nation approach, the collective efforts of the Government agencies, partners, and communities reflect the nation's commitment to address these threats and strive towards progress in meeting the goals set out under SFDRR 2015 - 2030.



I. Highlights and Introduction

Country Profile - Disaster Context

Brunei Darussalam is located on the Northwest coast of the island of Borneo with varied terrain and a tropical climate. Despite its location in Southeast Asia; a hazard and disaster hotspot, Brunei Darussalam has historically been perceived as one of the countries least prone to natural hazards. This perception of low hazard risk is somewhat counteracted by regular occurrences of small-scale but cumulatively destructive floods. Total annual losses and percentage of annual social expenditure from multiple hazards amount to about US\$37.31 million and 3.62% respectively, and of these totals, up to US\$31 Million worth of losses and 3% of the social expenditure incurred from floods.

With a population of less than 500,000, it is estimated that 75% of the community lives near the coastal areas whereas more than 70% of the land is forested. The primary economy is driven by the oil and gas sector, and there have been efforts made to diversify the economy to reduce reliance on one industry through strategic re-alignments of national policies towards reducing contributions to global climate change i.e. Brunei Darussalam National Climate Change Policy. As a hot and humid region, Brunei Darussalam typically experiences regular floods, driven by torrential rains which can trigger landslides along steep slopes and forest fires set off by occasional drought. Climate change has exacerbated the impact of natural events further which has led to the increasing variability of rainfall and rising sea levels, putting the coastal settlements at risk.

According to the Disaster Management Order 2006, a Disaster in Brunei Darussalam is defined as a serious disruption in a community, caused by the impact of an event, that requires a significant coordinated response by Brunei Darussalam to help that community recover from that disruption. The country is generally at low risk for natural hazards, with events such as floods only occurring during the northeast monsoon and transitioned rainy season, but the country is not situated in any typhoon path.

Flooding and Landslide:

Flooding and landslides are the most frequent natural hazards that occur annually in the country and are common during the northeast monsoon, generally from October to January. December and January are the wettest months and generally see high-intensity rainfall that can cause flash floods in low-lying areas as well as flooding in floodplain areas, particularly in the major catchments in the Tutong and Belait Districts, these floodplain inundations normally recede after about two weeks. The occurrences of continuous rainfall is also one of the trigger factors for landslides. Although Brunei is not in the typhoon-belt zone, strong winds can occur regularly due to the tail-end effect of typhoon activities during the southwest monsoon. Strong winds are also common during cold surges and heavy thunderstorms.

In Brunei Darussalam, two types of flooding are observed: slow onset and flash floods with minimum or little mud debris. The interior regions of the country, which consist of alluvial plains, are prone to seasonal flooding (slow onset) during monsoon seasons. Fortunately, these



floods are non-life threatening as these areas are sparsely populated, and the structures are designed traditionally to withstand flood levels. Conversely, flash floods are more common in urbanized areas with rapid development. They are not fast-flowing and occur in overwhelmed drains, flatter surfaces, and near the coastlines. Although the fatality rate due to flood disasters is rare, there is a possibility of damage to public infrastructure and dwellings.

Landslides are infrequent but mainly occur in developed areas, affecting public and private properties situated within sloping proximity due to soil erosion and ground movement. Mud and loose soil from terraced hills cause damage to houses and buildings in immediate proximity, which have lead to few fatalities reported. Debris clearance, temporary relocation, and slope stabilizing projects such as retaining wall measures are taken to mitigate these damages.

In 2018, the Brunei Climate Change Secretariat (BCCS) was established to oversee national efforts related to climate change in the nation, increasing discussions on policy and governance approaches to improve and protect infrastructure against such calamities in the national development strategy.

Forest and wildfire:

Elevated temperatures and drier spells related to more variable rainy seasons indicate that Brunei's experience of forest fires will increase in the coming decades as climate change effects take hold. In addition to the impacts of fires on Brunei's territory, the incidence of forest fires in Indonesia has also been extremely high for the past 25 years, and Indonesia's neighbors, including Brunei, are victims of haze and air pollution resulting from these fires. Persistent haze and air pollution carry high risks for the health of residents. Extensive forest fires that caused a haze in 1998 were a driving force for the Brunei Fire and Rescue Department (BFRD) to rethink and reassess how they dealt with the fire. Brunei has witnessed an increased number of forest fires during dry seasons in recent years. The BFRD recorded a total of 1,116 incidents of forest and grass fires in 2015 alone. More recently, BFRD reported more than 550 forest and bushfires in 2021 with a total of about 300 hectares of land affected. Fire intensity can be exacerbated by strong dry winds that lead to uncontrollable fire spread. In most cases, a forest fire in Brunei is a "ground fire" because of the consistent burning of peat soil rich in organic contents. Fire in peat soils burns and spreads slowly in comparison to dried leaves, woods, or branches of trees. Ground fires damage the ground cover of the forest floor and decrease the nutrients available in the soil that take hundreds of years to build up.

Extreme weather conditions, including heat spikes due to the El Niño phenomenon, pose a significant threat to life, properties, and the environment. These conditions can lead to the outbreak of wildfires in heavily forested areas, caused by human interventions such as open burning and farming, as well as natural causes such as auto-ignition due to sparks and lightning strikes. These fires can be challenging to combat due to inaccessibility, water scarcity, and deteriorated resources.



Two types of wildfires are prevalent in the country: peatland fires (underground fires) and forest fires (surface fires). Peatland fires are particularly challenging to combat and pose a greater threat as they generate hazardous smoke plumes and reduce the soil's ability to absorb carbon. Protecting vital locations such as the Badas-Seria area, under the Brunei Darussalam Heart of Borneo Initiative, is crucial.

Numerous mitigation measures have been implemented in the Borneo Hub, including constructing fire breaks and retention pools to control the spread of fires and ensure an adequate water supply. Additionally, a test location has been introduced to monitor the water table level and weather conditions using Internet-of-Things (IoT). This technology could pave the way for commercial and scalable means to effectively monitor conditions in multiple locations in the future.

Droughts:

The risk of drought is generally considered low but not absent. In the 1960s, the sultanate experienced a long drought that triggered water rationing and reconditioning of the water supply network. Then in 1997-98, Brunei was hit by prolonged dry weather due to that season's El Niño. Since 1964, the Tasek Dam has been the main source of potable water supply to Bandar Seri Begawan. In the past two decades, a few dam projects have been undertaken to increase water storage capacity as a hedge against prolonged drought.

Brunei Darussalam has constructed a total of 4 dams, namely Benutan Dam, Ulu Tutong Dam, Mangkubau Dam and Kargu Dam, to mitigate the potential harms of drought that may affect the country's water supply. These dams are vital projects that aim to ensure that the country is well-prepared to anticipate and mitigate the risks associated with drought.

The Wasan/Imang Dam is strategically located close to important Agriculture Development Areas (ADA) including Wasan, Batang Perhentian, Limau Manis, Bebuloh, Batong, Betumpu and Limpaki, to ensure that they have minimal impact during drought conditions. Crop plantations especially paddy plantations are dependent on water sources such as rivers and dams, which play a crucial role in ensuring that the agricultural needs of the country are met.

These dams have significantly improved the country's resilience to drought, ensuring that the supply of water is stable and adequate during times of scarcity. The dams also contribute to the conservation of water resources and play a critical role in protecting the environment by preventing soil erosion and reducing the risk of flooding. Overall, the construction of these dams have been a crucial and successful initiative toward achieving sustainable water management in Brunei Darussalam.



Disease Outbreak and Epidemics:

The country has historically suffered minimal impact from epidemics and pandemics, and the World Health Organisation (WHO) certified Brunei as having eliminated or eradicated malaria in 1987, poliomyelitis in 2000, and measles in 2015. Based on a Joint External Evaluation that measures a country's ability to find, stop, prevent, and protect during an epidemic, Brunei is working to improve preparedness. As of 2022, it has strong immunization rates and a strong reporting system but has shortfalls in biosecurity and in linking public health and other authorities. Brunei actively participates in dealing with Southeast Asia's transboundary haze issues, and it addresses communicable disease issues by developing a pandemic preparedness and response system such as the Influenza-like Surveillance System operated by the Ministry of Health (MOH). This system gives warning of emerging threats from novel strains of viruses such as Influenza H1N1 (swine flu) and H5N1 (bird flu). The country's immediate implementation of strict travel and quarantine measures in the early days of the COVID-19 pandemic held off significant transmission until late in 2021 after the national vaccination campaign had commenced.

Strong winds:

Like many other coastal regions, Brunei Darussalam is still susceptible to strong seasonal winds and storm surges, especially during the Inter-Monsoon seasons. The Inter-Monsoon seasons typically occur between November and March which, according to the Brunei Darussalam Meteorological Department (BDMD) can bring strong northeasterly winds of up to 37 km/h, Brunei Darussalam can experience strong winds, particularly along its northern coast.

However, Brunei Darussalam is still located in a region that is vulnerable to the effects of climate change causing more frequent and severe weather events. Brunei Darussalam could become more susceptible to these hazards in the future if climate change continues to exacerbate extreme weather patterns.

Overall, while Brunei Darussalam is not considered to be at high risk for strong winds, it is still important for the nation to be prepared for extreme weather events.

Climate Change:

Brunei Darussalam is at medium to high exposure to the risks associated with climate change. The country will be exposed to rising global temperatures, rising sea levels, extreme weather events, and ocean warming and acidification. With a high proportion of the settlements residing along Brunei Bay, hydrology experts project that the area will be under threat from flooding as a result of rising sea levels as early as 2040. Elevated temperatures during the drought season have resulted in an increased incidence of forest and bushfires due to the hot and dry conditions, aggravated by the intensity and severity of heat waves.



Institutional Context - Disaster Management Strategic Policy Framework

The National Disaster Council (NDC) has developed a national action framework - Disaster Management Strategic Policy Framework (DMSPF) which sets out key objectives for disaster management and guides the development and implementation of disaster management policies to support a comprehensive, all hazards, all agencies approach that foster disaster preparedness and build resilient communities. The priorities of the DMSPF are consistent with national and international best practices on disaster management.

