
A report from the Caribbean
Vol 2 – Annexes and Evidence Base

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Thematic Case Views from the Caribbean

This section has an in-dept look at the Caribbean Multi-Hazard Early Warning Systems (MHEWS) and the Caribbean Safe School Initiative (CSSI)
CARIBBEAN MULTI-HAZARD EARLY WARNING SYSTEMS (MHEWS) THEMATIC CASE VIEW

Mid-Term Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015 – 2030

“Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030”.
Sendai Framework Global Target G

Executive summary
The Caribbean thematic case of Multi-Hazard Early Warning Systems (MHEWS) has been built based on three sources of information. First, a desk review of relevant documents being published recently. Second, on the regional MTR SF MHEWS consultation with the Caribbean countries, organized on May 2022 in Trinidad and Tobago. Third, key informant interviews were conducted with some of the key regional and international MHEWS actors and experts.

From 2015 to date, the Caribbean region has experienced several major climate related events and the COVID-19 has proven the systemic nature of risk to be a reality to which the region is highly exposed. These events, however, have also triggered new thinking and investments to the Caribbean MHEWS. The region has been getting more organized with early warning systems (EWS), particularly with an increasing focus on multi-hazards and the region has increasingly started to adopt the 4-pillar MHEWS (figure 1), although the progress among pillars has not been even. There has also been significant progress in developing EWS governance mechanism, such as the establishment of the Regional EWS Consortium (REWSC). There is also a growing interest towards multi-hazard impact based early warning systems (MHIEWS). Overall, the region has been transitioning from a merely technical view of EWS towards a more holistic view of EWS more aligned to disaster risk reduction.

The desk review indicates that the Caribbean is at a turning point towards addressing MHEWS in a comprehensive and sustainable manner, particularly with the establishment of the REWSC; the development of the gender sensitive model national MHEWS policy; the mapping of institutional roles by key EWS stakeholders in the Caribbean; the development of a regional strategy on MHEWS; and, strengthened capacity for assessing MHEWS through the application and systematization of the national MHEWS checklists. The international investments on MHEWS have also experiences significant increase from 2015 forward, in comparison to the investments prior to 2015.

Community level EWS investments are, however, lagging behind, which is not in line with the region’s growing need for a people-centered MHEWS. Connected to this notion, it also appears that the Caribbean is at a turning point when it comes to the inclusion of gender considerations in the strengthening of EWS. In this perspective, improving the understanding of why individual, communities and institutions take action (or not), is an area of interest that is now increasingly being addressed by different research, programmes and policies. It is envisaged, for example, that the
regional MHEWS strategy will support the mainstreaming of gender considerations and vulnerable groups within the MHEWS, therefore improving the MHEWS access to people most at risk.

The summary results of the regional MHEWS consultation are the following:

<table>
<thead>
<tr>
<th>Progress of MHEWS</th>
<th>2015 to date</th>
<th>Context changes</th>
<th>To 2030 and beyond (needs)</th>
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<tbody>
<tr>
<td>-Least progress in pillar 1</td>
<td>-Climate change and related events have increased</td>
<td>-MHIIEWS to respond to the real needs and focus on impact</td>
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<td>-Most progress in pillar 2</td>
<td>-COVID-19, realization of systemic risk, and, compound and cascade hazards triggering disasters, impacted the region, but also created new thinking of MHEWS</td>
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<td>-Pillar 3 needs development</td>
<td>-Technology development at institutional level and with public</td>
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<td>-Pillar 4 is under disaster management strategy</td>
<td>-More people centred approach and messaging</td>
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<td>-Increasing focus on multi-hazard</td>
<td>-Needs to strengthen the last mile</td>
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<tr>
<td>-No EWS in each country</td>
<td>-MHIIEWS that are gender responsive and transformative</td>
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<td></td>
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<tr>
<td>-Hazard experience and build back better exists</td>
<td>-Public engagement and participation</td>
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<tr>
<th>Access of MHEWS to people</th>
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<tbody>
<tr>
<td>-Diversification of communication channels has happened</td>
<td>-Beach ecosystems are affected</td>
<td>-Budget and skilled HR needed</td>
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<td>- There is progress in reaching people</td>
<td>-Geomorphology challenges (e.g. How to be a tsunami ready in a flat island?)</td>
<td>-Further access to climate financing and need for establishing focus resilience and DRR financing.</td>
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<td></td>
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<td>-Public-private partnership to be strengthened</td>
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<tr>
<th>Investments</th>
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<tbody>
<tr>
<td>-National investments limited</td>
<td>-Climate change and related events will increase</td>
<td>-Legislation needed to ensure clear mandates, operational capacities, monitoring &amp; evaluation and budget.</td>
</tr>
<tr>
<td>-International investments increased due to major hazards</td>
<td>-Social hazards, such as regional and sub-regional migration and displacement on the rise</td>
<td>-Systemic thinking and governance needed</td>
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<tr>
<td>-Private sector role emerging</td>
<td>-Increasing negative effects to tourism and livelihoods</td>
<td>-Strengthened inter-island cooperation, and inter-institutional roles and responsibilities</td>
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<tr>
<td>-Dependency on international cooperation</td>
<td>-Sea level rise</td>
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<tr>
<th>Governance</th>
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<tbody>
<tr>
<td>-Legislation, plans and policies in some countries</td>
<td>-Increasing negative effects to tourism and livelihoods</td>
<td></td>
</tr>
<tr>
<td>-Inter-office collaboration has increased in regional and national levels</td>
<td>-Sea level rise</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>-Legislation needed to ensure clear mandates, operational capacities, monitoring &amp; evaluation and budget.</td>
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It is evident that the exposure to multiple hazards in the region is posing a major challenge to the MHIIEWS in the future, particularly considering the climate change. The increased understanding of the systemic nature of risk is also shaping the future priorities. Cooperation among institutions, islands and with international partners is needed to enable to keep up with the ongoing process, including a more integrated role of the private sector. The future recommendations are to focus increasingly, through a common strategy, to multi-hazards, systemic risk and transitioning towards an impact-based forecasting. There is a need for a more even progress among the four pillars. Focus is needed also on data and technology, capacity strengthening, community involvement and gender to enable a truly people-centered, needs-based MHIIEWS. Similarly, it is important to continue strengthening the governance mechanisms at national and regional levels.
1. **Context and Background**

**Hazard context**

Different and multiple hazards, such as severe weather conditions in land and at sea, droughts, hurricanes, floods, epidemics, pandemics, volcanoes and earthquakes, pose a serious threat to the Caribbean, which is one of the most disaster-prone regions in the world. Geological and hydro-meteorological hazards have affected more than 100 million people in the region, causing significant economic losses and casualties.

As disclosed in the Regional Assessment Report (RAR) on Disaster Risk in Latin America and the Caribbean, published in 2021: “In the short and medium term the occurrence of new mega-disasters in the region is almost inevitable given the extreme risk embedded there. It is therefore urgent to strengthen corrective and reactive management capabilities, especially early warning systems (EWS), preparedness and response.”

**Multi-hazard early warning systems**

The development of EWS has been identified by the Sendai Framework for Disaster Risk Reduction 2015–2030, the 2030 Agenda for Sustainable Development, and the Paris Agreement as a key pathway to prevent disasters and reduce the negative impacts of single, cluster or multiple hazards.

According to the United Nations (UN, 2017) “Multi-hazard early warning systems (MHEWS) address several hazards and/or impacts of similar or different type in contexts where hazardous events may occur alone, simultaneously, cascading or cumulatively over time, and taking into account the potential interrelated effects. A MHEWS with the ability to warn of one or more hazards increases the efficiency and consistency of warnings through coordinated and compatible mechanisms and capacities, involving multiple disciplines for updated and accurate hazards identification and monitoring for multiple hazards.”

Globally it is accepted that effective EWS shall reflect the following four pillars:

1. disaster risk knowledge based on the systematic collection of data and disaster risk assessments;
2. detection, monitoring, analysis and forecasting of the hazards and possible consequences;
3. dissemination and communication, by an official source, of authoritative, timely, accurate and actionable warnings and associated information on likelihood and impact; and
4. preparedness at all levels to respond to the warnings received.

These four pillars, when properly implemented, enable a “end-to-end” and “people-centered” early warning systems. These four interrelated pillars need to be coordinated within and across sectors and multiple levels for the system to work effectively and to include a feedback mechanism for continuous improvement. Failure in one pillar or a lack of coordination across them could lead to the failure of the whole system. Effective MHEWS also require governance with clear mandates, implementation capacities, budget allocation and constant monitoring and learning.
Ensuring access to MHEWS in the Caribbean is regarded as an approach that enables individuals, communities, governments, businesses, and other stakeholders to take timely action to reduce disaster risk in advance of hazardous events.

Methodology and the thematic focus of the case view
The Caribbean thematic case of MHEWS has been built based on three sources of information. First, a desk review of relevant documents being published recently, such as the “Desk Review of EWS in the Caribbean: An Examination of the Level of Investment Established to Strengthen the four Pillars of EWS” (Rahat 2020). Second, on the regional MTR SF MHEWS consultation with the Caribbean countries, organized on 12 May 2022 in Trinidad and Tobago, in which 13 country or OT EWS delegations participated and provided their written inputs. Lastly, the case view benefited of the knowledge and insight of some of the key regional and international MHEWS actors and experts through key informant interviews.

As the MHEWS topic is broad, with several large situation analysis developed in the region recently, this case view looks into the four-pillar MHEWS overall progress, including governance, the related investment development since 2015, and the access of MHEWS to people. It focuses mainly on the regional perspectives, but connects it also to the national and community level as relevant.

“MHEWS saves lives. The main challenge as a region, is to ensure all countries are brought up to speed on giving people adequate warning to save lives.”
Andria Grosvenor, Deputy Executive Director of the Caribbean Disaster Emergency Management Agency (REWSC, 2022)
2. PAST ACTIONS

In regard to the MHEWS there has been parallel development of the different systems and actors. The region is coming together; while a lot remains to be done, the 2015 – 2022 progress is described to be the right direction by the consultation participants and key MHEWS experts in the region. The progress on regional integration is very important in the Caribbean, where larger islands are supporting the smaller ones in the design, development, implementation, sustainability and monitoring of MHEWS, and in each of its pillars.

Progress in the availability of MHEWS

Institutional basis

Several governance mechanisms for MHEWS have taken place during 2015-2022. Already prior to the Sendai Framework, the Caribbean Regional Strategy on Comprehensive Disaster Management (CDM) 2014-2024 requires countries to establish end-to-end, integrated, and fully functional EWS to warn the population of impending danger and take appropriate actions (Priority Action 4.3 of the CDM Strategy).

The Caribbean Disaster Emergency Management Agency (CDEMA) Council of Ministers’ formal adoption of the Model National MHEWS Policy and Adaptation Guide in July 2020 sets the stage for mainstreaming EWS into the resilient development pathway through national participation in implementing the roadmap. CDEMA Participating States (PS:s) are to apply the EWS Checklists, adjusted for the region by CDEMA, as a monitoring mechanism every three years to capture EWS achievements and gaps, establish a national roadmap and inform a regional MHEWS road mapping process. As of 2022, seven countries have conducted the checklists and roadmaps.

The main EWS coordination structure is the Regional Early Warning Systems Consortium (REWSC), in which CDEMA Coordinating Unit (CU) serves as Secretariat of the REWSC. The REWSC will comprises of representatives of institutions which have a mandate to support EWS in the region and comprise the agencies:

i. Caribbean Agricultural Research and Development Institute (CARDI)
ii. Caribbean Community Climate Change Centre (CCCCC)
iii. Caribbean Community Secretariat (CARISEC)
iv. CDEMA (Chair)
v. Caribbean Institute for Meteorology and Hydrology (CIMH)
vi. Caribbean Meteorological Organization (CMO)
vii. Caribbean Public Health Agency (CARPHA)
viii. Caribbean Telecommunications Union (CTU)
ix. Faculty of Earth and Environmental Sciences (FEES), University of Guyana (UG)
x. Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (UNESCO-IOC)-led Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE EWS)

As of 2022, MHEWS checklists and roadmaps have been completed for Antigua & Barbuda, Barbados, Dominica, Guyana, Saint Lucia, St. Vincent & the Grenadines, and Trinidad & Tobago.
REWSC was formally established at the 11th Caribbean CDM Conference on 5 December 2019. It has held regional meetings in 2017, 2019 and 2022. The role of the REWSC, according to its Terms of Reference, is to serve as a strategic and advisory body for the advancement and strengthened coordination of EWS within the Caribbean Region taking into consideration the realities of a changing climate. Whilst it is recognized that early warning systems can apply to natural, social and socio-natural hazards, the initial focus of the EWS Consortium has been on natural hazards. Other social and socio-natural hazards are also in the process of being integrated.

“The regional coordination becomes a must in order to strengthen regional, national and local capacities for early warning-early actions and local resilience. The REWSC has been identified as a good study case on how regional organizations are coordinating and supporting countries on ensuring a multi-hazard approach to EWS”
Raúl Salazar, Chief of the United Nations Office for Disaster Risk Reduction - Regional office for the Americas and the Caribbean (REWSC, 2022)

The REWSC is therefore an excellent example of governance mechanisms from the Caribbean on how different entities coordinate actions aiming to increase the efficiency of EWS with a multi-hazard approach in the context of systemic risk and complexity.

In addition to the REWSC meetings, the other coordination mechanisms have included several EWS Workshops, which since 2015 include, but is not limited to:

- CDEMA, United Nations Development Programme (UNDP), Organization of Eastern Caribbean States (OECS), International Federation of Red Cross and Red Crescent Societies (IFRC), United Nations Office for Disaster Risk Reduction (UNDRR), European Civil Protection and Humanitarian Aid Operations (ECHO) (April 2016). Caribbean Early Warning System Workshop, focusing on institutionalization and harmonization of EWS with an emphasis on integrating vulnerable groups in all processes related to EWS.
- CDEMA, DEM, IFRC, UNDP, UNDRR, ECHO (November 2016). Updated on DRR Priorities for the Caribbean - The CDM Signature Event, where countries reviewed their national DRR priorities and come up with their top three national priorities.
- UNDP, CDEMA, IFRC ECHO (February 2019). Multi-Hazard Early Warning Systems in the Caribbean: Achievements and Strategic Path Forward High-Level Handover Meeting, which provided a forum for discussions on key regional strategic, planning and programming actions that require regional leadership in MHEWS.
- UNDP, CDEMA, IFRC, ECHO. Greater than the sum of its parts: Strengthening Multi-hazard Early Warning Systems in the Caribbean, which showcased the progress on EWS as well as engaged key actors in defining next steps in the region.
- UNDRR (May 2022). Caribbean Regional Workshop on Measuring Effectiveness of EWS through Sendai Framework Target (g) and Custom Indicators. The workshop aimed to
strengthen the capacities of Caribbean countries to monitor and evaluate the progress of MHEWS and identified areas where further progress can be made.

The region has also benefited of EWS situation assessments, which include the following key EWS Diagnostic undertaken since 2015:

- World Meteorological Organization (WMO, 2018). The Caribbean 2017 Hurricane Seasons – An Evidence-Based Assessment of the EWS.

International structures and initiatives support the regional MHIEWS institutional process. Particularly ECHO, UNDP and IFRC have traditionally supported the Caribbean EWS and CDEMA in the above-mentioned steps and achievements. From 2018 there has also been support received form the global Climate Risk and Early Warning Systems Initiative (CREWS), which is a mechanism that provides financial support to Least Developed Countries (LDCs) and Small Island Developing States (SIDS) to establish risk-informed early warning services, implemented by three partners (World Bank, WMO and UNDRR). The Caribbean CREWS Project on Strengthening Hydro-Meteorological and Early Warning Services in the Caribbean (2018 forward) has aimed to strengthen EWS in the Caribbean and to articulate the response capacity of individuals, institutions, and communities. This includes Component 1, which developed a situational analysis in 2018-2020, based on which a draft MHIEWS Strategic Roadmap was developed in 2020-2021, with appropriate approaches to risk-informed decision-making for EWS and MHIEWS strategic initiatives. This component has also examined opportunities for building partnerships with the private sector and assess socio-economic benefits to ensure the sustainability of investments and activities. Component 2 focuses on Institutional Strengthening and Streamlining of Early Warning and Hydromet Services, while Component 3 has a focus on piloting high priority national activities, including impact-based forecasting (IBF).

Four-pillar MHEWS

From 2015 the Caribbean has made efforts to shift towards ensuring the four-pillar MHEWS model, with a people centred and end-to-end approach.

The country-level MHEWS assessments\(^2\) have been implemented in 10 countries. They identify the country status in terms of 27 hazards, divided to the following hazard groups:

1. geological hazards;
2. hydro-meteorological hazards;
3. environmental hazards;
4. biological hazards;
5. chemical hazards, and;

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\(^2\) Geographic scope of the Strategic Roadmap for Advancing MHIEWS in the Caribbean 2020–2030 includes the CARICOM’s 15 member states and five associate states and territories.

\(^3\) Implemented in Bahamas, Antigua and Barbuda, Dominica, Grenada, Saint Lucia, Saint Vincent and the Grenadines, Saint Kitts and Nevis, Trinidad and Tobago, Suriname and Guyana.
6. technological hazards.

In the systematization of the results it can be seen that there is a clear multi-hazard approach within the Caribbean countries. The figure 2 shows how majority of the 10 countries assessed have considered majority of the hazard groups at least in one of the four MHEWS pillars.

This progress, however, has been uneven between the hazard groups, with best progress in the coverage of chemical hazards, environmental hazards, biological hazards and hydro-meteorological hazards. There are, however, clear gaps in technological hazards coverage and some gaps in geological hazard coverage.

![Covered in at least 1 pillar graph]

*Figure 2: Groups of hazards represented in the country level MHEWS (percentage out of the 10 countries). Source: Author, based on the country-level MHEWS assessments.*

This MHEWS country progress has been even more uneven between the MHEWS pillars. As seen in figure 3, the pillar 2 shows greatest progress, as it is extensively represented in the country level MHEWS, followed by pillar 3 and very modest progress in pillar 1.

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4 This identification has been made particularly considering the country status on EWS pillars 1, 2 and 3. The 4th pillar is covered in the CDM Country Work Programmes and were not assessed.
Progress in the investments in MHEWS

“Mitigation action is important, but we must also invest in prevention and in resilience in order to protect livelihood and assets”
Didier Trebucq, UN Resident Coordinator for Barbados and the Eastern Caribbean (REWSC, 2022)

The Caribbean region, consisting of SIDS and other countries and territories with similar risk vulnerability, cooperated with several partners to enable investments in the Caribbean MHEWS. The comprehensive Desk review of the EWS in the Caribbean (Rahat 2020), focused on 28 Caribbean projects implemented during 2015-2020, investigated the level of investment and the budget established by the different actors (public institutions, international organism, donors and private sector) for the strengthening of EWS in the Caribbean countries, and analyzed where future investments should be directed, taking into account the gaps identified. This section presents the main findings as relevant to the progress of EWS investments in the Caribbean.

The similar 2016 Desk Review of EWS in the Caribbean covers the period 2005-2015 (10 years), reported the total investments by donors in EWS in the Caribbean to be US$57,234,991. In 2015-2020 (5 years) the level of investment by donor was found to be approximately US$52,630,335. This suggests a significant increase in donor support for EWS strengthening in the Caribbean between 2015-2020 in comparison to pre-2015 levels, since the number represents investments is in half the time than the 2005-2015 figure.
The top donors investing in EWS in the Caribbean during 2015-2020 include CREWS (including the World Bank, WMO and UNDRR), United States Agency for International Development (USAID) and the European Union (EU; primarily through ECHO, European Development Fund and the Global Climate Change Alliance). The new players, although only making small contributions currently, include the Finnish and Dutch Governments.

Majority of the projects reviewed have a national focus (51%), followed by regional (36%) and community (13%) (decreasing order of frequency). Further it should be noted that majority of the projects have multi-country impacts and even targeting a combination of scales. Whilst the low level of community projects could be attributed to the limited data accessed at this sub-national level, findings from the most recent situation analysis by the CREWS Project (CREWS, 2020) highlighted that there had been no regional strategy for the active engagement of communities in local hazard and vulnerability assessments and development of EWS, suggesting that this is one of the root causes of the gap in active community engagement in developing, deploying and sustaining EWS. The matter is being currently addressed in the MHIEWS Strategic Roadmap.

Figure 4: Estimations of MHEWS investments made by donors in the Caribbean before 2015 and after 2015. Source: Author, based on Rahat (2020).

Figure 5: Investments (in USD) in Advancing EWS at the Regional, National and Community Levels. Source: Rahat (2020).
In terms of national focus, the countries benefiting from majority of the EWS projects include St. Vincent, St. Lucia, Dominica, Barbados, Grenada and Antigua and Barbuda. Countries benefitting to a more medium extent include Dominican Republic, Trinidad and Tobago, St. Kitts and Nevis, Haiti, Guyana, Belize and Jamaica. Majority of these countries benefiting from medium to high levels of EWS investments were heavily impacted by the Irma and Maria 2017 hurricane events and as such recognized the importance of EWS in saving lives. The countries benefiting to a less extent include Suriname, Cuba, Bahamas, Anguilla, Virgin Islands, Montserrat and Turks and Caicos Islands.

![Figure 6: # of EWS Projects Per Country during the Period 2015-2020. Source: Rahat (2020).](image-url)
In terms of investment per EWS pillar, the majority of the investments have been targeting the advancement of pillar 2 (Detection, Monitoring, Analysis and Forecasting of the Hazards and Possible Consequences). The reasons that investments have been channeled heavily towards pillar 2 could be due to the recognition that the hydro-meteorological network in the region was not sufficient to meet the required coverage and need.

Figure 7: Investments (in USD) Per EWS Pillar during 2015-2020. Source: Rahat (2020).

During the 2000-2015 period, the MHEWS were still in its developmental stage and warning systems focus primarily on hurricanes and floods, and some work related to tsunamis and volcanic hazards. While in 2015-2020 the majority of the investments and projects address the weather and climate related hazards, there are at least seven projects addressing multi-hazards and these projects are among the medium-to-large size projects.

Figure 8: Hazards of Focus for EWS Projects Reviewed for 2015-2020. Source: Rahat (2020).
Another key dimension explored is whether the EWS projects are promoting IBF. The 2015-2020 projects demonstrate the inclusion of IBF; for example the CREWS Caribbean Project; The Weather and Climate Ready National Project; The Enhancing Weather and Climate EWS and IBF Platforms in the Caribbean Region Project; and the Expanded Weather and Climate Forecasting and Innovative Product and Service Development and Delivery in the Caribbean, to note a few. This suggests increasing investments in IBF in the 2015-2020 period.

Private sector engagement was not extensively featured in majority of the EWS projects. In addition, the private sector representation was not explicitly mentioned in the Terms of Reference of the REWSC, although it does state that one of their key role and function is to “(v) Articulate strategies for public-private partnerships in support of early warning systems”. However, there is a growing trend towards the private sector involvement in MHEWS in the Caribbean, as it has formed part of the CREWS Caribbean project and there have been several public-private EWS symposiums organized from 2019 forward. The role of the private sector in EWS cannot be understated; they are key beneficiaries as well as potentially key supporters to ensure the sustainability of key investments in EWS. For example, the CREWS Initiative (2020) has noted that “Contributions from long-standing EWS systems insularly located within the private sector do not receive enough attention, yet can reveal effective EWS models, business continuity mechanisms and humanitarian response capacities that could strengthen national EWS service delivery”.

Progress in the access to people, including gender and vulnerable groups in MHEWS

It appears that the region is at a turning point when it comes to the inclusion of gender considerations in the strengthening of EWS. In the Caribbean region, there are Gender Bureaux in each country, that also often cover other vulnerable groups and intersectionality6. There are also gender considerations in the CDM Strategy that guide the regional MHEWS. However, the national gender bureaux, NEMO:s and national Hydromet organizations have not interacted much with each other to create meaningful connections. The need to bring gender, vulnerable groups and MHEWS together, however, has been recognized in the region and some steps have been taken in the past years.

“Knowledge, acceptance and respect for gender differences and strong social norms in early warning can reduce mortality and morbidity rates as well as facilitate equitable distribution of emergency relief, improve safety conditions in relief shelters, and improve mitigation”

MHEWS Checklist, 2018: 15

In the 28 projects reviewed in the EWS Desk Review (Rahat, 2020), only eight projects were verified to be including gender considerations in MHEWS. These include, among others, CREWS Caribbean

5 Meaning, whether the EWS observing/modelling, monitoring and predicting hazards and the consequent effects of hazards.

6 Intersectionality refers to the ways in which systems of inequality based on gender, race, ethnicity, sexual orientation, gender identity, disability, class and other forms of discrimination “intersect” to create unique discrimination dynamics and effects.
Porject, the CCAP Project and the UNDP ECHO disaster preparedness programme (DIPECHO) Projects I and II.

The DIPECHO I Project incorporated gender considerations in the development of the MHEWS checklist for the Caribbean. Further, the systematization of the application of the EWS checklist in countries revealed that “the MHEWS Gap Report and Roadmap addressed several issues that have often been overlooked, such as gender-sensitive EWS”. Having a tool, the MHEWS Checklist, to systematically guide the mainstreaming of gender considerations into EWS has been one of the key driving factors for this development.

The DIPECHO II Project developed a gender sensitive model national MHEWS policy and adaptation guide, which were prepared, validated and adapted in Saint Lucia. The process of review and validation was supported by the REWSC and national stakeholders from five CDEMA Participating States and national stakeholders in Saint Lucia.

The CCAP appears to be treating gender as a cross cutting theme of the project as there is the intention to ensure that activities target the neediest groups and do not exacerbate existing gender inequalities, where applicable.

With regards to the CREWS Caribbean Initiative, the World Bank, WMO and UNDRR have been working closely on the integration of gender and vulnerable groups as a cross-cutting theme in the situational analysis and MHEWS Strategic Roadmap. Within the project, four national level trainings and consultations have been conducted on gender and vulnerable group inclusion in EWS, as well as one regional training and consultation, to map the region’s capacity and priorities, as well as to bring the Gender Bureaus and EWS actors together.

3. Context Change

The growing concerns of climate change, COVID-19 with its mitigation and response measures, the occurrence of the related effects in the Caribbean and the interconnectedness of hazards has affected the perceptions on EWS in the region. In the Caribbean, when reacting to one hazard, the MHEWS actors have to already plan and react to the upcoming one. It is no longer linear hazards and the EWS can no longer be addressed without this acknowledge.

As a consequence, the need to work together as a region and as multiple actors has been strengthening even further. The pandemic reinforced the systemic nature of risk and the concepts of going beyond traditional hazards. The region is growingly interested in developing the multi-hazard approach and IBF, while continuing to strengthen all the four pillars of its MHEWS.

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<th>Best practice – Multiple hazards and the EWS governance mechanism</th>
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<tr>
<td>In 2020-2022 Saint Vincent and the Grenadines NEMO used its governance mechanisms and activated multiple EWS:s for different hazards happening cascading and consequently. These hazards included dengue, COVID19, hurricane seasons, La Suffreire volcano eruption, and social hazards. This best practice set the tone on the importance of the work of Regional EWS Consortium in its 2022 meeting, and to the support that it can provide to Caribbean countries.</td>
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*Presentation at the CREWS meeting, September 2022*
4. Future actions

MHEWS recommendations from different main sources and strategies

There are a variety of recommendation provided within the Caribbean region as a result to various consultations and reviews conducted in 2015-2020.

Recommendations from the desk review (Rahat 2020) include:

- Develop a regional strategy to strengthen and streamline early warning and hydromet services, which is said to include emphasis on gender considerations as well as the engagement of the private sector, community and vulnerable groups.
- Whilst there is significant investment in Pillar 2 at the regional and national levels, there is still need for continued support to this pillar.
- Investments should be heavily directed towards advancing Pillars 1, 3 and 4 at all levels (regional, national and community).
- Continue to invest in the strengthening of IBF.
- Continue investments in multi-hazard and sector specific EWS.
- Need for an aggregate report on the EWS gaps and national roadmaps completed by 5 countries.
- Need to stimulate the involvement of private sectors in the development of national EWS as well as a more prominent role for them in advancing the regional agenda on strengthening EWS.
- Update this EWS desk review including all CDEMA PS through the National Disaster Office and National Met Offices.

The forward-looking CREWS Caribbean Roadmap and its Strategic Initiatives (SI) are based to an extensive situational analysis of the region’s MHEWS. The Roadmap recommends the region to focus on the following aspects:

- SI1: Supporting the transition to IBF and warning services.
- SI2: Towards a Caribbean geospatial platform.
- SI3: Towards a regional multisensory precipitation grid.
- SI4: An integrated approach to flooding.
- SI5: Integrating health impacts into the MHEWS.
- SI6: Towards a Caribbean multi-hazard operational plan.
- SI7: Regional emergency alert system.
- SI8: Community-based action planning.
- SI9: Sectoral MHEWS, the private sector and BCP.

Next steps in the Caribbean MHEWS

Based on many of the recommendations, the REWSC and its members continue to cooperate for the finalization of the MHEWS Strategic Roadmap and the different EWS actions in the region with an aim to establish and strengthen all the four pillars of the EWS, with focus on multiple hazards and
considering the systemic risk, including the needed elements for IBF, for an end-to-end MHIEWS in the region. CREWS Caribbean Project has been extended from the original 2018-2021 schedule; it will reinforce national institutions and community response capacities by promoting a “systemic risk multi-sectorial and multi-stakeholder dialogue” and by “creating the necessary enabling environment for IBF and effective MHIEWS”.

Many of the recommendations based on the consultations from 2015 to date, as well as the forward-looking strategies have shared elements. Therefore, it can be concluded that the forward-looking recommendations as well as the direction of the region in relation to MHIEWS progress are focusing on the following main elements:

- Enabling a more even progress among the four pillars of MHIEWS;
- Focus on impact and IBF;
- Access to people most at risk;
- Enabled by strengthened MHIEWS governance arrangements (enabled by REWSC and the Roadmap) and strengthened cooperation among institutions, islands and partners, including the integrated role of the private sector.

The key crosscutting priorities to enable these steps are considered to be:

- Strengthening the data, the quality of the data and the access and use of the available data;
- Strengthening the institutional capacity and skills;
- Strengthening the investments towards the Caribbean MHIEWS, and;
- Improving coordination and communication channels for MHIEWS.

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7 Based on the interviews with CDEMA, World Bank and UNDRR.
5. THE CARIBBEAN REGIONAL MTR SF MHEWS CONSULTATION

The Caribbean Regional Consultation for the Caribbean thematic case of the Multi-Hazard Early Warning Systems was implemented on 12 May 2022 on-site in Port of Spain, Trinidad, Trinidad & Tobago. This case study is based on the Sendai Framework global target G: Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030.

The objective was to conduct the Caribbean thematic consultation of the Multi-Hazard Early Warning Systems (MHEWS) for the Caribbean process of the Mid-Term Review of the Implementation of the Sendai Framework (MTR SF).

The SF target G aims to substantially increase the availability of and access to MHEWS and disaster risk information and assessments to people by 2030. For its high importance to small island developing states, as well as existing and prospective progress, MHEWS has been selected to be the thematic case study within the Caribbean MTR SF. The MHEWC-III, part of the GPDRR 2022, also highlighted the importance of MHEWS in several aspects, and in the MHEWS MTR plenary 1 emphasized the need to enable financing on MHEWS to the SIDS.

The participants of the consultation consisted of the National Disaster Management Offices, Regional and National Meteorological and Hydrological Services, regional institutions in charge of other non-climate related EWS, and National Offices of Statistics of the Caribbean countries/overseas territories, as well as other related agencies. 22 countries and territories were invited, of which the countries that participated included: Barbados, Saint Vincent and the Grenadines, Anguilla, Saint Lucia, Dominica, Dominican Republic, Curacao, Suriname, Guyana, Grenada, Saint Kitts and Nevis, Saint Maarten, Cayman Islands, Turks and Caicos Islands.

Methodology and instructions to the participants: During 10-11 May 2022, participants were invited to think of the questions from your country perspective and prepare the answers (for regional organizations think about the Caribbean perspective). As different points of view are needed, participants were requested to consider the questions from the perspective of their own office/expertise. Participants submitted their answers at the consultation taking place on 12 May.

MHEWS are complex structures, with many details. The consultation focused on the big picture, and within it to the following themes:

1. The four pillar of MHEWS (figure 1);
2. People-centred approach;
3. Governance (clear mandates, implementation capacities, budget allocation and monitoring and learning), collaboration and investments.

Summary of the consultation results

Retrospective Review 2015 – to date

The most relevant pillar progress since 2015 in the Caribbean for improving the elements of MHEWS

Several countries report that all four pillars have made progress, however, there is difference in progress made in each pillar. Pillar I has experienced least progress as its priority progress was reported only by one country.
Several countries have, however, conducted assessment of this pillar, either through national baseline assessment or MHEWS gap analysis. Other countries report on implementing international systems that georeferenced risk information and maps and hazard impacts and vulnerability information. Risk Knowledge is also reported being focused with the assistance of CDEMA, UNDRR and the World Bank.

The strongest pillar is widely described to be the pillar II, with six countries clearly stating this to be the main progress pillar since 2015. As it was reported by one country, “monitoring through the work of Hydromet has constantly been improving, with increasing and improving the existing Hydrometeorological network, and with additional stations being established”. Most budgetary allocations and training was also reported having gone into monitoring and warning services than in the other sectors. This pillar has also been reported most collaboration among islands. However, gaps reported including interim island warning systems (in contrast to coastal) and room for improvement when it comes to the monitoring for tsunamis in the Caribbean (focus being more in the hydromet than in multi-hazard).

Pillar III on Dissemination & Communication received only one voice in favor for being among the top pillars in its development since 2015. It was considered that dissemination and communication is not our strong point and requires some work to improvement. Some training on population was reported, which was described to give hydromets credibility among the public and thus possibly help in getting reliable information to persons in a timely manner. Social media and influencers, launch of alert apps, radio system to interrupt all other radio programs for emergency messaging, community-based communication mechanisms, partnership with schools and youth parliament/ambassadors to couch the message to young people, were described as activities that have enabled to bring the message to a personal level. These are also considered beneficial for post impact damage assessment, first aid and light search and rescue operations. However, there is a need to strengthen communication infrastructure and means of communication using redundancy and attempting to reach 100% of the population especially the most vulnerable, particularly for improvement in the effectiveness of the existing models. Dissemination and communication is now being focused with the assistance of CDEMA and the World Bank.

Pillar IV is particularly reported to have progress by two countries. It is worth mentioning, that this pillar falls under the NEMOs and is therefore not fully represented by hydromet offices in the consultation. Capacity and training are mentioned as crucial elements to be improved.

Overall, it is considered that to enable to achieve the target G of the SF with all the four pillars, there is a need for increase/intensification of training for citizens in order to raise awareness among the population, creation of municipal committees through which the aid and actions can be taken in the event of possible damage, use of television channels to inform the population regularly to create a culture of participation and safety, and to enable continuous and expansive collaboration of international organizations on the topic in the Caribbean.