DMSPF will replace the Strategic National Action Plan (SNAP) 2012-2025 which follows the Hyogo Framework for Action (HFA) 2005-2015. Since HFA was succeeded by the Sendai Framework for Disaster Risk Reduction 2015-2030, there is a need to rectify the SNAP into a more holistic and multidimensional approach in line with other supporting documents and policies introduced such as the implementation of the ASEAN Agreement on Disaster Management and Emergency Response (AADMER), Work Programme as well as the Brunei Darussalam National Climate Change Policy.

This document aspires to synergise Climate Change Adaptation (CCA) and Disaster Risk Reduction (DRR) in realizing the National Vision 2035 toward the improvement of the quality of life. DMSPF is established to integrate a whole of nation approach for effective disaster management planning and programming across agencies and industries outside the public sector. In that regard, DMSPF recognizes the need for stakeholder commitment and collaboration across all sectors in all aspects of disaster management with an emphasis on developing and maintaining multi-agency cooperation, teamwork, consultative decision-making, and shared responsibilities among stakeholders.

The policy document will adopt seven (7) priority programs which shall provide a comprehensive, all hazards and all agencies approach by achieving the right balance of prevention, preparedness, response, and recovery which are as follows:

- i) Disaster Research; Seeks to promote and bridge collaborations between researchers and policymakers to identify best disaster management practices and enable sustainable development and pursue evidence-based approaches.
- ii) Policy & Governance; Ensure clear direction management priorities, resource allocation, and accountability, supported through a sound business continuity plan, performance management reporting, and risk management processes.
- iii) Disaster Risk Assessment; Evaluates and compares the level of risk against standards or other benchmarks to determine community vulnerability to disaster through the identification of hazards, risks, and the likelihood and consequences of a disaster occurring. These assessments allow for an increased focus on mitigation and preparation



actions such as the adoption of early warning systems to ensure a safer and more sustainable environment.

iv) Disaster Mitigation & Adaptation; Implement mitigation and adaptation initiatives to reduce risks, and vulnerabilities and enhance infrastructure resilience. This priority focuses on the preparation before and after a disaster, aimed at reducing or eliminating the impact on communities, the economy, infrastructure, and the environment. Investment in disaster mitigation along with the implementation of appropriate and targeted mitigation initiatives can reduce damage and financial loss to vulnerable communities and governments in the event of a disaster.

v) Disaster Preparedness; Enhance community awareness and preparedness in the event of a disaster to which resources and services can be mobilised and deployed efficiently. This priority seeks to nurture and empower the community and the nation to take ownership in disaster management as the first responders by minimising the impact and risk by taking proper actions before, during, and after a disaster strikes.

vi) Disaster Response and Immediate Relief; Seeks to enable effective and efficient disaster response for all hazards and reduce their impacts while focusing on effective immediate and on-going support to the emotional, social, and physical well-being of communities is tended for.

vii) Disaster Recovery; Seeks to promote “Build Back Better” concepts aimed at reducing the risk to the communities in the wake of future disasters and shocks for efficient restoration of the socio-economic developments and infrastructures.

II. MTR SFDRR Methodology and Process

The National Disaster Council (NDC) through the National Disaster Management Centre (NDMC) has led the drafting of this MTR SFDRR. The report was circulated to all members of the National Disaster Council composed of various government agencies relevant to disaster management.

The collection of qualitative data was consolidated through mapping exercises undertaken by NDMC as the focal agency on Disaster Management which examines the country’s progress in implementing disaster risk reduction initiatives in Brunei Darussalam. The report analysis presented is based on the information consolidated and aggregated from relevant official documents and government policies as well as focus group discussions involving Youths, Persons with disabilities, Non-governmental organizations, grassroots leaders, and other key agencies and sectors.



This report highlights challenges and barriers, and illustrates opportunities and recommendations to improve disaster management operation capabilities. Since the drafting of this report, it has gone through a series of consultations and engagements with key stakeholders to ensure the output and activities prescribed are aligned with other national strategic pillars and frameworks.

III. Retrospective Review

A. Progress towards the Outcome and Goal

The development of the DMSPF will streamline national Disaster Risk Reduction initiatives across ministries including non-governmental organizations, civil societies, and private sectors. The vision of this policy aims to promote community resilience and economic sustainability through disaster risk reduction and envisions a community that understands its roles in disaster management arrangements towards supporting and realizing the national aspirations and vision, in particular, the second goal of the national vision 'Wawasan Brunei 2035' on the high quality of life.

This reflects the goals outlined in the Sendai Framework for Disaster Risk Reduction 2015-2030. The following sections will outline Brunei Darussalam's operational plan and supporting documents.

B. Progress in Risk Assessment, Information and Understanding

According to the Index for Risk Management (INFORM) which measures the risk of humanitarian crises and disaster, the higher the score the more at risk a country is to disasters, in 2022, Brunei Darussalam scored an overall risk of 1.7/10 in the Risk Index which is categorized as "Very Low" risk class. The Hazards and Exposure dimension score takes into account a combination of both natural and human hazards, and Brunei Darussalam rated 1.4/10. The Vulnerability dimension score was 1/10, and the Lack of Coping Capacity dimension score was 3.4/10. Physical exposure to Tsunami (5/10) was the highest risk in the Hazards and Exposure dimension, with Inequality measuring at a 3.4/10 for the Vulnerability dimension. Disaster Risk Reduction was rated 6/10 in the Lack of Coping Capacity dimension.

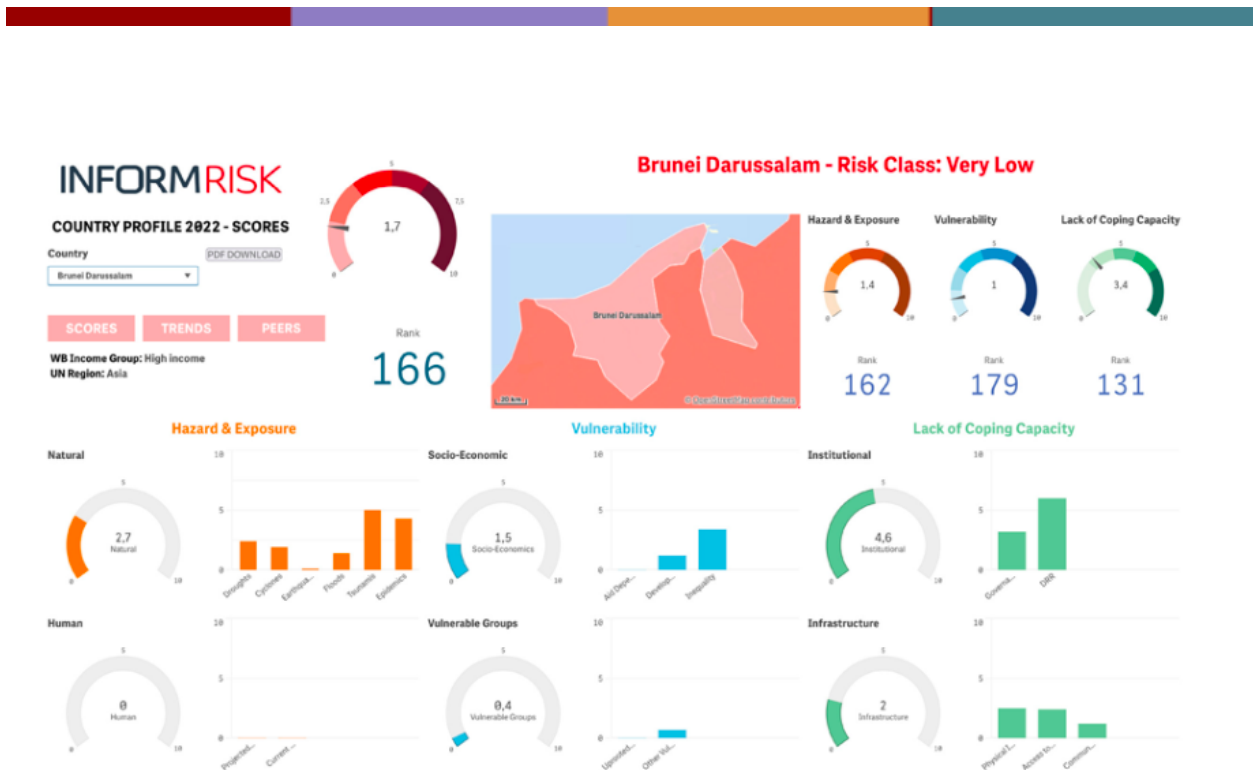


Figure 1: *INFORM Risk Index - Brunei Darussalam (2022)*

Disaster risk assessments in Brunei Darussalam have generally been non-comprehensive and siloed in nature with government agencies such as the Community Development Department under the Ministry of Culture, Youth and Sports, the Brunei Fire Rescue Department and the NDMC under the Ministry of Home Affairs, and the Public Works Department (PWD) under the Ministry of Development (MOD) conducting risk assessments for specific hazards. While the country has made some progress in identifying certain hazards such as flooding and landslides, there is still a need to conduct a comprehensive and integrated approach to disaster risk assessments.

However, since the enactment of the Disaster Management Order in 2006, the NDC through the NDMC has taken a two-pronged approach towards enhancing disaster response capacity with the formulation of the DMSPF for Disaster Risk Reduction and the National Standard Operating Procedure (NaSOP) for a response. DMSPF is a comprehensive plan of action aimed at building the capacity of both government and non-government entities in promoting DRR while NaSOP outlines the agreed procedures that must be followed by all agencies involved i.e. District Disaster Management Committee, in disaster response. Through NaSOP, responses will be more coordinated and effective and as part of this continued effort, NaSOP is constantly revised with updates integrated into responder agencies' standard operating procedure (SOP) based on the result of NDMC-led tabletop and simulation exercises.

Brunei Darussalam recognizes the nation's vulnerability to the effects of climate change and is determined to take part in the climate emergency and strives to commit to the Paris Agreement. Effective national policies such as the Brunei Darussalam National Climate Change Policy, allow



the country to steer towards a more low-carbon economy and climate resilience pathway. The establishment of a multi-sectoral climate change institutional governance ensures a whole-of-nation approach toward addressing climate change at a national level.

C. Progress in Risk Governance and Management

The establishment of the NDC in 2006 formalizes disaster management in Brunei Darussalam.

Under the Disaster Management Order 2006, the Government of His Majesty The Sultan and Yang Di-Pertuan of Brunei Darussalam established the National Disaster Management Centre (NDMC) in 2006 which has allowed the government to institutionalize its national disaster management and implement disaster risk reduction initiatives. At the strategic level, the NDC, chaired by the Minister of Home Affairs and deputy-chaired by the Minister of Culture, Youth and Sports and Minister of Development, provides policy and strategic direction while at the operational level, the implementing authority would be the NDMC, serving as the national focal agency on matters pertaining to disaster management.

The Centre is responsible for overseeing all disaster management phases which include; Prevention & Mitigation, Preparedness, Response, and Recovery through a Whole-Of-Nation approach with close collaboration and coordination among government line ministries and authorities.

Further to that, Brunei Darussalam is also an active and integrated member of the Association of Southeast Asian Nations (ASEAN) which has developed mechanisms and tools to respond to disasters in a unified and coordinated way i.e. Bandar Seri Begawan Declaration on the Strategic and Holistic Initiative to Link ASEAN Responses to Emergencies and Disasters (ASEAN SHIELD) which is a strategic, holistic, cross-sectoral and coordinated approach across the three ASEAN Community Pillars, to ensure ASEAN's collective, rapid, effective and timely response in mitigating the impacts of different types of emergencies and disasters that have or may affect the Southeast Asian region, with a view to better protect the society, economy, and the broader developmental agenda;

During times of crisis, NDMC operates the Disaster Command Centre (DCC) which supports the operations, planning, and logistics for national-level emergencies. Brunei Darussalam practices a tiered system for national disaster management whereby there are three tiers to this each generating a different response from the Government. The three tiers are:

- Tier 1 (District Level) - Requires resources at the district level managed by the District Disaster Management Committee.
- Tier 2 (National Level) - Incident is beyond the capacity of the DDMC to manage, or if it affects two or more districts, requiring resources at the national level to respond. The



NDMC will assist the DDMC by coordinating and mobilizing national resources to assist in managing the situation.

- Tier 3 (International Level) - Resources and expertise at the national level are insufficient and assistance is required from other countries.

In 2020, Brunei's Nationally Determined Contribution (NDC) submission under Paris Agreement obligations committed the country to reduce GHG emissions by 20% compared to the business-as-usual scenario by 2030. The country has established multi-sectoral climate change institutional governance to address challenges and opportunities at a national level, consistent with its overall centralized administrative structure and economy. The climate change governance structure incorporates:

- The Brunei Darussalam National Council on Climate Change, which comprises four key ministers from the Ministry of Development, the Prime Minister's Office, the Ministry of Primary Resources and Tourism, and the Ministry of Transport and Info-Communications (MTIC)
- The Executive Committee on Climate Change, composed of Permanent Secretaries of key government agencies, Chief Executive Officers and Managing Directors of industry operators, Presidents of professional associations, academia, and NGOs to drive national climate mitigation and adaptation
- Working groups such as the Electric Vehicle Joint Task Force, Adaptation and Resilience Working Group, and Industrial Emission Working Group respectively consist of members from the private and public sectors, NGOs, and academic institutions to execute climate action in each respective area.

D. Progress in Investment in Risk Reduction and Resilience

Extensive financial provisions have been made to innovate NDMC's approach through the formulation of implementing the Sendai Framework priorities and pillars, including the development of youth and communities in disaster. Disaster funds under the Disaster Management provisions are allocated under the Ministry of Finance and Economy (MOFE) which are available to use to mitigate the impacts of natural disasters such as floods. Although Brunei Darussalam does not experience major disasters, the Government recognizes the need to reduce the impacts and lower the risk to the vulnerable people and ensure their daily life is not affected. At the same time, NDMC's disaster preparedness which involves disaster awareness programs such as School-Based Disaster Risk Management (SBDRM), Community-Based Disaster Risk Management (CBDRM), and Disaster Preparedness Coordinator (DPC), as well as stockpiling of logistical equipment for disaster response operations, are directly available under the Ministry of Home Affairs (MOHA) budget.

Further to this, the government budget tabled for the fiscal year 2023/2024 has been approved in the latest legislative council whereby BND 976 thousand are allocated to address the



administrative, planning analysis and operation of natural disaster risks while BND25 million were allocated under the Disaster Management Provisions.

Although community participation and decentralization funds are available for local organizations, preference is still given to funding response, mitigation, and adaptation projects. Recently, MOFE has approved an \$18,800,000.00 budget under the Disaster Management provisions which allows for kickstarting the project to upgrade the roads that were affected by floods in Tutong and Belait District. This project was spearheaded by the Minister of Home Affairs (MOHA) in his capacity as the Chair of the NDC with collaboration from the PWD under the MOD.

Following this, the PWD is responsible for implementing annual mitigation projects to reduce the impact of disasters on the community, environment, and public infrastructure. These projects involve structural and non-structural measures to protect buildings, roads, and other critical infrastructure, mainly natural hazards such as floods and landslides.

One of the main annual mitigation projects undertaken by the PWD is the construction and maintenance of river embankments particularly in the Tutong District to prevent flooding. The PWD also conducts regular maintenance of existing embankments throughout the nation to ensure their effectiveness in containing water during heavy rainfall.

The PWD also implements landslide mitigation projects such as the installation of retaining walls and slope stabilization measures to prevent soil erosion and landslides. In addition, the PWD conducts regular inspections of roads, bridges, and other infrastructure to ensure they are safe and resilient to disasters including working with the Department of Environment, Parks and Recreation (DEPR) and the District Offices and Municipal Departments to tree trimming to prevent hazards for road users.

The Department of Electrical Services (DES) at the Prime Minister's Office (PMO) has undertaken significant efforts to raise substations above flood levels across the nation. This is crucial in ensuring that electrical infrastructure remains functional in times of disasters which may cause widespread power outages and disrupt essential services. The projects involve elevating existing substations and constructing newer substations on elevated platforms to prevent floodwaters from entering the electrical equipment. These projects were coordinated with relevant government agencies such as the PWD and the DEPR to ensure elevated substations comply with environmental and building regulations. Among others, there have been ongoing initiatives by DES to reduce the impact of power supply interruption caused by fallen trees during active weather conditions such as the replacement of bare conductor overhead cables to aerial bundled cables to increase reliability, which is conducted in phases, covering all networks nationwide. Besides that, there are also installations of underground cables to replace the overhead cable, where applicable. These efforts are part of a broader



strategy to enhance the country's resilience to natural hazards and ensure that essential services remain operational.

E. Progress in Disaster Preparedness, Response and 'Build Back Better'

Under Brunei's Whole-of-Nation approach, there is a close collaboration and coordination among government line ministries, security authorities i.e. Royal Brunei Armed Forces (RBAF) as well as Civil-Society Organizations and other stakeholders i.e. Brunei Red Crescent Society towards strengthening preparedness and enhancing disaster response. This collaboration is closely coordinated through the NDMC, which enables the exchange of information, often in the form of reports distributed to relevant agencies or information exchange during the NDC meetings.

An integral part of NDMC's core priority includes carrying out disaster awareness programs as part of the increasing public disaster preparedness side which allows them to take ownership of disaster management at the community level. Numerous programs have been introduced over the years in line with the principles of understanding disaster risk as well as educating them on taking the right action before, during, and after disaster strikes. The involvement of the public, especially those in the areas identified as being at high risk and vulnerable to floods, can act as a disseminator of information and danger warnings, coordinators of aid in the field, sharing sources of the latest reports on the situation to NDMC and DDMC.

Since 2010, the NDMC has initiated the Community-Based Disaster Risk Management (CBDRM) and School-Based Disaster Risk Management (SBDRM) Programmes. The CBDRM program aims to strengthen the resilience of communities to disasters by increasing their awareness, knowledge, and skills in disaster risk reduction. The program involves capacity building, community awareness-raising, and strengthening the capacity of local disaster management committees. The program also emphasizes the importance of community participation and ownership in disaster risk reduction.

The SBDRM program focuses on promoting a culture of disaster preparedness and response in schools. The program aims to enhance the capacity of school staff and students to respond to disasters by providing them with knowledge, skills, and resources. The program involves developing disaster preparedness plans, conducting drills and exercises, and promoting awareness-raising activities among students and staff.

The Government also recognizes the importance of the role of the public in involving them as part of disaster management. NDMC with the support from the DDMC has introduced the Disaster Preparedness Coordinator (DPC) Course since 2019. The DPC Course aims to identify residents and grassroots leaders to assist the NDMC and the District Offices in disaster management activities throughout the four phases of the disaster management cycle. Since its introduction, there are a total of 118 DPC Members assisting the NDMC and DDMC throughout the four districts.



Furthermore, to identify potential participants of the DPC Program, the NDMC introduced the Basic Disaster Preparedness Coordinator (Basic DPC) Course in 2023. The Basic DPC Course aims to expose youths to the DPC Course and familiarize and highlight the youth's role in disaster management. Participants of the Basic DPC Course who have the potential and commitment may then proceed to the DPC Course. The Basic DPC Course aims to become an annual program with the first Basic DPC Course taking place in January 2023 whereby a total of 541 participants of the 11th Intake of the National Service Program completed the three-day Program.