The progress in improving the access of MHEWS to people

The Caribbean countries report progress in the access of MHEWS to people since 2015. Data on population is considered to be more available through multiples sources and there has been an installation of new hydromet stations which increase the area of coverage and therefore increase the coverage of number of people. In terms of access to information and alerts, there has been a significant shift away from paper-based information products towards “all-media”, using multiple media sources and technologies, such as sirens, cell phones, faxes, radio, television, agencies websites and various social media platforms. This has enabled the reach of different population groups. The focus has increasingly started to be designed for all-hazards.
An increase in public education and awareness is also reported, to react to the alerts. The increase of number of national disaster plans is also in line to serve the MHEWS access to people. There have also been efforts and actions towards community engagement focused on early warning systems, to allow for the establishment of community-based systems, using existing communication methods for specific vulnerable communities that may not have continued/sufficient access to modern methods of communication. Tools have been developed for gender consideration at the community level, involving women in these plans, and mapping how the hazards, affect households and individuals. This is also considered for vulnerable groups such as the elderly and disabled, as the development of the responses at the community level allow the for the community to identify the location of these individuals and map emergency paths should hazards occur. Feedback and interaction mechanisms have been created to interact directly with the population through social media and other channels. It has increased transparency and openness and forced the disaster management office to evolve to keep pace with the changes in the way people receive and interpret information.

Communication between the hydromets and the national emergency management has improved, as well as cooperation with community-based groups such as Red Cross and liaison officers at the responsible Ministries. Cooperation with donors is also mentioned to be essential in this aspect.

While these steps are important, they are reported by individual countries and a lot remains to be done for them to be mainstreamed for the region. Not all the countries have an Early Warning system yet, and for some overseas territories (OT) there is still some of full dependency on their constituent part in Europe. However, this is changing.

The trend of investments (public, private, international, combination) in MHEWS towards the availability of and access to multi-hazard early warning systems to people

Government investments are reported on individual aspects of MHEWS particularly on pillar 2 and some also on pillar 3. Overall, the public sector national investments are considered rather limited when it comes to financial investments. In terms of manpower, a lot has been done to work with all the pillars.

Private entities have contributed in one way or another to enhance MHEWS in the island. Private investments focused on response and recovery efforts rather than in allocation or preparation of MHEWS, or national priorities.

However, international and regional investments have increased following Hurricane Maria and data and information is anticipated to increase for improve access to MHEWS. Overall, investments have been more through regional or international donor agencies, and SIDS are heavily dependent on international assistance for investments via projects. Yet there are limitations in their scope as well. OTs often do not receive the same attention on investments from the donors as the countries do, however, partnerships with the host country on investments do exist.

The progress on Governance and the inter-pillar/inter-island cooperation since 2015

Limited amount of progress in the governance side is reported by the countries. Legislation for the Met Service has been developed by some, with regional CMO under WMO sponsorship, which addresses collaboration and partnerships and clearly points out roles and responsibility. However, countries also highlight the need that there needs to be formalization of governance aspects and updating of plans and policies where it doesn’t exist yet.
Cooperation is reported to have increased over the years with CDEMA, CIMH and other regional stakeholders, with existing synergies. Through CDEMA, partnerships were also strengthened with international organizations. OT:s report cooperation also with the host country. Capacity was built in-country as a result of the strengthened partnerships.

National collaboration with other government departments is also reported, for example, as it relates to ensuring access to hurricane shelters. In this aspect, there is a trend on BBB – the countries report having learned a lot on cooperation during the pandemic, as larger coordinating was critical when the pandemic cut across every sector.

**Context Shifts, New and Emerging Issues**

The most significant context changes in comparison to 2015, going beyond the traditional hazards and looking at the new forms of hazards

The significant context change for Caribbean is reported to be the climate change and related events. There has been more frequent issuing of weather-related statements due to increased weather activity and extreme flooding events. High temperatures, strong winds and excess rainfall are also mentioned, as well as prolonged La Niña with several severe consequences, and beach erosion, which eliminates the buffer zone to protect buildings from storms, but also is important for tourism. The new normal is described to be the more powerful and more frequent tropical cyclones.

The COVID-19 pandemic was considered a turning point for the region, along with the rest of the world. It was considered a new hazard and required dynamic development and adaptation of plans, SOP’s, etc. The health hazard matter affected all sectors and caused double disaster scenarios, as the region continued to go through the pandemic parallel to hydrometeorological and endemic hazards, most notably, the massive eruption of the La Soufriere Volcano, which caused evacuations in a social distancing scenario.

Several countries mention traditional hazards, such as the progress and increased attention to tsunamis, as some islands have become Tsunami Ready recognized by UNESCO. The Caribbean Tsunami Warning Centre in Puerto Rico is considered useful for the role it plays in the well-produced Caribe Wave Exercise and the Pacific Tsunami Warning Center provides alert and notification products – however the messages from the PTWC do not realistically portray likely coastal impacts. So, the result is the warnings provide only a very general idea of what ‘might’ occur immediately offshore and not what is ‘going to happen.’ This also raised concern on the lack of impact-based forecasting on tsunamis, and a question of how “tsunami ready” can a low-lying flat island really be, despite the official recognition and effort. There is also concern that the University of the West Indies Seismic Research Centre covers the Eastern Caribbean only. There is a lack of coverage and very little research occurring for the English-speaking western Caribbean region.

The pandemic caused also a larger consideration of new threats. Chemicals and increased establishment of medical scanning and imaging laboratories resulting in increased radiological materials and waste were mentioned. These were partially considered in a threat of war (Ukraine) where the risks relating to the use of nuclear warheads was considered increasing, but also about its implications on food security.

All of this is making more clear the systemic nature of risk, and the need to have a multi-hazard approach for EWS, that goes beyond single hazards, institutions working on silos, and promote a systemic governance for EWS, and in general for DRM.
The trend to react to this new understanding of parallel hazards and system risk in MHEWS, considering the systemic nature of risk, the experiences from the COVID-19 pandemic and the increasing effects of the climate change for SIDS

While the region recognizes that they were not fully prepared to a pandemic, the COVID-19 also brought consideration of parallel hazards to the Caribbean countries, with new thinking of how to organize hurricane shelters during the pandemic. Overall, there has been an increasing trend to react to another hazard together with the COVID-19 pandemic in mind and to understand the systemic risk. However, many external matters also changed during the pandemic, as for example, it was not possible to receive the usual support from the traditional partners, as they were handling with the same hazard themselves. Greater coordination among agencies was reported, including the Ministries of Health and with the integration of the private sector.

The region battles with some other factors as well. There is a need for scientific and evidence-based risk analysis which almost without exception is fairly inadequate. For example, for a lack of human resource assets with the necessary scientific specialist skills, and resource constraints such as a lack of computer models. The resulting lack of data is considered one of the key constrains. No accurate information about changes in sea level is available to many islands. The result is that development continues to occur too close to the sea, and more vulnerability is added. Work and investment are reported on risk analysis, but the results are also considered very limited.

The budget is needed for other immediate things, not for “what-if’s”, which is one of the main struggles to invest in systemic risk. Further, the Caribbean Catastrophic Risk Insurance Facility (CCRIF) the Cayman Islands is now looking at losses of 5 % of GDP annually from one aspect of the threat landscape alone (namely storm surge). This information can be linked to MHEWS. As a development trend, however, it is described as completely unsustainable and a major hurricane impact may present an existential threat to the economic viability of some of the islands. It is almost certain that over the coming years, the region is looking at the likely prospect of insurance products becoming increasingly unattainable, due to rising premiums, especially in the context of the rising seas and a new normal of more frequent and more intense tropical cyclones. Detailed evidence of risk is what is needed — with that it may be possible for the disaster management offices to begin appropriately informing the planning and development process.

It can be stated that even in the absence of good scientific data, the effects of climate change are becoming clear in the Caribbean region with beaches eroding away and coastal properties suffering more frequent damage. Early warning needs to adopt to the constantly changing environment, particularly in its risk knowledge pillar and in impact-based forecasting, as environment degradation affects these areas. Over the past few years there has been an increased focus on nature-based solutions, and while these may help, it has to be conceded that many of these nature-based solutions may require major Government investment to purchase land areas and / or legislative unpinning (for example, to protect mangrove wetland areas, which provide value as drainage areas for reducing inland flooding impacts, as well as a store for carbon dioxide).

Major changes / emerging issues / topics of concern anticipated in the period to 2030 and beyond, in regard to the MHEWS and in prioritising and amplifying MHEWS action

Hazards are estimated to be increasing in the Caribbean region. For example, frequency and strength of tropical cyclones, excess rainfall and drought as well as temperature variations. Similarly, we have seen two decades of very active geological activity that might continue to pose threats to the region.

This is estimated to trigger other effects. Immigration and internal migration are considered to increase due to these events. Tourism, essential for the region’s livelihoods, is also considered to be affected. Rising sea levels and more frequent and devastating hurricane impacts will create systemic shocks to the economy.
The region continues to struggle with financing the early warning systems. This is particularly evident for the overseas territories that often are not eligible to the financing of the SIDS and depend on their host government overseas (as stated by one territory: “We will plod along unless the British Government perceives a threat and holds our government’s hand to the fire”).

Several countries report that the early warning and related information would need to become more people centered. Finding a way to disseminate and communicate warnings to the disadvantaged population such as the visually and hearing impaired, remote residences and locations. Gender-sensitive approach is also mentioned among the topics to be prioritized.

Systemic risk considerations are estimated to be increasing. The systemic risk is mentioned from finance to mental health and job losses. It is generally accepted that the effectiveness of an NMHS cannot be analyzed in isolation from the actions of a broader set of national actors and development sectors. For example, the responsibility for issuing warnings and ensuring public safety generally rests with the civil protection authority, not with the NMHS.

Effective legislation is estimated to be needed to respond to many of these matters.

**Prospective Review (to 2030 and beyond)**

The most essential opportunities and challenges for transiting from traditional early warning systems to impact-based forecasting in the future

Some countries report having already transitioned to impact based forecasting in the last two years. The move from traditional early warning system to IBF is something that is currently being reviewed by many other islands as well.

The challenges include lack of funding and public investment, new technologies and knowledge exchange, lack of data for IBF, the need to cope with new approaches and resistance to adapt to new changes, achieving the standardization of early warning systems, attendance from the public to EWS, lack of human capacity and of best practices from the region to use for replicating.

The opportunities include political will and strong relationships with external partners. Prior experiences with major hurricanes provide an opportunity for more serious public buy-in for support to transition to IBF as it would make people safer and protect property better. The lack of many types of data and its usage is also posing a considerable challenge to transitioning to IBF.

The most essential opportunities and challenges in improving the access of MHEWS to people

The opportunities in improving the access of MHEWS to people include providing a more thorough and detailed forecast for the public along with indicating that the NHMS are the official sources of the information to be distributed to the public. The multi-hazard system is also considered an opportunity for the future, as

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8 One of the biggest opportunities of MHEWS, is to create a governance mechanism that face systemic risk with a systemic governance approach. That means, that having a MH approach to EWS, brings cooperation and silos breaking among different institutions supporting single and cluster EWS. Similar, it brings organizations that work in different pillars of the EWS to work together.
more than one hazard can threaten simultaneously, which would provide a better sense of safety to the public.

Opportunity is also not being in an isolated environment and having neighboring islands to reflect and develop the system with. There is a regional impetus to develop the MHEWS driven by CDEMA and new programs to ramp up EWS for critical sectors (agriculture, health, etc.) and tsunami awareness. There also is a very good relation between the government, the private sector, NGO and District Commissioners, the NSO and also the village leaders. Good collaboration exists also between the international organizations in the region.

Development of technology and equipment is an opportunity for the future, and further integration of the community as key actors, as people are generally proactive in the region in in protecting themselves, businesses, and property given the history of the past 15 years; therefore, there would be more receptive/appreciative of MHEWS.

The challenges in improving the access of MHEWS to people include that the public needs to be better sensitized well before any transition of early warning systems takes place; careful planning needs to take place, including simplification of scientific messages to the general public, having the messages distributed on all sort of medium such as AM/FM radio, TV, social media such as Whatsapp, FB, Instagram, Twitter, Instagram, SMS (to be established again), CAP via the smart phone and e-mail, providing messages also for the visual and hearing impaired. Access to technology (such as smartphones) by the public is not yet ensured. There also needs to be a better buy in by the public.

Real-time information is needed, as well as alternative ideas and access to information that may currently not even be the accurate information. It is important to consider traditional methods and systems of warning, as self-evacuation starts from the capacity to recognize signs of danger and leads up to evacuating immediately without waiting for an official evacuation order.

Overall, availability of resources especially in rural and impoverished communities is a challenge, as well as inadequate legislative support (e.g., legislation to mandate radio and tv stations to broadcast disaster and hazard information as a part of the licensing process). There is limited funding to promote access to EWS overall and lack of adequate human resources, and more buy-in from the governments is needed.

**Needs, opportunities or threats in regard to the investments in MHEWS towards 2030 and beyond**

There is a need to create specific funding related to disaster risk reduction financing as it exists for the climate action agenda. This financing mechanism could provide resources specifically for improving MHEWS. The opportunities in investments, besides the already existing ones, therefore include the access to climate financing. Training from regional institutions and inter-island cooperation opportunities are also considered considerable opportunities.

The needs in investments include need for funding for implementation of MHEWS for any foreseen changes or upgrades, need for evaluation/review as DRM, investment in disaggregating information that meets the needs of the various vulnerable groups, finance to produce disaster information/messages in different forms and need for more research on hazards and cascading hazards.

Threats in investments include that the region is very vulnerable to sea level rise, because most of the population lives in the coastal area and investment needs are therefore quite extensive. Budgeting may be an issue by some governments, as SIDS so not having capacity to properly invest and are considered to have a heavy reliance on international agency and projects. There is reporting of a lack of investment from regional governments.
The key actions needed to improve governance and cooperation between different responsible offices and actors of each EWS' pillars and inter-island cooperation, in accelerating and amplifying action towards a functional MHEWS

The key actions reported include:

- Legislations need to be put in place, as well as MOUs between and/or among entities outlining their roles and responsibilities clearly and incorporation into the institutional strategic plans as a line of action.
- Political champions for DRR to be recognized at country level.
- The integration of the roles & responsibilities into the job descriptions of the responsible offices is also essential. Structuring a multidisciplinary team for MHEWS formulation.
- More investment is needed in building MHEWS from international donor organizations and funding agencies, as well as resource allocation at the local government level to prioritize the importance of MHEWS.
- Increase in PPP in the country is considered important.
- It is needed to have a document that contains the parameters on which multiple early warning systems should be designed, as well as creation of interoperability systems between institutions or regions.
- Design of MHEWS must be done from the bottom up to have the community ownership.
- Improving collaboration between relevant agencies through regular meetings and dialogue is needed. Backing in high level regional meetings at the CARICOM level is important, to emphasize the importance of MHEWS need for inter-island corporation and sharing country experiences. The centers of excellence (and regional warning centers) such as the National Hurricane Centre, the Caribbean Tsunami Warning Centre, etc. could cooperate and offer more support based on needs.

Additional considerations relevant for the region to build resilience through the availability of and access to multi-hazard early warning systems to people

The additional key information reported by the countries and territories, besides the previously mentioned points, include:

- The Caribbean faces challenges in topography, remoteness, locations and communication, which need to be recognized.
- There is a need to leverage oil producing states, from emerging risks from disaster management point to management issues. Bilateral arrangements could be agreed to help with oil spills.
- On people-centered approach, there is a need to adapt the contents of the messages to the needs of the population and the sectors. Room for improvement is reported in the sensitization, public awareness and education, particularly for vulnerable groups. Creative and participatory target audience-focused methodologies are needed (e.g. giving persons ownership of Disaster Risk Reduction within their own communities/ a community involved based approach), as well as to take into consideration eh different languages.
- Education and awareness is needed with an emphasis on youth, possibly also incorporated in curriculum development, thereby resulting in a generation of “resilient” and “awareness” people.

Greater agency is needed by decision-makers; Each ministry should produce annual DRR actions and Priorities.
6. SOURCES

The MHEWS Thematic Case View of the MTR SF is based on the following sources:

Literature review:


Collymore J (no date). THE MODEL NATIONAL MULTI-HAZARD EARLY WARNING SYSTEMS (MHEWS) POLICY. Available in documentation.


Consultations:

Delegations that participated to the MTR SF MHEWS Case Views consultation on 12 May 2022:

- EWS delegation of St. Vincent and the Grenadines
- EWS delegation of Dominica
- EWS delegation of Curacao
- EWS delegation of Guyana
- EWS delegation of Anguilla
- EWS delegation of Grenada
- EWS delegation of St. Kitts and Nevis
- EWS delegation of Dominican Republic
- EWS delegation of St. Maarten
- EWS delegation of Cayman Islands
- EWS delegation of St. Lucia
- EWS delegation of Suriname

Persons interviewed:

- Elizabeth Riley, Executive Director, CDEMA
- Anna-Maria Bogdanova, Caribbean CREWS Programme Manager, The World Bank Group
- Melanie Kappes, previous Caribbean CREWS Programme Manager, The World Bank Group
- Jair Torres, DRR Advisor for the Caribbean, UNDRR Regional Office for the Americas and the Caribbean (ROAC)
- Carlos Uribe, Programme Officer, NDRR ROAC
The Caribbean Safe School Initiative (CSSI) is the main framework to advance school safety in the Caribbean; it is the Caribbean contribution to the ‘Worldwide-Initiative on Safe Schools (WISS)’ and a partnership framework for advancing safe school implementation at the national level among Caribbean countries.

Complementary to the corresponding regional and international strategies, CSSI was launched in April 2017 during the First Caribbean Ministerial Forum on School Safety. The CSSI, originally supported by the ‘Antigua and Barbuda Declaration on School Safety’ and the related Road Map on School Safety, is currently endorsed by 19 Caribbean countries that joined the initiative during the First, Second and Third Caribbean Ministerial Forums on School Safety (2017, 2019 and 2022 respectively). In 2022 the Antigua and Barbuda Declaration was replaced by the Saint Maarten Declaration in the Third Caribbean Ministerial Forum on School Safety. It now has a stronger emphasis on pandemics, the systemic nature of risk, increasing climate concerns, the specific situation of the small island developing states, as well as on multi-stakeholder participation and the role of the youth. The CSSI Roadmap guides the efforts by enabling systems to support safe schools, and focuses on three priority areas of: 1) safe learning environment; 2) school disaster management, and; 3) disaster risk reduction (DRR) in education curricula.

The COVID-19 pandemic has had a direct impact on the education systems of all countries in the region. Governments in the region faced challenges with limited capacity to respond. The lack of specific preparedness measures to face pandemics during the hurricane season led to improvisation and real-time testing of policies and measures that they had available, but also to some good practices and a range of valid recommendations around the CSSI and the Sendai Framework priorities for action.

The 2022 CSSI monitoring was aligned to the MTR SF methodology and provided valuable information on the progress of the CSSI in past, current and future aspects, concluding that:

- **In enabling systems and policies** the highest level of achievement relates to the alignment of school safety plans with national disaster risk management (DRM) plans. All 2022 CSSI monitoring respondents have either aligned the plans or have identified critical linkages with national DRM plans, which has been done in coordination with the national DRM office/structure. Significant progress has been reported with Ministries of Education (MOEs) either working to include a school safety line into annual budgets or identifying existing
budget lines that could be used as funding sources. However, this is likely the result of yearly ad-hoc budget allocations and not necessarily supported by specific policy requirements, for which allocating resources may be sporadic. Further work on policy development would positively influence this priority.

- **For safe learning environment**, half of the respondents stated that their country had adopted a standardized school safety assessment tool and a quarter of respondents indicated that national authorities had adopted a safe school standard. However, there is insufficient knowledge of potential assessment tools available. With little investment in capacity building to implement the selected tool, the consistency and quality of these assessments is suggested to be evaluated to identify areas of improvement and support.

- **For school disaster management**, most efforts have been invested in supporting schools to develop school-level safety plans. Several countries indicate having a mechanism in place to help schools with safety. However, sector-wide school safety priorities and emergency plans do not appear to receive the same level of attention. The relevant stakeholders involved in school safety appear to be well-identified at the national level, but limited engagement or coordination mechanisms exist to agree on specific roles and responsibilities.

- **For risk reduction and resilience in education**, short of half of the schools are indicating significant progress or achievement in the inclusion of DRM subjects into a formal curriculum, and other countries report some to no progress. This appears to be a result of individual or one-off country efforts rather than a coordinated initiative. There is frequent mention of community training being carried out, but this has been implemented by the DRM authorities rather than by the education side. Overall, there is more potential of the education sector to be used as a platform to strengthen DRR awareness-raising.

- The summary results of context changes and prospective views are the following:

<table>
<thead>
<tr>
<th>Positive changes</th>
<th>Challenges</th>
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<tbody>
<tr>
<td>Greater awareness of the school safety needs;</td>
<td>Limited capacity/expertise at the Ministry level;</td>
</tr>
<tr>
<td>Greater collaboration among the Ministries of Education (MOE:s) with National Emergency Management Offices (NEMO:s) and the Ministries of Health (MOH:s);</td>
<td>Staff availability to monitor CSSI progress;</td>
</tr>
<tr>
<td>Drills and extensive trainings have been conducted;</td>
<td>The delivery of education in a pandemic;</td>
</tr>
<tr>
<td>School emergency operation plans (SEOP:s) have been developed;</td>
<td>Urgency due to climate change effects;</td>
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<tr>
<td>School building codes have been improved.</td>
<td>A greater buy-in into the entire CSSI movement;</td>
</tr>
<tr>
<td></td>
<td>Aging infrastructure to cope with changing climate and other risks.</td>
</tr>
</tbody>
</table>

**Prospective on achieving CSSI – to 2030 and beyond**

<table>
<thead>
<tr>
<th>Anticipated challenges</th>
<th>Anticipated opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial limitations; Limited strategic planning; Lack of willingness to embrace change; Challenges in the operationalizing support structure.</td>
<td>Partnerships; Public-private partnerships; Local and regional exchange of ideas and human resources; Green approaches (e.g. environmentally friendly and nature-based solutions) and coherence with climate change related actions.</td>
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<table>
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<tr>
<th>Priorities for action</th>
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<tbody>
<tr>
<td>Human and financial resources need to be assigned for CSSI; High-level commitment needed; Legal frameworks need to be developed and applied; Timelines and measuring CSSI to be applied as a regular practice.</td>
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</tbody>
</table>
1. Desk review

Global and Regional Frameworks contributing to the Caribbean Safe School Initiative (CSSI)

Agenda 2030 and the Sendai Framework for Disaster Risk Reduction 2015-2030: Education plays a crucial role in reducing vulnerability and building community resilience to disaster risks, as well as in empowering people and reducing poverty. Recognizing that a quality education is the foundation for improving people’s lives and for sustainable development, the 2030 Agenda for Sustainable Development, adopted by the 193 countries represented by the United Nations General Assembly, reflects the commitment to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” as Goal 4 of the Sustainable Development Goals (SDGs) for 2030. Damage to schools by disasters can lead not only to the loss of children’s and teachers’ lives but also to a loss of public investment in social infrastructure and interruptions to education, which in turn can have lifelong implications.

To advance this goal, the Sendai Framework recognizes that schools should incorporate disaster-resistant structures according to local risks, while at the same time calling for knowledge and awareness of hazards and risk to be part of the school curriculum in order to bring about behavioural changes that support disaster risk reduction (DRR) and greater resilience. The framework also states that policies and practices for disaster risk management should be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment. It also calls for the strengthening of disaster resilient public and private investments, particularly through structural, non-structural and functional disaster risk prevention and reduction measures in critical infrastructure, in particular health and educational facilities and other critical infrastructure.

The VII Regional Platform for DRR in the Americas and the Caribbean further supports the implementation of the Sendai Framework for DRR, where the CSSI was represented by the 2021 Chair, Hon. Curtis King, Minister of Education of Saint Vincent and the Grenadines. Furthermore, the “Regional Action Plan for the Implementation of the Sendai Framework for DRR 2015-2030 in the Americas and The Caribbean (Updated November 2021)” specifically mentions the need to work towards a stronger integration of knowledge on hazards and the use of disaster risk information in the education sector.

Comprehensive Disaster Management (CDM) Strategy: In the Caribbean, the Regional CDM Strategy 2014-2024 is the strategic road map for disaster risk management (DRM). The Strategy was developed through a broad-based, participatory and consultative process that was led by the Caribbean Disaster Emergency Management Agency (CDEMA) and involved regional disaster risk management stakeholders including CDEMA Participating States, representative of key sectors, regional and international development partners and donors. The Strategy aims to integrate CDM more firmly into development planning and to provide broad strategic direction for addressing the challenges of disaster risk management in the Caribbean during its ten-year lifespan. Education is given significant consideration within this regional Strategy.

Worldwide Initiative for Safe Schools (WISS): WISS was developed in collaboration with partners from the Global Alliance on DRR Education and Resilience in the Education Sector (GADRRRES), building on guidance from the 2009 and 2011 Global Platforms for DRR. It sought to undertake risk assessments on existing education and health facilities and to support the 2013 Global Platform for DRR’s High-level Communiqué “(t)o start a global safe schools and safe health structures campaign
in disaster-prone areas with voluntary funding and commitments to be announced at the World Conference on DRR in 2015". WISS is a government-led global partnership for advancing safe school implementation at the national level. Saint Vincent and the Grenadines was the first Caribbean country to sign up to WISS. Through the commitment to the CSSI, the current 19 CSSI signatories directly contribute to the WISS.

The WISS seeks to motivate and support Governments to develop national strategies and implement school safety, building upon the Comprehensive School Safety Framework and its three core pillars that should be addressed through education policies and plans and aligned with disaster management at national, regional, district, and local school site levels. A safe school in this way reflects the following:

- Safe Learning Facilities (disaster-resilient infrastructure)
- School Disaster Management
- DRR and Resilience Education

Furthermore, the WISS also strives to promote the sharing of good practices and achievements in safe school implementation, as well as to help identify challenges and offer technical assistance and particular expertise with regards to the three pillars.

**CSSI overview and development**

CSSI was launch in April 2017 during the ‘First Caribbean Ministerial Forum on School Safety’ held in Antigua and Barbuda. The CSSI is the suggested framework to advance school safety in the Caribbean. The initiative is the Caribbean contribution to the WISS through partnership for advancing safe school implementation at the national level among Caribbean countries. Ministries of Education lead CSSI implementation with the support of international, regional and national partners.

Through the ‘Antigua and Barbuda Declaration on School Safety’, the CSSI is currently endorsed by 19 Caribbean countries and overseas territories (see table here below). Initially, 12 Ministries of Education signed on during the First Caribbean Ministerial Forum on School Safety where the Antigua and Barbuda Declaration on School Safety in the Caribbean was first adopted. Six additional countries and overseas territories signed on during the Second Ministerial Forum on School Safety hosted by Saint Vincent and the Grenadines in 2019, and one more during the Third Forum held in 2022 in Sint Maarten.

<table>
<thead>
<tr>
<th>Participating countries &amp; overseas territories – CSSI</th>
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<tbody>
<tr>
<td>From 2017</td>
</tr>
<tr>
<td>Antigua and Barbuda, Anguilla, British Virgin Islands, Cuba, Dominica, Dominican Republic, Guyana, Montserrat, Saint Kitts and Nevis, Saint</td>
</tr>
</tbody>
</table>
The key commitments contained in the Antigua and Barbuda Declaration are:

- Engage in the multi-stakeholder WISS, by supporting the implementation of the Comprehensive School Safety (CSS) Framework and the Model Safe School Programme in the Caribbean for public and private facilities at all levels;
- Build resilience in the education sector;
- Source financial and other resources from the national, regional, and the international community, from public and private sectors, to be channeled towards strengthening efforts in DRR linked to the education sector;
- Coordinate with national and regional disaster management bodies to integrate the tenets of the CDM Strategy into education policies and plans and to ensure alignment with existing national and regional DRR and climate change resilience building strategies;
- Strengthen the coordination and cooperation mechanisms among stakeholders at the community, national, regional and international levels;
- Build stronger collaboration among the Ministries of Education (MOE:s) in the Caribbean with relevant private sector entities, non-governmental organisations as well as other regional and international entities;
- Define and put in place a framework to track and measure progress on the implementation of the actions identified in the Road Map on School Safety to be authorized by the Minister of Education.

During the ‘Third Caribbean Ministerial Forum on School Safety’ held in Sint Maarten in June 2022, the Ministers of Education signed the Sint Maarten Declaration on School Safety, thus replacing its predecessors, the Antigua and Barbuda Declaration on School Safety. They key changes are as follows:

- Further recognition of the threats that climate change and climate variability, biodiversity disruption and the declining health of the ocean pose to the countries in the Caribbean, and which will increase in intensity and frequency with devastating impact on peoples, the environmental cover, the built environment, and the education system in particular;
- Recognition of biological hazards and the post-2020 Global Biodiversity Framework to be adopted at Conference of Parties (COP) 15 in 2022;
- Recognition that the COVID-19 pandemic, as a manifestation of the systemic nature of risk, further emphasizes the urgency to address disaster risk and build resilience;
- Noting with concern that the human and financial cost of disasters is rapidly rising, trapping countries in a continuous cycle of emergency response, curtailing governments in their capacity to grow and develop, and impacting the right and access to education for all;
- Further recognition of the specific challenges facing small island developing states (SIDS), as well as social hazards such as migration and forced displacement, requiring a concerted integration of DRR into multisectoral recovery plans and development planning of the education sector, requiring concerted action at the school level to address disaster displacement risks and impacts, including recognition of additional pressures on host countries and communities;
- Acknowledging the need to enhance risk governance through a truly multi-sectoral and multi-stakeholder engagement at regional, national and local / municipal, community and school levels; and
• Recognizing particularly that the youth forum is an integral part of the CSSI, the important role of youth as agents of change, as well as the contribution of future generations in the face of current challenges including reducing disaster risk, ensuring climate action, and promoting resilience.

School safety actions enshrined in the declaration are guided by the ‘*Caribbean Roadmap for School Safety*’ which formed part of the outcomes of the ‘First Caribbean Ministerial Forum on School Safety’ in 2017 and was subsequently updated in 2019 during the ‘Second Caribbean Ministerial Forum on School Safety’. With the aim to create synergies and demonstrate technical support that can be provided, partners of the CSSI support the implementation of school safety around the Roadmap objectives through the following resources and services:

**Building an enabling environment:**

➢ Comprehensive School Safety Targets and Indicators;
➢ Online Lesson: Introduction to Comprehensive School Safety;
➢ Training Programme on CSS and Education Sector Policies and Plans - Education Sector Snapshot for CSS and Education in Emergencies (EiE);
➢ Integrating Safety, Resilience and Social Cohesion in Education Sector Planning: Guide for Education Sector Planners and Online Course;
➢ Rights, Respect, Responsibility (RR&R) Policy, and;
➢ Child-Cantered Multi-Hazard Assessment.

**Pillar 1 – Safe school Facilities:**

➢ Towards Safer School Construction, and;
➢ Guidance Notes on Safer School Construction.

**Pillar 2 – School Disaster Management:**

➢ Participatory School Disaster Management Resources, and;
➢ Online Lesson: Introduction to Participatory School Disaster Management.

**Pillar 3 – Risk Reduction and Resilience Education:**

➢ Mainstreaming DRR in the School Curricula;
➢ Public Awareness & Public Education – Key Messages;
➢ Education For Sustainable Development Goals: Learning Objectives;
➢ Scope & Sequence for RR&R Curriculum Integration, and;
➢ Lesson Plans and Informal Activities.

**Supporting regional actors**

The CSSI is supported mainly by CDEMA, the United Nations International Children’s Emergency Fund (UNICEF), the United Nations Office for Disaster Risk Reduction (UNDRR), and the United Nations Educational, Scientific and Cultural Organization (UNESCO). The organization of the CSSI Forums is possible thanks to the financial support by the Directorate-General for European Civil Protection and Humanitarian Aid Operations (ECHO).
CSSI and the COVID-19 pandemic

A ‘Regional Review on School Safety in the context of Systemic Risk: The Virtual Caribbean Safe School Initiative Pre-Ministerial Forum’ was held in March 2021, carried out virtually due to travel and mobility restrictions stemming from the COVID-19 pandemic.

It was noted that the COVID-19 pandemic has had a direct impact on the education systems of all countries in the region. Education systems have been responding to the effects of the COVID-19 pandemic, while also preparing and implementing actions to mitigate the potential consequences of the hurricane seasons and other potential hazards during the pandemic. Governments in the region have been facing challenges with limited capacity to respond and they have been using the instruments that are available to secure school safety. The lack of specific preparedness measures to face pandemics during the hurricane season led to improvisation and real-time testing of policies and measures.

With this in mind, several recommendations were put forward in the Caribbean.

Recommendations around the School-Related Public Health Measures in the context of COVID-19 to keep students and educators safe from death, injury, and harm in schools by:

Ensuring that local information is accessible and reliable, and understanding the COVID-19 contagion trends in specific areas, including:

- Strengthening the school’s capacity to maintain appropriate collaboration and coordination with local public health authorities;
- Identifying and mapping children with underlying conditions or special needs, as well as educational staff at risk for severe disease;
- Securing special transportation arrangements to reduce exposure;
- Ensuring that daily mechanisms are in place for monitoring staff and children who may become ill and ensure that staff and children are equipped with hand sanitizers and masks;
- Ensuring that deep cleaning and sanitization is done prior to reopening schools; and installing additional stations of running water for regular hand washing;
- Being prepared to adjust the school schedule to accommodate new mitigating measures;
- Exploring formalized after-school programs with trusted providers;
- Putting in place social distancing measures such as the arrangement of desks at least 6 feet apart; Avoiding any non-essential assemblies and ensuring that during persons lunch eat in the classroom instead of the cafeteria;
- Doubling or tripling the stated measures for special education situations;
- Ensuring that all measures are communicated clearly to parents/guardians considering the expectations of parents, students, and schools; and ensuring that parents receive instructions regarding reporting illness and travel history to school;
- Developing a decision model for closing and reopening schools as needed due to the resurgence of community transmission, and;
- Coordinating with National Teachers Unions and Parent-Teacher Associations (PTAs) for contingency measures for outbreaks of illness in staff or students.

Enabling continuity of education through all expected hazards and threats, including:

- Ensuring that virtual platform resources for learning are available to staff and students and that all students have access to education (leave no one behind);
- Reviewing online teaching and exam options;
Continuing blended learning, by trying to adopt emerging technologies and other modalities that facilitate learning, especially in times of crisis;

Using new approaches to teaching by boosting creativeness;

Managing school-based and national assessment methods;

Adapting and revamping current curriculum in order to integrate all-hazards, and be ready to develop a minimum curriculum adapted for emergency situations;

Exploring opportunities for strengthening education continuity with consideration for pandemic and biological hazards integration;

Understanding how current and emergent practices in ensuring education continuity for the most vulnerable might be recorded, assessed, adapted, replicated, and integrated into existing policies and strategies, and;

Determining critical levels of staff required to keep the schools open.

Receiving support from regional partners, including:

Support to partners, as they must recognize their role in mobilizing resources to ensure effective advancement of the CSSI and promote synergies as a commitment to energize efforts in advocating for political support;

Fast-tracking the development of the Monitoring, Evaluation, and Reporting Framework for School Safety;

Strengthening the relationship between regional and national governance mechanisms allowing the sharing of good practices, and;

Strengthening emphasis on biological, anthropogenic and other threats in assessments, policy, and contingency planning for the education sector, where needed.

Strengthening school preparedness and education resilience, including:

Recognizing that the COVID-19 experience gives rise to some considerations for the partners throughout the region; plan for business continuity and distance learning protocols to access virtual platforms and implement strategies aiming to close the digital gap and provide students with resources to manage learning gaps;

Provide clear risk communication and information to influence the preventive behaviors of school communities;

Provide financial and dietary support to marginalized students;

Secure psychosocial support for students, teachers and administrative personnel at schools;

Provide continuous teacher orientation and professional development support;

For institutions with residential facilities/health stations, ensure there are guidelines for managing illness, quarantine, reporting illness to the Ministry of Health for staff and students;

Be informed about measures being implemented in other countries, and promote regional protocols;

Secure coordination and consultations with Teachers Unions;

Strengthen governance mechanisms of intersectoral coordination at all levels, and;

Update policies and plans to consider biological hazards with a multi-hazards approach based on risk information and knowledge.

Recognizing that back to normal is not good enough, recover and build back better, including:

Consider wellbeing when reopening, as well as protection, policy frameworks, financing opportunities, safe operations, reaching the most vulnerable, and learning;
• Consider safety protocols for teachers and students;
• Prepare for the double impact of climate-related and/or geological events;
• Guarantee education sector investments are safeguarded;
• Create more inclusive education systems moving from crisis to opportunity;
• Prevent student drop-off and student loss especially of poor households, and;
• Prevent education service reduction of demand and supply.

Recommendations from the CSS Framework for COVID-19:

• Policy and Enabling Environment: Ensure that the CSS Framework is clear on indicating an all-hazards approach with multi-hazard risk assessments to inform education sector policies and plans, and which consider biological and anthropogenic metabolism hazards;
• Pillar 1 – Safer School Facilities: Ensure limited use of schools as temporary shelters or as collection, isolation, testing, and voting centers while maintaining educational continuity plans. If school facilities are used, they must be cleaned up and decontaminated prior to being utilized for education purposes; Water, sanitation and hygiene facilities must be improved as a key life-saving measure; An appropriate school budget for maintenance must be available;
• Pillar 2 – School Safety Management: Prepare for an efficient response and recovery which cover many elements to be ready in order to manage a critical hazardous situation; Take care of teacher’s wellbeing with clear information, protection, and support for mental health in the light of COVID-19, and;
• Pillar 3 – Risk Reduction and Resilience Education: Develop a minimum curriculum to be followed under particular conditions; Support children and family activities with games, wellness exercises, acts of kindness, and disaster preparedness games.
The Saint Vincent and the Grenadines Case Study

The Ministry of Education, National Reconciliation, and Information of Saint Vincent and the Grenadines shared its national response to the COVID-19 coronavirus pandemic. Its response was mainly guided by its national school safety policy and related plans.

In order to secure education continuity and aiming to secure sustained engagement of students, a wide range of virtual platforms were tested by selected schools. After a consultation process a common online platform was adopted. Training on the different modalities for online teaching, including the efficient use of the platform, was provided to school staff, and an eLearning help desk to address queries was established. In addition, live classes were broadcasted on television and radio stations, as well as through social media sites, such as Facebook. When online learning was not possible, due to lack of Information Technology (IT) devices, access to internet, weak electricity connection, or other unexpected issues, the “School in a Bag” initiative was implemented with materials printed, packed, and made available to the students. Outreach to students who were still not engaged by principals, teachers, and other education officers was also carried out. In parallel with efforts to ensure education continuity, psychosocial support was organized through counselors for individual students and staff. The Curriculum Development Unit of the Ministry also provided support and guidance to students through WhatsApp groups, online parenting sessions, and helpline appointments.

After the start of the pandemic, schools reopened on 25 May 2020. This was possible due to the application of the protocols established by the National COVID-19 Task Force. In addition to this, a detailed assessment of school facilities was performed, and specific interventions were made prior to the reopening of schools. Interventions included various actions such as hygiene practices, the requirement of student attendance on alternate days and the establishment of food arrangements for feeding programs. Among the lessons learned in this process, the key highlights included:

1) the importance of improving mechanisms for blended learning (physical and virtual);
2) the need to incorporate electronic and online media, and face-to-face teaching/learning more effectively in the education sector strategies; and
3) the importance of developing online teaching/learning protocols, reliable internet, and IT devices to support blended learning.

The crisis highlighted the importance of engagement at all levels of school safety with increased investment in human and financial resources, as well as the imperative required to ensure that all education institutions develop, update, disseminate and test disaster management, school safety and contingency plans.

Managing information flows and conducting regular meetings with key stakeholders have also proved to be key elements in emergency situations. Similarly, detailed assessments, and the storage and management of survey data is critical, not only for operations in normal times, but also to inform in a quick and efficient manner decision-making processes in times of emergencies.
2. Survey analysis

Caribbean Roadmap on School Safety
2022 Monitoring
Combined with the MTR SF methodology
June 2022

Background
The present document contains the initial findings of the monitoring conducted on the implementation of the 2019 Caribbean Roadmap for School Safety. An online survey informs the monitoring and covers the 25 national-level activities under the roadmap's six priorities. Twelve countries conducted the self-assessment, 10 of which are signatories to the Antigua and Barbuda Declaration on School Safety.

Enabling systems and policies

The highest level of achievement relates to the alignment of school safety plans with national disaster risk management (DRM) plans. All respondents have either aligned the plans or have identified critical linkages with national DRM plans. To an extent, it has been mentioned to be done in coordination with the national DRM office/structure. There has also been significant progress in developing broader education-sector DRM plans. However, in most cases, the inclusion in annual work plans, budgets and monitoring of MOEs has not yet been achieved. Notwithstanding, countries report some progress in the monitoring or school safety policies or agendas, but to what extent this is part of an M&E system or an ad-hoc approach cannot be established. Most respondents do not report any progress related to the review of legal and policy legislation to ensure the inclusion of school safety.

Analysis: Most countries have invested significant effort to ensure coherence between school safety plans and national DRM plans while working with existing policy frameworks. Incipient initiatives exist to include school safety into MOE budgets, but this is likely the result of yearly ad-hoc allocations and not necessarily supported by specific policy requirements.
Establishing capacity for school safety within MOEs presents a mixed picture. About half of the respondents indicated that either a structure for school safety had been established or specific school safety activities had taken place. The other half indicated that ToR for school safety staff had been drafted or an outline of capacity strengthening activities developed but not yet implemented. From a financial perspective, almost half of the respondents have not developed a proposal for school safety funding. However, primarily significant progress has been reported with MOEs either working to include a school safety line into annual budgets or identifying existing budget lines that could be used as funding sources. In a few cases, specific budget allocation for school safety has been reported. Nonetheless, about a third reported no progress on the availability of financial resources.

**Analysis:** With school safety not sufficiently supported by policy requirements, allocating human and financial resources, including capacity building, is sporadic and likely driven by the interests of “school safety champions” in crucial MOE positions. Further work policy development will probably positively influence this priority.

**Pillar 1: Safe Learning Environment**

Half of the respondents stated their country had adopted a standardised school safety assessment tool. At the same time, a quarter analysed existing tools, but no decision has been taken on the most suitable one, and the remaining few reported no progress. This contrasts with most countries either reporting no progress or only some progress on the training of trainers and capacity development to implement the assessment tool. At the same time, about a quarter of respondents indicate an assessment tool used in pilot schools. The calibration of the tools, based on pilots, has been predominately reported as no progress or, in a few cases, some progress or achievement. The scaling up of the tools to the national level and the monitoring and evaluating of these exercises has seen little to no progress.

**Analysis:** There is mixed feedback on selecting an assessment tool, indicative of either indecision or insufficient knowledge of potential assessment tools available. With little investment in capacity building to implement the selected tool and several countries reporting the assessment being implemented in pilot schools, the consistency and quality of these assessments should be evaluated to identify areas of improvement and support.
The agreement on a safe school standard at the national level has seen little progress. Only one country reported having adopted a safe school standard, with the remaining reporting no progress or technical staff working on its development or concluding its development. However, a quarter of respondents indicated that national authorities had adopted a safe school standard, while half reported no progress on an official endorsement.

**Analysis:** Adopting a safe school standard is closely linked with regional stakeholders supporting this initiative. This could have contributed to the low implementation level of this priority.

**Pillar 2: School Disaster Management**

Most efforts have been invested in supporting schools to develop school-level safety plans. Several countries indicate a mechanism in place to help schools with safety, while almost none consistently offer this support to all schools. A few cases of no progress have been reported. The development of a sector-wide Education in Emergencies (EiE) plan has seen only incipient work, and only one country reports having approved an EiE plan.

**Analysis:** The approach to school safety appears to be targeted at the school level, while sector-wide school safety priorities and emergency/contingency plans, more complex, do not appear to receive the same level of attention.

Most countries report some to no progress in identifying stakeholders and assigning roles and responsibilities for school safety. In most cases, lists of stakeholders have been put together or lessons learned on coordination collected. However, only in a few instances, this has translated into roles and responsibilities of stakeholders and coordination mechanisms being drafted or agreed upon.

**Analysis:** The relevant stakeholders related to school safety appear to be well-identified at the national level. Still, limited engagement or coordination mechanisms exist around which to discuss and agree on roles and responsibilities. This might also contribute to the little advancement of education sector DRM plans, part of the previous priority.
**Pillar 3: Risk Reduction and Resilience Education**

Diverse progress levels have been reported on the inclusion of DRM subjects into a formal curriculum, with short of half indicating significant progress or achievement. In contrast, other countries report some to no progress. Community-level training is mostly not reported, and where they are, it was mentioned that these take place under the national DRM structure.

**Analysis:** Inclusion of DRM into formal curricula continues to be uneven across the Caribbean. To date seem to be more the result of country efforts and less of a coordinated initiative across the Caribbean, structured around shared hazards and context. Relevant is the frequent mention among respondents that community training is carried out, but in the scope of the work by DRM authorities and not education. There seems to be underutilization of the education sector as a platform to strengthen DRR knowledge transfer and awareness-raising at the country level.

In coherence with the previous priority, pre-service and in-service teacher training is uneven across the Caribbean and mostly coincides with countries also incorporating DRM into their school curricula. Similarly, some countries carry out DRR training and awareness-raising with civil society organisations, but little more than half report some or no progress.

**Analysis:** This priority is closely tied with the other priority under this pillar, with results indicative of limited coordination among stakeholders to transfer knowledge on DRR systematically.

**School Safety Topics Prioritised by Respondents**

The following graphs represent respondents’ selection of priority subjects within each of the pillars, plus enabling systems and policies. Respondents could choose up to 4 options within each of the lists for enabling systems and policies, pillar 1: safe learning facilities and pillar 2: school safety and education continuity management. For pillar 3: risk reduction and resilience education responses were limited to 3 options, given the fewer choices under this section.

These selections will inform the template to be used during the Ministerial Forum to update the regional roadmap on school safety.
Achievements and challenges
Among the most significant positive changes, that led to schools, students, teachers, and staff being safer and better prepared, was described to be the greater awareness to the problem; the experiences over the last few years of multiple natural hazards and human related incidents in schools have highlighted the need to have mechanisms in place to deal with eventualities. Because of this awareness, school have started to reach out to ask for additional support.

On the practical actions, the regular practice of drills and National Days established to conduct drills was described to be a key practice by many of the respondents. However, the COVID-19 pandemic brought this to a halt in some schools and they have not been resumed. Extensive training for both teachers and students was also described to be a good practice, as teachers and students became knowledgeable on how they respond during emergencies; inclusion of students in the process was considered important, as well as overall awareness programmes.

On institutional side, the provision of school emergency operation plans (SEOP) was considered essential, as well as construction of new schools taking on board building codes considering safety and health. Establishment of Safety & Emergency Teams in schools and NEMO's partnership with MOE was also described as of great support.

In relation to the most significant challenges (internal or external) to schools, students, teachers, and staff being safer and better prepared, a greater buy in into the entire movement at the school level was described to be a challenge; if the CSSI is to be successful, students and teachers need to be constantly trained in DRM concepts (while also recognized as a positive change above). More regular drills could be effective in transforming the policy from a written document into an active document. Overall, it was considered needed to find additional time to integrate DRR and safety mechanism into the daily operation of the schools.

A significant challenge was also described to be the capacity at the Ministry level, in terms of personnel and budget, as well as having dedicated staff to monitor and evaluate SSI. Staff already have multiple responsibilities and competing priorities and not everyone has the same level of interest and engagement. The other challenge is the parents’ willingness to have their children involved in activities that involve DRM. The responses also showed that not all the countries had moved to implementation yet.

One of the key solutions described was to make school safety part of the annual school development plan and to integrated it across subjects in primary and post primary institutions, as well as to get the unions on board at the beginning in order for it to be successful. Recognized volunteer groups within the school, such red cross, may assist on the awareness and engagement.

The major changes to the contexts within which the governments have been implementing the CSSI and the Roadmap since the launch of the CSSI were described to be on partnerships. There is greater collaboration with DRR and the Ministry of Health, which has fostered significant changes in how these challenges are addressed. School retrofitting and construction involving greater community consultation and discussion were also mentioned.

The governments were also described to better understands the significance of school safety. This has been highlighted by the use of schools as emergency shelters and the related challenges posed in relation to continuity of education and the damage to schools while being used of shelters. There is also better financial support and change int eh role of several intersectoral partners on the National Safe Schools Committee.

Disasters and pandemic also affected the prioritization; the COVID-19 pandemic brought issues forward and highlighted the lack of proper preparedness. It also altered the modality of teaching, and on the return to face-to-face instruction resulted in new safety measure in schools (e.g. hand hygiene). COVID-19 also slowed down the SSI process, due to the focal point being occupied with response work and the pandemic related budgetary cuts.
Upcoming regional roadmap review

The major changes / emerging issues / topics of concern in the period to 2030 and beyond, to be considered in prioritizing, accelerating and amplifying action within the CSSI and the Roadmap, were described to be related to the pandemic, as it has amplified the need for refocus on the training of teachers and education workers in the delivery of education in a pandemic. Addressing issues of climate change is considered urgent, as well as issues of overall resilience, sustainable development and post disaster recovery, particularly given our geographic concerns of the region. School shooting and bullying (of physical and cyber nature) and aging infrastructure in the light of the hazards were also considered increasing threats. Therefore, actions towards implementing school safety are considered needing to be fast-tracked in light of these many challenges.

Establishing the legal framework and further budgeting are anticipated and needed. Financing School Safety would have to be given greater priority by government and partners to support effective implementation. Relevant policy documents and plans and updating protocols for emergency management were considered needed in the future contexts. Project proposals, financial, evaluation, monitoring and developing workplans were also topics of interest, as well as the overall positioning of school safety in MOEs, with an important role of School Safety Focal Points. Integration of technology and associated infrastructure were considered needed also considering the future scenarios of migration/displacement associated with disasters or otherwise.

In relation to the prospects for achieving CSSI goals and the implementation of the Roadmap, the goals are generally considered attainable and the CSSI is gaining momentum, but restrictions are also observed particularly in the changing context of disasters. At times the process is advanced with local voluntary efforts. Therefore, it is considered that sufficient human and financial resources are needed to enable success. Commitment from management (ministerial and political level) is considered needed to enable this and other success factors, as well as timelines to properly measure progress. Overall awareness to keep focus and integrate CSSI as part of the normal practice, greater concentration on concepts and greater thrust to ensure future success were also mentioned.

The anticipated opportunities in looking forward were focusing particularly on partnerships. The public-private partnership is critical as the CSSI is moving forward. Partnering with local and regional entities to access resources was also considered a good opportunity, as well as greater regional collaboration especially between countries with similar challenges or with good practices, exchange of ideas and human resource where possible. Overall, developing partnerships through stakeholder engagements on all aspects of SSI was considered a good opportunity for the future. The eagerness of schools to with CDM was considered a good opportunity to get the work roll out easier as there is buy in. Some schools and countries are also looking forward to integrating green approaches, climate change and sustainable development into the programme.

Anticipated challenges in looking forward were focusing particularly on financial prospects and limitations. The lack of sufficient strategic planning and timelines for achieving each element was also considered a challenge to enable SSI completion. Embracing change, greater buy in and to facilitate entrenchment of concepts into the school system nationally, as well as understanding how to operationalize the school recognition program and possible models on developing a support structure for school safety at the national level were also considered in the challenge side of the forward-looking aspects.

The most relevant sectors MOE should coordinate with were NEMO/DRR and local disaster management offices (9 mentions), ministries/departments of health (9), physical planning and public works (6), environment and climate change (6), development (3), social services and inclusion (3), youth affairs, planning, finance, infrastructure, as well as emergency services (3, including fire, police, health), cabinet, communication and legal department, and a general mention of cooperation with all government ministries.

Other entities to coordinate with that were mentioned were the Red Cross and the civil society, national PTA, the local college, student bodies, teachers’ union, principals’ association, child protection, parents’ groups, employers’ federation, citizens, persons living with disabilities, religious entities, business/corporate sector (including utility or energy and construction Industry), trade unions and tourism industry.
3. Sources

The CSSI Thematic Case View of the MTR SF is base on the following sources:

Literature review:


Consultations:

*Caribbean Roadmap on School Safety 2022 Monitoring, combined with the MTR SF methodology*. June 2022.

Participation from:

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• Petrina Clarke, Health, Safety and Environment Coordinator, Ministry of Education, Trinidad and Tobago.
• Joy Adamson, Deputy Chief Education Officer, Focal Point Barbados, Ministry of Education Technological and Vocational Training, Barbados.
• Olga Mussington-Service, Manager Student Support Services Division and SSFP, Ministry of Education, Culture, Youth and Sport, Sint Maarten.
• Daisry Higgs, Sr. Administrator, Ministry of Education, Bahamas.
• M. Julius, Director of Education, Ministry of Education, Montserrat.
• Tricia Esdaille, Senior Assistant Secretary, Ministry of Education, St. Kitts and Nevis.
• Sandra Fahie, Education Officer, Curriculum (CSSI focal point), Department of Education, Anguilla.

Methodology and Consultation Reports

This section details the methodology used in the Caribbean MTR SF and provides the evidence base for the summary report (Vol 1) through the data collection reports.
**METHODOLOGY AND PARTICIPANTS**

**MTR SF adapted for the regional and Caribbean processes**

The Caribbean MTR SF is part of the regional MTR SF process for the Americas and the Caribbean, yet at the same time it forms an independent process with a stand-alone report. The Caribbean process involved efforts to align the methodologies to the regional process whenever possible, however, considering the differences in context, language, institutional structures, and the priority to coordinate with the regional and national authorities and other affecting factors, it conducted the majority of the regional alignment in weekly meetings rather than in shared workshops.

The main counterpart for the Caribbean MTR SF was CDEMA. In the Caribbean, the regional approach to DRR is very integrated, with strong shared efforts and solidarity among the countries and OT:s, in which CDEMA’s Coordinating Unit (CU) has the coordinating responsibility. The integration of the region’s CDM and DRR efforts is largely due to the specific characters of the SIDS and other countries of territories in the region, where it is fundamentally more beneficial to act together than individually.

In the Caribbean, the regional CDM Strategy 2014-2024 and the related Situational Analyses and the CDM Country Work Programmes (CWP:s)⁹ are aligned with the Sendai Framework. They are an integral part of the MTR SF approach, as the region implements the Sendai Framework through the implementation of the CDM Strategy and CWP:s.

These have been some of the core consideration in planning the methodology for implementing the MTR SF in the Caribbean.

**Scope and limitations**

The geographic scope of the Caribbean MTR SF is the CDEMA Participating States: Anguilla*, Antigua and Barbuda, Cayman Islands*, Commonwealth of the Bahamas, Barbados, Belize, Commonwealth of Dominica, Grenada, Republic of Guyana, Haiti, Jamaica, Montserrat*, St. Kitts & Nevis, Saint Lucia, St. Vincent & the Grenadines, Suriname, Republic of Trinidad & Tobago, Turks & Caicos Islands* and the British Virgin Islands*. Through consultations and interviews with regional actors of different scope (such as CARICOM or CARICHAM) the exact country scope may vary to a certain degree.

Due to many competing priorities and small size of offices among the SIDS, the participation in the Caribbean represented at times some challenges. As such challenges were recognized early in the process, it was possible to react and mitigate this limitation. The following measures were undertaken:

- Liaison with CDEMA from the beginning and implementing the entire process in cooperation with the assigned CDEMA focal point;
- Obtaining space in the Caribbean regional processes to obtain validation and interest of the countries and OT:s. The process was first officially introduced at the CDEMA Technical Advisory Committee (TAC) meeting;
- Utilization of consultation tools where the participants can continue to answer with their own speed and availability of time (when possible);

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⁹ Situational Analyses and CWP:s are the national level tools to implement the Sendai Framework and the CDM Strategy. Please see the summary report (Vol 1) chapter on risk governance for more information.

* Overseas Territory (not an independent country).
• Close follow-up from MTR SF consultant and the CDEMA focal point with the countries and other actors, with several follow-ups to increase participation, direct contacts and monitoring of the participation rates and countries.

The process

The Caribbean MTR SF process was divided into planning, data collection and writing. The planning included preparing and organizing the work, timeline and methodology. It also included several key definitions, such as the Caribbean processes’ role within the Americas and the Caribbean regional process, as well as establishing the required partnerships to conduct the work. CDEMA’s active engagement and leadership throughout this process was pivotal. Two thematic case views were also selected to be developed, based on the priorities of the region, the global targets of the Sendai Framework and the advice received from key stakeholders consulted on the thematic priorities.

The data collection process was divided into seven core processes that are aligned and contribute to one another. A separate evidence report was developed after each of the data collection processes and they are presented in Vol 2 of the Caribbean MTR SF report. Each evidence report was validated with the participants of that particular consultation.

In the final stage of the process, the main Caribbean MTR SF report sought to integrate and harmonize all the evidence reports. This allowed further analysis to bring all the key findings together, crosschecking evidence and writing a solid evidence base for a summative report with a maximum of 40 pages (plus sources). The results were confirmed with both UNDRR ROAC and CDEMA CU, after which the writing was completed into a final draft. The summary report was also consulted with the stakeholders who participated in the Caribbean MTR SF and corrections were made according to the comments received.

As the Caribbean MTR SF had collected a large quantity of relevant data in cooperation with the DRR stakeholders in the region, it was considered important to showcase all the different views, perspectives and knowledge of the stakeholders. Therefore, the Caribbean MTR SF was divided into two volumes: Vol 1: Summary report, and Vol 2: Case views and consultation reports (evidence base).

Opportunities for participation through a multi-stakeholder approach

Several consultations and other participatory methods were organized in the Caribbean, so that each country and actor would be able to participate according to their role and schedule. Specific emphasis was placed on the all-of-society approach to DRR. The main consultations and processes carried out were:

1. **Desk study review** was conducted during February – July 2022 consisting of available materials. Further studies and documents were also proposed by the key informants during the data collection, which were included to the desk study review.

2. **Caribbean countries consultation**, organized jointly by CDEMA and UNDRR in May 2022, with participation from National Emergency Management Offices (NEMOs) as the nationally designated focal points to the Sendai Framework and other key government sectors and agencies involved in or relevant to DRR.

3. **Caribbean private sector consultation**, organized by the Network of Caribbean Chambers of Commerce (CARICHAM) and UNDRR in May 2022.

4. **Multi-stakeholder survey on perceptions** for all actors during May – July.
5. **Interviews with key actors** were conducted between May and July, with two types of participants: 1) High level representatives who could provide strategic direction for data sensemaking, and 2) Individuals who could cover possible gaps in key stakeholder group participation in the previous processes.

6. **Multi-Hazard Early Warning Systems (MHEWS) Thematic Case View consultation** was organized in May as part of the MHEWS regional workshop held in Trinidad and Tobago. The results of the consultation were validated with the participants through email consultation.

7. **Caribbean Safe Schools Initiative (CSSI) Thematic Case View consultation** was conducted in May-June in cooperation (and aligned) with the bi-yearly CSSI monitoring exercise (CSSI Monitor 2022). The MTR SF CSSI case view results were validated at the Third Caribbean Ministerial School Safety Meeting held in Sint Maarten in June 2022.

8. Other processes were also included that took place prior to or during the Caribbean MTR SF processes, including the results and outcomes of the Regional Platform for DRR in November 2021, the Global Platform for DRR in May 2022 and the Caribbean SIDS consultation held virtually in July 2022.

A list of all stakeholders consulted can be found at the end of the summary report (Vol 1).
CARIBBEAN COUNTRIES CONSULTATION WORKSHOP REPORT

MTR SF Methodology and process

This report is part of the evidence base in the elaboration of the Caribbean Mid-Term review of the implementation of the Sendai Framework (MTR SF).

The consultation questions follow the global structure, adapted to the Caribbean region and integrating gender aspects, according to the MTR SF gender guidance note.

The consultation was conducted in cooperation with the Caribbean Disaster Emergency Management Agency (CDEMA). The topic and questions were presented to the participants one week prior to the consultation to all CDEMA Participating States (PS) at the CDEMA Technical Advisory Committee (TAC) meeting.

The following concept note information details the methodology of the country consultation:

Day and time: 6 May 2022 at 2pm-4pm AST

Organizers: CDEMA and UNDRR

Target Audience: Directors of the National Disaster Management Offices (NEMOs) and key sectoral ministries (two ministries as prioritized by the NEMO, for example finance and agriculture) of the CDEMA Participating States.

Objective: To conduct the Caribbean country consultation for the Caribbean regional Mid-Term Review of the Implementation of the Sendai Framework (MTR SF).

Background:

The Sendai Declaration and the Sendai Framework for Disaster Risk Reduction 2015-2030 (SF) adopted by the 3rd United Nations World Conference on Disaster Risk Reduction 2015, were subsequently endorsed by Member States in the United Nations General Assembly. The SF provides the framework for all-of-society and all-of-State institutions engagement in preventing and reducing disaster risks posed by both natural and man-made hazards and related environmental, technological and biological hazards and risks.

2022-2023 marks the midpoint in implementing the Sendai Framework. Therefore, the UN General Assembly decided to hold a midterm review of the implementation of the Sendai Framework to assess progress on integrating disaster risk reduction into policies, programmes and investments at all levels, identify good practice, gaps and challenges and accelerate the path to achieving the goal of the Sendai Framework and its seven global targets by 2030.

The MTR SF is at the same time a retrospective review as well as prospective assessment, providing forward-looking recommendations. The MTR SF will allow the region, the states and the different stakeholders, for example to:

- **Retrospective** - Take stock of the implementation to date, assess progress made and challenges experienced since 2015;
- **Context shifts and emerging issues** - identifying changes in context since adoption in 2015, and new and emerging issues that must inform recommendations for action to 2030 and beyond;

- **Prospective** - Review challenges to be addressed and provide critical analysis and insights to prioritise actions to be undertaken, accelerated or amplified between 2023 and 2030 and beyond; and initiate nascent thinking on possible international arrangements for risk-informed sustainable and regenerative development beyond 2030;

Additionally, as per UN General Assembly Resolution A/RES/76/204 in December 2021, the UN General Assembly decided that the MTR SF would conclude in a high-level meeting of the General Assembly and adopt a concise and action-oriented political declaration to renew commitment and accelerate implementation.

The Caribbean region is participating to the MTR SF through their Caribbean MTR review and report, in which the particular DRR situation of the sub-region is highlighted in the context of sustainable development and climate change. This Caribbean MTR is currently ongoing, aimed to be concluded by July 2020. The results of the Caribbean country consultation will form an integral part of the Caribbean MTR SF report and feed into the methodology of the MTR SF multi-stakeholder consultation, to be organized in June.

**Agenda:**

2:00pm – 2:15pm  
Opening by CDEMA

2:15pm – 2:35pm  
MTR SF presentation by UNDRR MTR SF consultant (Caribbean)

2:35pm – 2:45pm  
Questions from the participants

2:45pm – 3:45pm  
Consultation facilitated by UNDRR

3:45pm – 4:00pm  
Closing by CDEMA

**Consultation modality:**

The consultation will be conducted by using an online tool designed for this purpose. Each question will be presented by the facilitator of the consultation, discussed with participants, after which each participant will answer the question in parallel by using the online tool. The participants can go back and forth with the information form and submit their answers by three days after the consultation.

**Preparatory work for the participants:**

Please go through the consultation questions (delivered beforehand at the TAC meeting) and collect information that enables you to answer the questions at the consultations. You don’t need to answer all the questions but the ones most relevant to you and your area of work. You can take notes beforehand, but you don’t need to prepare anything in writing as this will be done in the consultation meeting.

**Follow-up:**

Constant follow-up on country participation and response submission took place by both UNDRR and CDEMA both prior and after the consultation.
I. RESPONDENTS PROFILE — RESULTS

Respondent’s profile

What is your geographic focus?
7 responses

- Global: 71.4%
- Regional (Multicountry): 28.6%

In which region do you live or work?
7 responses

- Central America: 100%

Your gender
7 responses

- Female: 57.1%
- Male: 14.3%
- Non-binary or LGBTQI+: 28.6%
- I prefer not to say: 0%
Do you identify yourself as a person with disability?
7 responses

- 100% Yes

With which ethnic group do you identify? (optional)
5 responses

- Afro-descendant: 5 (83.3%)
- Indigenous / aboriginal: 0 (0%)
- Meslizo (mixed European descent): 0 (0%)
- European descent: 0 (0%)
- I prefer not to say: 1 (16.7%)

How long have you been involved in disaster risk reduction (DRR) or disaster risk management (DRM) work?
7 responses

- No experience
II. RETROSPECTIVE REVIEW – RESULTS

A. Progress towards the Outcome and Goal

1) Has there been a reduction of disaster risk and the impacts of natural- and man-made hazards on persons, businesses, communities, and ecosystems implementing the Sendai Framework since 2015?

7 responses

Comments to the question:

- Development in unsafe areas is outpacing actions by Government.
- Increase in knowledge and awareness of DRR but more needed re behaviour change
- Flood sensor program, Community Disaster training, bathymetry mapping, increased shelter capacity, National Emergency Notification System
- CDEMA has been supporting the countries in identifying risks and in the adaptation of model approaches to reduce risks to the impact of hazards. The countries are at different levels of advancement but overall there has been some reduction of risk.

1.1) Please identify at least one way in which actions and approaches adopted in implementing the Sendai Framework have resulted in a reduction in disaster risk.

- Adoption of building codes. Improve water governance, Land Management. Land & Water Policies adopted
- Improved adoption of policies and tools
- Emergency notification system can provide early warning to the public and help reduce the loss of life
- Trinidad and Tobago has begun the process of updating and formalizing the national response framework that enables a quicker response to disaster impacts thus saving lives. While this is going, there are several baselines assessments that were initiated in several vulnerable communities that enable us to better understand the risk and vulnerability this creating the framework to introduce mitigation measures at a micro level
- Countries have improved knowledge and awareness of their populations, enhanced disaster plans; and improved capacity to respond.

1.2) If no reduction of risk, what have been the limiting reasons for this?
• Number and frequencies of climate impacts are increasing.
• One of the major limiting reason for a lack of advance DRR is a lack of data availability

2) What does your government and national stakeholders consider to have been the major achievements, challenges and barriers to the implementation of the Sendai Framework since 2015?

Comments to the question:
• Limited resources, affected rate of implementation of actions and programs that could positively DRR
• There are achievements with regard to coordination and adoption of policies and tools, but more required re behaviour change of citizens during disasters
• Establishment of a National Disaster Prevention and Preparedness Multi-Sectoral Committee which focuses on DRR mainstreaming in sectors.
• Draft CDM Policy
• Draft CWP to support policy implementations"
• Continued limited human resource capacity applied to disaster risk management at the national and regional levels, as well as financial constraints to addressing concerns at all phases of the disaster management cycle are some of the key barriers to implementation of the SF.

2.1) If there were achievements or barriers, in what areas were they identified?

<table>
<thead>
<tr>
<th>Area</th>
<th>Achievements</th>
<th>Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preventing the creation of new risk</td>
<td>2 (40%)</td>
<td></td>
</tr>
<tr>
<td>Reducing the existing stock of risk</td>
<td>3 (60%)</td>
<td></td>
</tr>
<tr>
<td>Strengthening resilience</td>
<td>4 (80%)</td>
<td></td>
</tr>
<tr>
<td>The Guiding Principles</td>
<td>0 (0%)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>0 (0%)</td>
<td></td>
</tr>
</tbody>
</table>
Comments to the question:

- Water, Housing, Agriculture
- Hazard Management is brought it after government decisions are made which results in missed opportunities to reduce/mitigate risks for new/existing projects etc. Our national emergency notification system and our flood sensor program will strengthen the resilience of the Islands.
- CDEMA has been working with it Participating States to identify the drivers of risk and to strengthen resilience through improved integration of DRM considerations in development planning, and within the key economic sectors of education, health, agriculture, tourism and civil society.

B. Progress in Risk Assessment, Information and Understanding

3) Has there been progress in approaches to better understand/assess disaster risk in all its dimensions: vulnerability, exposure (people and assets), and the relationship between all of them?

7 responses

![Pie chart showing progress levels]

Comments to the question:

- National Climate Change Policy, 2nd NAT Coms, National Adaptation plan, TNA, NDC prepared.
- There is generally better understanding in the region of vulnerability of countries and how this can be reduced, but there are financial and technical constraints to fully address them.

3.1) Are the root causes and underlying drivers of disaster risk better understood?

- Yes. Climate mainstreaming is ongoing.
- To some extent - based on information shared
- Partially
- Data availability and lack of technical capacities
- Drivers of risk are better understood, but more needs to be done at local and community levels.
3.2) How have vulnerability and/or exposure characteristics been addressed? (For example, in respect of gender or income inequalities, setting and applying of building codes or land zoning regulation, etc.)

- Is the information on vulnerability and exposure collected in a way that enables the voices of women, youth, older persons, indigenous, afro-descendant, persons with disabilities and other groups that are particularly vulnerable to disasters, to be heard and counted for?
- Building codes, Land & Water Policies, Gender inclusion, Vulnerability assessments by sectors
- New building codes adopted in Jamaica but full implementation not yet rolled out- follow up with Bureau of Standards, Jamaica
- HMCI has been working to include the needs of persons with disabilities and elderly persons
- Though there is the data being collected on the various characteristics, disaggregation at the micro level is not there and there is in addition to updated data.
- There has generally been improvement in development and exercising of disaster plans, and in the application of building codes, however, there is still variation across countries in the region. There is also better understanding of the factors that make some sectors of the population more vulnerable than others. The CDEMA Coordinating Unit now has a gender specialist on board to assist with the incorporation of gender considerations into the Agency’s programming.

3.3) Is the systemic nature of risk understood and addressed within sectors, administrative levels and disciplines? Has the understanding of systemic nature of risk guided risk assessment and risk-informed decision making and investment? Could you provide any examples?

- Much better understood.
- It is believed that systemic risk is understood within most sectors and that this knowledge is used to inform decision making where feasible.
- Adoption across different sectors, but will require further detailed information
- Systematic risk is a new area that requires great explanation within sectors. Trinidad and Tobago was able to understand the concept with the issue of the covid-19 context.
- There has been general improvement in understanding and addressing the systemic nature of risk across the Participating States of CDEMA. This has been supported through the advancement of the Comprehensive Disaster Management approach which considers all hazards, all sectors, with involvement of stakeholders at all levels.

3.4) In respect of people and assets in your country, what progress has been made in: reducing exposure to hazards, reducing their vulnerability and increasing their capacity for risk reduction?