The NDMC frequently hosts and conducts working and educational visits and is invited to conduct roadshows and public awareness programs from various institutes ranging from grassroots leaders, Secondary Schools, Universities such as Universiti Islam Sultan Sharif Ali (UNISSA), Staff Courses from the RBAF, the National Service Programmes, Personnel from the Emergency Medical Ambulance Services (EMAS), BRC, as well as agencies from the Private Sector including the Oil and Gas Industry and Non-Governmental Organizations. These engagements with stakeholders are essential and by involving and socializing the roles of different stakeholders in disaster management, it becomes possible to develop a comprehensive understanding of the risks and challenges associated with numerous disasters and to devise effective strategies for managing them and that all aspects of society are adequately prepared for disasters which ultimately helps to build resilience, reduce risks and vulnerabilities, and promote a more effective and coordinated response to disasters.

In addition, the Government of Brunei Darussalam, in collaboration with Canadian Aviation Electronics (CAE) Inc., has organized several training programs under the Brunei Public Safety, Health, and Security Training Service project at the CAE Brunei Multi-Purpose Training Centre (CAE Brunei MPTC) since September 2017, after the contract between the Ministry of Finance and Economy and CAE-Brunei Sdn Bhd was approved and signed. The training programs aim to create and enhance understanding of disaster management, including initiatives that can be implemented by grassroots and communities in managing disasters, in addition to supporting the goals of Brunei Vision 2035, which include an educated, highly skilled, and successful population, a high quality of life, and a dynamic and resilient economy. A total of 19 courses are being offered over eight years and conducted according to the Training Plan schedule prepared by CAE-Brunei MPTC and the NDMC. A total of 76 government and non-government agencies have been invited to attend the courses offered since 2017. In 2022 alone, 72 courses were conducted with a total of 1,040 participants, achieving 86.7% of the target KPI of 1,200 participants per year. Since September 2017, the NDMC has trained a total of 7,033 participants in Public Safety, Health, and Security courses at the CAE Brunei Multi-Purpose Training Centre through on-site and online training, with more courses to be offered in the coming years.

In improving the responders' preparedness in the face of disasters, NDMC actively coordinates, facilitates, and participates in tabletop, command-post, and field exercises with relevant



agencies to test the capacity of the responders during disaster management operations. Among other things, the purpose of the training is to test the elements and existing SOPs under the National Standard Operating Procedures (NaSOP). To enhance disaster response capabilities, the Ministry of Home Affairs and NDMC conducted a tabletop exercise (TTX) on 28th February 2023. The TTX aimed to identify the capabilities of each responding agency under the District Disaster Management Committee (DDMC) and their respective assets, to effectively respond to emergencies. The exercise highlighted the need to utilize technology such as early warning systems and monitoring systems to initiate timely and appropriate response measures whilst the use of drones and robotics when complemented with remote sensing tools can provide real-time data on the extent and severity of disasters to conduct damage assessment and assist agencies to make informed decisions on resource allocation and response measures. These findings highlight the need for strategic infrastructure investments to mitigate potential disaster risks.

In this regard, the NDMC plays an active role in developing and reviewing SOPs in collaboration with a range of stakeholders. In 2021, the NDC endorsed the NDMC-led Tremor, Earthquake, and Tsunami Response Plan, the response plan serves as a guideline for Brunei Darussalam to address the risks and impacts which may result from tremors, earthquakes, and tsunamis and outlines the actions taken at the strategic and operational level in the phases before, during and after such incidents. To test and review this, the NDMC collaborated with the Brunei National Seismic Centre (BNSC) and the BDMD to conduct a national table-top exercise in March 2022 which was attended by stakeholders from the Public Sector and Private Sector and assisted to create the second version of the response plan.

Following this, the NDMC has established numerous other SOPs including the development of the Temporary Evacuation Centre SOP with assistance from the District Offices and the Community Development Department in October 2022. As of November 2022, the first draft of the SOP has been circulated to main stakeholders for inputs and comments which would then be finalized and tested during a National table-top exercise in 2023. The Temporary Evacuation Centre SOP is another indication to improve the preparedness and readiness of agencies in times of crises requiring mass evacuation of affected communities and the activation of temporary evacuation centers. The SOP also ensures that the welfare of affected communities is considered where gender and social inclusion is a major factor implemented within the SOP thus aligning national policies and documents with regional work plans and frameworks such as the ASEAN Regional Framework on Protection, Gender and Inclusion launched in 2021 which is critical to building a resilient and inclusive ASEAN.

In an effort to enhance the management of flooding and ensure logistical and manpower allocations are effective and timely, the NDMC, District Offices and BFRD have also drafted the Incident Command Post (ICP) Activation Plan in November 2022. The Plan aims to serve as a guideline for the DDMC in implementing necessary actions in accordance to trigger points activating the ICP during flooding events. The Plan is a living document which can be amended and improved upon as and when required during emergency situations.



Brunei Darussalam also recognizes that disasters can occur not only from natural hazards but also from man-made hazards such as industrial accidents and transportation accidents. In response to this, the country has implemented measures to prepare for and respond to such events. Among the exercises conducted by the nation to enhance the stakeholders capacity to respond to non-natural disasters include the development and testing of the Liang Lumut Industrial Area Integrated Emergency Response Plan (LLIA-IERP) conducted in November 2022 and March 2023 led by the LLIA Committee comprising of Major Oil and Gas Companies operating within the Liang Lumut Industrial Area. The Liang Lumut Industrial Area is a major industrial area located within the Belait district. It covers an area of approximately 500 hectares and is home to a wide range of industries, such as, but not limited to oil and gas production, petrochemicals, and manufacturing. Among the oil and gas companies operating within the area includes Brunei LNG Sdn Bhd (BLNG), Brunei Methanol Company (BMC), Brunei Fertilizer Industries (BFI), ~~Advance~~ Advanced Hydrogen Energy Chain Association for Technology Development and Total Energies Brunei B.V.. Due to the concentration of major oil and gas stakeholders in the area, the development and conduct of the LLIA-IERP is vital in ensuring all emergency scenarios which could potentially occur have been identified and that stakeholders understand the importance of having a unified and structured command when it comes to the coordination and response during emergency situations. Furthermore, shared assets can be identified between relevant stakeholders in order to enhance and support integrated response and share responsibility and resources during a major accident emergency occurring in the Liang Lumut Industrial Area. Additionally, emergency exercises have also been conducted at the Pulau Muara Besar as part of the effort to enhance the capacity of stakeholders in responding to non-natural disasters. Based on information received from Hengyi Industries Sdn Bhd (HYBN), six emergency exercises have been conducted to date, covering both desktop and field exercises. Another exercise (NAGA-7) has been planned for this year which is tentatively scheduled in September 2023. (insert table? - Lampiran A page 1)

To further enhance the capabilities of stakeholders in responding to non-natural disasters, the National Oil Spill Contingency Plan (NOSCOP) Tier 3 TTX exercise was jointly-conducted in 2022 lead by the Maritime and Port Authority of Brunei Darussalam (MPABD) and the Brunei Shell Petroleum (BSP) with participation from the relevant government agencies and the private sectors. The Tier 3 TTX is continuation from the Tier 3 exercise conducted in 2020 which focused on the reactive stage, or phase 1 of an oil spill in line with the NOSCOP. To test the effectiveness of the NOSCOP in responding to a Tier 3 oil spill, participants had to respond to an oil spill with an affected leakage area of 1464 cubic meters just off the coast of Brunei Darussalam. The TTX sought to strengthen BSP's collaboration with the Government of Brunei Darussalam to respond effectively to any oil spill incident.

Furthermore, Brunei Darussalam has also enhanced preparedness to respond to transportation accidents including civil aircraft incidents/accidents within the Brunei Darussalam International Airport perimeter. In November 2022, the Airport Emergency Plan (AEP) TTX led by the



Department of Civil Aviation (DCA) was conducted aiming to review the AEP and the responses taken by stakeholders in responding a civil aircraft incident/ accident within the Brunei International Airport perimeter. The TTX was participated by relevant stakeholders within the government, the private sectors including Government-Linked Companies and NGOs in order to familiarize agencies on the AEP and the roles and responsibilities of each agency during a civil aircraft incident/ accident situation where timely and effective decision-making and response is required. The TTX focussed on relevant aspects when responding to a civil aircraft incident/ accident within the Brunei Darussalam International Airport perimeter including Fire-Fighting and Rescue at crash site, casualty management, investigation management, aircraft recovery /wreckage salvage, business continuity, conduct of press conference, facilitation of survivors and next-of-kin.

Moreover, The Ministry of Transport and Info-Communications (MTIC) has also set up an independent and permanent transport safety investigation body under the purview of MTIC named Transport Safety Office (TSO) for public transportation, primarily on civil aviation and marine as well as cross border public transport. The fundamental objective of TSO is to prevent recurrence of accidents or serious incidents through implementing safety recommendations in compliance with standards and requirements by International Civil Aviation Organization (ICAO) and International Maritime Organization (IMO).

Overall, Brunei Darussalam recognizes the importance of disaster preparedness and response in the face of both natural and man-made hazards and has made significant progress in ensuring the nation is well prepared for such incidents. The country's proactive approach in disaster management to establish a coordinated and effective disaster management system underscores its commitment to safeguarding the well-being and safety of its citizens and residents.

The concept of "Build Back Better" is a critical component within disaster management strategies, recognizing that disasters may exacerbate existing vulnerabilities. Through collaboration between government agencies, NGOs, the private sector, and local communities, Brunei Darussalam has made significant strides in Post-Disaster Recovery focusing on creating more resilient and sustainable infrastructure and systems. The national house schemes in the Kampung Ayer Village - Kampong Bolkiah 'A' and Kampong Bolkiah 'B' with a total population of 2,143 residents as well as the new Kampong Ayer houses under the Kampong Ayer Revitalisation Projects, are examples of the "built back better" approach to disaster recovery and reconstruction. This approach involves rebuilding communities and infrastructure in a way that takes into account the lessons learned from past disasters, and aims to improve their resilience to future disasters. In the case of Brunei, this approach has been applied to housing projects that were damaged or destroyed by disasters, such as floods and fires. Similarly, The long houses in Kampung Apak-Apak and Melilas in the Belait District are examples of relocation and the use of better materials to rebuild. These traditional long houses were rebuilt using more durable and fire-resistant materials, such as concrete and steel. This has reduced the risk of fire damage and improved the safety and resilience of the community.