- Better review of buildings, construction standards. Using Climate Risk tools to assess investment. EIA standard requirement
- A number of programmes and projects being implemented across different sectors - see Economic and Social Survey Jamaica 2020
- enhanced building codes, community disaster management training and mitigation projects
- Not applicable to regional level

3.5) When developing your country’s national development plan (or equivalent), how are underlying disaster risks considered?

- Across sectors. Focus on how it can support savings to Government. Access to Finance
- Vulnerability, exposure were the key factors from a multi-hazard perspective
- Not applicable to regional level

4) Do you consider that traditional, indigenous and local knowledge and communities are participating and guiding risk assessment and risk-informed decision making and investment?

7 responses

- They are not participating nor guiding risk assessment and risk informed decision making
- They participate and guide very little
- They participate and guide partially
- They participate and guide well
- They participate and guide risk assessment and risk informed decision making in a comprehensive manner

Comments to the question:
- Insufficient information to respond
- While there is the partial participation by indigenous communities, the integration of the information is not always considered which is an area for exploration of this.
- CDEMA has been supporting the countries in applying community based risk management and disaster planning approaches. There is not much evidence indicating that traditional and local knowledge is heavily influencing decision making and investment, though it does occur in some instances.

4.1 What are the ways in which you consider that they participate? Are there examples that illustrate the guidance by communities and traditional knowledge in risk assessment and risk-informed decision making?

- Public consultations, Focus groups
- Community-based engagements have been conducted e.g. by Ips
- Provision of local knowledge of an area with respect to environmental sensitivities that should be considered in development planning. Also historical knowledge of the impacts of certain hazards that can assist in disaster planning.
Comments to the question:
- Use of GIS mapping is expanding. Lidar Data etc accessible.
- The CARICOM technical Agencies provide direct technical support to their member countries to undertake risk-informed decision making and investment. These include the Caribbean Disaster Emergency Management Agency (CDEMA), the Caribbean Community Climate Change Centre (CCCCC), Caribbean Center for Renewable Energy and Energy Efficiency (CCREEE), the Caribbean Public Health Agency (CARPHA), the Caribbean Tourism Organisation (CTO); University of the West Indies (UWI), and the University of Guyana (UG).

5.1) What are the ways in which you consider that they participate? Are there examples that illustrate the guidance based on scientific and technological insights in risk assessment and risk-based decision making?
- The agencies above provide guidance on hazards and best practices for addressing them. Also scientific information to assist Governments in making decisions on addressing hazards.

C. Progress in Risk Governance and Management

6) Have national and local public policies, legislation, planning and organization changed to align with the Sendai Framework?
7 responses

- There are no changes to align with the Sendai Framework
- There are only small changes
- There are partial changes
- There are good amount of changes
- There are significant changes to align with the Sendai Framework
- The SFDRR has guided our CDM Policy and CWP which are being developed given the Cabinet agreed to the ratification.
- CDEMA continues to assist countries with the development of CDM Policies, legislation and organisational structures. These will partially align to the Sendai Framework.

6.1) Does your country have a national DRR strategy or plan aligned with the Sendai Framework? In case yes, what do you consider being the national plan or strategy (you may name it)?

- National Sustainable development Plan, NAP, CC Policy, Drought policy.
- Insufficient information to state specific plan, but there are strategies and plans in place by ODPEM and other agencies
- No
- A Draft Country Work Programme 2022-2026
- CDEMA assists member countries in the development of Comprehensive Disaster Management (CDM) Country Work Programmes that align to the CDM Strategy. CDEMA has developed a basket of indicators which take into account some of the indicators of the Sendai Framework to assist countries in reporting on those indicators.

6.2) Are national DRR strategies or plans being implemented? If not, what are the reasons? If yes, what are the enabling factors that have facilitated the process?

- Yes. Climate change awareness, investment in risk reduction as part of Govt policy
- Yes - Technical Working Groups of the Vusion2030 Jamaica Secretariat
- The plan needs to be approved by cabinet for full implementation however there are components that are being implemented in sectors partially
- Yes

6.3) What percentage of local DRR structures have a strategy and/or plans? Are they being implemented?

- 60
- Unable to provide a response

6.4) What changes have been observed in diversity in DRR leadership since 2015, particularly in terms of inclusive and diverse decision-making?

- Cabinet has agreed to the ratification of the SFDRR
- Unable to provide a response
7.1) What specific importance has the establishment of regional or sub-regional (understood as Multi-Country) strategies and plans had in achieving the expected result, the objective and the goal of the Sendai Framework?

- Regional plans and policies are often used as basis for development of local plans. eg Building codes was on a OECS basis.
- Very important for coherence
- The CDM Strategy is the regional framework for achievement of DRM results. This is the primary vehicle through which the Caribbean achieves the results of the Sendai Framework.

7.2) What importance has the establishment of national risk reduction strategies and plans had in achieving the expected result, the objective and goals of the Sendai framework?

- very significant in knowledge and adaptive learning
- These allowed for sectors to better articulate a holistic approach and reduce risk systematically
- Very important

7.3) What importance has the establishment of local risk reduction strategies and plans had in achieving the expected result, the objective and goals of the Sendai framework?

- very important if established at local levels but not sure the extent
- Very important

7.4) Has the establishment of DRR/DRM strategies and plans at the national or local level resulted in an increase in risk reduction efforts? How are national and local strategies helping the plans and actions that support the achievement of the objectives and goals of the 2030 Agenda for Sustainable Development, the Paris Agreement on Climate Change or the SAMOA Pathway (among others)?
- Yes. By being the basis for national planning, project development, resources allocation by ministries.
- The establishment of DRR/DRM strategies and plans at the national and local level have resulted in an increase in risk reduction efforts.

8) Since the adoption of the Sendai Framework, to what degree has understanding disaster risks, their root causes and their incorporation in public...ment become a 'due diligence’ requirement by law?

7 responses

9) Do you consider that the Guiding Principle of shared responsibility between central Governments and local authorities, sectors and stakeholders been applied?

7 responses

9.1) What measures has your country taken to enable integrated management of disaster risk across institutions and sectors?

- Establishment of national EIA Evaluation Committee.
- Through the convening of the Emergency Management Advisory Council
- integrated programmes (see ESSJ various annual publications)
- The establishment of a Cabinet appointed National Disaster Prevention and Preparedness Multi-Sectoral Committee
Through the CDM Coordination and Harmonisation Council which is the Governance mechanism for mainstreaming DRM across sectors, CDEMA has sought to empower sectors at the regional and national level with respect to integration of disaster risk considerations.

9.2) To what extent is the Sendai Framework known and being applied at sub-national and local levels?

- Very little

9.3) What measures has your country taken to integrate disaster risk reduction and management with actions addressing climate change, sustainable development, biodiversity, public health risks and sustainable food systems? What do you consider having been the role of the other stakeholders (e.g. the private sector, local civil society, academic entities, etc.) within these?

- multisectoral -policies and initiatives
- a new ministry called sustainability and climate resilience was formed to develop initiatives to increase the countries resiliency. In addition initiatives are being explored regarding sustainable development. The Agriculture department has offered courses to residents to provide them with the knowledge and skills needed to grow their own gardens.
- Not applicable to regional level.

D. Progress in Investment in Risk Reduction and Resilience

10) Has there been advances within the cooperation between the public and private sectors for an improved and extended risk governance?

7 responses

- No advances: 71.4%
- Small advances: 28.6%

Comments to the question:

- They are part of the National Disaster Management Committee
- Jamaica now has launched the JSRAT tool in May 2022 to assess risk in key sectors through a public/private partnership
10.1) Have there been new institutions on public-private partnership created since 2015? Have there been new public-private partnership agreements or plans on DRR? Have there been new public-private partnership actions on DRR? What has been the practical effect of these?

- Yes PURC.
- The Caribbean Chambers of Commerce (CARICHAM) is a network of Chambers of Commerce across Caribbean countries who are in constant communication with each other and who collaborate for mutual benefit. CARICHAM was established in 2019. CARICHAM works with all members to promote Disaster Risk Reduction and Mitigation and make our respective economies and societies more resilient.

11) Based on the implementation of the Sendai Framework since 2015, has the government, business and industry sectors in your country reduced vulnerability?

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>57.1%</td>
<td>They have increased the vulnerability significantly</td>
</tr>
<tr>
<td>14.3%</td>
<td>They have increased the vulnerability to some extend</td>
</tr>
<tr>
<td>14.3%</td>
<td>They have not increased nor reduced the vulnerability</td>
</tr>
<tr>
<td>14.3%</td>
<td>They have reduced the vulnerability to some extend</td>
</tr>
<tr>
<td></td>
<td>They have reduced the vulnerability significantly</td>
</tr>
</tbody>
</table>

Comments to the question:

- They are considered in all major civil works projects. Substantial amount of Communications cables placed underground.
- There has been variable reduction in vulnerability across the countries.

11.1) Which government, business and industry sectors have been the most vulnerable ones to disasters in your country?

- Agriculture, Tourism, Housing, Water, Utilities.
- Agriculture and tourism, transport
- The agricultural and tourism sectors
12) To what extent have public investments in resilience (through structural and non-structural measures) increased since 2015?
7 responses

- They have not increased
- They have increased only little
- The increase since 2015 is moderate
- They have increased to good extend
- They have increased in significant degree

Comments to the question:
- The investment is variable across countries.

12.1) For what purposes have public investments been directed? To structural or non-structural measures? Any examples or best practices? To what extent have public investments been quantified? If available, please provide values.

- Both.
- insufficient information to respond
- Both structural and non-structural approaches have been observed across countries.

13) To what extent are investments by the public (including national and local governments) and private sectors increasingly risk-informed?
7 responses

- The investments by the public and private sectors are not risk informed
- The investments by the public and private sectors are slightly more risk informed...
- The investments by the public and private sectors are more risk informed...
- The investments by the public and private sectors are more risk informed...

Comments to the question:
- Loans are not approved for projects if these risks are not assessed including the need for Insurance coverage
Comments to the question:
- GCF funding for build Climate Resilience in the water Sector
- CDEMA supports the mobilisation of resources for DRR on behalf of the countries. This support has increased since 2015.

14.1) How has technical cooperation, technology transfer and resources for capacity building increased?
- easier access to funding, faster approval of project proposals.
- There have been several areas of support for technical training and resource providing to the office
- Several development partner agencies have increased support for technical cooperation, technology transfer and financial resources for capacity building in DRR in the region. This was somewhat impacted during 2020-2021 due to the global pandemic. Additionally several countries have graduated from ODA financing which has reduced their access.
15) Have there been investments towards the availability of and access to multi-hazard early warning systems to people?
7 responses

Comments to the question:
- New Hydrometric Network, Demo Early warning system for flooding.

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

16) Has preparedness for response, as well as for recovery, rehabilitation and reconstruction, changed since the adoption of the Sendai Framework?
7 responses

Comments to the question:
- There is a greater level of preparedness across the countries.

16.1) What good practices on preparedness for response, adopted since the adoption of the Sendai Framework, could you highlight? How has this manifested in terms of “Build Back Better”? How have women, persons with disability, youth and other marginalised groups contributed to these efforts?
- Community engagements; involvement of youth in decision-making
F. Progress in achieving the Targets of the Sendai Framework

19) Has there been progress in the country towards achieving the seven global targets of the Sendai Framework?

7 responses

- No progress
- Very little progress
- Some progress
- Good progress
- Excellent progress

19.1) What would you say have been the main challenges? What progress has been made towards achieving the seven global targets of the Sendai Framework? In which target do you consider that the country has advanced more?

- financing
- The lack of an enforced governance framework for DRR
- The main challenges in achieving progress have been related to finances, technical capacity and accessing relevant data to support decision making.

20) The Sendai Framework recognizes that disaster risk reduction requires inclusive, accessible and non-discriminatory participation and empowerment...Iti-stakeholder and whole of society approach?

7 responses

- none to low
- low to moderate
- moderate
- moderate to high
- high
- I don’t know

Comments to the question:
- There is increasing emphasis in the region with respect to ensuring inclusiveness of all groups in DRM. There have been improvements regarding considerations of the needs of vulnerable groups, for example, in shelter management and relief distribution. There have also been improvements in facilitating the inclusion of youth in DRM, particularly with respect to facilitating access to related fields of study and platforms for the youth to share their views on the issues.
G. Collaboration, Partnership and Cooperation

17.1) How have genuine and durable partnerships been established? How were they established and developed? How are such partnerships governed? How are they funded or resourced? What are the leadership roles and partnership evaluation methods?

- Governed through MOUs; technical working groups etc.
- CDEMA has established many durable partnerships with development partners, with other regional institutions, with non-governmental organisations, and with the private sector. These partnerships are primarily governed through memoranda of understanding which are regularly reviewed in terms of achievement of results.
III. **CONTEXTUAL SHIFTS, NEW AND EMERGING ISSUES AND CHALLENGES — RESULTS**

A. **Context Shifts and New Issues — Retrospective 2015 – 2022**

22) Have there been any major changes to the contexts within which your government has been implementing the Framework since 2015?

7 responses

Comments to the question:
- A great harmonization of efforts between National and local entities

22.1) How have existing risk governance and risk management mechanisms and approaches succeeded in the COVID-19 pandemic?

- not sure- maybe delays during the peak phase of the pandemic
- Through a Multi-Stakeholder approach by the Govt this allowed for a systematic response to the pandemic
The COVID-19 pandemic raised awareness of risk concerns and highlighted many previously unconsidered linkages.

22.2) What impact is the deepening climate crisis having on the implementation of the Sendai Framework?
- Reversal of some progress. Needs to keep updating plans and strategies, review of legislation
- More risks
- As a result of the deepening climate crisis, there is increasing recognition of the implications of climate related hazards for the sustainability of the Caribbean, and the need to put policies, programmes and plans in place, and the allocation of resources to address these implications.

22.3) How has the implementation of the Sendai Framework been affected by shifts in biological diversity and the ecosystems health?
- More challenges

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

23) Do you anticipate any major changes / emerging issues / topics of concern in the period to 2030 and beyond?
7 responses

- Pest and diseases, Human health issues, food security issues

23.1) The COVID-19 pandemic and the climate crisis are two of the most obvious recent exemplars of the systemic nature of risk. What else is on the radar? What needs to be considered in prioritizing, accelerating and amplifying action?
- Threats to food production, housing crisis, other health crises.
- Increasing concern about hazards arising from conflicts, e.g biological warfare.
IV. PROSPECTIVE REVIEW AND RECOMMENDATIONS – RESULTS

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

24) In your opinion, what are the prospects for achieving the outcome and the goal of the Sendai Framework for 2030, based on progress since 2015 and expectations for the period 2023 to 2030? 7 responses

Comments to the question:
- Financial and technical capacity constraints in the region need to be addressed in order to achieve the outcome and goal.

25) What 5 deliverables, innovations, processes, or transformations, etc. would bring the greatest reduction in disaster risk and the greatest increase in the resilience of people, assets and ecosystems in the remaining period of the Sendai Framework and beyond 2030?
- proper environmental and land management. Proper Agriculture and Food safety policies. Water security
- Implementation of building codes, easy access to finances
- apps for people on the ground-most affected-so access to technology and warning devices
- land use planning/zoning, enhanced early warning systems, investment in underground utilities
- A shift in culture and the mindset of individuals is important in having this being realised.
- Building Sector Resilience, Community Resilience, Strengthen public partnership, strengthening private partnership, inclusion of risk assessment in major programmes and policies.
25.2) Are there any other priority matters in your country, that you would like to mention and develop?
- land slippages, flooding and storm surges - main hazards, which poses risks
- Climate Change Adaption, MHEWS and Shock responsiveness and social protection,

B. Progress in Risk Assessment, Information and Understanding

26) How can risk knowledge and insight be improved? – including in improving understanding of the systemic and interconnected nature of risk
- Data collection.
- Continued sharing of lessons learnt among stakeholders. Regular collaboration with and meetings of these stakeholders
- on the ground engagement -more people centered approaches
- education and awareness, risk assessments
- There is a need for updated multi hazard risk assessments to be done/
- More systematic advancement of risk awareness at the national and local level, e.g. through the school system and community level interventions.
- Involving everyone, Training, Public Education and Awareness, Finance, DRR in Curriculum

26.1) What measures can be taken to ensure that this is systematically integrated in all decision-making?
- Design apps for public input into the database

C. Progress in Risk Governance and Management

27) Given the systemic nature of risk, and experiences of the ongoing COVID-19 pandemic (including cascading, indirect impacts), what adjustments are required in policy, regulatory and legislative
frameworks, organisation and investment, epistemology, and strategy, to be able to capitalise on opportunities, or to mitigate new / emerging threats to the achievement of the expected outcome and goal of the Sendai Framework?

- flexibility to respond to unplanned impacts. unforeseen risk makes planning difficult.
- I don’t think that any adjustments are required at this time
- mapping of emerging threats
- enhance early warning detection capabilities, invest in local farmers to increase food security/supply
- There is a need for clear investments that are set out in a policy that will allow for the response and recovery of these impacts. notably also a country must always be seeking to advance from a MH perspective
- Legislation, policies of support of vulnerable persons

27.1) Please specify the adjustments needed at the national/ local/ regional/ international level?

Local Budgetary allocations mad to mitigate such risks. Money must be allocated annually for DDR and Response.

- The CDM Strategy needs to be updated and aligned to Sendai

28) The Sendai Framework states that responsibilities for disaster risk reduction are shared by central Governments and relevant national authorities, sectors and stakeholders. What must be prioritised to ensure that responsibilities are shared in risk identification and reduction?

- Public Participation. Cannot be seen as only Government responsibility to build resilience.
- An appropriate human resource complement
- integrated planning , implementation and reporting
- stakeholders should have the necessary resources to take on the shared responsibilities to to reduce risk
- Roles and responsibilities of the authorities in RA, Forecasting, Monitoring, warning,
- Structures need to be in place to facilitate participation.
- Sector resilience policy and plan

28.1) What is required to promote women’s empowerment and leadership in disaster risk reduction?

- increased engagement in every sector
- Creation of opportunities for women’s participation.

28.2) What measures can be taken to ensure that ‘no one is left behind’?

- continued inclusion and stakeholder mapping
- Greater awareness building and more opportunities for inclusion of all groups.

28.3) What measures can be taken to ensure that ‘no ecosystem is left behind’?

- Legal and regulatory enforcement. Lots of legislation already on the books.
30) What priority actions can be taken to empower local authorities and local partnerships to strengthen risk reducing action at the subnational and local levels?

- Greater management of the facilities, food banks etc. Non political. Include the Church in the process.

31) In your opinion, in order to accelerate disaster risk reduction, what level of importance do you consider on the transformations in favor of disaster...ead of being treated as a separate “sector” itself?

31.1) What are the adjustments or key measures that must be taken to ensure that disaster risk management is no longer treated as a ‘sector’ in itself, but is a practice systematically applied across all sectors?

- For SIDs DRM is not seen as a sector because disasters impacts every sector.
- Full integration of DRM considerations in all sectoral development plans. This will need to be buttressed by appropriate legislation and policies.

D. Progress in Investment in Risk Reduction and Resilience

32) What measures can public institutions take at national and international levels to ensure risk is priced more accurately within all financial transactions, and not excluded in public and private investment?
33) What further actions are required through to 2030 to strengthen the resilience of business and industry sectors to disaster risk?
- Public Awareness
- Enforcement of disaster risk related legislation and the development of new legislation where appropriate.
- All businesses and industries need to develop and exercise business continuity plans.

34) What are the key measures that must be taken to enable to build resilience through the availability of and access to multi-hazard early warning systems to people?
- Since 2015, CDEMA has been collaborating with other agencies to support countries in assessing MHEWS gaps, developing road maps, and implementing key initiatives to strengthen MHEWS. This needs to be upscaled to all the Caribbean countries. In addition, emphasis needs to be placed on community level MHEWS.

E. Disaster Preparedness, Response and ‘Build Back Better’

35) Effective response and Build Back Better (BBB) requires preparation in regions/countries with recurring disasters (such as hurricanes, droughts, floods, etc). What preparatory measures must be prioritized to enable effective BBB and improved resilience?
- Enforcement of building codes. Use of climate data to make decisions.
- Recovery plans are necessary to facilitate effective BBB. Building standards must also be enforced so that development mistakes are not repeated.

F. Collaboration, Partnership and Cooperation

36) In accelerating and amplifying action pursuing the outcome and goal of the Sendai Framework: What new or emerging initiatives and partnerships will need to be developed to support governments in the period to 2030?
- Private sector/ women in leadership
- Stronger partnerships between DRM agencies and the private sector as well as community level organisations.

39) In accelerating and amplifying action pursuing the outcome and goal of the Sendai Framework: How can development partners and the international community provide better support?
- By understanding the needs of countries from a cultural, community basis. Too much focus on national level.
- In providing technical and financial support, the development partners and the international need to align their interventions to regional frameworks and plans of action to ensure that they are supporting the achievement of regional priorities.

40) What do you think of the following statement: “Coherence between global agendas (Sustainable Development Goals, Sendai Framework, ...ction at all scales, for the period towards 2030”
7 responses

40.1) What measures do you consider must be adopted to guarantee an integrated and coherent action for the fulfillment of the global agendas at the regional, national and local levels towards 2030?

- A dedicated secretariat whose staff is tasked to compile information from the various sectors and stakeholders is needed at the national level.
- mapping of indicators and strategies
- Need for better integration of the indicators for global, regional and local level DRM strategies and plans to reduce the reporting burden for countries and institutions.
The survey was open from early May to 10 July 2022.

**Respondent’s profile**

The respondents that belonged to an organization, alliance or network were representing the following entities:

- Turks and Caicos Islands Airports Authority
- Grenada Airports Authority - Meteorological Department
- World Meteorological Organization
- Sustainable Development Unit, Ministry of Sustainable Development.
- National Civil Defence Commission
- NOAA Tsunami Program, International Tsunami Information Center, UNESCO IOC CARIBE EWS (Tsunami), UNESCO/IOC IOCARIBE, UN Decade of Ocean Science
- National Emergency Management Agency (including NODS Antigua and Barbuda, NaDMA and NEMA)
- United Nations Development Programme
- Ministry of Public Works, Suriname
- Caribbean Development Bank
- University of West Indies
- University of Guyana
- Civil society organizations (unidentified)
- AGERCA - Alliance pour la Gestion des Risques et la Continuité des Activités
- Statistics Department
- Pacific Disaster Center
- Groupe d’Appui Psychosocial et Réponses aux Urgences (GAPRU)
- Wetlands International / Plataforma Inter Universitaria Guatemalteca para la Gestión del Riesgo InterU GRD
- MEPA Trust/zero waste Antigua Barbuda/ Board Member-Yale International Alliance Caribbean women's network, Alliance for Actions

**Survey results**
4. What is your geographic focus?
32 responses

- Global: 56.3%
- Regional (Multicountry): 12.5%
- National: 15.6%
- Local – Subnational (state, province, department, etc.): 15.6%
- Local – Urban
- Local - Rural

5. In which region do you live or work?
32 responses

- Central America: 65.6%
- North America
- South America
- The Caribbean
- The Americas and the Caribbean
- Other
6. In which country or countries do you live or work? (You can select more than one)

32 responses

- Antigua and Barbuda: 2 (6.3%)
- Argentina: 1 (3.1%)
- Bahamas: 2 (6.3%)
- Barbados: -3 (9.4%)
- Belize: 4 (12.5%)
- Bolivia: 0 (0%)
- Brazil: 0 (0%)
- Canada: 1 (3.1%)
- Colombia: 0 (0%)
- Costa Rica: 0 (0%)
- Cuba: 0 (0%)
- Chile: 0 (0%)
- Dominica: 2 (6.3%)
- Dominican Republic: 0 (0%)
- Ecuador: 0 (0%)
- El Salvador: 1 (3.1%)
- Grenada: -3 (9.4%)
- Guatemala: 2 (6.3%)
- Guyana: 2 (6.3%)
- Haiti: 0 (0%)
- Honduras: 1 (3.1%)
- Jamaica: 2 (6.3%)
- Mexico: 0 (0%)
- Nicaragua: 0 (0%)
- Panama: 1 (3.1%)
- Paraguay: 1 (3.1%)
- Peru: 1 (3.1%)
- Saint Kitts and Nevis: 1 (3.1%)
- Saint Vincent and the Grenadines: -3 (9.4%)
- Saint Lucia: 2 (6.3%)
- Suriname: 2 (6.3%)
- Trinidad and Tobago: -3 (9.4%)
- United States of America: -2 (6.3%)
- Uruguay: 0 (0%)
- Venezuela: 0 (0%)
- Anguilla: 1 (3.1%)
- British Virgin Islands: 1 (3.1%)
- Cayman Islands: 0 (0%)
- Montserrat: 0 (0%)
- Turks and Caicos Islands: 2 (6.3%)
- Puerto Rico: -1 (3.1%)
7. What is your age group?
32 responses

- <18: 40.6%
- 19-35: 34.4%
- 36-45: 18.8%
- 46-60: 5.6%
- >61: 0.0%

8. Your gender
32 responses

- Woman: 50%
- Man: 50%
- Non-binary or LGBTQ+: 0.0%
- I prefer not to say: 0.0%

9. Do you identify as a person with disability?
32 responses

- Yes: 100%
- NO: 0.0%
10. With which ethnic group do you identify? (optional)
29 responses

- Afro-descendant: 20 (69%)
- Indigenous / aboriginal: 1 (3.4%)
- Mestizo (mixed European descent): 3 (10.3%)
- European descent: 2 (6.9%)
- I prefer not to say: 2 (6.9%)
- Afro Latino: 1 (3.4%)
- Indian descendant: 1 (3.4%)

11. For how long have you been involved in disaster risk reduction or disaster risk management work?
32 responses

- No experience: 40.6%
- < 1 year: 12.5%
- 1 to 5 years: 9.4%
- 6 to 10 years: 34.4%
- > 10 years: 40.6%

12. Your type of position(s) (you may choose more than 1)
32 responses

- Technical level, working in disaster risk reduction: 10 (31.3%)
- Technical level, working in other areas: 9 (28.1%)
- Local or subnational authority, working in disaster risk reduction: 4 (12.5%)
- Local or subnational authority, working in other areas: 11 (34.4%)
- National authority, working in disaster risk reduction: 10 (31.3%)
- National authority, working in other areas: 6 (18.8%)
- Regional level: 3 (9.4%)
- Global level: 1 (3.1%)
- None of the above: 1 (3.1%)
- Other: 1 (3.1%)
13. In which sector(s) do you work (you may choose more than one)
32 responses

- Central Government: 17 (53.1%)
- Subnational Government (state…): 4 (12.5%)
- Local or Municipal Government: 0 (0%)
- Non-Governmental Organization: 8 (25%)
- Civil Society: 3 (9.4%)
- Multilateral Organization: 5 (15.6%)
- Private / Business Sector: 2 (6.3%)
- Academia, Science and Technology: 6 (18.8%)
- Community or Social Focus Or…: 3 (9.4%)
- Media: 1 (3.1%)
- Other: 0 (0%)

14. Your work in DRR is mostly related to which of these options (you may choose more than one)
32 responses

- Prevention / Reduction: 26 (81.3%)
- Human Rights: 1 (3.1%)
- Emergency Response, Human…: 16 (50%)
- Policy Design, Planning: 8 (25%)
- Reconstruction and Recovery: 12 (37.5%)
- Financing: 1 (3.1%)
- Education and/or Knowledge: 18 (56.3%)
- Environmental Management…: 15 (46.9%)
- Agriculture: 2 (6.3%)
- WASH (Water, Sanitation an…: 3 (9.4%)
- Tourism: 2 (6.3%)
- Infrastructure, Engineering: 1 (3.1%)
- Urban Resilience, Urban Pla…: 7 (21.9%)
- Health: 4 (12.5%)
- Community organization, citi…: 9 (28.1%)
- Communications and Advoc…: 6 (18.8%)
- Other: 1 (3.1%)

15. Please provide a brief description or background of your work in DRR, resilience and / or systemic risk. If you are completing this questionnaire on behalf of an organization, please provide the organization’s background or profile information. If you are completing it as an individual, please provide individual information. (Optional)

- The Grenada Meteorological Department provides weather and climate information for the nation.
- National Meteorological Service of Belize provides information on hazards to the DRM organization
- Mainstreaming SDGs into national plans and sector plans. Hence, DRR is embedded into the national plans.
- Sustainable Development Unit, assisting in Disaster Risk Management training in rural villages to build resilience in communities that are greatly affected by floods.
- I'm a training officer at the Civil Defence Commission, which is the National Competent Authority with responsibility for Disaster Risk Management in Guyana.
- Multi Hazard Early Warning Systems - Tsunami and Coastal Hazards, from risk assessment, monitoring and warning
- I am a Meteorologist at the Meteorological Service. Therefore, our main focus is monitoring to forecast and provide early warning messages to reduce the negative impacts of various meteorological phenomena.
- As a senior Environmental Officer at the National Institute for Environment and Development I am involved with environmental management, which is related to DDR. The precautionary principle applies hereby, therefore we require contingency plans for new developments. Climate change impacts/projections are usually taken into consideration for large projects but are often omitted in smaller projects.
- I have worked with national disaster management organisations in Jamaica and Trinidad including leadership levels and now work with a MDB in the Caribbean. Have worked in all aspects of DRR.
- "This form is filled out on behalf of my organization "Union des Amis Socio Culturels d'Action en Developpement (UNASCAD)"", which is listed in the UNDRR/Stakeholders Engagement Mechanism (SEM) and UNCSO databases. It is accredited by the UN-Environment and the Global Compact for Migration. It was present in Japan/Sendai at the 3rd Global Conference on DRR, March 14-18, 2015 under the auspices of UNDRR and UN Major Groups. Since 2016 to date, it has been intensively promoting the Sendai Framework.
- You will receive its 2022 newsletter in a few moments.
- Onwards nonstop and forever
- The Office of Disaster Management (ODM) coordinates the implementation of Comprehensive Disaster Management (CDM) in the Commonwealth of Dominica through the National Emergency Planning Organization (NEPO), a governmental organization with responsibility for the planning and organization of counter-disaster measures at central level. This is done in collaboration with national, regional, and international stakeholders from the public sector, private sector, and civil based organizations.
- AGERCA is the focal point for the private sector and the civil society within the National Risk and Disaster Management System (SNGRD) coordinated by the General Directorate of Civil Protection (DGPC). It supports the SNGRD by promoting the Public Private Partnership (PPP) in order to create a great synergy of sharing expertise in the field of Disaster Risk Management (GRD) within companies.
- AGERCA is the focal point in Haiti for: ARISE (Private sector platform funded by UNDRR) and CBI (Connecting Business Initiatives - Private sector platform funded by OCHA and UNDP)
- The missions of AGERCA are as follows: 1. Encourage businesses and civil society communities to identify the risks to which they are exposed and to seek effective solutions in order to avoid any definitive disruption in their functioning and their economic and social activities. 2. Promote good practices in GRD and coordinate response actions by the private sector and civil society in the event of a crisis or natural disaster.
- Emergency communication, Monitoring and Early warning
- collection, analyzing and dissemination of data
• I work in local disaster office on Montserrat and over the years, we have worked communities and other Government Departments to putting drainage and clearing waterways to mitigate against flooding. The pruning of trees from homes and powerlines and advocating for powerlines to be buried underground. Procuring oil spill equipment to deal with inshore spills. Installing Tsunami Signage. upgrading emergency communication system. Establishing CERT across the island.

• The National Office of Disaster Services (NODS) established in 1984. The NODS through its risk reduction management programme seeks to reduce the vulnerability of natural and technological hazards in Antigua and Barbuda, through the promotion of Comprehensive Disaster management (CDM) multi-sector and integrated hazard reduction/management.

• I serve as the director of the National Emergency Management Agency in The Bahamas. My focus is on all aspects of the disaster management cycle, and my responsibility is to ensure that all sectors of The Bahamas is adequately prepared for, and is able to respond to a man-made or natural disaster in a timely manner.

• "https://www.pdc.org/about/ - For more than 20 years, Pacific Disaster Center (PDC) has supported the most demanding government customers and nonprofits worldwide, sharing in the mission to save lives and reduce disaster risk. From the senior level to the operational practitioner—we support disaster management decision makers with advanced science, technology, tools, and information to reduce disaster risk and create a safer, more disaster resilient world.

• As an applied research center managed by the University of Hawaii, we are continuously developing new technologies and best practices to help our many global partners effectively mitigate, prepare for, respond to, and recover from disasters. We work side by side with government agencies, nongovernmental organizations (NGOs), and humanitarian relief organizations to conduct baseline risk and national disaster preparedness assessments, create mitigation strategies, support training and exercises, and to implement our powerful DisasterAWARE® technology.

• DisasterAWARE features a highly advanced all-hazards global exposure model that is unlike any hazard model available today. Developed by PDC to enable anticipatory action during large-scale hazard events, DisasterAWARE provides near real-time analytics about impacts to population, capital, and key infrastructure exposure for multiple hazards, as well as specific humanitarian needs down to a scale of 30 x 30 meters. The system also includes global early warning, hazard monitoring, and situational awareness for all types of natural and manmade hazards. DisasterAWARE is free to disaster management practitioners and the humanitarian assistance community at https://disasteraware.pdc.org.

Customized versions of DisasterAWARE have been deployed by PDC in locations around the world and are used operationally by national and regional disaster management agencies for all phases of disaster management.

• PDC’s free mobile app, Disaster Alert, is used by the public as well as disaster managers on-the-go and offers customizable early warning alerts for any type of natural hazard in any location around the globe. The app has had more than 2 million downloads to date and is free for download on the Play Store and App Store. It can also be accessed online at https://disasteralert.pdc.org.

In addition to offering advanced decision support technology, PDC is pioneering the scientific application of artificial intelligence for disaster risk reduction through its AI for Humanity™ program. Learn more about these innovations at www.pdc.org/aiforhumanity.
The Center also provides specialized research on topics ranging from national fragility and disaster preparedness, to climate change, to women, peace and security. It partners with governments worldwide and others to deliver applications, provide disaster preparedness training, share best practices, and support exercises. For more, visit [www.pdc.org](http://www.pdc.org)

- "I have a degree in psychology, I have expertise in the management of gender-based violence (GBV) and mental health crisis intervention in the community. I have already worked in international humanitarian organizations such as Medecins Sans Frontieres and Medecins du Monde. I am Therapist-Consultant at the Center for Spirituality and Mental Health (CESSA), which provides psychological care in schools for children in a domestic situation. I am also a member of the ""Sociedad Interamericana de Psicologia SiP)."

- As the Chair of MEA Trust and a Director of the ZWAB and serving on other national committees, my aim is to empower local community grass roots organization. it is important and a priority for decisions that impact the lives of people and their environment include them. I value risk informed development where gaps in policy making and planning and design processes are filled by the knowledge of the people. Resilience can be strengthened or it can be weakened so when bad decisions are make that cause harm to ecosystems, people and the environment, then resilience is damaged and in the long run may never be corrected, I see DRR encompassing being an alarmist, been good stewards, being proactive with bold advocacy. with or without funding, people must use their voices to sound an alarm anytime they see and observe danger. I tie such work that I do into the Escazy agreement principles, into community based adaptation which is cross cutting across many conventions and the synergies and integration builds strenght and impact DRR across many fronts.

### Retrospective Review (perceptions of progress from 2015 to date)

16. In your opinion and focusing on the perspective of your geographical area of work, how do you rate the level of knowledge and implementation of ...ork for disaster risk management and reduction?