Another example of the Brunei government's commitment to public safety is the Building Control Order 2014 by the Ministry of Development (MOD). The scheme which regulates building applications and permits is implemented by the Authority on Building Control and Construction Industry (ABCi). This mechanism ensures compliance with building codes and regulations to promote public and premise safety. It covers aspects such as building design, construction materials, safety features, universal access and energy efficiency.

Furthermore, in 2013, the Ministry of Education (MOE) established a Health, Safety and Environment (HSE) Division for the purpose of risk management planning in preparation for dealing with emergencies and disasters. Several initiatives have been successfully implemented by this division such as the development, publication and distribution of several SOPs serving as guidelines for dealing with disasters to government institutions and schools. The list of SOPs developed can be found in the table below:

No.	Name of SOP	Year Published
1	SOP for handling forest and bush fire incidents near areas of government institutions and schools all over Brunei Darussalam	2017
2	SOP for handling haze incidents at government institutions and schools all over Brunei Darussalam	2017
3	SOP for handling landslides at government institutions and schools all over Brunei Darussalam	2017
4	SOP for handling earthquakes at government institutions and schools all over Brunei Darussalam	2018
5	Health and Safety Protocol for the Reopening of Schools	2022

To reduce the risk of fire incidents, the Fire Safety Order 2016 Compliance Initiative for school buildings and departments in the MOE, in collaboration with the Brunei Fire and Rescue Department, Ministry of Home Affairs, was implemented beginning in 2019.

In addition, the MOE has conducted risk management courses for its staff in preparation for the possibility of an emergency situation. Among the courses conducted include risk management courses since 2021, HSE Course since 2016, Fire Marshall Course since 2019 and First Aiders Course since 2010. These courses provide valuable knowledge and skills to the ministry's staff, enabling them to identify potential hazards, assess risks and implement preventative measures to mitigate the impact of emergencies. By investing in the training of its staff, the MOE can create a safer and more secure learning environment for all its stakeholders.



In summary, these examples demonstrate how the "built back better" approach can be applied to disaster recovery and reconstruction efforts. By using more resilient materials and construction techniques, relocating communities to safer locations, and ensuring compliance with building codes and regulations, it is possible to improve the safety and resilience of communities and infrastructure to future disasters.

Early Warning

Weather-related events such as strong winds and heavy rainfall pose serious threats to the public and damage infrastructure. Fallen trees and blown rooftops can cause damage to homes, buildings, and roads leading to damage to infrastructure and potential injury or loss of life. Flash floods can occur rapidly with little to no warning causing damage to homes, and roadways and creating dangerous conditions for road users. Such weather-related events may also disrupt transportation and communication systems and hinder emergency response efforts. To enhance public safety through the dissemination of public early warnings, the Ministry of Transport and Info-Communications (MTIC) through the Brunei Darussalam Meteorological Department (BDMD) is currently upgrading their mobile application, Brunei WX with more features added including animated weather radar imageries which can show locations, intensity, and movement of rainfall affecting the country. These animated weather radar imageries can assist the relevant agencies and the general public to identify areas that are being affected as well as areas that will be affected for early precautionary actions.

Early Warning System (EWS) and public alerts remain at their infancy stage of development with public agencies having begun to incorporate systems into part of the management tools. The flood monitoring system owned by the Department of Drainage Services with the use of IoTs has significant success in monitoring river water level and flow rate in two river captures. The same agencies also install rain gauges statewide to monitor rainfalls in monitoring stations which will send alerts to the center of abnormally high threshold readings. Such information is relayed to responding agencies as and when needed via the traditional voice call. The seismic unit monitors any ground movement, especially earthquakes and tremors. Information is relayed to agencies via text or voice call or at least the unit can confirm and verify if there were any incidents recorded. Whereas, since Brunei Darussalam experiences mostly climatological events all year round, NDMC relies on a significant amount of information from the Meteorological Department concerning weather activity and forecasts. Public alerts are issued instantly via emails, weather mobile applications, and texts to stakeholders (agencies) for any preparatory or anticipatory action is needed such as informing the community.

These are some of the systems which data NDMC potentially can harvest electronically and develop into a centralized capture to generate a useful disaster management tool, especially for coordination amongst agencies. Currently, these systems remain decentralized and closed. The potential to integrate them with other existing systems such as BruHealth, National registration, land transport system, and others is substantial to benefit disaster management. There are plans to develop a crowdsourcing application that encourages citizen participation as well as a



multiagency national emergency response system that features caller-aided dispatch with geospatial information as one of the many system capabilities, which is yet to materialize.

In regards to Build Back Better on Post-COVID-19 Recovery, the COVID-19 pandemic has disrupted efforts to achieve the 2030 Agenda for Sustainable Development, negatively impacting health, the economy, and society, particularly vulnerable populations. However, during the 2020 High-Level Political Forum, member states were made aware of the potential to strengthen collaboration and global solidarity to address shared challenges and accelerate to “Build Back Better.” Where the measures undertaken are focused on four main areas: (i) Maintaining the well-being of the public; (ii) a National vaccination program; (iii) social protection and support for the most vulnerable; and (iv) economic recovery and building resilience.

1. Maintaining the well-being of the public

1.1 High Quality and comprehensive healthcare system - Brunei Darussalam strives to ensure that the healthcare system is of high quality and comprehensive so that it will be able to respond effectively and efficiently.

1.2 Public Services continue through the implementation of a Business Continuity Plan (BCP) at the workplace. This is to minimize disruptions in service delivery and to ensure essential services are still operational even during the outbreak, business continuity plans were out in place.

1.3 Travel Restrictions via land, air, and sea have also been strictly regulated by the relevant agencies and as a result, application guidelines for all citizens and permanent residents excluding essential travel were introduced.

1.4 United in Assistance - His Majesty the Sultan and Yang Di-Pertuan of Brunei Darussalam consented for the Government to establish a COVID-19 Relief Fund to enable the general public to make contributions to help deal with the spread of COVID-19.

1.5 Alternative service delivery and digitalization of government services - The COVID-19 pandemic has accelerated the provision of alternative service delivery and the digitization of government services. Amongst some of the efforts that were put in place were drive-through payment services for pensions, disbursement of payments through digital platforms, and additional services which allow government agencies to make necessary payments through online platforms.

2. National Vaccination Programme

The Government of His Majesty The Sultan and Yang Di-Pertuan of Brunei Darussalam has developed a vaccination strategy for the citizens and residents of Brunei Darussalam. The MOH



highlighted that vaccination is the most effective measure to break the COVID-19 transmission chain. Consequently, the more people receive the COVID-19 vaccination, the higher the people's immunity will be against COVID-19, including a lower risk of the effects of coronavirus on public health.

3. Social Protection and Support For the Most Vulnerable

Brunei Darussalam places great importance in caring for the well-being and welfare of its people and continues to exert efforts to eradicate poverty in all its forms. Towards this, the National Council on Social Issues (MKIS), established in 2008, is mandated to address challenges arising from these efforts. This Council is chaired by the Ministry of Culture, Youth and Sports (MCYS) and its members include the Prime Minister's Office (PMO); Ministry of Finance and Economy (MOFE); Ministry of Home Affairs (MOHA); Ministry of Religious Affairs (MORA); Ministry of Education (MOE) and Sultan Haji Hassanal Bolkiah Foundation (YSHHB), a non-governmental organization (NGO).

3.1 During the COVID-19 pandemic, the government of Brunei Darussalam through the Community Development Department, Ministry of Culture, Youths and Sports have also distributed food rations to individuals undergoing home quarantine order since August 2021 until November 2022 with a total distribution of 101, 232 houses/ 430,190 individuals.

4. Economic Recovery and Building Resilience.

The COVID-19 pandemic has had adverse effects on businesses and individuals in Brunei Darussalam. To mitigate these impacts, and to enable swift economic recovery, the Government has taken several interim measures:

4.1 To assist the private sector, particularly Micro, Small and Medium Enterprises (MSMEs), and ensure their operational viability:

- A six-month deferment on employers' contributions to Employees Trust Fund (TAP) and Supplemental Contributory Pensions (SCP) for private sector employees earning B\$1,500 per month and below in all sectors under the MSMEs category. Contributions by companies will be paid in advance by the Government to ensure that the annual dividend payments to employees in the private sector will not be affected.
- The Government will finance the SCP contributions for those registered as self-employed within the stated period, to ensure that they will have ongoing Survivorship Fund protection.
- Provision of:
 - 30% discount for six months on rental rates of government buildings for MSMEs in the targeted sectors such as tourism, hospitality (including hotels and lodging houses), restaurants and cafes, as well as air passenger and water passenger transportation.
 - 15% discount for six months on electricity and water bills for businesses in the targeted sectors.

- 50% tax discount for six months on corporate income tax for the year of assessment 2020 for the targeted sectors.
 - 25% salary subsidy to local employees of MSMEs for a period of three months, for B\$1,500 and below, and who contribute to the TAP.
- Temporary exemption of custom and excise duties on Personal Hygiene products, to assist businesses and consumers with the increasing demand related to health products.
- Removal of rental charges for wet and dry markets that are provided by the Ministry of Home Affairs for a period of six months.
- Help for MSMEs through participation on e-platforms for more effective business matching to help merchants market their goods online through the platform www.ekadaibrunei.bn. This measure is intended to assist and provide opportunities and incentives for traders to use e-platforms to operate and maintain their business more efficiently and competitively.
- 'Community for Brunei' – a Corporate Social Responsibility initiative by Bank Islam Brunei Darussalam (BIBD), a virtual marketplace designed to help small businesses, whilst highlighting different social and charitable causes important to the heart of Brunei Darussalam.
- 'Buy Local Produce Campaign' – following the temporary closure of a number of markets in the Tutong and Belait Districts as part of measures to curb the spread of COVID-19 in the country, this initiative is to ensure the income of local market vendors and farmers continue to be secure and unaffected by the temporary closure. It will also help to ensure price stability for agricultural produce and encourage planting of agricultural produce in a continuous manner.
- Darussalam Enterprise (DARe) will also increase the grant amount to further expand the Co-Matching Grants initiative, which will assist businesses to improve and better prepare for current and future situations.
- To ensure that there are no disruptions to the supply and goods required, Brunei Darussalam is cooperating with Sarawak, Malaysia to allow companies to enter the country through land checkpoints for the purpose of trade or delivery of products. This also applies to companies from Sarawak, Malaysia that have to cross Brunei Darussalam's borders.

F. Collaboration, Partnership and Cooperation

National

The Brunei Darussalam disaster management arrangements are based on commitments by a range of stakeholders which include the District Disaster Management Committee (DDMC). DDMC will coordinate support in areas more relevant to affected district administrative boundaries. The DDMC comprises the Chairperson, who is the District Officer, the Deputy Chairperson (also the Assistant District Officer), and heads of government agencies that provide functional and hazard-specific services in that disaster district.



District Offices have a key role in identifying and understanding the credible hazards and risks that could impact the safety and sustainability of their communities. Their role is to put in place mitigation, preparation, response, and recovery strategies and arrangements, within the capability of their resources and responsibility.

This is achieved through the development of district disaster management plans that enhance their community's preparedness to manage the consequences of a disaster and provide a vital link to individuals, voluntary organizations, and community organizations that are integral to the execution of disaster management strategies. District-level capability is recognized as the frontline of disaster management and is supported by the levels of government above.

The NDMC and the DDMC maintain close partnership arrangements with a range of volunteer organizations for their involvement in disaster management. Other non-government organizations such as Brunei Darussalam Red Crescent Association and local community volunteer groups contribute significantly to the provision of welfare support services during the response and recovery phases of disaster management. The contribution of all these organizations is coordinated within the established disaster management framework.

Several actions can be taken by local communities and individuals to become more resilient, and in particular, they should be empowered to take responsibility for their risks by having the relevant knowledge, skills, and abilities to make informed decisions to take action. They can also provide active support for government and community efforts to minimize the possible consequences of disasters, such as natural hazard risk reduction measures as well as provide a culture of support and recognition for volunteers.

There is also a synergy created between various government agencies through the Whole-Of-Nation approach which allows synergy between relevant government bodies to collaborate and streamline the nation's effort in pursuit of more disaster resilience such as the Brunei Darussalam National Council on Climate Change focusing on Climate Change Adaptation while the National Disaster Council looks into adopting on Disaster Risk Reduction.

The NDMC has the opportunity to leverage existing arrangements, such as the CCA funds provided by local financial institutions, to facilitate community programs focused on disaster training. This strategic partnership and collaboration have the potential to generate a positive impact on disaster risk reduction. Additionally, there are established mechanisms for providing relief funds to emergency and disaster victims from public and corporate entities such as the Ministry of Culture, Youth and Sports, the Islamic Religious Council Brunei (MUIB), and Yayasan Sultan Haji Hassanal Bolkiah, among others. These funds have established criteria to streamline the disbursement process. The Government of Brunei Darussalam has also initiated donation drives, such as the COVID-19 national fund that collected cash and in-kind donations to assist the Government of Brunei Darussalam during the pandemic, to alleviate the pressure on public funds.



Regional and International

On the regional and international level, the ASEAN Agreement on Disaster Management and Emergency Response (AADMER) signed by the ASEAN member states in 2005 and ratified in 2009 is a binding agreement and the backbone for ASEAN setting foundations in disaster management. The AADMER is an important framework that complements the efforts of the ASEAN Committee on Disaster Management (ACDM) and the ASEAN Ministerial Meeting on Disaster Management (AMMDM) to enhance regional cooperation in disaster management. The agreement provides a common platform for ASEAN member states to collaborate on disaster risk reduction, preparedness, response, and recovery.

In addition to the AADMER, the ASEAN Vision 2025 on Disaster Management is another key framework that guides the region's disaster management efforts. The Vision seeks to create a "resilient ASEAN" by enhancing disaster preparedness and response, promoting disaster risk reduction and resilience, and strengthening regional cooperation and partnerships.

The ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre), an intergovernmental organisation established in 2011 is based in Jakarta, also plays a crucial role in implementing the agreement by providing technical and operational support to ASEAN member states during disaster response and recovery efforts with partners including international organisations, civil society organisations such as the Red Cross and Red Crescent Movement, the United Nations and the AADMER Partnership Group. Furthermore, the ASEAN Declaration on One ASEAN, One Response (OAOR) signed in 2016 further recognises the AADMER as the main regional policy backbone and common platform for ASEAN to respond as One in the region and outside the region and reaffirms the AHA Centre as the primary regional coordinating agency on disaster management and emergency response. The Director of NDMC serves as a Member to the ACDM and a Governing Board Member to the AHA Centre, and the NDMC is Brunei's national focal point for ASEAN disaster management coordination. NDMC's DCC is linked with the AHA Centre operations center to facilitate cooperation and coordination among ASEAN member-states and relevant UN Agencies and international organizations engaged in disaster response and giving early warning.

The NDMC is Brunei's focal point in the ACDM, which is composed of the heads of national agencies responsible for disaster management in the ASEAN Member States. The NDMC also actively cooperates with other regional centers such as the Asian Disaster Reduction Center (ADRC), the Asia Disaster Preparedness Center, the Pacific Tsunami Warning Center (PTWC), and the Pacific Disaster Center (PDC). Finally, the NDMC is an active participant in UN bodies such as the UN Office for Disaster Risk Reduction (UNDRR) and the UN Office for the Coordination of Humanitarian Affairs (UN OCHA).



During a major national emergency, the NDC is activated, and the NDMC can request assistance through the AHA Centre, following precise communication and coordination protocols defined in ASEAN's Standard Operating Procedure for Regional Standby Arrangements and Coordination of Joint Disaster Relief and Emergency Response Operations (SASOP). With SASOP, the ASEAN Agreement on Disaster Management and Emergency Response (AADMER) sanctions the AHA Centre, using the ASEAN Joint Disaster Response Plan (AJDRP), to mobilize standby assets and personnel. This might include sending relief items through the Disaster Emergency Logistic System for ASEAN (DELSA) and deploying the ASEAN Emergency Response and Assessment Team (ASEAN-ERAT) and mobilization of Emergency Medical Teams (EMTs). ASEAN counterparts will be the first line of international outreach in case of emergency. NDMC's DCC is linked with the AHA Centre to facilitate cooperation and coordination among ASEAN member-states and relevant UN agencies and international organizations engaged in both early warning and disaster response.

Brunei Darussalam has actively provided aid to different nations. In April 2021, the country donated 25 housing units and a mosque to Palu City, Central Sulawesi, Indonesia, as part of the second phase (Phase 2) of the ASEAN Village project. Additionally, the people of Brunei Darussalam funded 31 housing units under the project's first phase (Phase 1), which was delivered on April 16, 2020.

Overall, the people of Brunei Darussalam have contributed a total of 56 housing units and a mosque that can accommodate up to 200 people for the ASEAN Village Project. The funding for this project was collected through the Sulawesi Disaster Humanitarian Fund, which received donations from the people and residents of Brunei Darussalam. This highlights the concern and sense of solidarity that the people of Brunei Darussalam have for those affected by the earthquake and tsunami in Central Sulawesi that occurred in September 2018. The contribution from Brunei Darussalam towards the ASEAN Village Project marked a historic milestone in Post-Disaster Recovery in ASEAN, as it was the first time that contributions from a Member State came exclusively from the public and community.

G. Progress in achieving the Targets of the Sendai Framework

One of the targets under the SFDRR 2015-2030 is; *Substantially reduce global disaster mortality by 2030, aiming to lower the average per 100,000 global mortality between 2020-2030 compared to 2005- 2015*, Brunei Darussalam has reported zero death for the last 14 years since the last two casualties in 2009 due to flooding and landslides where 145.8 mm of rainfall was recorded for 24 hours on January 2009.

Similar to the impact experienced by other countries worldwide, the COVID-19 pandemic had a severe impact on the livelihoods of communities in Brunei Darussalam. As shown in the graph below, the number of deaths due to COVID-19 in Brunei Darussalam was significant.

Brunei Darussalam Situation

279,661

confirmed cases

150

deaths

Source: World Health Organization
Data may be incomplete for the current day or week.

IV. Contextual shifts, new and emerging issues and challenges

A. Context Shifts and New Issues - Retrospective 2015 - 2022

COVID-19 Pandemic

Brunei Darussalam was one of few countries to have early success in holding off significant numbers of COVID-19 cases in the country for a long period. The National Vaccination Program for COVID-19 commenced on 3 April 2021 and was implemented in phases as outlined in the National Vaccination Program. The first phase started with front-line healthcare and uniformed personnel, senior citizens, and students studying abroad. The second phase covered childcare workers, adults with co-morbidities, and teachers. The third phase included the general public aged 18 years and older. The COVID-19 vaccine was provided free to citizens and residents. Vaccines available in Brunei include Sinopharm, Oxford- AstraZeneca, Moderna, and Pfizer-BioNTech.³⁵⁴ Brunei procured the various vaccines through bilateral and multilateral arrangements.

The Ministry of Health led the official oversight of the COVID-19 response, but the MOHEOC managed day-to-day issues with ad hoc support from other agencies. In the first several months of the pandemic, the Government pursued an aggressive strategy of restrictive measures that amounted to some of the toughest in Southeast Asia. Starting in January 2020, officials restricted travel from China. In February, authorities started screenings at all ports of entry, and Royal Brunei Airlines stopped flights to/from Changsha, Haikou, Hangzhou, Nanning, and Shanghai and reduced flights to/from Beijing and Hong Kong.