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<th>32 responses</th>
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<tr>
<td>none to low</td>
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<td>low to moderate</td>
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<td>moderate</td>
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<td>moderate to high</td>
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<td>high</td>
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<td>I don't know</td>
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16.1. Please include any additional information or considerations you would like to share to complement your response (optional)

- Onwards non stop and forever
• your organizations gives parties the knowledge, the tools and resources, and many times, the local groups left out. Yet it is the people who ensure that their efforts contribute to build resilience through their multi efforts of defending the same environments that protect and feed us and leads to a sustainable place for us and future generations.

17. What do you think of the following statement in the context of your area of work or geographical area?: “We are on the right track to...come and the goal of the Sendai Framework by 2030”
32 responses

17.1. Please include any additional information or considerations you would like to share to complement your response (optional)

• I don’t believe much is being done to advance the objectives of the framework, particularly as it relates to governance and investing for resilience.
• Not enough action is taken, in the context of Suriname.
• Climate change is making this goal a moving target.
• The process is not inclusive and until the whole of society is knowledgable, informed and can participate, leaving no one behind, then we are not on track.

18. In your opinion and according to your field of work, considering the measures and approaches adopted since 2015 for the implementation of the ... cities, communities, countries and ecosystems?
32 responses
18.1. Please include any additional information or considerations you would like to share to complement your response (optional)

- No evidence of practical measures or approaches being implemented in Suriname.
- The scale of the DRR challenge is out of proportion to the efforts being made.
- I believe that PDC, along with NDMO and UN and NGO partners, have advanced the Sendai Framework over the past decade but there is much left to do and better data and insights will be key.
- Hazardous event can wipe out society, culture, history and their biodiversity overnight in small island economics so need for full inclusion of people in policy and decision making.

19. In your opinion, how has progress been so far in advancing Sendai Framework Priority 1: “Understanding disaster risk”?
32 responses

19.1. Please include any additional information or considerations you would like to share to complement your response (optional)

- I don’t believe that a comprehensive understanding of risk is available for the country.
- This will only happen when inclusive and participatory processes take place in practice.

20. In your opinion, how has progress been so far in advancing Sendai Framework Priority 2: “Strengthening disaster risk governance to manage disaster risk”?
32 responses
20.1. Please include any additional information or considerations you would like to share to complement your response (optional)

- A lot more work is missing at the local level - advances mostly at the national and regional level.
- Government feel their have the answers and solutions and the local processes have not fully included the majority of the locally registered CSO's

21. In your opinion, how has progress been so far in advancing Sendai Framework Priority 3: "Investing in disaster risk reduction for resilience"?
32 responses

22. In your opinion, how has progress been so far in advancing Sendai Framework Priority 4: "Enhancing disaster preparedness for effective response in recovery, rehabilitation and reconstruction"?
32 responses

22.1. Please include any additional information or considerations you would like to share to complement your response (optional)

- As with the above question on investments, these have been severely impacted by COVID and all its cascading impacts
- Recovery has not been a major focus since the country has not had a level 2 or 3 event in recent memory
- this term building back better is commonly used but same methods of operation still practiced and ongoing.
23. The Sendai Framework states that each State has the primary responsibility to prevent and reduce disaster risk, but that this responsibility must be shared. Of this principle of “shared responsibility” to date? 32 responses

23.1. Please include any additional information or considerations you would like to share to complement your response (optional)

- I don’t believe that all relevant sectors and at different levels are involved in the prevention and reduction of disaster risks. The private sector needs to be more engaged.
- This is critical - but a lot more work is missing, especially with resourcing and empowering local communities.
- The Comprehensive Disaster Management Framework (CDM) of CDEMA espouses this approach.
- The state has not taken on this responsibility effectively as many communities have been left out and people being left behind.

24. The Sendai Framework recognizes that disaster risk reduction requires inclusive, accessible and non-discriminatory participation and empowerment of all stakeholders and whole of society approach? 32 responses

24.1. Please include any additional information or considerations you would like to share to complement your response (optional)

- I think there have been significant advances with women, youth and school age, but people with disabilities are still being left behind.
• from experiences and observation and voices of the people on the airways, major decisions that impact people made without consultations and their access to information.

25. In your country, do you see that gender considerations have been included in Disaster Risk Reduction in ... (choose all that apply):

31 responses

- Inclusion women, and women’s leadership: 23 (74.2%)

26. In your opinion, to what degree has traditional, indigenous and local knowledge been included to guide risk assessment and risk-informed decision-making and investment in your area of focus?

32 responses

26.1. Please include any additional information or considerations you would like to share to complement your response (optional)

- Unfortunately we do not have indigenous populations and memory of traditional knowledge is low, but inclusion of local knowledge is increasing, in my case TsunamiReady program has been key.
27. In your opinion, to what extent has scientific and technological knowledge been included in your respective area to guide disaster risk assessment and risk-informed decision-making and investment? 
32 responses

27.1. Please include any additional information or considerations you would like to share to complement your response (optional)

- Es necesario que las instituciones de gobierno abran la participación de entes académicos y científicos que provean la información para la mejor toma de decisiones

28. In your opinion, to what extent has the private sector been included to support risk assessment and risk-informed investment and decision-making?
32 responses
29. In your opinion, to what extent have local governments (regions/cities/municipalities) incorporated risk knowledge (relevant scientific data) into decision-making for urban or land-use planning?

32 responses

29.1. Please include any additional information or considerations you would like to share to complement your response (optional)

- Post Hurricanes Irma and Maria, people appreciated more the important role of local officials/governments, unfortunately they are under resourced. TsunamiReady aprogram implementation has been key to build capacity at the local level.
- This areas is gaining increasing attention recently
- it is their responsibility but they don’t implement

30. In your opinion, to what extent have local governments (regions/cities/municipalities) been included to support risk assessment and risk-informed decision-making and investment at the national level?

32 responses
31. In your opinion, how much have national and local public policy, legislation, planning and organization changed in your country to align with the Sendai Framework?

32 responses

31.1. Please include any additional information or considerations you would like to share to complement your response (optional)

- The recent review and revision of national disaster management policy and legislation makes reference to Sendai principles
- Hay avances importantes con la realización de guías de gestión integral del riesgo para municipalidades desde la Secretaría de Planificación

32. In your opinion, how important have regional (i.e. multi-country) disaster risk reduction strategies and plans been in supporting national and local efforts to implement the Sendai Framework?

32 responses

32.1. Please include any additional information or considerations you would like to share to complement your response (optional)

- CDEMA’s guidance has been referenced in national efforts to implement Sendai related programs
33. Does your country currently have a national disaster risk reduction strategy?
32 responses

33.1. If yes, how do you feel the national strategy promotes disaster risk reduction at the local level?
26 responses

33.2. Please include any additional information or considerations you would like to share to complement your response (optional)

- USA is a BIG country, and efforts vary across the nation. In Puerto Rico UNDRR/SDG’s are just catching the attention of authorities and communities.
34. In your opinion, how have existing governance and disaster risk management mechanisms and approaches worked in the context of the COVID-19 pandemic in your country?

32 responses

34.1. Please include any additional information or considerations you would like to share to complement your response (optional)

- The DM mechanism was not activated. It was viewed purely as a public health emergency.
- There appeared to have been the use of existing channels for reaching those most vulnerable to natural disasters such as households below the poverty line e.g. social security mechanisms. However these channels were not specifically established for disaster risk reduction or management.

35. In your opinion, what impact is the growing climate crisis having on the implementation of the Sendai Framework in your country?

32 responses

35.1. Please include any additional information or considerations you would like to share to complement your response (optional)

- As a developing country with very limited financial resources it is difficult to keep up with measures against the increasing effects of climate change, such as flooding.
- Climate crisis strengthens effort and implementation of policies and plan for DRR.
36. In your opinion, what impact is the growing climate crisis having on the implementation of the Sendai Framework in cities or communities in your country?

32 responses

37. In your opinion, how would you rate the efforts in your country to harmonize the disaster risk reduction strategy, the development strategy, and adaptation strategies at the national level?

32 responses

37.1. Please include any additional information or considerations you would like to share to complement your response (optional)

- USA is BIG = some places better than others, as mentioned above these discussion are just beginning in Puerto Rico.
- Although DM tries and are included it is often an afterthought and just token representation
38. In your opinion, how would you rate the efforts of cities/municipalities in your country to harmonize strategies for disaster risk reduction and governance mitigation and adaptation at the local level?

32 responses

38.1. Please include any additional information or considerations you would like to share to complement your response (optional)

- In PR it has been very slow to take up these issues at a local and territory level. Still lots of business as usual, with pressure from the private sector.

Looking forward / Future perspectives

39. In your opinion, what are the prospects for achieving the Sendai Framework expected outcome and goal for 2030 based on progress since 2015 and expectations for the period 2023 to 2030?

32 responses

39.1. Please include any additional information or considerations you would like to share to complement your response (optional)

- Not much has happened toward the goal till now in Suriname
- I believe more emphasis will be placed on implementing the framework for the reminder of the time, as the midterm review has highlighted the lack of national progress
"2023 is the key year of the Sendai mid-term review. Stakeholders need to maximize their deep engagement in risk management to achieve efficient and sustainable outcomes by 2030. And I have already made this clear to all UNDRR offices since 03 June, the date of the implementation of the Sendai Framework."

40. Do you agree with the following statement: "Coherence between global agendas (Sustainable Development Goals, Sendai Framework, Paris Agreement) at all scales in the period towards 2030"?

40.1. Please include any additional information or considerations you would like to share to complement your response (optional)

- It will ensure that tasks can be truly crosscutting and inclusive
- This approach is more than obvious. I wish it with all my heart and a hundred miles an hour
- Aunque falta integrar mucho más la Convención de Biodiversidad ya que muy pocas veces se toma en cuenta los temas de conservación y restauración de ecosistemas

41. The systemic nature of risk, in a simplified way for the purposes of this survey, refers to the interconnections and correlation between multiple systemic and interconnected nature of risk?

41.1. Please include any additional information or considerations you would like to share to complement your response (optional)
• A lot more effort on education on systemic risk is needed, it is like resilience years back, poorly understood.
• It is important for all actors to realise how their actions or lack of action can impact the bigger picture.

42. In your opinion, in order to accelerate disaster risk reduction, what value do you place to the transformations towards disaster risk management as...stead of treated as a "sector" in and of itself?

42.1. Please include any additional information or considerations you would like to share to complement your response (optional)

• This is a little tricky as DRR is an should be a distinct sector otherwise it will be ignored and tossed to the side until the next emergency/hazard occurs. It also needs to be integrated across all sectors. So...

43. Considering the systemic and complex nature of risk and the experiences from the COVID-19 pandemic, in order to accelerate disaster risk re...roaches and their management at the LOCAL LEVEL?

43.1. Please include any additional information or considerations you would like to share to complement your response (optional)
• LOCAL is KEY, but in coordination with the national/state authorities.
• I don’t know. relative to the national level? relative to what was done/is being done now?

44. Considering the systemic and complex nature of risk and the experiences from the COVID-19 pandemic, in order to accelerate disaster risk...ches and their management at the NATIONAL LEVEL?
32 responses

45. Considering the systemic and complex nature of risk and the experiences from the COVID-19 pandemic, in order to accelerate disaster risk...REGIONAL (multi country) or INTERNATIONAL LEVEL?
32 responses
47.1. Please include any additional information or considerations you would like to share to complement your response (optional)

- An important section of EWS is often overlooked and that is public awareness and education. A MHEWS is only good if when activated people know what to do.
- The work of entities such as PDC, CREWS, UNDRR, WMO et al to advance MHEWS is essential.
49. In your opinion, to what extent do you consider it necessary to integrate Climate Change Adaptation and Mitigation strategies into Disaster Risk Reduction strategies?

32 responses

49.1. Please include any additional information or considerations you would like to share to complement your response (optional)

- Climate Change seems to overshadow DRR
- Es necesario no sólo integrar la adaptación al cambio climático sino también el manejo y restauración de los ecosistemas.
50. In your opinion, how important are migration processes in your region/country for disaster risk management and reduction?
32 responses

- None to low: 28.1%
- Low to moderate: 21.9%
- Moderate: 9.4%
- Moderate to high: 34.4%

51. Which (if any) do you consider to be the priority actions in your country to include gender considerations in disaster risk reduction (choose maximum of 3):
31 responses

- Include women and women’s rights: 21 (67.7%)
- Systemic collection, use and dissemination of data and information: 14 (45.2%)
- Gender-sensitive plans and strategies: 18 (58.1%)
- Assign financial resources to gender: 15 (48.4%)
- Gender responsive cooperation: 14 (45.2%)
- Gender-sensitive early warning: 12 (38.7%)
- Enabling women’s access to information and resources: 13 (41.9%)
- Other: 0 (0%)

Comments and Recommendations

52. In your opinion, what would be your recommendations for the future implementation of the Sendai Framework? In particular, what do you think could be done differently or where should efforts be focused on in the coming years?

- Effectively communicate risks at the government level so that policies and investments are made in alignment with the targets of the Sendai Framework
- It would be very useful to streamline all agendas at the global level; however, it is even more important to do it at the regional level. More importantly, finances are needed to be made available especially SIDS countries.
- Local empowerment
- On the local community, particular in rural areas among women
- More financial support for vulnerable small developing states
• Cohesion with the SDGs and how one action can lead to progress in both
• Specific reference to funding mechanisms to assist all countries including middle income ones. Greater attention to coherence among international conventions/agreements with aligned areas of focus
• we must invest in the DRR en early warning system.
• Need to share what is being done with the community
• more education and information
• Une meilleure intégration et contribution possible de la planification du développement pour une bonne prévention des risques
• 1- Consideration of civil society organizations that are engaged in this path without funding. For example, my organization "UNASCAD" in Haiti, which has been working very hard since 2015, has no more funding to realize its dream.
2- Creation of a special fund "Sendai Fund" for the last 8 years to facilitate financial access to civil society organizations.
3- Organization of high end programs as this is the weakness of the landing especially of the Sendai framework at the micro level due to the lack of IEC - UNASCAD wants to take advantage of this but due to lack of funding, it cannot.
4- According to the Sendai framework bible, communities are not really engaged.
5- Organize regional and international meetings for civil society organizations. You will see this proposal in the 2022 newsletter, which was submitted to SEM for the 7th anniversary of Sendai - not taken into account.
6- Organization of advanced in-person training for civil society actors including the private sector.
7- Onwards nonstop and forever
• Grater focus on Risk Governance and Disaster Financing
• Improving country monitoring and reporting on the Sendai Framework for Action
• There is currently a SDG committee that has been formed in The Bahamas. There is the need to ensure that all sectors are represented on that committee, and each sector is aware of the contents of the Sendai Framework and of there respective responsibilities.
• Considero importante tener un enfoque integral que incluya la reducción del riesgo de desastres, la adaptación al cambio climático y el manejo y restauración de los ecosistemas como un camino hacia el fortalecimiento de la Resiliencia comunitaria
• put processes in place where the public can know and become involved

53. Do you have any comments, recommendations or links to a DRR case study that you would like to share?
• No
• No
• N/A
• no comments
• The ODPM could have several projects, but the country and communities are unaware of their efforts.
• No
• Not link for the moment but you will receive documents by email
• No
• Not at this time.
• not right now

54. Would you be willing to be contacted for additional consultations or an interview?
32 responses

55. Have you answered this survey on behalf of your organization / network?
32 responses
Participants

Members of the CARICHAM Executive Board and representative of national Chambers:

- Brian Louisy, St. Lucia; CARICHAM Chair
- Cinthia JEREMY, Martinique; Coordinator of CARICHAM
- Liza Fabien, Dominica (also previous CARICHAM coordinator and member of ARISE board)
- Misha Lobban Clarke, Barbados
- Dax Driver, Trinidad and Tobago
- Andrew Satney, St Kitts and Nevis

Other persons interviewed:

- Melany Riquetti, Partnerships Officer (including private sector), UNDRR ROAC

Summary points of the past actions’ discussions:

- Executive Directors of 16 Chambers of Commerce across the Caribbean region signed the MoU in the Official Launch and First Meeting of the Network of Chambers of Commerce (CARICHAM) on 1-2 April 2019 in Barbados. One of the four pillars was disaster risk reduction.
- Today CARICHAM covers 100,000 businesses and is part of the CDEMA group of multistakeholder actors; The same structure is encouraged at the national level and steps have been taken in some countries.
- ARISE national chapters are strong in the Caribbean, and continuously expanding. There is also a regional ARISE chapter through CARICHAM.
- The Chambers report progress in private sector resilience but notes that it has been through hard lessons learned by the devastating hurricanes and the pandemic.
- Private sector has been responsive in the Caribbean disasters (e.g. SVG volcanic efforts, mobilizing emergency supplies, often being first respondents in communities)
- In 2020 the Caribbean Chambers were supporting SMEs on changing their business models on how to adapt to the pandemic, digitalize businesses, etc.
- Private sector role in MHEWS is important for the region.
- The region is characterized by MSMEs, which have different role and needs than larger companies.
The Caribbean private sector highlights the understanding of private sector diversity: ones are in survival mode and others are informing their investments.

The diversity is being applied in BCP and other DRR work in the regional work.

Barriers include that few standard/international models are designed according to the realities of the islands, MSME:s and the informal sector.

Priority 1:

The private sector (PS) in the Caribbean is more focused now on how can reduce risk better. More businesses are aware of what the potential damages are. This is due to many lessons learned and progress in the PS understanding of risk.

DRR is one of the four key areas in CARICHAM, which became evident just after Dominica was devastated by the 2017 hurricane season. Understanding risk is not just natural disasters but about multi-hazards. It is important to provide practical tools and knowledge based on this.

In 2020 the pandemic taught that all is possible, for which risk analysis is needed for the businesses. There are so many unknown from the beginning.

Two studies were conducted on priorities; Caribbean stood out in wanting to work with SME resilience and investment.

Trainings have been implemented for champers on how to access financing tools, digitalization of businesses, etc. Knowledge is growing.

On EWS, new cycle of CREWS has integration on helping businesses to provide data and share reports that could help EWS. It is important to use the tools and trainings on damages and losses to understand the impact. But it is a double way to benefit the businesses as it also increases understanding on how disasters are impacting them. This has not yet been implemented, but it is in the pipeline.

Priority 2:

The existence of CARICHAM and its linkage with CDEMA is part of the governance. Invited to CDEMA group multi-stakeholder actors, and the same structure is encouraged at the national level.

Strategies and plans are linked to DRR and business continuity. It is extremely important.

Strategies and plans are very important, but not alone. Ensuring proper business environment for businesses is also a key on which governance can work.

Currently working on a Centre of excellence on business continuity & operational efficiency: will include thematic areas that will help on the proper functioning of businesses (coming in August 2022).

The shared responsibility (T&T) is not fully operational as the state agencies are not as inclusive. Looking at PS as post-disaster relief efforts and expecting the PS to step up, without having prior planning on how this cooperation should be organized.

“Resilience is a luxury that those who expect to be around tomorrow can debate”
Brian Louisy, Executive Director, St. Lucia Chamber of Commerce Industry and Agriculture, in regard to the situation of micro- and small enterprises in a region of increasing risks
Priority 3:

- Caribbean PS is not homogenous in how their investments are risk-informed. It is different, ones are in survival mode and others are informing their investments.
- Dominica & hurricane Maria: As a BBB practice, businesses learned where they can function, what their risks are, etc. This influences to investments.
- In many countries building codes are not at-risk standard. PS is building these, and they then often need to go beyond what the national level is demanding. They are looking at the long-term, but they need to look after their own existence as well.

Priority 4:

- There has been reduction of disaster risk. It has been through hard lessons learned through the disasters.
- PS was quite responsive in SVG volcanic efforts. Planning when looking forward. Barbados PS made mobilization effort to mobilize emergency supplies.
- In 2020 PS Caribbean was supporting SMEs on changing their business models on how to adapt to the pandemic.
- The pandemic broke the cycle in which they were used to. But it is increasing – climate change, etc. Acknowledge of the PS has increased due to these matters.

Collaboration:

- Increase interest in international projects, EU cooperation, etc. Forecasts, etc. Esp. after Irma and Maria.
- Increase in collaboration overall: CARICHAM has liaised with ARISE Canada and the ARISE-Dominica and ARISE SLU. ARISE Canada aligned with CARICHAM on BCP tool.
- The previous CARICHAM Chair is now part of the ARISE global board. It is considered very useful for the Caribbean. But ARISE only helps to establish and PPP - but not yet supporting the actions. It is an obstacle, that is hoped to be resolved in the future.
- RP21 created advisory group for them to organize an ARISE forum, specific session for the Caribbean on PPP and covid recovery, to showcase the activities and contributions (academia, PS and public sector). Interest to talk with the peers was an opportunity!

Summary points of the context changes and future perspectives discussions:

- Prospects on achieving the SF objective are possible but challenging; we need to look at long-term strategies.
- Now CARICHAM wants to focus on DRR. It is needed in the region and in growing risks.

Priority 1:

- It is important to work with the PS diversity and variety in mind. There are 20 countries for CARICHAM; the portfolio can be very different.
- The Caribbean private sector in going to establish a Centre of Excellence on business continuity & operational efficiency in 2022, which will include thematic areas that will help on the proper functioning of businesses.
• Context shifts: Many unknowns make the risk analysis more important for the Caribbean private sector.

Priority 2:
• There should be mechanism at CDEMA, that respond to the PS DRR needs and enable decisions prior to disasters.
• The Caribbean private sector requests more effort in long-term PPP strategies prior government planning with the private sector prior to disasters, instead of being considered only in post-disaster efforts.
• PS need to be considered at the policy level (to facilitate trade, make the schools work better, etc).

Priority 3:
• Maybe there’s a lack of information on how the PS can benefit on the global climate financing funds for risk financing. Potential to work in these areas. There is a clear future need on financing tools that are adapted to the context of small islands. Financing forecasting and taking into consideration the context of each island and their limited resources.
• Financial resources is how we help the PS to be able to build resilience and to be prepared to future risks. Especially multi-lateral funding entities – knowledge on what kind of financial assistance can be mobilized is needed.
• The Caribbean private sector considers important including the private sector in multi-lateral / international cooperation, financial resources and financial instruments for the context of small islands and MSME:s – This enables the private sector to build public and private resilience and to be prepared to future risks.

Collaboration:
• PPP should not be reactive – need to build this partnerships to enable this and the proper environment.
• Important to consider ARISE opportunities to support actions, not only strategies.
Selected survey evidence:

**Is disaster risk incorporated in public and private decision making and investment as a ‘due diligence’ requirement by law?**

- Not at all: 42.9%
- Only little: 28.6%
- To some degree: 14.3%
- To good degree: 14.3%
- It is of crucial importance: 14.3%

**Have government, business and industry sectors reduced vulnerability?**

- They have increased the vulnerability significantly: 57.1%
- They have increased the vulnerability to some extent: 14.3%
- They have not increased nor reduced the vulnerability: 14.3%
- They have reduced the vulnerability to some extent: 14.3%
- They have reduced the vulnerability significantly: 14.3%
Key informants interviewed for the Caribbean MTR SF:

- Elizabeth Riley, Executive Director, CDEMA
- Sharon Layne-Augustine, Planning & Business Development Manager (ag), CDEMA
- Brendon Taylor, Technical Assistant to Support the Development of Multi-Year Country Work Programme, CDEMA
- Jeremy Collymore, DRR influencer and leader (at the interface of academia and practice)
- Kareem Sabir, Senior Project Officer for Sustainabel Development and lead for DRR, CARICOM,
- Dr. Evangeline Inniss-Springer, Director of the Disaster Risk Reduction Centre (DRRC), University of West Indies
- Anna-Maria Bogdanova, Caribbean CREWS Programme Manager, The World Bank Group
- Melanie Kappes, previous Caribbean CREWS Programme Manager, The World Bank Group
- Pascal Ledroit, European Union Delegation to Barbados and Eastern Caribbean
- Nicolas Louis, ECHO Caribbean
- Tonni-Ann Brodber, Deputy Director, UN Women Multi-Country Office, Barbados and Eastern Caribbean
- Kyana Bowen, UN Women Multi-Country Office, Barbados and Eastern Caribbean
- Ruth Spencer, MEPA Trust/zero waste Antigua Barbuda/ Board Member-Yale International Alliance Caribbean women’s network, Alliance for Actions (covering Antigua and Barbuda and Saint Lucia)
- Anwar Baksh, Planning and Development Officer, Mitigation, Planning and Research Unit, Office of Disaster Preparedness and Management Trinidad and Tobago
- Alana Lewis, MCR Caribbean consultant, UNDRR
- Kerry Hinds, Director, Department Of Emergency Management, Barbados
- Tyrone Brathwaite, Senior Foreign Service Officer (Ag.), Ministry of Foreign Affairs and Foreign Trade, Barbados
- Jennifer Guralnick, Porgramme Officer, UNDRR ROAC
- Saskia Carusi, External Relation Officer
- Jair Torres, DRR Advisor for the Caribbean, UNDRR ROAC
- Carlos Uribe, Programme Officer, UNDRR ROAC
- Melany Riquetti, Partnerships Officer

The following report summarizes some of the key comments and results of the interviews. Some considerations have been highlighted in **bold** and key quotes have been highlighted in text boxes, with confirmed permission to use the quotes. The interview results are also summarized directly in the Caribbean thematic case views when relevant.

I. **Retrospective review**

   A. **Progress towards the Outcome and Goal**
   - Difficult to estimate as there are pros and cons.
   - Overall process going well. There are advances.
   - CSSI is a good progress.
   - Roadmaps have been identified but the processes are lacking behind at times.
“Assessment of progress on achieving the outcome of the Sendai Framework is a two-fold matter. We are very proactive in the region and have a good strategy. But we also have hurricanes that are intensifying in their strength and frequency. Years 2017 and 2019 were devastating. The islands are small, and we need solidarity among the Member States to face the changing climate context.”

Kareem Sabir, Senior Project Officer on DRR and Sustainable Development, the Caribbean Community (CARICOM)

- Two-fold: very proactive in the region. Other trac is that we have hurricanes Maria and Irma. The situation is intensifying. 2017 was an eye opener in that regard of what the future might hold. The hurricanes affected some countries in a devastating way. Kareem Sabir. We cannot handle DRR by ourselves, we need solidarity among the MS and it has been going well. Expectations were exceeded. Doreen affected Bahamas and stood still for an entire day – assessment on the planning side.
- On paper we are on track but the reality is a worsening climate change. Therefore I wouldn’t say we are on track.
- SVG volcanic eruption response showed cooperation. Right direction on cooperation.
- There is progress, better awareness of natural risk and covid-19. Infrastructure put in place.
- When looking at the climate change, many more natural hazards and intensity, rise in the food prices, etc. multi-hazard is new in the region. Vulnerability has increased due to degradation of ecosystems, demographic pressure, sea-level prize. Undermining all the efforts.
- DIPECHO workshops to convene partners and to assess systemic risk and progress is an opportunity for partners. We are all better prepared to face the systemic risks.
- Preposition stock, in Barbados centre, to train the next generation of the emergency logisticians. Important to prepare the next generation.
- The end of tourism due to climate risks? Tourism and the stop of it: CRIF insurance system helped – Japan financed tool (financing) – very core.

H. Progress in Risk Assessment, Information and Understanding

- Has been efforts to understand the risk.
- Particularly relevant in EWS.
- Programmes on risk assessment. Caribbean community on climate change has a programme on DCCA. Coral reefs. There has been effort, but enough? Regional model is one bit of that. Need to localize action.
- Quite a few projects. Then vulnerability side — sectoral level of vulnerability assessments.
- Better understanding and better awareness. Knowing the impact of hazards.
- This one is lacking most (CDEMA): initiating efforts for common approaches but it has not delivered. Gap area we have to treat.
- Gradual change in the understanding of risk and systemic nature of risk in the recent years. Expose that happens. 60s and 70s started already, preparing to hurricane season. Consistent increase of understanding of risk.
- As academia, we have been part of helping to understand what risk means.
Post-graduate certifications on risk management. Working towards masters level to provide that knowledge. Also in professional development, not only in academic.

UWI connection to the CDEMA and NEMO: last year MOU. Working with them on the regional training centre. Work with several levels.

Data and information in UWI: with support of UNDRR has just concluded systemic risk in the Caribbean. Part of TAC meetings to cooperate.

Caribbean risk information tool – cooperation exists with UWI and community level connection. UWI is working with CDEMA to enhance that tool. IFRC handed it over to CDEMA and now enhancing. SVG, T&T and Dominica are pilots. Not only theory side.

Local voices are not there. They are not consulted. Spencer works with this; not working with individuals but communities. 15-20 groups. Partnered with the private sector on the process. Now building the capabilities of the registered groups.

Local groups have the knowledge and in the Caribbean the local conditions are the ones that matter.

Moving to protected areas, but the Government is giving those to the investors. Groups are then seen as troublemakers. DRR requires you to be proactive. Trying to build alliances with different stakeholders: churches, political actors. They are the ones who see in the local level what will happen if this development continues. Sometimes the national level does not take the local level into consideration enough.

I. Progress in Risk Governance and Management

CDM Strategy is a good effort and way to work in the Caribbean towards DRR.

Too often we ask the countries to align. CDM strategy is a regional articulation. Need to revisit the UN frameworks and its institutional level to serve the region and align its actions. There is already alignment in the design.

Local level: Inclusion of vulnerabilities. District emergency organizations – non-governmental organizations but government is supporting them.

National level. Several sub-committees. All-of-government approach.

Regional approach is complicated but CDEMA is looking at that. Agenda item in the heads of governments meetings as well in CARICOM, because it is so important for the region.

Very interesting regional integration has been in process. In the Caribbean it is very integrated, not like in other regions where the countries are very independent.

Planning level: the CARICOM priorities. Bringing resilience to the centre of the development agenda. One hurricane can wipe away 100% of the crops. Caribbean cannot do without resilience; CARICOM strategy is a resilience – CDEMA is a Caricom institution in coordination role. Resilience strategy is crosscutting to all sectors of CARICOM.

There is progress. Situation is not same in each country. 2017 hurricane season was a gamechanger, it contributed to the awareness of the governance systems.

CDEMA states are doing very well. Target e is the one we have worked a lot with. Culture in the region to develop multi-year CWP:s. Even though not in the original timeframe.

A&B invited DRM consultation 3 CSO groups, but where are the rest? Spencer gave them a list of the groups and is organizing the structure. Between local and national.

CDEMA, banks, donors, etc. They don’t reach to the people. They think it’s too much work. But in the local level there are also people who work voluntarily. But the government level is not doing the extra work. NODS has never been invited nor consulted, but knows them well.
- Civil society: Donors need to consider and reach out to the local level. There should be related processes in place. DRR is everybody. CSOs do most of the work with the people in the communities; the government should assist them to get the work done. We must have consultation. This should be people-centred. It requires two-way work. Government plans are like state secrets – no-one knows about them.

J. Progress in Investment in Risk Reduction and Resilience

- Significant recognition of the issue, how we resource interventions. How we finance and how it can be incentivised towards the private sector – that has been a major change.
- Data analytics and how we connect it to the risk financing has been essential.
- Majority is coming from the national budgets. They are doing as much as they can with what they have.
- Monitoring the expenditures is an issue. Also, in response side.
- CDB organized a conference.
- Need to better understand the investments in the national level.
- Participated in the UNFCCC technical paper in 2008: financing. Made it clear that the allocation of resources is not an indication of the ability to use them. IGO. Inequity to access funds, timing (5-year project, but then 3 years implementation once approved), demands with cost. Discriminatory in comparison to other regions. Processes are completely different - Caribbean is speaking about it.
- This has been a continuous issue on the highest level for a long time. Financing development (water, schools, etc) needs factoring in resilience. Along with GDP with development financing. We are not there yet. Graduated to middle-income status, but still full GDP losses in disasters. We need favourable conditions to finance for the hazards we did not cause. Public investment.
- Climate financing issues have been:
  1. Climate financing is inadequate.
  2. It is unpredictable.
  3. Met resistance on ODA criteria – thinks that ODA should not be a factor for SIDS.
  4. Of 100 B a year; but Caribbean does not receive more than a fraction of that. Trillions for year in adaptation is what is needed.
  5. Limited capacity – not meeting all the criteria.
  6. Permanent agenda item in the CARICOM.
- For Caribbean climate change and Sendai are the same.
- Big improvements. Development of the CRIF. With WB managed to support risk financing mechanisms in the region.
- Discussing regional carbon: one tool that can contribute. With different PS and stakeholders.
- PS role is very critical. PS needs to invest in different aspects of the risk: building codes, PS has been working on that.
- CCA through global climate financing used sufficiently?
  Capacity issue: GCF opportunities opened for the region: preparation of proposals – needed training on how to complete the formats and type of data that is required – many countries had concerned. Significant constrain. Issue of implementation is something we need to overcome in SIDS. Small offices that are trying to do many, many things.
- Continue to get investment. But transformational scale of investment. Can get smaller interventions, but transformational change is still needed.
- Really in connection with the CC matter. There are opportunities in the upcoming climate call.
• Mitigation – adaptation matter remains an issue.
• Caribbean economic situation in the pandemic and the related consequences may further increase the risks.
• CRIF – UWI had a MOU with them. 2020-2021 piloting, during pandemic. Also work with the WB to bring the financial spaces.
• Comprehensive climate course, also dealt with.
• Artificial space. Tight budgets. Commitment at the highest level to support the DRM, but there are priorities that are not enabling it. There’s always someone to offer you external support – there’s that kind of thinking. We need to have those consolidated lens on what that financing looks like – to see if it is adequate.
• There is a need for more investment and needs to be included in early action and risk understanding. They are interlinked.
• Whatever comes goes to the government level, national level. We don’t see the financing in the local level. Environmental sectors are not funded enough, and the funds are not directly for this purpose.

- **EUD**: TOTAL 60 M EUR. **MIP CARIBBEAN 2014-2020**: GREEN ASPECT IS AN IMPORTANT TOPIC TO ADDRESS IN THE CARIBBEAN – GREEN DEAL POLICY. INVESTING IN CLIMATE MITIGATION AND ADAPTATION. SIDS & CARIBBEAN ARE VERY PRONE TO THE – PUTTING THE BULK OF THE MONEY TO IT.
EUROCLIMA 35 M EUR. SUPPORT THE CRIS, CLIMATE CHANGE, FOR CASRIBBENA STATES, TO SUPPORT ADAPT AND INVEST IN MITIGATION. **NEW 15 M WB TO IMPLEMENT THE REGIONAL FACILITY. AFTER HURRICANE IRMA AND MARIA THIS DECISION.** INVEST IN CRITICAL INFRASTRUCTURE IS INCLUDED. SUPPORT HAS INCREASED A LOT, SINCE 2015. **AFTER IRMA AND MARIA INCREASED SUPPORT TO CDEMA. COMPONENT ALSO THROUGH ECHO. REGIONAL RESILIENCE BUILDING FACILITY (37 M).**

“The COVID-19 pandemic was not only a wakeup call, but it was a boost to another level of complexity and understanding of the systemic risk”.
Nicolas Louis, Disaster Preparedness Expert, European Civil Protection and Humanitarian Aid Operations (ECHO) Regional Office

K. Progress in Disaster Preparedness, Response and ‘Build Back Better’

• **COVID also presented opportunities.** Resilience being the path in which they are on. COVID also showed us that we are able to adapt quickly.
• **Now it is different than in 2017**; more interest in the different ministries and more interest in the top-level ministries.
• BBB speaks to many contextual aspects. If you are really applying risk information to development.
• Putting the government in the driver’s seat. Recovery financing is determined by the donor.
• Regional response mechanisms – harmonized approach to the response to disasters that has been tested and developed with hazards. Preposition technical experts and financing. **Sub-committee of donors who support that.** Recent review of that to include psycho-social
support to the experts. If you take a regular engineer, they are not ready to see what they see.