Following the first COVID-19 case in the country on 9 March 2020, the MOH announced on 17 March that anyone arriving in Brunei, including returning Bruneian citizens, was required to self-isolate for two weeks or face a penalty of "imprisonment up to a period of 6 months, or a fine up to \$10,000, or both." On 15 March, Brunei citizens and foreigners were banned from

leaving the country, and on 23 March, all foreign arrivals were blocked, and restaurants were closed. Mosques were closed for a week and sanitized, and mass gatherings such as weddings were limited. The MOH's informational campaign included a website dedicated to informing the population about the pandemic, with a section aimed at dispelling misconceptions about COVID-19 that were proliferating on social media. Most schools partially reopened in June 2020. Lockdown measures were applied over different periods and in varying degrees to schools and workplaces, and there were some stay-at-home orders. COVID-19 did not start significantly spreading in the country until the end of 2021.

On 25 October 2021, the COVID-19 Steering Committee announced the National COVID-19 Recovery Framework, which has the goal of transitioning to an endemic phase of living with COVID-19 with minimal disruptions to day-to-day activities. Figure 2 below shows Brunei's National COVID-19 Recovery Framework.

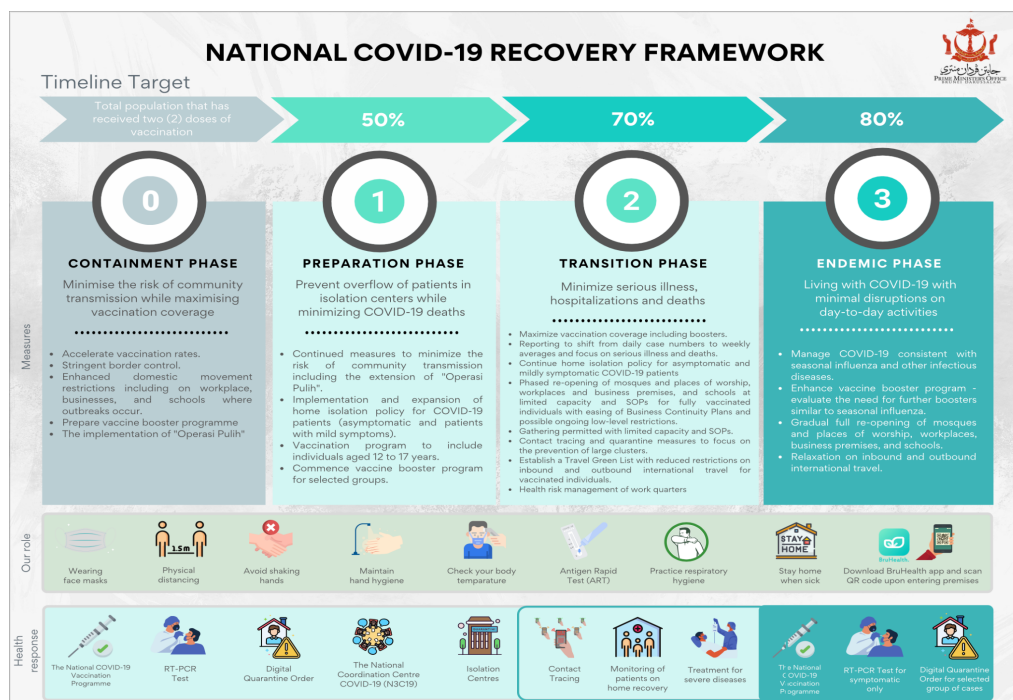


Figure 2: Brunei Darussalam National COVID-19 Recovery Framework

B. Emerging Issues and Future Contexts - Prospective (to 2030 and beyond)

Climate change has exacerbated the impact of natural disasters and incidents, causing an increase in frequency and severity that extends beyond response capabilities. In response to these emerging threats, Brunei Darussalam has taken steps and measures to address this evolving disaster landscape.

Furthermore, sea level rise is a significant concern for Brunei Darussalam, particularly for the Belait District, which is home to the country's oil and gas industry. The Belait District is located



on the western coast of the country and is vulnerable to the effects of sea-level rise due to its low-lying terrain. As sea levels continue to rise, the district is likely to experience increased flooding, coastal erosion, and saltwater intrusion into the water supply, which could threaten the stability of the local economy and the well-being of its residents. At the moment, the Government, through the National Climate Change Council, is in progress of drafting a National Adaptation Plan which aims to reduce the country's vulnerability to the impacts of climate change by building adaptive capacity and resilience; integrate adaptation into new and existing national, sectoral and sub-national policies and programmes including development strategies, plans and budgets. This will hope to address long-term solutions to the extreme events that may affect Brunei Darussalam in the coming years as a result of climate change/

Equally important are the threats of pandemic and **public health emergencies** as shown during the COVID-19 pandemic which has significantly impacted the livelihoods and economy of the nation. This highlights the need for effective disaster preparedness and response, including ensuring the availability of medical supplies and equipment and developing contingency plans for pandemics and other public health emergencies.

Addressing these emerging issues and future contexts will require a comprehensive and integrated approach to disaster management, including strengthening coordination and partnerships among relevant stakeholders, investing in early warning systems, and promoting sustainable development practices.



C. Key Challenges emerging in Brunei Darussalam addressed through the Sendai Framework's midterm review process.

While Brunei Darussalam is still working towards meeting the reporting requirements of the UNDRR's Sendai Framework Monitoring (SFM) online tool focussing on target A-D and target F-G, progress has been hindered by a few challenges. These challenges include inconsistent definitions, no clear standard or data baseline, and difficulty in data sharing. Additionally, there is still a need for a comprehensive database and accurate estimation of damages and losses from disasters, which has impacted the accuracy of the data. Despite these challenges, Brunei Darussalam is committed to improving its reporting and addressing these issues to ensure better data accuracy in the future.

Although there is currently no dedicated secretariat established to oversee the progress of the Sendai Framework in the country, Brunei Darussalam is actively seeking to improve its coordination efforts. While agencies may not be fully aware of the SFM and its tools, steps are being taken to enhance awareness and understanding of the framework's goals and indicators. Despite the current lack of established channels for consolidating and collecting data, Brunei Darussalam is committed to finding ways to streamline reporting mechanisms and monitor progress effectively. By prioritizing collaborations, Brunei Darussalam aims to overcome the challenges it currently faces and ensure that each Sendai target indicator data (Target A-D and Target F-G) is prepared and reported accurately in the future.

CBDRM and SBDRM are regularly conducted to provide education and training on disaster preparedness and response targeted towards vulnerable schools, villages and districts. However, there is a desire to ensure that the knowledge and practices provided through these programs are better retained by the communities. While currently there are no established methods to evaluate the effectiveness of these programs or the implementation of DRR initiatives by local actors in all phases of disaster risk management, Brunei Darussalam is committed to finding ways to improve. With greater efforts to evaluate and improve these programs, the NDMC and other stakeholders can better equip communities to respond effectively during a crises.



V. Prospective review and recommendations

In light of the progress made by Brunei Darussalam so far, the Government recognizes that there is more work that needs to be implemented to address the prospective issues and emerging global challenges beyond 2030, including the global threat of climate change and being better prepared for other future pandemics.

With the implementation of the national policy on disaster management, DMSPF will enable Brunei Darussalam to create a stepping stone towards a more disaster-resilient nation as reflected in its goals. This aligns with the Brunei National Vision 2035 under Goal Two (2) which is to provide a high quality of life, and the projects that fall under this goal include facilities and critical infrastructure, national security, environmental stewardship, and social security and support.

DMSPF will adopt three (3) key success measures which complement and reflects the international standards that measure global progress in achieving resilience under the Sendai Framework for Disaster Risk Reduction 2015-20230 which are:

- i) Increase in adoption and implementation of local disaster risk reduction strategies in line with the national strategies
- ii) Reduce the number of people affected by disaster events
- iii) Reduce economic loss due to disaster events by 2035.

This policy intends to fill in the gaps and challenges identified in pursuit of accelerating the implementations of the Sendai Framework targets in Brunei Darussalam by 2030 through its operationalization and implementation.

A. Recommendations for realizing the Outcome and Goal of the Sendai Framework

To ensure the targets and objectives of the Sendai Framework for Disaster Risk Reduction 2015-2030 is implemented effectively and holistically, the following aspects and factors need to be considered:

- To streamline gender perspectives into the Disaster Risk Reduction processes towards inculcating a whole-of-nation approach and recognizing key roles and unique needs of the communities and advance gender equality in the socio-economic development process.
- To centralize and consolidate data and make them interoperable amongst the public sector and private agencies.

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- To streamline and strengthen the synergy between Climate Change Adaptation and Disaster Risk Reduction to ensure national resilience is built across current and future impacts of natural disasters compounded by climate change.
 - Increase efforts Private Public Partnerships and innovation in disaster management
 - Synergized strategic actions through alignment with global and regional frameworks to enhance coherence with national priorities on disaster management.
 - Enhance disaster management competencies
 - Increase advocacy on disasters and Sendai framework to instill motivation throughout the nation and translate policy frameworks into tangible actions at the grassroots level.
 - Increase involvement with the youth in taking part in national efforts to achieve disaster-resilient nations.
 - Roadshows to increase public awareness of Sendai framework, NDMC in collaboration with UNDRR to lead education awareness programs.

Upon reviewing other member states' best practices in disaster management and internal workshops and review with relevant key stakeholders, these aspects were determined to be the determining success factors in reaching the vision and goals of the DMSPP - Disaster Resilient Nation and will indirectly implement the priorities of the SFDRR nationwide.

The following chapters below will comprehensively discuss the gaps and provide suggestions to further improve the implementation of SFDRR.

B. Progress in Risk Assessment, Information and Understanding

The latest tabletop exercises NDMC conducted on the Tremor, Earthquake and Tsunami exercises to test the SOPs with responders and working level agencies in Mac 2022 have identified many challenges and gaps. Among others reveal the disparity between agencies responsible for disseminating the tsunami warning and the lack of agency monitoring on a 24 hour operation including the mechanism to disseminate the public warning.

The stakeholders suggested adopting and placing sirens along the coastline as an early warning system to inform the general public of impending threats such as tsunami warnings which allows evacuation to take place. A possible use of push notification warning is also currently under review to inform the nation especially those residing in the coastal areas.

With flooding identified as the main hazard in the country, river level monitoring has primarily been based on data loggers on main rivers and manual monitoring, which is not ideal for flood response. In 2022, Brunei began deploying a smart water device network. The Ministry of Development commissioned ANIAN, an Internet-of-Things solutions company, to carry out a



pilot project to develop sensors, network connectivity, and data management dashboards to monitor water levels in Brunei's rivers. The contracted company deployed ultrasonic sensors connected through Long Range, Wide Area Networks to monitor the water level in flood-prone rivers in real-time, and is able to send warnings when river levels reach dangerous levels. The pilot project was successfully carried out and the Ministry plans to roll out a full system under the new National Development Plan.

Disaster management competencies need to be more accessible to the general public in order to continue to scale up good practices in addition to conducting awareness programs. This could be achieved by introducing and integrating disaster risk and resilience education in the school co-curriculum. Children will learn about natural hazards and how to respond to them effectively, as well as understand how climate change can exacerbate extreme weather conditions. By nurturing and building up this understanding from an early age, young people can develop the necessary skills and knowledge to become active contributors to disaster risk reduction efforts in the future.

Overall, the idea is to create a culture of disaster preparedness and resilience in Brunei Darussalam, where individuals are empowered with the knowledge and skills to mitigate the impacts of disasters on their lives and communities, rather than relying on Governments to take action. This can be achieved by making disaster management competencies more accessible to the public and by integrating disaster risk and resilience education into the school co-curriculum.

There is a growing need to adopt technology and digitalization in disaster management efforts in Brunei Darussalam. This is because the disaster risk landscape is constantly evolving, and traditional disaster management methods may no longer be sufficient to respond to emerging threats. However, there is currently insufficient research being done to support the investment in DRR initiatives within the various line ministries and departments responsible for disaster management. This lack of research may result in a reluctance to invest in technology and digitalization, which could impede progress towards more effective disaster management practices. Furthermore, the Government has yet to explore the capability of employing one centralized data system which would consolidate disaster information development around the four districts with an ability to carry out analysis to predict and anticipate disasters. It should be noted that these data and information should also be accessible to the public to enhance data sharing while promoting transparency to the people.

Lastly, while the safety of communities remains the top priority, there is recognition that funding for DRR initiatives may not currently be sufficient to fully address their specific needs and potential benefits. However, Brunei Darussalam is committed to find innovative solutions to this challenge. By investing more in research, in collaboration with local academic institutions, Brunei Darussalam can identify the most effective technology and solutions to integrate into disaster management practices. Additionally, it is essential to allocate sufficient funds for DRR



initiatives to ensure that necessary resources are available to support implementation. With these steps, Brunei Darussalam can strengthen its disaster management capabilities and respond more effectively to the evolving disaster risk landscape, demonstrating a strong commitment to community safety and wellbeing.

C. Progress Risk Governance and Management

The NDC has a solid foundation as it is composed of various Permanent Secretaries from all the Ministries as well as Heads of various agencies such as the RBAF and RPBF. However, to fully adopt a whole-of-nation approach and meet the priorities of the SFDRR 2015-2030, there is an opportunity to expand its membership to include other non-governmental agencies such as private sectors from relevant industries and grassroot communities including civil society organizations such as the Brunei Red Crescent Society and Youth associations.

By expanding the membership of the NDC, the Government can ensure that all groups affected by disasters are included in the decision-making process, which can strengthen cooperation and synergize responding agencies and partners at all levels. This approach enables targeted efforts towards promoting disaster risk management and a multi-hazard approach, which can better equip the country to address compounding risks (i.e. from multiple hazards occurring at the same time, such as managing floods during the COVID-19 pandemic) in a more timely and flexible manner.

Therefore, there is an opportunity for Brunei Darussalam to enhance its disaster management efforts by expanding the membership of the NDC to include a more diverse range of stakeholders including indigenous groups. This approach can foster greater collaboration and inclusivity, ultimately resulting in a more effective and efficient disaster management system that can address the evolving needs of the country.

Taking into account other member states best-practices, the NDC can further improve its governance of addressing cross-sectoral disaster by prioritizing on reviewing current government policies i.e. housing policies and amend the laws to ensure it can fit the elements of DRR such as build back better. Further to this, the implementation of the DSMPF will steer the National Disaster Council to adopt a more evidence-based approach toward creating and implementing these initiatives. This will shift the policies and directives to adopt more risk-informed decisions in order to reduce the creation of new risks, reduce vulnerability and strengthen the community's adaptive capacity.

Additionally, the National Disaster Council can also set up a platform to promote policy dialogues between the government and the communities. This will encourage the people, especially the youth, to voice out their concerns and opinions on local-level actors through a bottom-up approach and allowing them to be involved in the decision-making processes.



D. Progress in Investment in Risk Reduction and Resilience

Disasters could potentially have detrimental and wide implications to the socio-economic development of the country. There has yet to be a disaster financing mechanism in place to mitigate, reduce the risks of losses and impacts to the lives and livelihoods. The Government can consider reforming policies and legislation to introduce disaster or climate risk finance and insurance to protect individuals or small businesses from damage caused by extreme weather events. In the long-term this can act as a preventive DRR measure. The disaster insurance or scheme can be tailored to meet personal and economic circumstances of the client, especially those who struggle to afford a premium package. If designed properly, this government scheme can incentivise the people to adopt DRR by rewarding them for taking positive actions whereby higher premiums can discourage people from living in areas that are at heightened risk of flooding or landslides or even encourage them to take preventive measures, reducing their levels of vulnerability over the long term.

The Government can also opt for other forms of investments to support the current infrastructures and mainstream DRR nationwide through risk-mainstreamed investments, to achieve better outcomes. Investing in disaster reduction and resilience as part of the prevention and preparedness will reduce the cost to the Government on response and recovery. By replicating successful and innovative models from other countries, the village houses of the most vulnerable communities to hazards i.e. floods and storms such as that in Tutong and Belait District, can be retrofitted with structural supports to become disaster resilient following the best practices learnt from the neighboring countries.

The Oil and Gas economic sector in Brunei Darussalam are all situated in highly exposed coastal areas. The private sectors can have an important role in relief and assistance especially protecting the thriving economic centers and businesses near these industries and at the same time, the Government should increase engagements with enterprises and financial institutions on their roles and responsibilities as potential DRR actors to maintain and protect the economy during times of crises.

Other than that, the integration of technology and applied science are critical in improving disaster risk assessment to map hazards around Brunei Darussalam. This will allow the Government to monitor, track risks and generate risk assessment by identifying sources and scoping the level of impact and vulnerabilities to the communities. This information is essential for responding agencies such as the Fire Rescue Department, Public Works Departments and Health Emergency sectors as well as other monitoring agencies like the Department of Drainage and Sewage, Brunei Darussalam Meteorological Department and Department of Technical Services. The mapping can be done by collecting and storing historical hazard information as well as the impacts to the communities. This is followed by integrating local and indigenous knowledge to develop the risk information on the risk maps. Ultimately this approach will



contribute to the improvement of disaster risk assessment and evidence-based approach to be considered in the decision making processes.

More work is certainly needed to review other financing mechanisms and solutions which can also include micro-credit and favorable financing options.

E. Collaboration, Partnership and Cooperation

Brunei Darussalam will continue to build stronger ties to further strengthen bilateral, regional, and international cooperation in supporting and achieving the overarching goal set out in the SFDRR. Brunei Darussalam will maintain the collective efforts and work with local organizations and agencies such as Banking institutions towards a Whole-Of-Nation approach to further accelerate the efforts to deliver global targets in caring for the nation and prepare for future challenges and opportunities to ensure that the whole of Brunei Darussalam can sustainably prosper such as BIBD's \$2 billion pledge towards sustainability funding by 2030.

Further to this, Brunei Darussalam continues to strengthen collaborations and partnerships beyond the borders through ASEAN regional mechanisms through the adoption of the Bandar Seri Begawan Declaration on the Strategic and Holistic Initiative to Link ASEAN Responses to Emergencies and Disasters (ASEAN SHIELD) during the 39th ASEAN Summit under Brunei Darussalam's Chairmanship of ASEAN. Brunei's theme for its Chairmanship is "We Care, We Prepare, We Prosper", which reflects its focus on prioritizing regional health and well-being, strengthening regional preparedness and response to emergencies and disasters, and enhancing economic recovery and resilience in the wake of the COVID-19 pandemic. Brunei's Chairmanship aims to build on previous ASEAN initiatives and enhance regional cooperation through a variety of events and activities, including high-level meetings, dialogues, and collaborations with partner countries and organizations.

ASEAN also enables the acceleration of efforts to deliver the United Nations SDGs given the Decade of Action for the SDGs and the reversal in the progress of achievement of the SDGs caused by the impacts of the COVID-19 pandemic. The alignment of the Work Plans / Work Programmes of the ASEAN Political-Security Community (APSC), ASEAN Economic Community (AEC), and ASEAN Socio-Cultural Community (ASCC) Sectoral Bodies with the 2030 UN SDGs and other regional priorities will lead to consistent efforts in helping the community advance to 2025 and beyond.

Cooperation efforts are also in areas of disaster management such as the Memorandum of Understanding (MoU) The Government of His Majesty The Sultan and Yang Di-Pertuan Brunei Darussalam and The Government of Malaysia on Cooperation in Disaster Management which aims to strengthen bilateral ties between Brunei Darussalam and Malaysia in the field of disaster management through information-sharing related to disaster prevention, risk reduction, mitigation, recovery and rehabilitation, and rescue operations through the conduct of joint



exercises or operations and sharing of experiences through seminars, conferences, and publications on disaster management.

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