- Coordination of civil-military personnel. Canada and US involved. Coordinated manner, there has been improvement. One country may not have capacity to respond in the region – acknowledgement.
- There are gaps.
- Progress in EWS, it works better than in the past. Caribbean group (REWSC), led by CDEMA and RC. SVG volcanic eruption was part of this, no causalities as was evacuated. Support from donors, well organized. Both EW and early response has improved.
- Recovery: EU takes time to mobilize.
- We need to look at the digital resilience – how to get the schools and small businesses to work – BBB has taken a broader agenda and meaning. During Haiti earthquake there was cholera as well – it is not new.
- Concrete recommendations, scaling up the regional responses. More to do with what we anticipate in the future. Recovery component – movement here definitely; CDEMA has placed mandate recovery facility in the Caribbean last December. Gamechanger for the region, to put in place mechanisms for the region in recovery (UWI)
- UWI: BBB thinking but not in practice as much. But has there actually been BBB? 2017 really pushed the resilience agenda towards BBB. But whether you can see if you are BBB, you need to see if it actually better. Physical and systems level are the two ways to assess it. Not sure if the systems are fully at the level that they are built back better. COVID-19 pandemic allowed us to use quite a number of systems that had been established for physical infrastructure and adopt them quite easily. From a systems level systems are resilient because they allow us to adopt us to the shock. A lot came from DM lens.
- Shelters provided from the government in response. But they are more rooms in schools etc. Personally makes room available during hurricane season for people with special needs, because this is not well done by the central system.
- Vulnerable groups: the government doesn’t really know these people. Community church knows where these people are. Disproportionately affected. Percentage of disabled people in the Caribbean. Blind people living by themselves. Housing is very poor. Shelters are not long-term; bathrooms are outside, it is not good for disabled. Shelters are not safe for women and children; some shelters men take for advantage.
- People open up their homes for the less fortunate is a good practice in response.

L. Collaboration, Partnership and Cooperation

- Strategic partnerships are a key piece as well.
- World Bank, UN, etc, all have one agenda but not enough collaboration. We need one agenda. Agenda for humanity – make the countries and their needs at the centre of the interventions: not the brands of the organizations or priorities of the donors.
- Streamlining relief response. It is more country driven; it is not necessarily money. Standing committee. It is coordinated now and responding to the needs. Before each donor was offering the same things.
- Coordination is better. New platforms and groups (REWSC, etc), ECDBD), that meet on a regular basis. Different donors and different banks ad UN agencies. Important to align EU support (considered by the donor itself).
II. CONTEXTUAL SHIFTS, NEW AND EMERGING ISSUES AND CHALLENGES


“As a region we are getting comfortable getting uncomfortable. Global trends have definitely been a driver for us to change our understanding of risk and what we are doing to influence resilience building behavioral change”.
Dr. Evangeline Inniss-Springer, Director of the Disaster Risk Reduction Centre, University of West Indies

- Caribbean has many types of hazards. Nature of risks has a bigger influence of external factors. Climate as the first issue of course.
- Before we never saw a cat 5 hurricane, now we see it every year or every second year, or twice a year.
- 1.5 failure to meet that is going to have indications to the existential threats of the SIDS and in the Caribbean region. In the Caribbean we have seen the rapid intensification of the systems is of a great concern. Irma, Maria, Dorian: we have extreme scenarios. CC is gaining momentum – it is continuously going to change priority 1 as well – we need to have dynamic systems which adjust quickly to the aftermath of impacts. Level of vulnerability of: to apply to NDC:s quickly.
- COVID-19 compounded on top of the hurricane season and the volcanic eruption. The country learned to manage multiple disasters at the same time.
- COVID-19 has shifted the socio-economic context of the countries. For heavy dependency from tourism.
- What has been the matter of COVID-19 in the human capacity in the region? In SIDS, this may be the only capacity in a certain field.
- COVID amplified the effects of the other disasters in the region. Case of Haiti 08/21. SVG: covid, dengue, volcanic, followed by a weather event in April, resulting in landslides and floods.
  - Strengthened readiness actions and cooperation with sectors, such as health sector and sector level readiness overall.
  - As a region we are getting comfortable getting uncomfortable. Global trends are definitely a driver for us. Climate is changing
  - People aspect – recognizing that in order to win, we need to get people to change their behaviour and how they view their own personal vulnerabilities.
  - Political value proposition for the resilient Caribbean states. It has created a more collaborative approach. Facilitated new thinking and new conversation on partnerships. No longer risk blind development – there is more understanding of risk.
  - Food insecurity is in the level never experiences in the Caribbean. Or long time ago. 4th Caricom food security survey. WFP in Dominican Republic food security assessment and the situation in Cuba.
  - Operating in the global context.
- Barbados specially mapping hazards. Informing development agenda is eye-opening for the political agenda, when it is based on the severity of the situation. Understanding that it needs to promote the risk financing and resource mobilization is a game changer.
- Civil society: Resilience has been weakened. These people see tourism as investment. It is always hotel-based; close to the beach – these are wetlands, that need to be protected. We have no water in the island, because the wetlands are destroyed. When you don’t conserve you are going to suffer from drought; we are going to see problems in fishing, agriculture, etc. We want to stop the harm. We need to be proactive.
- Government only looking at investment; there is a clash. Gov signs to these conventions but then they forget they are supposed to act accordingly, vote accordingly. Ill-advised development. CSOs in the region are seen as bad guys.

D. Emerging Issues and Future Contexts – Prospective (to 2030 and beyond)

“Though June 1 remains the official start date of the hurricane season, in the Caribbean, because of the climate change, a hurricane can now happen anytime”.
Nicolas Louis, Disaster Preparedness Expert, ECHO Regional Office

- Academic contributions to be used is needed. Greater marriage between academia and the new articulation of risk knowledge. Rethink what is the selective inclusion and how we can base our DRR on evidence.
- Disaster understanding needs to be linked to climate change and sustainable development. That is the Caribbean resilience agenda. Goes beyond the government and is cross-sectoral and needs to be inclusive. Given the systemic nature of risk, there needs to be another dimension which is foresighting. Countries need to start thinking what is changing ahead. Adaptive foresighting matters – Sednai expectations.
- Planning for eventualities. Caribbean is one of the most vulnerable regions in the world.
- Climate change issues are more and more in consideration. Sea level rise – relocation is already taken place and entire islands are being evacuated in the event of a hurricane.
- We find ourselves almost in constant state or recovery.
- Migration is an issue as well in disasters.
- Climate change and global warming is not very optimistic. Prospect is not very optimistic.
- COVID-19 pandemic is explanatory that there are new risks and hazards. Caribbean and the world is not prepared to face. International crisis such are change drivers in DRR.
- The vulnerability of SIDS, the dependency of the tourism and remittances, and the impact of the climate change.
- We are no longer considering June 1 as the start of the hurricane season, as a hurricane can now happen anytime.
- Recovery capacity and BBB is being challenged.
- We are together preparing for the next hurricane season. And economic recovery of the pandemic.
- Future foresight: All of governance approach. Good progress in going forward with the SF. In priority 1 it is the science and the tools – are they sufficiently positioned to really understand the risk? And the dynamics, how the risk changes, the extend of its complexity? This is one of the biggest challenges we overcome. We need to crack it. As it changes in a short period of time.
III. **PROSPECTIVE REVIEW AND RECOMMENDATIONS**

G. **Recommendations for realising the Outcome and Goal of the Sendai Framework**

- We are going to the right direction, but how the context is worsening it always balances it out.
- Sendai feeding into the regional strategies is essential in seeing the impact. Framework is equipped to achieve its targets and objective, but there is a systemic risk in the increasing risk of the Caribbean, which have the capacity to outrule progress.
- There is progress but with increasing threats not sure if it is possible. Without the SF in comparison would be worse. Initial target is not necessarily realistic.
- No. It’s just an aspiration.
- Very negative impact of the pandemic to the economies and therefore to the implementation of the sendai. All diverted to the pandemic.
- We are on good progress. Despite our differences.

H. **Progress in Risk Assessment, Information and Understanding**

> “Planning towards resilience and the implementation of the Sendai Framework in the Caribbean requires understanding of a context with high inter-dependency of sectors and actors. We work in the center of the systemic risk and with the impacts of the climate change, and this needs to be considered in risk understanding. But these phenomena are also in constant change and increase. Therefore, it is important to plan with future foresight – not to plan a system to work in the current reality, but to work in the context what the situation of the SIDS and the Caribbean will be like in 5-10 years”.
> 
> Elizabeth Riley, Executive Director, CDEMA

- Sectorial assessments and financing mechanisms to support that – there are already progress on sectoral risk assessments.
- Global satellite data is not always available. Need indigenous capacity to risk assessments. And local knowledge.
- More high-level advocacy is needed. We have to demystify resilience – it is not only for the DRM professionals, but to get the average citizen to understand what their personal responsibility is for their personal resilience and what it means for their families. If those two ends are not working in the optimal level we are not getting anywhere.
- Local CSOs and local communities need to be part of the workshops to contribute local knowledge, they need to be invited. Not only government side, but everyone, donors, etc. There needs to be follow-up.

I. **Progress in Risk Governance and Management**

- There is effort to revisit CDM strategy already now. Needs to be with an anticipation – early warning and early action – anticipate changes based on the foresighting. This needs to be integrated in the strategies.
- We need to prepare ourselves. **Embracing the academia and the PS because they are doing the research and innovation.** Nature and structure of risk management institutions require a change. It is inevitable.
- Development that is not risk informed. Local activities can be supported and facilitated. Risk informed development needs to be supported and conducted. Risk understanding is part of this.
- **Technology and information. Data sharing. These are not things that governments do.** PS and academia role. Global institute for climate smart and resilient development – UWI initiative.
- **Could benefit of more decentralized approach.** CDEMA has the lead role, they would need to have a coordinating role instead, but to strengthen the countries capacity. **Sectoral efforts need to continue.**
- Government to be more effective: procurement, make some savings and improve the governance overall. **Small islands is not easy to do procurement.** Room for improvement on building standards, working on it with CDEMA and WB, etc. Resilience 360 degrees – report (WB).
- **Social protection needs to be developed.** Grassroot level needs to benefit of this. Build better these systems is a good way to target the people.
- We have quite a number of institutions. Enabling framework and processes are there. **Competing mandates exist that we are working around.** We need to resolve them.

J. **Progress in Investment in Risk Reduction and Resilience**

- **Investments in insurance scheme? Yes, definitely. Caribbean Catastrophic risk insurance institution has been instrumental.** It is essential for countries to start recovering. Caribbean regional fiscal mechanisms. Agriculture insurance scheme is also developing and needs to develop. **There is always a challenge because they will see their own interest as well (increasing risks, increasing costs).**
- **Climate financing or development financing. Both ok, but we need to increase it.**
- Disaster risk financing strategy. Risk they take when they invest in certain facility. CRIF and WB – with discussions.
- The problem of CDEMA is on the financial challenges.
- Finance needs to be scaled up.
- Financing is something that needs to be enhanced. Working together. With CDEMA and its strategic partners.

K. **Disaster Preparedness, Response and ‘Build Back Better’**

- **Scaled up impacts in the future.** We need to invest more in the regional response mechanism.
- Priority 4 definitely possible – the way we are moving in the Caribbean is impressive.
- **We need to enhance how we document those good practices so we can share and learn from one another.**
“The International Community needs to commit to the 1.5-degree goal. If we don’t limit the global temperature, then the effectiveness of the Sendai Framework will be compromised”
Kareem Sabir, Senior Project Officer on DRR and Sustainable Development, CARICOM

- Resilient infrastructure is a key to make development work.
- It is becoming clear that it is not just SIDS, it is affecting all. If we don’t fix and turn around.
- If we look only ODA it cannot happen.
- Involvement of the PS is crucial in this.
- We don’t achieve enough progress, need more collaboration.
- It’s all about working together in the same direction. It is in the leadership of the regional organizations and the cooperating partners.
- Arrival of the pandemic was impressive – leadership that diverse (CAFA, OPS). Outstanding. UWI was cooperating.
- Red alert of the volcano one day before. It was good. It was super effective. Evacuation plan had been drafted more than 10 years before. Preposition stocks.
- Cash support, external partners (EU) came in.
- CDEMA needs more support and financial independence. Currently temporary positions or seconded positions (by the UN). Need to invest more in regional capabilities.
- Quite a number of actors coming to the region. We need an appropriate mapping of what the different entities are doing. There are overlaps and some duplications. Redundancy allows you to have this catch. Rather to have 6 partners to work with one country, we should consolidate and having a mapping of what is being done and who they are targeting.
- When you works together you can build capacities. CSOs don’t know everything but they are on the ground. They need to be strengthened. Working together.
- CSO met an actor and is now in a board of directors. By sharing you can build relationships; there are donors who are looking to implementors. Leads to good outcomes. It would not happen if I was not in these meetings. Local person can really tell the story.
- Invisible CSO network on the ground. What about the people on the ground. Caribbean region is one of the hardest groups to have the voices represented. Local people are the key stakeholders. Local SCO work is sustainable because they don’t do it for money.

“The people at the local level are the main disaster risk reduction stakeholders”
Ruth Spencer, Board Member of the Yale International Alliance Caribbean women’s network and Antigua and Barbuda local community representative

Gender chapter

21. In your country, do you see that gender considerations have been included in disaster risk reduction in ... (choose all that apply):

A) Inclusion women, and women’s voices, in disaster risk reduction leadership
- Engaged with several national gender machines and stakeholders
- Which women are we engaging? Are we really leaving no-one behind?
- Need for women at the ground

B) Use of gender analysis and sex-disaggregated data

- Engender project is now focused on collecting baseline data prior to disaster. Regional level and CARICOM are now using the sex disaggregated data.
- But are they fully using the analysis – not so much yet.
- We need capacity strengthening for data collection and analysis. Policy to make it a requirement.
- Decision makers: not fully understand the added value of the gender lenses. Advocacy – SF is a good incentive.
- Highlighting a gendered impact. As many people don’t even understand what gender has to do with climate change. This is the first step for ownership.
- The statistics of the two fields do not speak to one another. DRR as part of a broader development and economic policies is needed to be considered more.
- UN Women leading risk profiles when not taking the gender considerations forward.
- Invisible data/ gendered data: A big challenge of the informal sector of the economy – a huge gap.

C) Gender responsive plans and policies

- Not considered enough. Climate policies exist but they are not gender responsive. Good at saying the right things in the region, but they don’t go to implementation. Not tied to broader economic dimensions.
- Need to be gender responsive and gender responsive budgeting.

D) Assigning financial resources to gender-responsive DRR

- Caribbean are heavily in debt. Most of the financing comes from GCF. Etc. It is going to be gender responsive.
- Challenge now: Is it tied to larger dimensions. Are we doing it for own understanding, or for external pressure.
- Gender as a behavioural change.
- Gender responsive social protection. Many women are in the informal sector. Some countries are working with women to have their businesses officialised. Cooperate with WFP, who are a key here.

E) Gender responsive mechanisms for cooperation and partnerships

- We have a really good policy.

F) Gender responsive preparedness and early warning systems

- Community level agencies – they just look at the number of participants.
- CDEMA training national agencies of gender responsive work.

G) Enabling women’s access to financing and basic services

- Impact of COVID-19 has really opened a gateway to some of these considerations.
- People who were affected, including women, to be better able to access.
SIDS CARIBBEAN REGIONAL WORKSHOP REPORT

- SIDS’ Regional Workshop “Challenges & Best Practices in Implementing the Sendai Framework” was organized on 6th July 2022, from 9:00 am to 12:00 (AST)
- Caribbean MTR SF took part in the workshop as an observer to report and use the consultation results as inputs for the Caribbean MTR SF process. Key inputs are presented in the following sections. Italic represents the data provided to the participants, and “Caribbean responses” are the inputs form the Caribbean used in the MTR SF.

Purpose of Assessment

- Identify challenges, constraints, achievements and gaps that SIDS face in the means of implementing the Sendai Framework for Disaster Risk Reduction
- Document, synthesize and consolidate SIDS’ experiences/data
- Identify key messages to be used by SIDS for advocacy purposes
- Build momentum to support SIDS’ DRR-related needs
- Inform the mid-term review of the Sendai Framework with a SIDS’ lens

Presentation & Discussion on Means of Implementation

Means of Implementation (MOI) in the Sendai Framework and the SAMOA Pathway

- Main means: Partnerships, financing, trade, Capacity Building, Technology, data and statistics, institutional support
- Coordinated, sustained and adequate international support for DRR, through bilateral and multilateral channels, including through enhanced technical and financial support and technology transfer on concessional and preferential terms
- Access to finance, environmentally sound technology, science and inclusive innovation, as well as knowledge and information sharing through bilateral, regional and multilateral collaborative arrangements
- Use and expansion of thematic platforms of cooperation, such as global technology pools and global systems to share know-how, innovation and research and ensure access to technology and information on DRR
- Integration of DRR measures in development assistance programmes (poverty reduction, sustainable development, natural resource management, the environment, urban development and adaptation to climate change.)

Photo: SIDS regional workshop, 6 July
Presentation of Key Questions for Discussion

Constraints in Accessing Financial Resources for DRR

- SIDS especially reliant on development partner support (ODA and remittances), yet disaster risk financing low priority in total ODA funding
- Disaster-related financing is unbalanced: Ex-post financing higher from humanitarian budgets; ex-ante financing more difficult to access. Ex-ante financing on prevention, risk and vulnerability reduction and preparedness, resilience building, is comparatively lower
- Climate and disaster funds have complex eligibility requirements:
  - Preferential measures for LDCs may not apply for middle-income countries
  - type of funds (ex-ante or ex-post), scope of funds (prevention, transfer, preparedness, response, or recovery), financial instrument (grants, loans, insurance, bonds, technical assistance); whether funds need to be leveraged with other funds.
  - Different mechanisms having different rules, applications requirements, and governance arrangements.
- Grants and concessional loans often do not take into account multidimensional vulnerability or levels of exposure (exceptions: e.g. World Bank’s small island economy)
- SIDS usually not treated as a group. Funds by the ADB, AfDB, and IADB provide funds for SIDS that are linked to location.
- High levels of debt; reduces credit-worthiness and opportunities for loans
- Government and community assets are not adequately insured and few have financing reserves to fund post disaster recovery
- Challenges in financing Multi-Hazard Early Warning Systems, insufficient investment for DRR sectoral mainstreaming
- Private financing mobilised to SIDS does not prioritize disaster prevention (private sector small)
- Access to and speed of distribution of existing funds is a challenge (e.g. Green Climate Fund)
- Overlap between DRR work and CCA work (e.g. JNAPs) more financing available for CCA than ex-ante DRR initiatives; difficult to measure DRR results with CCA indicators
- More instruments and more modalities: e.g. rapid credit facilities and deferred drawn-down loans. Not all SIDS have access to these instruments on concessional terms.
- Innovative financing tools are limited (e.g. bonds in the Blue Economy, climate finance); innovative needs for debt restructuring
- Post-disaster financing focuses on humanitarian needs: tends not to support activities over longer timeframes, preventing more risk-informed recovery, reconstruction and strengthening of resilience
- Better and systematic tracking of financing for disaster risk reduction is needed at national and international levels, including development budgets and investments focused on risk management
- Disaster risk finance funds may be more aligned with donor priorities rather than country preferences

- What SIDS-specific constraints are you facing in implementing the Sendai Framework?
- In terms of financing challenges, what is the biggest challenge? (e.g. preparedness, monitoring, post-disaster needs)
- What weaknesses exist in the current multilateral, bilateral financing mechanisms that need to be addressed (e.g. is it challenging to qualify for funding? Are there issues related to access?)
Caribbean responses:

Aligned with donor preferences – supporting the presentation statement. Need to have CWP to apply financing. We need to put in place proper measures, including the private sector and micro-insurance and to enable access. More funds in prevention and mitigation.

CCA has not been prioritized in financing. CWP helps to identify priority areas – we need to have it to enable the donors to prioritize our priorities, so that the donors can better help us to achieve our goals; and to have different avenues to access these funds.

Agrees with the presentation constrains, particularly the complex eligibility requirements. Capacity is a constrain – we do not have the capacity to pull out these application processes. We have CWP and a DR policy. Green bond project launched.

Structured baseline data is needed.

CC and DRR are the same thing. They are often understood as separate, also in institutions. We need to merge these.

Capacity constrains

- Low HR capacity/staff to manage projects, apply for grants, monitor projects and initiatives
- DRR requires range of analytical expertise; DRR-related data is complex, data-heavy, evidence-based
- Loss of expertise; “brain-drain”; skills retention a challenge
- Complex global development finance architecture: difficulty to understand requirements
- Low institutional capacity to provide concept notes and pass accreditation process of funds; time and cost
- Negotiations and packages with multiple donors creates burdens of reporting
- Access to funds requires different processes to be underway simultaneously; challenge with small staff and timing of initiatives
- Lack of country capacity for attracting climate-friendly investments
- Small population size and high geographic dispersion pose structural constraints that challenge availability of institutional capacities
- Small economies and geography: damages can be far greater than the productive capacity of the country to respond
- Focus on governance/policy less on-the-ground impact
- Infrastructure: power supply, communications lines
- Lack of application of data generated; analysis needed
- Co-financing and high project management costs

Data and technology

- There are many existing EWS initiatives (improvement from 2015-2020); coordination needed between projects, national and regional levels
- Limited historical data
- Early warning systems focus primarily on cyclones and flooding, less on tsunamis, earthquakes, volcanic eruptions
- Incomplete Multi-Hazard Early Warning Systems
- Risk management in the areas of hydrology, oceanography, coastal planning still needed
• Maintenance of monitoring hardware and software; limited annual budget for routine maintenance
• Difficulty in assessing slow onset hazards
• Greater support required on risk knowledge and monitoring
• Difficult to access/apply earth observation (by satellites) to understand challenges on environment and impacts on populations; More downscaled resolution needed
• Limited capacity for pandemic response and recovery
• Lack of measurement of social vulnerability and impact
• DRR-relevant information managed/stored in ways that make it challenging to be reused/accessed
• Analysis of risks needed to inform insurance and other forms of risk transfer and risk sharing mechanisms, contingency funds or contingent credit lines
• Caribbean piloting novel technologies: virtual reality to train communities; mobile payments; disaster risk awards

- Knowledge and data gaps have been identified as constraints—what specific knowledge or data is missing? What can be done to make that data available? What investments are needed? Are there any shared regional resources/hubs that can be used for generating data?

Caribbean responses:

There is data but it is not shared and left to one agency or office. Many donors support different assessments. Challenges in the existence of literature.

Data exists in the entities but as it is not aligned with the SF we cannot use it in SFM or similar. There is a gap in the alignment.

Need to ensure data is connected to CWP:s. Coordination with academic institutions and NDOs. In Tobago there was a valuable knowledge base at the community level, but the institutional side many times do not see this. Hidden data: Data exists but is deliberately withheld; it is not always favorable and might make the politicians look bad. SVG agrees with the hidden data issue and is concerned of it.

Qualitative data available; need to better digitalize and analyse it, so that it can be accessed and used by different actors.

Greater coordination with the data entities and the SF entities.

Institutional challenges

• Monitoring, Evaluation and Reporting framework for implementation of DRR challenging
• Lack of human resources
• Unclear responsibilities among stakeholders
• Inadequate mainstreaming across sectors
• Unenforced codes (building, zoning)
• Unavailability of business continuity plans for state institutions: low private sector participation
• Go beyond donor required risk management strategies
• No regional policy or strategy guiding cross-border evacuations in the Caribbean; ad hoc bilateral agreements serve as guidance tools
**Human resources/staff availability** can be an issue in SIDS; how is this manifested in implementing DRR?

**Caribbean responses:**

Need of human capacity for preparation of the complex financing application (from the financing section).

Many products need to be outsourced because the country capacity is not enough.

Donors provide a couple days capacity building initiatives but it’s a larger matter. Longer term capacity building is needed. It enables to better access the funds and to understand the complexity overall. There are experts who know how to access this funding; it may be deliberative matter that we cannot access them.

**Institutional challenges**

**Caribbean responses:**

Even when a legal framework exists, do the NDO:s get the support of the other related sectors and offices? That may undermine the progress. NDO is not in the position to mandate anyone to do anything. Cabinet approved SF for implementation and assigned it to NDO. Then the other sectors understand it as NDO responsibility. National multi-stakeholder platforms are needed for a whole-of-society approach.

We need to consider the high-level will and understanding of this.

Re-enforcement of the earlier. We need to have DRR into job description of all the offices.

**Knowledge Management & Communications Constraints (+gender)**

- Disjointed public awareness strategy
- Limited considerations for all vulnerable groups, including the elderly, women and children; women and youth are active in disaster response and recovery; however not sufficiently consulted in policy design and implementation
- Limited community-level plans; clarity of roles and responsibilities of various stakeholders
- Challenges in developing guidelines focused on different sectors
- Need to translate technical terms into more understandable language for public services; language of communications important especially in islands with high migrant populations
- Reluctance of some community members to evacuate in the event of hazard
- Need for common alerting protocols at the national level
- Evacuations not necessarily part of DRR policies in all countries
- Communication protocols with stakeholders do not always make provisions on how affected persons and evacuees will be informed of risk areas, available modes of transportation,
access to those modes of transportation, and varying levels of restrictions regarding what evacuees may be permitted to take with them as they evacuate

- Most policies do not specifically identify which communities are most at risk of specific hazards
- Multilateral communication between emergency management agencies during times of crisis to support regional solutions rather than reliance on bilateral agreements.

Caribbean responses:

We need to do better in sharing best practices. It is a struggle to get the offices to report to the SFM. As a region we can share different methodologies so we can all strengthen the systems and data collection on DRR.

Demystifying DRM and packaging it in a way that it becomes public awareness and influences behavioural change.

Redundancy of communication channels and applying the protocols. Grenada agrees with Ana.

We need to contribute data to several reporting systems and frameworks. Sometimes we are stretched and that is a challenge. Particularly for SIDS.

Asked to report every year. We need to re-evaluate MEAL systems. PAHO agrees.

Partnerships

Caribbean responses:

Collaboration on data would be needed. One platform where to insert data and it then provides an opportunity for better data sharing.

While there are good partnerships in the Caribbean, there is definitely also duplication. Coherence approach is needed, particularly to implement projects. We don’t have sufficient mechanisms to share best practices would be beneficiary.

We don’t use the education and academia enough. We need to use our institutions more particularly on priority 1.

Mapping of partner interventions is needed. What are the actual outcomes and outputs, not the intended ones.
Considering that the Children and youth are agents of change and should be given the space and modalities to contribute to disaster risk reduction, UNMGCY is an official partner of the UNDRR, the primary facilitator for the engagement of young people in the work of UNDRR and the implementation of the Sendai Framework. A MTR SF consultation conducted prior to the GPDRR 2022 has the following summary result:

The youth, recognizing the past events, emphasizes the focus on humanitarian response essential services and resilient infrastructure, post-disaster mental health, participation of schools, decentralization of resources and feeling of community in DRR.

Result summaries detailed by country:

Antigua and Barbuda (51 participants): The concept of "natural disaster" was repeated continuously during the session; While there is no specific idea about the institutions in charge of risk management and/or preventive or reactive measures, the responses focused mainly on the action of humanitarian aid groups and essential services (firefighters, rescuers, police, community brigades, etc.). Emphasis on post-disaster mental health, ideas for school campaigns and feeling of “community”.

Bahamas (75 participants): With a clear relationship to Hurricane Dorian (2019), the participants understand hydrometeorological phenomena as “natural disasters”, mainly such as hurricanes and floods; After a few minutes of discussion, it is concluded that droughts, landslides and coastal erosion are also part of its context. School proposals are mentioned to carry out training and form self-help groups. Predominant lack of knowledge of laws, institutions or agents responsible for risk management.

Dominica (78 participants): Concept of "natural disaster" is part of the language of common use (verbatim quotation from hybrid session: "when nature gets angry"). Age groups 2 and 3 report having participated in the Regional Platform in DRR 2022 and/or have been considered for the “My Island, My Voice” Youth Forum. The need for systematic follow-up in mental health is highlighted, especially in cases of forced displacement.

Haiti (154 participants): Predominant discontent towards “insufficient” investment in resilient infrastructure. Since the Age group 3 participants are mostly activists, there is a great disparity between the answers and conclusions with respect to the other ages; working groups of “youth for children” are proposed, with the aim of promoting climate activism and understanding of risk. Threats understood mainly as earthquakes and hurricanes.

British Virgin Islands (66 participants): Discussion focused on hurricanes and floods, with general confusion between the legal instruments or institutions in charge of prevention, reaction, mitigation and recovery strategies. After the analysis of the 66 answers, it is observed that mental health and decentralization of resources are key aspects in which young people, boys and girls, take their attention.
CARIBBEAN DESK REVIEW REPORT

This report details some of the main document contents, inputs and findings from key documents, relevant to the MTR SF Caribbean summary report.

LAC REGIONAL (AS RELEVANT FOR THE CARIBBEAN):

GAR 2022

Despite commitments to build resilience, tackle climate change and create sustainable development pathways, current societal, political and economic choices are doing the reverse. This jeopardizes not only achievement of the Sendai Framework for Disaster Risk Reduction 2015–2030, but also hinders progress towards the Paris Agreement and the Sustainable Development Goals (SDGs) set out in the Transforming our World: the 2030 Agenda for Sustainable Development.

To change course, new approaches are needed. This will require transformations in what governance systems value and how systemic risk is understood and addressed. Doing more of the same will not be enough.

Risk creation is outstripping risk reduction. Disasters, economic loss and the underlying vulnerabilities that drive risk, such as poverty and inequality, are increasing just as ecosystems and biospheres are at risk of collapse. Global systems are becoming more connected and therefore more vulnerable in an uncertain risk landscape. Local risks, like a new virus in Wuhan, China, can become global; global risks like climate change are having major impacts in every locality. Indirect, cascading impacts can be significant.

Without increased action to build resilience to systemic risk, the SDGs cannot be achieved.

Investment in understanding risk is the foundation for sustainable development. However, this needs to link to a reworking of financial and governance systems to account for the real costs of current inaction to address risks like climate change. Without this, financial balance sheets and governance decision-making will remain fragmented and be rendered increasingly inaccurate and ineffective.

If current trends continue, the number of disasters per year globally may increase from around 400 in 2015 to 560 per year by 2030 – a projected increase of 40% during the lifetime of the Sendai Framework. The number of extreme temperature events per year is also increasing, and based on current trends will almost triple between 2001 and 2030. Disasters have negative impacts on biodiversity and environmental sustainability.

These trend lines do not take into account future climate change impacts, which are accelerating the pace and severity of hazard events, nor the fact that current choices mean the world is set to exceed the Paris Agreement’s global average maximum temperature increase target of 1.5°C by the early 2030s (IPCC, 2021).

Systemic risk cannot be eliminated entirely, but it can be reduced and addressed more effectively. Addressing systemic risk requires building on existing risk reduction know-how, and also developing enhanced approaches to address the characteristics of systemic risk such as its cascading effects and inherent complexity and uncertainty.
Calls to action

In the face of global systemic risk, governance systems must quickly evolve and recognize that the challenges for the economy, environment and equality can no longer be separated. Conventional approaches to risk governance have tended to be based on linear or well-established cause-and-effect relationships. By contrast, systemic risk governance needs to recognize complex causal structures, dynamic evolutions and cascading or compound impacts. The recommendations of GAR2022 take the form of a call to action.

Action 1: Measure what we value

The world is not on track to reduce risk. The costs of disasters are increasing in both social and economic terms, threatening sustainable development (GAR2022, Chapters 2 and 3). Balance sheets ignore key variables, particularly undervaluing climate change risk, costs to ecosystems and the positive social benefits of risk reduction. The real costs of extensive risk are especially undervalued, and this gap is widening as major climate change impacts such as sea-level rise gather pace. To help measure what we value, key actions are to:

1.1 Rework financial systems to account for the real costs of risk, particularly long-term risks, and rework investment and insurance systems to incentivize risk reduction

Governments and the financial industry urgently need to improve how they account for the extent of financial assets at risk under various future climate change scenarios. Social and environmental impact assessments undertaken during the initiation of projects need to be extended to include regular reporting by the public sector, major companies, investments and pension funds. Risk myopia means there are few safe options offered for risk-resilient investments. Just as green bonds helped accelerate the finance of renewable energy, similar financial products are needed to incentivize and ease investment that is resilient to disaster risk and climate change.

1.2 Adapt national fiscal planning and risk financing to consider risk and uncertainty

Public sector finance “stress-testing” methodologies need to be extended to learn from the COVID-19 pandemic, and to test for a wider range of systemic risks with potentially cascading impacts. National budgets also need to evolve to include risk and uncertainty components, so financial planners can become more adept at adaptive planning and are better able to pivot resources in crisis situations.

Action 2: Design systems to factor in how human minds make decisions about risk

Policymakers and providers of disaster risk reduction products and services to households and communities continue to undervalue how risk perceptions, including cognitive biases, influence decision-making. To help design systems that factor in how human minds make decisions about risk, key actions are to:

2.1 Recognize the role of people’s perceptions of risk and biases to close the gap between intention and action in reducing risk

Adjusting how insurance products are marketed can have a transformative impact on ensuring risk-resilient investment. This includes reframing risk approaches such as using “opt-out” rather than “opt-in” schemes for flood insurance (GAR2022, Chapters 8 and 11).

Improving codes and standards, and also the communication around why they are necessary, is key. For example, after the 2010 earthquake and tsunami, the Government of Chile helped incentivize safe construction by providing funds to poor families to cover the cost of “half a good house” that adhered to building code, but which also allowed personalization of homes by owners (GAR2022, Chapter 4).
2.2 Recognize the value of risk analytics as a tool but not a panacea

Lessons learned from the COVID-19 pandemic show that the success rates of models were uneven in predicting the spread of the disease within and among countries. Decision makers went from an over-reliance on models to extreme scepticism about their utility. Modelling tools can help people think about things in a better way, but they cannot predict the future with granular accuracy. No models are 100% reliable. However, they are essential tools as long as the people who interpret them do not have unrealistic expectations of their omnipotence or dismiss them. Governments can, and should, invest in data analytics, but only if quality models and big data use are combined with methods to draw on local knowledge, community feedback and expert opinion.

Action 3: Reconfigure governance and financial systems to work across silos and design in consultation with affected people

Governance and financial systems are not yet embracing transdisciplinary approaches and tend to take top-down approaches. To help reconfigure governance and financial systems to work across silos, and design in consultation with affected people, key actions are to:

3.1 Embrace a new “risk language” that cuts across multiple disciplines

Disaster risk management actors and other sectors speak differently about risk and too often operate in sectoral silos. There is a need to look more at systems, not individual hazards, and to work across disciplines. This requires increased efforts to create common terminologies and provide open access data across disciplines to create shared knowledge, encourage lateral collaboration and speed up the pace of learning. Disaster risk modellers have been learning from tools developed to measure cascading effects during the last financial crisis and from enterprise risk management approaches. But this learning needs to go both ways between governments and communities, and be built into planning and budgeting processes (GAR2022, Chapter 11).

At the global level, initiatives such as the UNDRR and International Science Council joint Hazard Definition and Classification Review, the new Centre of Excellence for Climate and Disaster Resilience established by UNDRR and the World Meteorological Organization (GAR2022, Chapter 1) and similar inter-agency collaborations that upgrade disaster damage and loss reporting are helping to increase the interoperability and utility of data systems. Such efforts need to be supported to enable enhanced risk understanding at a global level.

3.2 Step up participation, transparency and citizen dialogue in risk decision-making to accelerate learning and necessary adjustments

Modern technology provides opportunities to accelerate learning and to quickly pick up signals essential for effective risk management in an uncertain future. But acting on these signals requires nuanced forms of communication with the public, and particularly better communication with higher-risk groups. Enhanced social protection systems targeted towards at-risk groups can be a good vehicle for better understanding who is most vulnerable to emerging risks and for ensuring effective anticipatory action to prevent acute humanitarian crises.

3.3 Enhance multi-scale risk management

Rifts can emerge between the national and local levels during major crises, as was the case in many jurisdictions during the COVID-19 crisis. Autonomy for local-level action is essential.

More emphasis is required in scenario planning to manage extensive disasters and to handle governance issues resulting from cascading impacts. For example, adjustments made to health systems based on local knowledge and feedback were essential to building trust during the 2014 Ebola outbreak in Liberia (GAR2022, Chapter 7). In Canada, an InterSectoral Flood Network of Quebec
presents modelling data and also explicitly facilitates co-training among members to promote a vision that is systemic and intersectoral, engaging universities and various socioeconomic partners and disciplines (GAR2022, Chapter 10).

**GPDRR 2022 key considerations for the Caribbean**

**GPDRR – MTR SF session 1:**
- Include climate financing
- Food and commodity price increase due to the ongoing disasters
- DR highlight the need to early warning – need for investments
- Highlighted the importance of SIDS to have access to financing
- Financing on disasters/climate is not gender transformative. We need to disaggregate data.

**GPDRR – MTR SF session 2:**
- A&B on behalf of the SIDS alliance: developing multi-vulnerability index so that SIDS can be supported in their efforts in different dimensions.

**GPDRR – MTR SF session 3:**
- Dominican republic: Caribbean importance to work together.
- Include technology to include communities
- MTR is an opportunity to highlight the nexus approach of resilience with others (climate, development, conflict?)
- Gender transformative, inclusion, women’s participation are a key & gender in MHEWS
- “We are creating risk faster than we are reducing it. The systemic risk poses an existential risk to our societies”.

**MHEWS events in GPDRR 2022:**
- MHEWC-III State of play on early warning systems: Progress on Target G & Stocktake for Sendai Framework Mid-Term Review, 23 May at 9am, On-site only
- MHEWC-III Learning Event: Are our early warning systems effective? 23 May at 12pm, On-site only
- MHEWC-III Status, gaps and ways forward - Thematic perspective: Governance & inclusive early warnings, 23 May at 14pm, On-site only
- MHEWC-III Status, gaps and ways forward - Thematic perspective: Early warning systems driven by risk information, 23 May at 15:50pm, On-site only
- MHEWC-III Learning Event: Common Alerting Protocol (CAP), 23 May at 17:45, BICC Ground Floor - Bougainville & Orchid
- MHEWC-III Status, gaps and ways forward - Thematic perspective: Warning communication and dissemination, 24 May 9:00-9:40, BICC First Floor - Nusantara Ballroom
- MHEWC-III: Public private engagement for early warnings, 24 May 9:40-10:20, BICC First Floor - Nusantara Ballroom
- MHEWC-III Status, gaps and ways forward - Thematic perspective: Preparedness, early action, anticipatory action; Humanitarian angle, 24 May 10:30-12:00, BICC First Floor - Nusantara Ballroom
• MHEWC-III Gender Mainstreaming Learning Event: integration into the End-to-End Early Warning System for Hydro-Meteorological events, 24 May, 12:30-14:00, On-site only

RAR 2021

MTR SF is focusing on the retrospective review of what achievements and challenges have taken place in the Caribbean since the adoption of the Sendai Framework, namely

- Progress in Risk Assessment, Information and Understanding: Increasing understanding of the systemic nature of risk.
- Progress in Risk Governance and Management: Caribbean, with its specific geography, is stronger together; strength in the existing regional DRR/DRM structure and strategy, and weakness in the risk management governance more on the reactive side.
- Progress in Investment in Risk Reduction and Resilience: Development of risk financing and public-private partnerships actions and networks; Challenge in economic downturn associated with the COVID-19 pandemic in the region.
- Progress in Disaster Preparedness, Response and ‘Build Back Better’: Progress in MHEWS and its interlinkages (incl. CREWS).

MTR SF recognizes the contextual shifts, with new and emerging issues and challenges

- COVID-19 and the climate change are the most impactful for the Caribbean region
- Along with the existing risks, new risk patterns are emerging in the region.
  1) As climate change is increasing in its effects, so will disasters and their consequences. This will cause various effects to the Caribbean, such as inter-island migration, and increasing challenges in various sectors, infrastructure and services.
  2) The COVID-19 caused a strong economic effect in the Caribbean, which increased poverty. Further, it increased the inequality, and these turned into disaster vulnerability.
  3) These aspects cause a complication of the systemic risk overall.

Key recommendations for a strengthened use of science and technology in DRR in the LAC region

Highlights the gap between economic growth and expenditure on scientific research and that it is needed to understand the needs of the users of the scientific research. It also suggests actions around the four priority areas of the Sendai Framework.  

Towards Gender Equality and Women’s Leadership for Resilience to Disaster Risks in Latin America and the Caribbean

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10 Key recommendations for a strengthened use of science and technology in Disaster Risk Reduction in the Americas and the Caribbean | UNDRR
Regional Consultation prior to the sixty-sixth session of the Commission on the Status of Women - Priority theme “Achieving gender equality and the empowerment of all women and girls in the context of climate change, environmental and disaster risk reduction policies and programmes”

CDM Strategy: It makes reference to gender mainstreaming as a cross-cutting element for the analysis of differences in vulnerability between men and women, girls and boys, and how these vulnerabilities must be taken into account in the design of DRR policies, strategies, and programmes, as well as in recovery and reconstruction processes. The Caribbean Disaster Emergency Management Agency (CDEMA) of the Caribbean Community (CARICOM) leads the formulation and coordination of this strategy which, for the first time, has a female Executive Director. CDEMA also has a gender working group that provides technical guidance and has developed practical manuals for mainstreaming gender into disaster risk reduction and management11.

Priority 1

According to the online national monitoring and reporting system (the global Sendai Framework Monitor - SFM), of the 149 countries currently in the process of monitoring and reporting through the SFM, only 44 (30%) include sex-disaggregated data. The OIEWG acknowledged the importance of having this disaggregation and encouraged Member States to build capacities in this area12. In this regard, the collection and use of disaggregated data should no longer be optional, especially considering its importance for the understanding and formulation of DRR policies and programmes.

Of the 35 countries of the Americas and the Caribbean region, 28 (80%) have an SMF monitoring and reporting process with different levels of use, but only 14%, or 4 of the LAC countries that are using the online SFM, are including sex-disaggregated data (Antigua and Barbuda, Chile, Costa Rica, and Ecuador). Some of the factors that may explain this situation include the low level of women’s participation in the design of indicators39, the decision to make a disaggregation of data by sex optional for national reports, and the fact that the majority of the tools to collect data for national reports were designed with a focus on response and recovery. In addition, currently, only 20% of the SFDRR national focal points in the region are women.

Priority 2

at the recent 7th Regional Platform for DRR held in 2021, there was high participation of women (53% participants were women, 46% men, and 1% self-identified with a different gender), as well as a total of 58 persons with some disability. Another achievement worth noting in terms of enhancing the representation of women and other traditionally marginalized groups in DRR in Latin America and the Caribbean is the fact that, for the first time in their history, two intergovernmental DRR agencies (CEPREDENAC and CDEMA) are headed by women.

Another relevant example of DRR governance with a gender perspective at the subregional level is the Meeting on Gender-Responsiveness and Disaster Resilience during the COVID-19 Crisis organized in collaboration with UN Women’s Multi-Country Office for the Caribbean(MCO) and the Saint Lucia

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11 Manuals and Strategies for Mainstreaming Gender in CDM - CDEMA
12 Paragraph 23 of their document states that, “While data disaggregation might be highly desirable, it was noted that it might not be immediately feasible across all Member States, and therefore could not be considered a requirement in relevant indicators. The working group encourages Member States to commence or, as appropriate, further enhance the collection of data on disaster loss disaggregated by income, sex, age and disability”
Parliament. This meeting included a dialogue between parliamentarians, technical experts, and civil society organizations around gender inequality in the impacts and experiences of emergency situations caused by different hazards. The participants addressed how to integrate the gender perspective in prevention, response, and recovery measures to meet differentiated needs and build disaster resilience capacities.

In the Caribbean, it is worth noting the plans and strategies of Guyana and Saint Lucia: the National Integrated Disaster Risk Management Plan and Implementation Strategy for Guyana, for example, establishes five DRR strategic objectives and the articulation of those aspects with gender, environment, and climate change aspects.

Priority 3

The limited data available on DRR international cooperation funds with a gender perspective in LAC suggests opportunities for improvement in the areas of inclusion and sensitivity to gender inequalities.

Priority 4

In particular, effective disaster preparedness requires far-reaching gender-responsive multi-hazard early warning systems (MHEWS). Data in connection with target G reported by countries show more investments and technology transfers are required to develop forecasting, monitoring, and early warning capacities in developing countries. In late 2020, the CREWS initiative supported 57 less developed countries and small island developing states (SIDS) to enhance hydrometeorological systems and MHEWS, including gender mainstreaming as a key element.

In the LAC region, there are initiatives to integrate the gender equality and human rights perspective in DRR. These initiatives include examples of good practices at the regional, national and local levels. The EnGenDER regional Caribbean initiative, for example, recognizes that different populations respond and react to disasters differently and also that groups with less knowledge and capacity are often the ones hit the hardest. It also proposes to empower governments so they can integrate the human rights and gender perspectives in DRR, climate change, and environmental management interventions. One of its strengths is that it recognizes the differences between countries participating in gender equality, and the incorporation of this approach with DRR requires a differentiated and conscious approach depending on the different contexts. The initiative also aims to empower governments “to take ownership of their disaster risks and exposure with better national arrangements to deal with possible large-scale recovery needs, including improved shock responsiveness in national systems including social protection finance tools for the most vulnerable.”

Along the same lines, the CREWS project was launched in 2018 in the 15 CARICOM member countries, with an approach that prioritizes the inclusion of gender and vulnerable groups such as women, children, older persons, and persons with disabilities. The project has three components: (i) Regional strategy and identification of priority investment needs, (ii) Institutional strengthening and streamlining of hydrometeorological services and EWSs, and (iii) Support for piloting national activities to improve EWSs. CREWS Caribbean has partnered with the World Bank (WB), the Global Facility for Disaster Reduction and Recovery (GFDRR), the World Meteorological Organization (WMO), and the United Nations Office for Disaster Risk Reduction (UNDRR) for the implementation of this project, as well as with other regional and national agencies.
Also, in the Caribbean, the World Bank document Gender-Responsive Disaster Preparedness and Recovery in the Caribbean\textsuperscript{13} presents a review of good practices on risk knowledge. 77% of the participants in the community hazard mapping of the project “Climate Risk Atlas in Negril, Jamaica,” implemented in 2015, were women who helped to identify high-risk areas and critical facilities and infrastructure that could be affected by a disaster. In addition to women, this project included older persons and youth in a collective construction process.

**Survey: Regional Action Plan Consultation**

Only 4 responses from the Caribbean, which are quite the same sources as in the MTR SF Caribbean survey.

**RPDRR 2021 documents**

Ministers and Heads of Delegation, highlight the importance to:

- Take note of the perspectives of civil society members and grassroots and women’s organizations regarding the Regional Action Plan for the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030, which have been provided as input to the consultation regarding the challenges and opportunities in the implementation of the Regional Action Plan;

- 6. Commit to strengthening our risk governance mechanisms, particularly in geographic areas of greater vulnerability, through the engagement of all sectors and at all levels and with the participation of multiple stakeholders, including older persons, people with disabilities, children and youth, rural communities, indigenous peoples, Afro-descendants and other historically marginalized groups that require especial protection, to working to promote that public budgets across different sectors and levels of government integrate disaster risk reduction;

- 7. Commit to redoubling efforts to prioritize the updating, implementation, financing and monitoring of disaster risk reduction plans and strategies at the national level, in coherence with climate change and sustainable development plans and strategies;

- 8. Commit to enhancing the capacities of local governments to understand and assess disaster risk as well as develop and implement plans and strategies to reduce risk and avoid the construction of new risks, promoting coherent approaches with the development and climate change agendas, in collaboration with multiple stakeholders, and supported by national governments;

- 9. Commit to promoting resilient economies by de-risking public and private investments, creating an enabling regulatory environment for the promotion of resilient infrastructure, supporting the expansion of disaster risk reduction financing and risk transfer mechanisms,

\textsuperscript{13} Gender-Responsive Disaster Preparedness and Recovery in the Caribbean : Desk Review (worldbank.org)
the continued promotion of public-private partnerships with the goal of uniting efforts against disaster risk and damage to critical infrastructure and services;

- Strengthen the development and dissemination of methodologies and science-based national and local tools and the technical assistance that facilitate the timely implementation of prevention and preparedness measures as well as identification, registration and communication of the impacts caused by disasters through online monitoring platforms that are designed for this purpose and adopted for the monitoring of the Sendai Framework;

- Highlight that the recovery from the pandemic should enhance disaster risk reduction, upscale social protection systems with a “one health” approach, acknowledging the linkages across all hazards, and contribute to building resilience by addressing the underlying factors that create risk and make people more vulnerable and exposed to risk, also considering the middle class and their capacity to cope with disasters;

- Promote awareness and knowledge among women and men, persons with disabilities, older persons, migrants, children and youth, rural communities, indigenous peoples and Afro-descendants and other historically marginalized groups, as appropriate, related to a culture of disaster prevention and resilience, including by promoting and strengthening a systemic approach to school safety and disaster risk reduction in school curriculum, placing emphasis on the vulnerabilities of the geographic areas where they reside, and enabling the continuation of learning during disasters;

- Emphasize the need to strengthen international development cooperation, including the achievement of international commitments of the less developed countries, and solidarity to recover from the pandemic, facilitating access to COVID-19 vaccines for countries that so require, fight climate change, address the underlying factors of risk and embark on a path of resilience by redoubling efforts in the implementation of the 2030 Agenda;


The Regional Action Plan (RAP) for the implementation of the Sendai Framework for Disaster Risk Reduction in the Americas and the Caribbean was first adopted by Member States in the Fifth Regional Platform for Disaster Risk Reduction in the Americas (March 7-9, 2017, Montreal, Canada). The RAP was then re-confirmed as valid by Member States at the Sixth Regional Platform for Disaster Risk Reduction in the Americas (June 20-22, 2018, Cartagena, Colombia).

Ahead of the Seventh Regional Platform for Disaster Risk Reduction in the Americas and the Caribbean (1-4 November 2021, hosted virtually by the Government of Jamaica), an e-consultation was designed by UNDRR in collaboration with the Government of Jamaica in order to collect relevant information to be used as a basis for reflection and discussion on the challenges and opportunities present in the region to advance in the implementation of the Sendai Framework. Further consultations were held with Intergovernmental Organizations, with youth and with civil society organizations.
The intergovernmental organizations that took part in this consultation were CAPRADE, CDEMA, CEPREDEMAC and RMAGIR. The youth consultation was undertaken in the framework of the organization of the Regional Youth Forum on Disaster Risk Reduction (26 October 2021), and the civil society consultation was led by GNDR.

The COVID-19 pandemic, as an expression of the systemic nature of risk generated by the complex interconnectivity in our region and the world today, has underlined the urgency to address disaster risk and build resilience. The pandemic has demonstrated how a local crisis can quickly cascade across sectors and countries, having devastating impacts on economies and on the health and well-being of millions of people worldwide. The adjustments made to the RAP integrate lessons learned from the pandemic and past disasters, reflect the concerns for climate change and the recognition of the need to increase ambitions and the multi-sectoral, multi-level and multi-stakeholder engagements to fully implement the Sendai Framework for a safer and more resilient Americas and the Caribbean.

**RP21 Special Session 2: Regional approach to coordination on multi-hazards: 2020 Lessons from the Caribbean (proceedings)**

Special Session 2 sought to review how countries in the Caribbean experienced the impacts of multiple hazards during the year 2020 (COVID-19, major hurricanes, earthquakes, volcanoes, displacement, etc.) and highlight how national and regional agencies such as CDEMA and CEPREDEMAC dealt with this multi-hazard environment.

The multi-hazard context in the Americas and the Caribbean has increased the degree of complexity faced by the region as it addresses hazards. Events tend to happen concurrently, more frequently, more intensely, and result in cascading effects. A plethora of hazards impacted the region in 2020, from vector borne diseases and flooding to landslides, tropical systems, effusive volcanic eruptions, and the latest COVID-19 pandemic. These events caused national capacities to be overwhelmed and countries to request regional and international support.

Owing to the above, many national and regional plans were developed and updated to mitigate against the multiple hazards faced, and an all-hazard approach to disaster management was adopted across countries in the region. Health agencies in the region, including CARPHA and PAHO, developed COVID-19 tracking and projection software mechanisms in an attempt to keep the region well-resourced to combat the pandemic. Shelter management protocols were also developed to adapt shelter operations for cases where natural hazards were coupled with COVID-19.

The session aimed to increase understanding of the importance of partnerships, collaboration, and coordination for disaster risk reduction and emergency management in a multi-hazard context. Panellists advanced recommendations on actions that countries and agencies in the Caribbean could take to strengthen regional coordination for multi-hazard resilience. First, national disaster risk reduction frameworks must be widened to cover multiple hazards, including biological, natural, socio-natural, and social hazards. Second, adjusting governance arrangements to this multi-hazard context implies strengthening coordination and collaboration mechanisms, including enhancing agility and flexibility in existing response mechanisms. This means that legal frameworks and government processes must be adapted to ensure coordination among different
sectors. Public health and elected officials, for example, must jointly identify the outcomes to be achieved by emergency management plans and set the relevant priorities. Consequently, greater emphasis on resource mobilization is required, with a focus on partnerships to achieve common results. Likewise, ICT platforms ought to be mainstreamed to facilitate multi-hazard coordination.

Third, panellists stressed that successful disaster risk reduction efforts are those that take root at the local level and adopt a bottom-up approach. They further highlighted that education and awareness of the multi-hazard context, as well as operational guidelines, tools, and strategic planning are critical to effectively manage disaster risk in the entire region. Data management tools, including to factor human behaviour for example, can be very useful to reduce and mitigate existing risks as well as to establish efficient preparedness and response mechanisms.

Resilience remains the main objective of the region and implies not only bouncing back but bouncing forward. Several critical parameters must be dealt with as the region pools efforts towards building resilience, including maximizing human security, ensuring continuity of economic activities, operational readiness and recovery, environmental sustainability, social protection, as well as safeguarding the infrastructure; but most importantly reducing disaster risk. There is an urgent call for a paradigm shift between emergency response and concrete disaster risk reduction. Similarly, having in mind the systemic nature of risk, it is paramount to move away from managing single or individual hazards to an approach that understands the complexity and interconnectivity of hazards and risks.

**CARIBBEAN REGIONAL:**

The Caribbean is considered one of the most disaster-prone regions in the world. According to the Long-Term Climate Risk Index (CRI)\(^{14}\), three out of the ten countries most affected by extreme weather events in the last 20 years are located in the Caribbean\(^{15}\).

**The Caribbean Hazard Landscape\(^{16}\)**

The vulnerability of the Caribbean region to a diverse set of hazards is well documented. Most of the countries are within the recognised hurricane belt and there is seismic activity throughout the Caribbean with frequent events being recorded. A number of islands are mostly the tops of volcanoes, which are situated along major transportation and trans-shipment routes exposing them to migratory vector borne diseases and are increasingly becoming industrialised, heightening the possibility and potential for major accidents.

Within recent decades the region has experienced repeated losses from hurricanes and associated wind, rain and storm surge damage. The Caribbean is the second most hazard-prone region in the

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\(^{15}\) These countries/territories are Haiti, Dominica and Puerto Rico (United States). The Long-Term Climate Risk Index (CRI) calculates annual average death tolls, deaths per 100,000 inhabitants, total economic losses, economic losses per GDP unit, and number of events for the period 1999-2018 (Eckstein and others, 2019).

\(^{16}\) CDM Strategy summary.
world. Regular annual disaster losses are estimated at US$3 billion with significant loss to social and productive sectors. Volcanic eruption destroyed the economy and social life in Montserrat. Flooding and landslides have repeatedly occurred in several territories and continue to damage physical infrastructure. Droughts have reduced agricultural output and water supply. Impacts from hazards will only intensify as a result of climate change, as 60% of the region’s population and 70% of economic activity are within two miles of coastlines.

This landscape precipitated the need for the development of multi-hazard contingency and coordinated response plans as a means to mitigating and lessening the potential impacts from these hazards.

**SAMOA Pathway**

The SAMOA (SIDS Accelerated Modalities of Action) Pathway presents the agreed outcomes of the 3rd International Conference for Small Island Developing States, held in Samoa in 2014, and articulates the sustainable development pathways and aspirations for SIDS over the next 10 years.


The SAMOA Pathway reaffirms that SIDS remain a “special case” for sustainable development, “in view of their unique and particular vulnerabilities”. The achievement of the three overarching goals of sustainable development–poverty eradication, changing unsustainable patterns of consumption, and managing natural resources–are particularly challenging for SIDS, and as a result, despite the significant efforts that SIDS have made to implement internationally-agreed sustainable development action plans, they are in need of international support. In particular, the SAMOA Pathway recognizes that rising sea-levels, and “other adverse impacts of climate change” pose significant risks to SIDS; at the very least, impacts of climate change may exacerbate existing development challenges for SIDS and impose additional financial burdens, while in some cases, rising sea-levels threaten the very survival of some SIDS.

The SAMOA Pathway recognizes the increased vulnerability to SIDS to disasters and the need to build resilience. This links to SDG 11, “make cities and human settlements inclusive, safe, resilient and sustainable”. It supports the efforts of SIDS to: • Access technical assistance and financial support for disaster risk reduction systems • Promote public/private cooperation and investment in disaster risk management • Strengthen contingency planning for disasters • Implement the Hyogo Framework for Action, now replaced by the Sendai Framework for Disaster Risk Reduction 2015–2030 which provides a global blueprint for disaster risk reduction. www.unisdr.org/we/coordinate/sendai-framework • mainstream policies related to disaster risk
reduction, climate change adaptation and development • Harmonise reporting systems, nationally and regionally • Strengthen risk insurance at national and regional levels • Increase participation in international disaster risk reduction initiative.

It also highlights the SIDS priorities to be recognized in international agenda. Highlights stronger inter-linkages of sustainable development dimensions in national planning, legislative and institutional frameworks and CALLS on all development partners, funding organisations, UN Agencies, GEF and likewise our regional agencies to coordinate and harmonise funding and aid mechanisms with incentives to strengthen national financial mechanisms to facilitate easier access to funding and financial sustainability.
Box 8.2. Scenario of escalating systemic economic impacts of a hurricane in Barbados

Barbados faces high levels of risk from hurricanes. Tourism is a major component of its economy. As part of its planning for DRR, analysts constructed a Category 5 hurricane scenario and estimated the expected direct and indirect economic impacts. In the scenario, the hurricane moved across Barbados with 250 km/hour winds and corresponding storm surge flooding. The exercise used the Economic Consequences Assessment Model to estimate indirect economic losses and the Hazus Multi-hazard Loss Estimation to estimate direct economic losses.

Under this scenario it was estimated that:

- Some 8.5% of hotels, residences, factories and distribution centres would be flooded and could not be used until extensive remediation work was done.
- Some 11.5% of the population would be displaced for at least 6 months, either fleeing internationally, or residing with friends and relatives — causing an effective average rate of 6% reduction in workforce availability after the event.
- Several transit corridors would be damaged in this event, further limiting the ability for commerce and tourism on the island for a duration of 6–12 months.
- Government tax revenues would decline by between 6.8% and 13.3%, depending upon the tax stream.

Table 8.1 gives examples of the percentage outputs/production losses based on detailed costings under this scenario. There are some surprising results, such as the high impact on quarrying and the low impact on restaurants, that signal the importance of using and costing the realistic scenario to estimate direct and indirect losses due to the systemic nature of the risk (Lehman et al., 2022).

Table 8.1. Sample of sector estimated losses in Barbados in the 12 months following a Category 5 hurricane scenario

<table>
<thead>
<tr>
<th>Selected sectors experiencing a decline in output/production</th>
<th>Decline (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotels, apartments and guest houses</td>
<td>13.3</td>
</tr>
<tr>
<td>Crude petroleum and natural gas extraction</td>
<td>11.2</td>
</tr>
<tr>
<td>Quarrying of stone, sand and clay</td>
<td>8.1</td>
</tr>
<tr>
<td>Communications</td>
<td>7.6</td>
</tr>
<tr>
<td>Agricultural production (all types)</td>
<td>7.5</td>
</tr>
<tr>
<td>Construction</td>
<td>3.8</td>
</tr>
<tr>
<td>Restaurants</td>
<td>2.9</td>
</tr>
<tr>
<td>Overall decline in output/production</td>
<td>7.0</td>
</tr>
</tbody>
</table>

Source: Lehman et al. (2022)

Text box: GAR 2022 Barbados case study.
The Caribbean regions DRR structure consists of the Caribbean Disaster Emergency Management Agency (CDEMA), consisting of Participating States (PS) and the Coordinating Unit (CU). CDEMA and the PS:s DRR efforts are guided by the Comprehensive Disaster Management (CDM) Strategy 2014 – 2024.

The strategic objective of CDM is the integration of disaster management considerations into the development planning and decision-making process of CDEMA’s Participating States (PSs).

The CDM strategy has an impact of: Safer, more resilient and sustainable CDEMA Participating States through Comprehensive Disaster Management.

The strategy and results framework of the CDM Strategy is presented in the Figure 1.

**Figure 1: Results Framework for the Comprehensive Disaster Management Strategy 2014 - 2024 with Cross-Cutting Themes.**

The strategic framework also embodies seven (7) elements, which when realized will lead to the desired future state of Participating States. These are:
i. National, regional and sectoral institutions with adequate/minimum standards of capacity to deliver the CDM programme

ii. Knowledge management which is applied for fact-based decision-making

iii. Disaster resilience which is enhanced within key sectors of the economy

iv. Operational readiness at regional, national, sectoral and local levels

v. A clearly established and understood nexus between CCA and DRR with programming and governance harmonised

vi. Community resilience which has been enhanced for the most vulnerable with gender concerns addressed at all stages and levels

vii. Resource allocation which underpins the ability to deliver the strategy

Summary of Situational Analyses Progress in Informing CWP:

Between 2020 and 2021, the UNDRR partnered with CDEMA to support National Disaster Offices with the development of Situational Analyses, which provides pertinent risk information to inform policy.

The Situational Analysis is compendium of risk information, establishing the country risk profile, analysing policy coherence, the hazard context, existing vulnerabilities, capacities and gaps to determine the priority areas for action and interventions in support of improved systemic risk governance.

The UNDRR has supported the development of Situational Analyses for the following countries:

- Antigua and Barbuda
- Dominica
- Grenada
- Guyana
- Saint Kitts and Nevis
- Saint Lucia
- Saint Vincent and the Grenadines
- Suriname
- The Bahamas
- Trinidad and Tobago

A model CWP can be found here. The Situational Analysis is a valuable tool and necessary first step in the development of the Country Work Programme (i.e. National Disaster Risk Reduction Strategy) for CDEMA Participating States. Of the countries listed above:

- 5 are in the process of revising and developing their Country Work Programmes which will be supported by the information provided within the Situational Analysis
- 3 are due for a review of their Country Work Programme
- 2 had active and approved Country Work Programmes at the time of development of the Situational Analysis
Short status reports on each CWP progress (email)

The Country Work Programme (CWP) development process started under the iteration of the CDM Strategy in 2001-2006 and has evolved with time. During the third iteration of the CDM Strategy 2014-2024, the CWP process is being aligned with the Sendai Framework. Under the Sendai Framework for Disaster Risk Reduction (SFDRR) 2015-2030, Target E is geared towards substantially increasing the number of countries with national and local disaster risk reduction strategies by 2020. To achieve this target, the UNDRR and CDEMA are providing direct technical support to Caribbean countries for the development of CWPs/DRR plans and/or for the development of risk analyses with a systemic risk approach that seeks to enhance the alignment with climate change adaptation (CCA) and sustainable development efforts, and to integrate different hazards-including biological ones. The process for the development of the CWP includes alignment with the Regional CDM Strategy, the Sustainable Development Goals (SDGs) and the SFDRR. The completion of the CWPs fulfils Target E of the SFDRR in CDEMA Participating States (PSs).

In 2012, with the support of partners and through a stakeholder process, the CDEMA Coordinating Unit (CU) developed a CWP development model which synthesized the development of a process which leads to the formulation of CWP for the CDEMA PSs. Prior to the development and streamlining of the model shown in Figure 1, three (3) major limitations existed within CWP development process:

1. The CDM Audit Tool was utilised as a separate instrument rather than the basis for addressing gaps identified by the audit through the national DRR strategy. Priorities for DRR were determined by the respective needs of national disaster offices. This limited the scope of the national strategic approach to risk management, typically failing to address weaknesses of the disaster management system.

2. There was a lack of a systematic approach to monitoring and evaluation which made the tracking of progress towards reaching targets of the CDM Strategy at the national levels virtually impossible.

3. In the instances where monitoring and evaluation were conducted, the indicators developed to track progress lacked a robust connection to the indicators utilised under existing regional and international frameworks.

![Figure 1 The 6-Step process for the completion of a CDM Country Work Programme (CWP).](image-url)
Through improved knowledge and learning, CDEMA has refined the process to strengthen the limitations of the process. Figure 1 indicates that CWP development commences with the performance of a situational analysis which utilises the CDM Audit Tool and other strategic documents. Such documents are used to provide contextual information and inform the construction of the outcomes and outputs across the four (4) thematic areas of disaster management. Tracking the progress of CDM targets at the national level has been better realised through the development of the Basket of Indicators which are aligned with the targets of both regional and international DRR frameworks. Performance indicators are determined for various levels of results including the impacts, outcomes, and outputs, for monitoring, and are organised in the Performance Monitoring Framework (PMF), which comprises part of the results-based management (RBM) suite of tools.

Mapping of the progress of each CWP:

<table>
<thead>
<tr>
<th>Country</th>
<th>CDM Audit / Situational Analysis</th>
<th>CWP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anguilla</td>
<td>N/A</td>
<td>2018 CWP expired</td>
</tr>
<tr>
<td>Antigua and Barbuda</td>
<td>2018 CDM Audit Situational analysis</td>
<td>2020 CWP 2020-2024 draft, pending on endorsement</td>
</tr>
<tr>
<td>Barbados</td>
<td>2018 CDM Audit</td>
<td>2019 CWP 2019-2023</td>
</tr>
<tr>
<td>Belize</td>
<td>N/A</td>
<td>2019 CWP expired</td>
</tr>
<tr>
<td>Grenada</td>
<td>Situational analysis</td>
<td>2019 CWP expired; New draft in progress</td>
</tr>
<tr>
<td>Haiti</td>
<td>N/A</td>
<td>2020 CWP expired</td>
</tr>
<tr>
<td>Jamaica</td>
<td>2020 CDM Audit</td>
<td>2019 CWP expired</td>
</tr>
<tr>
<td>Montserrat</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Saint Lucia</td>
<td>2018 CDM Audit Situational analysis</td>
<td>2020 CWP</td>
</tr>
<tr>
<td>Saint Kitts and Nevis</td>
<td>Situational analysis</td>
<td>2020 CWP expired</td>
</tr>
<tr>
<td>Saint Vincent and the Grenadines</td>
<td>2018 CDM Audit Situational analysis</td>
<td>2020 CWP 2020-2024</td>
</tr>
<tr>
<td>Suriname</td>
<td>Situational analysis</td>
<td>N/A</td>
</tr>
<tr>
<td>The British Virgin Islands</td>
<td>2019 CDM Audit</td>
<td>2020 CWP 2019-2025</td>
</tr>
<tr>
<td>Dominica</td>
<td>2020 CDM Audit Situational analysis</td>
<td>2020 CWP 2021-2026</td>
</tr>
<tr>
<td>Bahamas</td>
<td>Situational analysis</td>
<td>2021 CWP expired</td>
</tr>
<tr>
<td>Guyana</td>
<td>2018 CDM Audit Situational analysis</td>
<td>2020 draft CWP 2021-2025, pending on endorsement</td>
</tr>
<tr>
<td>Trinidad and Tobago</td>
<td>2015 CDM Audit Situational analysis</td>
<td>N/A</td>
</tr>
</tbody>
</table>

17 For pending country-CWPs, CDEMA has ensured funding through EU-EDF. For overseas territories funding is being identified through other sources.
Disaster Risk Reduction and Climate Change Adaptation: Pathways for Sustainable Development Policy Coherence in the Caribbean Region

UNDRR Regional Office for the Americas and the Caribbean, in partnership with the Stockholm Environment Institute (SEI), have conducted a study on the degree of coherence between national policies and plans focusing on the Sustainable Development Goals (SDGs), DRR and CCA in the Caribbean Region. This regional analysis aimed at enhancing our understanding of the level of and approaches to coherence of planning and policy implementation mechanisms in countries across the Caribbean Region. The study identifies key lessons for national governments and regional actors and forms the basis for future work in supporting coherent SDG-DRR-CCA approaches in the context of the 2030 Agenda for Sustainable Development in the region.

The baseline analysis of the status of coherence of Caribbean countries presented in this report helps us to identify recommendations for enhanced multi-sectoral sustainable development, DRR and CCA policy and governance coherence targeted at specific stakeholder groups.

The analysis was conducted for 16 selected countries of the Caribbean Region: Antigua and Barbuda, The Bahamas, Barbados, Belize, Cuba, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, and Trinidad and Tobago. These countries were selected because UNDRR and the Caribbean Disaster Emergency Management Agency (CDEMA) have been supporting them in the development of their Country Work Programmes (CWPs). The report identifies the following key findings:

Strategic coherence:

All 16 selected Caribbean countries have signed up to and adopted the SDGs, Paris Agreement on Climate Change, and the Sendai Framework for Disaster Risk Reduction (SFDRR). Guided by these global frameworks and with support from CDEMA and other regional and international organisations, countries have identified the need to integrate sustainable development, DRR and CCA, and have articulated a strategic vision to create coherence at the national level under CDEMA’s Regional Comprehensive Disaster Management Strategy (CDM) and Results Framework 2014-2024 (CDEMA, 2014b) in their CWPs. The following pathways to further strengthen strategic coherence have been identified by the analysis (please see report for the full list):

- CDEMA’s CDM Framework represents an anticipatory, holistic approach to risk reduction and resilience building across all sectors. For some Caribbean Countries, which already have a national strategy well aligned with the global frameworks, there is still scope to improve coherence by strengthening the links with the regional frameworks.
- The current design and revision of CWPs and National Adaptation Plans (NAPs) in many of the Caribbean Countries presents an opportunity to further strengthen the strategic vertical and horizontal linkages between institutions and policies, and across sectors.
- Strengthen the cohesion between national strategies with the national MER framework developed on regional and global indicators.

18 Based on the final draft from 23 February 2022 of an analysis of coherence in 16 Caribbean countries, shared by the UNDRR ROAC for MTR SF purposes.
Conceptual coherence:

The selected Caribbean countries demonstrate an understanding of the linkages between sustainable development, DRR, and CCA, and the need for further integration and policy coherence, but this varies across countries. All countries utilise the concept of ‘resilience’ as a common aim and as a vehicle to integrate strategies, policies and plans on climate and disaster risk in their CWPs. However, ‘resilience’ is rarely defined and used as an operational framework. Few policies and plans truly represent systems thinking and tend to focus on resilience as an outcome rather than a process. There is hence a greater need for understanding resilience and how the different areas work can come together in a coherent way. It is also important to understand the limitations to achieving coherence as differences between the areas of work exist. The following pathways to further strengthen conceptual coherence have been identified by the analysis (please see report for full list):

- Enhance efforts to achieve holistic risk reduction and to address root causes of risk.
- Define both "resilient" and "sustainable" development approaches to respond to climate change in a comprehensive manner.
- Promote risk-informed development that takes into consideration the impact of climate change on human security and the sustainable development process (e.g., Haitian National Plan for Risk Management).
- Strengthen gender equality, social equity, inclusion, and rights-based approaches.
- Integrate social protection mechanisms into the coherence agenda.

Institutional coherence:

Policies and institutions remain mostly siloed with conflicting mandates and competing interests. In many Caribbean countries, the responsibilities for sustainable development, DRR and CCA are owned by different agencies. In many cases, climate change is under the prevue of the ministry of environment, whereas the national disaster management offices (NDMOs) are responsible for DRR/DRM. As a result of such silos, the roles and responsibilities of different government agencies and non-government stakeholders are not always clearly defined, information and data are not readily shared, and communication across ministries is limited. Institutional fragmentation can also cause conflict, power struggles, and competition between different government agencies over limited resources. The following pathways to further strengthen institutional coherence have been identified by the analysis (please see report for full list):

- Align national legislative and regulatory framework with the SDGs, SFDRR, Paris Agreement.
- Establish a joint lead agency, coordinating body, and joint working groups (e.g., CWP committee that facilitates the coordination of CWP implementation).
- Clarify the roles and responsibilities of all stakeholders.
- Establish national decision-making processes, appoint designated SDG, DRR and CCA focal points in national sectoral ministries, conduct regular consultative meetings between the focal points and all relevant stakeholders.
- Strengthen sub-national coordination mechanisms and local government actors.

Operational coherence:

The analysis revealed both barriers and opportunities for operational coherence. Barriers, particularly in SIDS and at the local level, include limited human, technical and financial resources to cope with the considerable responsibilities allocated to local actors. Competing interests, lack of leadership and political will, and a lack of decision-making power are also considerable challenges to operational coherence. The need for operational coherence at the local level and the importance of engaging with vulnerable communities and supporting local government and non-government organizations...
through community-based approaches and effective assistance for those at risk, is emphasized in many of the documents reviewed, but often in broad and aspirational terms. Cross-cutting issues, such as gender equality, social inclusion and empowerment, rights-based approaches, and sustainable development, are commonly recognized in the context of the SDGs, DRR, and CCA. Opportunities for operational coherence identified in many countries include the application of innovative approaches, methods, and tools, conducting risk and vulnerability assessments, implementing nature-based solutions, establishing multi-hazard early warning systems, better land use planning, creating resilient infrastructure, building back better, and assessing damages and losses. Equally important are the coordinated collection of data and the creation of integrated monitoring and evaluation (M&E) systems. The following pathways to further strengthen operational coherence have been identified by the analysis (please see report for full list):

- Enhance coordination and collaboration at national and regional level through multi-stakeholder mechanisms and regional dialogues such as the CDEMA Coordination Harmonisation Council and the Eastern Caribbean Donor Group.
- Conduct regular capacity-building activities for sub-national and local government officials on how to integrate the SDGs, DRR and CCA.
- Engage with vulnerable communities and support local government and non-government organisations through community-led approaches.
- Support integrated multi-hazard risk assessment and planning and MHEWS.
- Standardize data collection for risk assessment and for the different reporting mechanisms.

Financial coherence:

The biggest gap and hence perhaps one of the most significant opportunities for creating coherence lies in the financing of climate and disaster resilient development approaches. Many countries express the need for improved budget planning and dedicated financing for DRR and CCA, but not many policies and plans provide specific information on how to achieve this. Very few countries have dedicated budgets and financing mechanisms in place that code and track expenditure against clear timelines and outcomes. Other key challenges associated with climate and disaster risk financing are short-term versus long-term needs, the lack of predictability of financing for developing countries, and aligning priorities and resources. The following pathways to further strengthen financial coherence have been identified by the analysis (please see report for full list):

- Streamline the application process for applying to global funding sources.
- Align donor funding with the priorities of the CWP and support particular elements.
- Access funding for SIDS to update legislation and policies and implement DRR and CCA actions.
- Finance climate and disaster-resilient development approaches.
- Promote the principles of sustainable financing.
- Create insurance and risk transfer mechanisms.

MER coherence:

All 16 selected Caribbean countries have established, or are planning to create, a performance monitoring framework (PMF) as part of the CWP under CDEMA’s CDM Strategy. However, systems to operationalize these intentions are few and far between as many countries currently lack a results-based management framework with the articulation of expected outcomes and impacts to systematically track achievement and development changes over the planning cycle of the CWP. MER could also play an important role in bridging the gap between national policy and the regional and global frameworks by selecting indicators that are aligned with international guidance and would facilitate the monitoring process, allowing a seamless implementation of the national development
plan. The following pathways to further strengthen MER coherence have been identified by the analysis:

- Establish conscious decisions and frameworks for measuring progress and success in jointly tracking the SDGs, DRR, and CCA within the global and regional contexts.
- Enhance integration of tracking and monitoring processes for the three frameworks at the country level to improve reporting efficiency and to improve the dynamic understanding of coherence.
- Monitor sustainable and resilient development indicators over longer time-periods. Data on certain socio-economic indicators could be collected every 10 years through the census.

Table 1 Types of national policies and plans of selected Caribbean countries.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Antigua and Barbuda</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>2016</td>
<td>2021</td>
<td>2016 (3rd)</td>
<td>2021</td>
<td>2015</td>
</tr>
<tr>
<td>Barbados</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>2021</td>
<td>--</td>
<td>2018 (2nd)</td>
<td>2019</td>
<td>2021 (draft)</td>
</tr>
<tr>
<td>Dominica</td>
<td>--</td>
<td>2018</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>2020</td>
<td>2018</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>--</td>
<td>2016</td>
<td>--</td>
<td>2020</td>
<td>--</td>
<td>2013</td>
<td>2010</td>
<td></td>
</tr>
<tr>
<td>Cuba</td>
<td>--</td>
<td>2017</td>
<td>--</td>
<td>2020</td>
<td>--</td>
<td>2100</td>
<td>2017</td>
<td></td>
</tr>
<tr>
<td>Haiti</td>
<td>2019</td>
<td>--</td>
<td>--</td>
<td>2019</td>
<td>--</td>
<td>2019</td>
<td>2012</td>
<td></td>
</tr>
<tr>
<td>Jamaica</td>
<td>2021</td>
<td>--</td>
<td>--</td>
<td>2015</td>
<td>--</td>
<td>2014</td>
<td>2014</td>
<td>2010</td>
</tr>
<tr>
<td>Guyana</td>
<td>2015, 2019</td>
<td>--</td>
<td>--</td>
<td>2016 (Revised)</td>
<td>--</td>
<td>2012 (2nd)</td>
<td>2013</td>
<td>2019</td>
</tr>
<tr>
<td>Saint Kitts and Nevis</td>
<td>In progress</td>
<td>--</td>
<td>--</td>
<td>2016</td>
<td>--</td>
<td>2016 (2nd)</td>
<td>--</td>
<td>2001</td>
</tr>
<tr>
<td>Saint Lucia</td>
<td>2018</td>
<td>--</td>
<td>2015</td>
<td>2021</td>
<td>2017 (3rd)</td>
<td>In progress</td>
<td>2020</td>
<td></td>
</tr>
<tr>
<td>Trinidad and Tobago</td>
<td>2011</td>
<td>--</td>
<td>2018</td>
<td>--</td>
<td>2013 (2nd)</td>
<td>2013</td>
<td>2016</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 Level of coherence with respect to selected characteristics of coherence across the six coherence themes (green = substantial, orange = partial, red = no coherence).
### Strategic coherence
Adheres to international and regional guidance and processes related to DRR, CCA and SD

### Conceptual coherence
Aims to build resilience to (acute and chronic) climate and disaster risks and avoid the creation of new risks

### Institutional coherence
Describes coordination mechanisms and/or joint policy instruments to support coherence between SD, CCA and DRR
Describes the roles and responsibilities of SD, DRR and CCA national and local actors in creating coherence

### Operational coherence
Policy development is based on multi-stakeholder engagement
Clarify how integrate SD, CCA and DRR in the national specific sectors & cross-sectoral areas

### Financial coherence
Allocate specified budget in support of joint SD, CCA, and DRR activities
Specify funding mobilization & insurance schemes

### MER coherence
Establish a centralized MER mechanism complying with global/regional indicators

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**COVID 19 MAIN DOCUMENTS**

The COVID-19 pandemic has served to reveal the systemic nature of risk and highlights the exposure of these systems to all hazards. Its unprecedented cascading effects have impacted all sectors and levels of our economies and societies. The Global Assessment Report 2019 (GAR) and the Sendai Framework for Disaster Risk Reduction convey the reality that in an ever more populous, networked, and globalizing society, the very nature and scale of risk have changed, to such a degree that it surpasses established risk management institutions and approaches. The Caribbean region is experiencing the effects of systemic risk as we witness the interplay and amplification of the varied effects of multiple events.

The large-scale and long-lasting effects of coronavirus disease (COVID-19), combined with the possible impact of other hazards and recent events, have the potential to damage or destroy vital

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infrastructure and the life support systems of large parts of societies and economies. The COVID-19 pandemic will also have a historic socioeconomic effect on Latin America and the Caribbean. The Caribbean and especially its economic activity have been hit by external shocks, accompanied by a global recession and a collapse in international trade. This is expected to be reflected directly in higher unemployment and greater poverty and inequality, two major and historical drivers of vulnerability in the region.

Before COVID-19, the economies of the Caribbean countries were characterized by slow economic growth, high indebtedness, significant vulnerability to different hazards — notably natural hazards — and dependence on tourism and food imports. In November 2019, ECLAC forecast that Latin America and the Caribbean would grow by a maximum of 1.3% in 2020. By subregions, the Caribbean was projected to grow by 2.3%. With this expected performance of the thirteen Caribbean economies, five would have had growth of over 3%, and Antigua and Barbuda would have had the fastest growth, at 6.5%. Under the World Bank country classifications by income level, Caribbean countries ranked in the middle-income, upper-middle-income and high-income economies, the exception being Haiti. In the 2010s, which started after the global financial crisis, the average economic growth of the Caribbean did not keep pace with other developing countries, including small island developing States (SIDS) (ECLAC, 2018).

COVID-19 and cascading effects are affecting Latin America and the Caribbean through external transmission channels (ECLAC, 2020a) due to a decline in the economic activity of the region’s main trading partners and the cascading effects of this, a decline in remittances (The Caribbean countries most affected by this will be Haiti, where remittances account for 33% of GDP, Jamaica, where they represent 16%, and Saint Vincent and the Grenadines, Dominica and the Dominican Republic, where remittances represent between 5% and 10% of GDP), a drop in commodity prices, The interruption of global value and supply chains and lower demand for tourism services. In the latter, the economies of the Caribbean are largely based on tourism. Tourist activity could take several years to return to 2019 levels.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>The Caribbean (13 countries) and other subregions of Latin America and the Caribbean: GDP growth, 2019 and projections for 2020 (Percentages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antigua and Barbuda</td>
<td>6.2</td>
</tr>
<tr>
<td>Bahamas</td>
<td>0.9</td>
</tr>
<tr>
<td>Barbados</td>
<td>0</td>
</tr>
<tr>
<td>Cuba</td>
<td>0.5</td>
</tr>
<tr>
<td>Dominica</td>
<td>9</td>
</tr>
<tr>
<td>Grenada</td>
<td>3.3</td>
</tr>
<tr>
<td>Haiti</td>
<td>-0.7</td>
</tr>
<tr>
<td>Jamaica</td>
<td>1.7</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>4.8</td>
</tr>
<tr>
<td>Saint Kitts y Nevis</td>
<td>3</td>
</tr>
<tr>
<td>Saint Vincent and the Grenadines</td>
<td>2.5</td>
</tr>
<tr>
<td>Saint Lucia</td>
<td>2</td>
</tr>
<tr>
<td>Trinidad and Tobago</td>
<td>0.6</td>
</tr>
<tr>
<td>The Caribbean</td>
<td>2.1</td>
</tr>
<tr>
<td>Central America</td>
<td>2.3</td>
</tr>
<tr>
<td>South America</td>
<td>-0.1</td>
</tr>
<tr>
<td>Latin America</td>
<td>0.1</td>
</tr>
<tr>
<td>Latin America and the Caribbean</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Source: Economic Commission for Latin America and the Caribbean (ECLAC).
The policy response of the countries of the Caribbean to COVID-19 has been constrained by limited fiscal space, caused by high indebtedness and debt service. Despite this restriction, they have increased spending and have granted credit and guaranteed support (Bárcena, 2020b). Some countries in the Caribbean have implemented support programmes for the productive sector. For example, Jamaica has introduced the Business Employee Support and Transfer of Cash (BEST Cash) programme and the COVID-19 Tourism Grant for businesses in the tourism sector. Similarly, Grenada has introduced a payroll support scheme for the tourism sector. In Grenada, additional credit is being made available to hoteliers and small businesses (ECLAC, 2020e). Barbados and Bahamas supplemented unemployment benefits that are part of their social security systems with temporary benefits for contributing persons and the self-employed. The Government of Antigua and Barbuda...
has introduced the COVID-19 Emergency Food Assistance Programme, which is aimed specifically at older persons living alone, persons with disabilities, and unemployed persons with children. The Government of Trinidad and Tobago has boosted payments to current recipients of public assistance, including disability assistance grants.

The first case of COVID-19 among the 13 analysed countries was confirmed in Jamaica on 10 March 2020. Since the start of the pandemic, the growth rates of national outbreaks in the subregion have been low, with the exception of a few countries. Epidemics are neither an isolated nor a recurring phenomenon in the Caribbean, they are part of its history. But in general, Caribbean countries are suffering primarily from the cascading effects of the health crisis elsewhere in the world on areas such as global trade, tourism and transportations. Nonetheless, the high indebtedness, economic fragility, social vulnerability and exposure to climatic shocks of the Caribbean warrant risk-informed recovery policies and plans that integrate a systemic understanding of risk and its drivers.

All Caribbean countries have national disaster laws that govern how disaster risks are managed by the State.

**Challenges, opportunities and recommendations for a risk-informed recovery and development in the Caribbean**

A. Integrating a systemic approach to risk management into recovery plans

C. Ensuring coherence between disaster risk reduction and the climate change agenda post-COVID-19 can be an opportunity for a greener, bluer and more resilient recovery

D. Financing disaster risk management and a risk-informed COVID-19 recovery plan. ECLAC calls:

- The ECLAC Debt for Climate Adaptation Swap Initiative, including creation of a Caribbean Resilience Fund (CRF).
- Debt standstills and access to concessional funding, changes to eligibility criteria of international financial institutions.
- Contingency bonds, with hurricane clauses
- Green and blue bonds.
• Liquidity support by issuing special drawing rights (SDRs).

E. Boosting support for and use of science and technology

F. Strengthening regional integration and cooperation, to promote effective regional governance for disaster risk and socioeconomic recovery

G. Integration of disaster risk management into development planning

The review of the impacts of the COVID-19 pandemic and the challenges it poses to national systems calls for comprehensive reflection on the need to strengthen current risk governance mechanisms in order to better understand, prepare for and respond to risks that are more complex and interconnected.

Countries do not function without public goods, but States cannot produce public goods in a world in which it is not possible to collect taxes progressively or where countries have unsustainable levels of debt. A robust protection system is a public good. This pandemic has showed, like any major disaster, that countries must have such systems to provide the necessary health care and social protection. Recovery, then, cannot restore the previous framework: it must build back better, changing the development model.

It is now recognized that the State must play a much more important role, regulating and coordinating markets and promoting social protection and equality. Building back better in the Caribbean must be rebuilding with equality and resilience, for instance by implementing active fiscal policies with a gender approach to mitigate the disproportionate effects of the COVID-19 pandemic on women and by forging political compacts at all levels based on feminist principles of redistribution of power, time, work and resources.


Jamaica, Belize, the Dominican Republic, Guyana, Haiti, and St. Vincent and the Grenadines as increasingly incorporating disaster risk reduction as part of their long-term planning objectives. This is reflected in their recent national development plans highlighting the role of disaster risk reduction in achieving socioeconomic development and creating national risk management agencies.

Caribbean countries, a set of mostly Small Island Developing States (SIDS), have a history of dealing with large shocks. The region is threatened by both economic and natural hazards. Nations have specialized in tourism and commodity exports (figure S1), disproportionally exposing them to global economic cycles through changes in tourism demand and commodity prices. They are also located in a region that is highly exposed to a range of natural hazards—from volcanic eruptions to earthquakes and hurricanes—which damage their infrastructure stock, reduce tourism demand, and destroy agricultural production. Hazards have often caused severe damage to economies and livelihoods in the region. Despite their varying national capacities and exposure to natural hazards and economic volatility, the countries of the Caribbean have sustained long-term development progress. Their specialization in sectors where they have a comparative advantage (tourism and commodities) has led to relatively high-income levels. Antigua and Barbuda, The Bahamas, Barbados, Sint Maarten, St. Kitts and Nevis, Trinidad and Tobago, and Turks and Caicos are high-income countries; and Belize,
Dominica, the Dominican Republic, Guyana, Jamaica, St. Lucia, St. Vincent and the Grenadines, and Suriname are upper-middle-income countries. Haiti is the region’s only low-income country. But high income levels have also come, historically, with high exposure to global business cycles and natural hazards, which has resulted in high economic volatility, high unemployment, and persistent inequality and poverty. Economic growth has slowed over the past 10 years, and more recently, the COVID-19 pandemic has demonstrated that, although the region was prepared to handle shocks, it is vulnerable to and dependent on changes in global tourism demand.

Taking a holistic approach to resilience, this report assesses the historical and future impacts of shocks in the Caribbean, policy responses to those shocks, and gaps in resilience building. It offers two main findings and a series of recommendations for policy makers.

**Finding 1:** Caribbean countries have achieved resilience levels that have allowed them to support economic development despite large recurring damages and losses from multiple hazards and shocks. But this relies to a large extent on informal mechanisms that neither systematically protect the poor and most vulnerable groups nor prevent the loss of human capital. Businesses in the region have invested in disaster preparedness, staff training, and backup infrastructure like water tanks and electric generators. Remittances from abroad have blunted declines in consumption after disasters. In many cases, governments have prepared adeptly for extreme events, also benefiting from regional collaboration mechanisms to monitor and forecast hurricanes and organize a coordinated response when the impact exceeds individual countries’ response capacity. Past efforts have, however, left some people behind. One in five people in the region still lives in poverty and past shocks have contributed to pushing people into and keeping them in poverty.

- Natural hazards are costly in terms of infrastructure damages
- Despite high infrastructure damage, at the macroeconomic level, Caribbean countries show relatively high levels of resilience to natural shocks
- A firm survey and lessons learned from past disasters show good levels of preparedness to quickly restore economic activity
The COVID-19 pandemic highlighted the good functioning of regional coordination and social protection programs to respond to crises.

But despite social protection programs, shocks increase poverty and reduce human capital.

**Finding 2:** Caribbean countries are not prepared for the new challenges posed by climate change, compounded by uncertainty on future tourism markets and a lack of fiscal space. The strategies that have worked in the past will not be enough in the future. Climate change threatens to intensify natural hazards and brings new sources of volatility though impacts on health, agriculture yields, and coastal landscapes. The post-COVID-19 world brings more uncertainty on prospects for tourism. Many countries have also depleted their fiscal space and coping capacity while dealing with past crises.

These new challenges call for more consistent approaches to resilience, building on stronger institutions, robust analytics, and more transparent prioritization. To boost resilience and better prepare for the shocks and stresses of the future, this report recommends that Caribbean governments focus on three main areas:

- Increasing government efficiency by improving investment management and infrastructure maintenance, clarifying procurement rules for emergency situations, allocating budgets transparently, ensuring fiscal rules are robust, and layering risk financing strategies
- Empowering households and the private sector by increasing both the coverage and adequacy of social protection, strengthening worker skills for resilience, improving access to finance, and facilitating access to risk information
- Reducing future physical risk by investing in critical infrastructure, better enforcing building codes and standards, systematically considering emerging and changing risks, and planning to build back better after shocks.

- Caribbean countries face difficult trade-offs for food security
- Tourism is suffering from both the COVID-19 crisis and longer-term climate change
Recent economic and financial crises have deteriorated governments’ capacity to respond to future shocks. Outdated technologies and limited data availability create bottlenecks for facing old and new challenges.

Three recommendations for building resilience to a new generation of shocks

Recommendation 1. Increase government efficiency

- Invest in digitalization for key government services
- Improve processes for postdisaster spending
- Reduce budget variability and fiscal risks by improving public asset management
- Build fiscal resilience
- Assess direct and indirect liabilities and improve the transparency of budget allocation for emergency social protection and health expenditures
• Roll out the development of disaster risk financing strategies that cover the entire spectrum of risk from small, frequent events to rare, extreme events.

Recommendation 2. Empower households and the private sector
• Help firms and households plan ahead by making good quality risk data publicly available in a format that can be used and analyzed and reflects the (uncertain) future impacts of climate change
• Help households diversify their income and bounce back after disasters by building a social protection system that has high coverage, comprehensively addresses risks, and provides adequate benefits
• Help firms (including MSMEs) and households invest in resilience and rebuild after disasters by developing the financial and insurance sectors, including regulation on risk disclosure and strengthening financial sector safety nets.
• Support farmers and fisherfolk with access to data, technological solutions, and finance.
• Invest in digital infrastructure and build digital skills to strengthen businesses and build human capital.

Recommendation 3. Reduce future physical risk
• Develop and implement risk-informed building codes that are relevant to the local context and ensure informal builders are equipped to build resiliently
• Develop risk-informed coastal and land use plans that consider future climate change impacts

<table>
<thead>
<tr>
<th>Caribbean countries’ coastal protection capital and maintenance investment needs (2020–2050) under RCP 4.5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total coastal protection investment costs ($ millions)</strong></td>
</tr>
<tr>
<td>Lower bound</td>
</tr>
<tr>
<td>Antigua and Barbuda</td>
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<tr>
<td>Bahamas, The</td>
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<tr>
<td>Belize</td>
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<td>Dominica</td>
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<tr>
<td>Dominican Republic</td>
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<tr>
<td>Guyana</td>
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<tr>
<td>Jamaica</td>
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<tr>
<td>St. Martin</td>
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<tr>
<td>St. Vincent and the Grenadines</td>
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<tr>
<td>Suriname</td>
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<tr>
<td>Turks and Caicos Islands</td>
</tr>
<tr>
<td><strong>Total region</strong></td>
</tr>
</tbody>
</table>

Source: Based on data from Nichols et al. 2018
Notes: Costs are presented for an adaptation strategy based on a cost-benefit analysis. Other scenarios are available in Nichols et al. (2018). Countries in red (nascent) are in the lowest third for that indicator; those in yellow (emerging) are in the middle third; and those blue (established) are in the top third.

• Take advantage of natural capital.
• Identify and strengthen critical infrastructure assets, including schools and health centers
• Be prepared to build back better, possibly in different places.

Conclusion: This report takes a 360-degree approach to resilience in the Caribbean, assessing progress and gaps across all sectors and countries. While this summary draws general conclusions that are applicable to many countries, Appendices A and B of the full report contain much more detailed,
country-specific analyses. Planners can use the traffic light tool presented in Appendix B to discuss resilience strategies, set targets, and monitor progress at country level. The tool can be tailored to each country’s context.

Continued actions to strengthen regional coordination will be key for resilience. As explained in this summary, regional coordination has been instrumental during the COVID-19 response. Given some countries’ capacity constraints, pulling together resources at regional level will also be vital. Areas where strengthened collaboration is needed include data gathering and sharing, digitalizing national data, integrating regional data management and support, allocating health resources during crises, enforcing building codes, sustainable fiscal policy reforms with a central oversight committee, a central contingency fund for major external shocks, coordinated tax incentives, building financial sector resilience, and more coordinated strategies to attract foreign direct investment and tourism, avoiding a “race to the bottom” and high fiscal costs.

The report also provides a country profile for each country in terms of each main risk factor (hazard, exposure, vulnerability), foundations for growth and priority areas for resilient development.

**Caribbean advancements (UNDRR document)**

<table>
<thead>
<tr>
<th>Understanding Risk (Priority 1)</th>
<th>The way forward</th>
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<tbody>
<tr>
<td><strong>Advancements</strong></td>
<td><strong>Development of Situational Analysis</strong> for 6 other UN’s member countries: Barbados, Belize, Cuba, Dominican Republic, Haiti, and Jamaica; and overseas territories.</td>
</tr>
<tr>
<td>- Development of Situational Analysis for 10 countries: Antigua and Barbuda, Dominica, Grenada, Guyana, St. Lucia, St. Kitts and Nevis, St. Vincent and the Grenadines, Suriname, The Bahamas and Trinidad and Tobago.</td>
<td>- Research on the realization of systemic risk in the Caribbean region. Development of case studies (sectorial, geographical, etc.).</td>
</tr>
<tr>
<td>- The Situational Analysis are a global analysis of the advancements of each country on the implementation of the Sendai Framework for Disaster Risk Reduction. It covers among others: human and social impacts of disasters; economic impact of disasters; social demographic characteristics; natural and landscape characteristics; disaster risk profile (hazards, vulnerability -social and physical, exposure) national governance and institutional framework; commitments to international and regional frameworks; policy coherence between development; adaptation and disaster risk reduction; disaster risk reduction interventions and capacities by Sendai priorities; stakeholder analysis; mapping of existing single, cluster and multi-hazard early warning systems; impacts and institutional response to Covid-19; summary of issues and gaps; and recommendations about potential Priority Areas for the design or strengthening of the national strategy for disaster risk reduction and its implementation.</td>
<td>- Implementing a pilot of the Global Risk Assessment Framework for the Caribbean, including mapping the data environment and the different source of information.</td>
</tr>
<tr>
<td>- Publication of a report on “The coronavirus disease (COVID-19) pandemic: an opportunity for a systemic approach to disaster risk for the Caribbean”.</td>
<td>- Development of a study highlighting the most significant underlying risk factors for the Caribbean region.</td>
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</tbody>
</table>
The establishment of a grant with the University of The West Indies (UWI) aiming to support research activities on the areas of multi-hazard early warning systems, and, systemic risk; and on capacity building activities for policy makers, and regular students (bachelors, masters and PhD). The UWI is also part of the R-STAG representing the Caribbean region.

### Risk Governance (Priority 2)

#### Advancements

- Support on the design, development and finalization of national strategies for disaster risk reduction (*Country Work Programmes*):
  - Finalized and approved: Barbados, Dominica, Guyana, Haiti, and St. Lucia,
  - Finalized and under final revision: Antigua and Barbuda, St. Vincent and the Grenadines, and, Trinidad and Tobago.

- Development of a report aiming to enhance the understanding of SDG-DRR-CCA coherence on planning and policy implementation mechanisms in 16 countries across the Caribbean: Antigua and Barbuda, Barbados, Belize, Cuba, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, St. Lucia, St. Kitts and Nevis, St. Vincent and the Grenadines, Suriname, The Bahamas and Trinidad and Tobago.

- Development of a three-days training on the Comprehensive Climate and Disaster Risk Management, aiming to integrate DRR considerations on the development of National Adaptations Plans, and CCA considerations on national strategies for disaster risk reduction (*Country Work Programmes*).
  - A potential training might be targeting the following ten countries: Antigua and Barbuda, Barbados, Belize, Cuba, Dominican Republic, Guyana, Haiti, Jamaica, St. Lucia, and St. Vincent and the Grenadines.

- Preparation of the 3rd Ministerial Forum in the framework of the Caribbean Safe Schools Initiative, and support to related activities agreed and approved in the Roadmap.

- Further support to Caribbean countries in strengthening databases for disaster risk reduction *aiming to improve the quality of reporting to the Sendai Framework Monitoring*.

- In line with MCR2030 support local governments on the development and implementation of local strategies for disaster risk reduction.

- Support UNCTs in the preparation of “Implementation Plan of Actions” for each of their countries in line with the UNSDCF.

#### The way forward

- Support on the design, development and finalization of national strategies for disaster risk reduction (*Country Work Programmes*):
  - Started: Belize, Grenada, Jamaica, St. Kitts and Nevis, Suriname, The Bahamas
  - (Country Work Programmes last for a period of 4 to 5 years, then they need to be renewed)

- Development of a three-days training on the Comprehensive Climate and Disaster Risk Management, aiming to integrate DRR considerations on the development of National Adaptations Plans, and CCA considerations on national strategies for disaster risk reduction (*Country Work Programmes*).
  - A potential training might be targeting the following ten countries: Antigua and Barbuda, Barbados, Belize, Cuba, Dominican Republic, Guyana, Haiti, Jamaica, St. Lucia, and St. Vincent and the Grenadines.

- In line with MCR2030 support local governments on the development and implementation of local strategies for disaster risk reduction.

- Support UNCTs in the preparation of “Implementation Plan of Actions” for each of their countries in line with the UNSDCF.
Mapping report on the diverse practices of vertical integration for DRR, climate adaptation and resilience action in the Caribbean.

Extensive support provided to the United Nations Multi-Country Office (MCO) for Barbados and the Eastern Caribbean, and the United Nations Resident Coordinator Office in Guyana, in the preparation and development of the Multi-country Common Assessment, as well as in the Multi-Country United Nations Sustainable Development Cooperation Framework (UNSDCF). By January of 2022, a document signed on behalf of UN Resident Coordinators from the Caribbean countries recognises the need for Caribbean people, communities and institutions to enhance adaptive capacity for inclusive, gender-responsive disaster risk management and climate change adaptation and mitigation.

It aligns with the Sendai Framework for Disaster Risk Reduction and states that the United Nations will provide technical support to identify, design, implement and monitor solutions that tackle systemic multi-hazard risks and respond to climate change on a regional, multi-country, national and local level.

### Investing in Resilience (Priority 3)

<table>
<thead>
<tr>
<th>Advancements</th>
<th>The way forward</th>
</tr>
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<tbody>
<tr>
<td>Preparation of a <strong>training course</strong> on Understanding Risk Management and Risk Financing for Disaster Resilience in close cooperation with the Singapore Cooperation Programme, CDEMA, CDB and the University of West Indies. 75 participants representing 25 Caribbean States and Overseas territories have already registered to it. It includes government representatives from Ministries of Planning, Ministries of Finance, and, National Disaster Risk Management Agencies.</td>
<td>Support to Caribbean States and Overseas territories in the preparation of national strategies for risk financing.</td>
</tr>
<tr>
<td>Consolidation of cooperation agreements with the Development Bank of Latin America (CAF) and launch of negotiations for similar cooperation relations with the Caribbean Development Bank (CDB).</td>
<td>Consolidation of cooperation agreements with the Development Bank of Latin America (CAF) and the Caribbean Development Bank (CDB)</td>
</tr>
<tr>
<td>Development of <strong>UNDRR-CAF guidelines for managing school’ infrastructure</strong> projects.</td>
<td>Development of guidelines and tools for supporting MSME’s on the preparation and implementation of business continuity plans</td>
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</tbody>
</table>

### Effective response and BBB (Priority 4)
<table>
<thead>
<tr>
<th>Advancements</th>
<th>The way forward</th>
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<tbody>
<tr>
<td>- In the framework of the CREWS Caribbean project, development of a <strong>regional roadmap for strengthening Multi-Hazard Early Warning Systems</strong> in the region, ensuring the integration of vulnerable groups considerations notably on gender and people with disabilities.</td>
<td>- Implementation of <strong>CREWS Caribbean project</strong> planned activities.</td>
</tr>
<tr>
<td>- Preparation of a <strong>regional training for testing indicators for measuring MHEWS efficiency</strong> targeting CDEMA member States.</td>
<td>- Ensuring synergies between the CREWS Caribbean project activities and the <strong>UN' Ocean Science decade</strong>.</td>
</tr>
<tr>
<td>- Additional funding secured (1M) for the implementation of activities aiming to consolidate the CREWS Caribbean project in areas such as:</td>
<td>- Piloting the <strong>guidelines for integrating DRR in the Humanitarian Cycle</strong> in other Caribbean countries (e.g. St. Vincent and the Grenadines, Dominica, etc.).</td>
</tr>
<tr>
<td>▪ I. Strengthening of Component 1 through a systemic risk multi-sectoral and multi-stakeholder dialogue, by:</td>
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<tr>
<td>▪ <strong>Strengthening the Regional Early Warning Systems (REWS)</strong> as a mechanism for securing synergies with other non-climate-related hazards EWS in the region. (e.g. Tsunamis, biological hazards, coral reef, etc.).</td>
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<tr>
<td>▪ <strong>Mapping of existing regional and national EWS</strong> based on the UNDRR/ISC Hazard Taxonomy</td>
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<tr>
<td>▪ Developing <strong>recommendations for service providers</strong> to ensure synergies among different individual EWS and cluster EWS to engender a MHEWS approach.</td>
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<tr>
<td>▪ The development of a <strong>Risk, EWS and IBF Perception Study</strong> in selected countries to be implemented in close coordination with the <strong>University of West Indies, and the Red Cross and key vulnerable groups</strong>.</td>
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<tr>
<td>▪ The development of <strong>knowledge products</strong> to be part of the educational offer of Caribbean Universities', notably on Impact-Based Forecasting MOOC</td>
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<tr>
<td>▪ II. Strengthening of Component 3 by reinforcing and creating the necessary enabling environment for impact-based forecasting and effective MHEWS on <strong>Guyana and Trinidad and Tobago</strong>.</td>
<td></td>
</tr>
<tr>
<td>- Preparations of activities to be implemented by the working group of <strong>Safe Oceans</strong> in the framework of the UN Decade for Ocean Sciences. In this sense, a proposal has been sent to the UN Decade Committee on Integrating</td>
<td></td>
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</tbody>
</table>
Coastal Hazard Early Warning Systems and Services in the Tropical Americas and Caribbean.

This project aims to find synergies between the current CREWS and is the result of a series of consultative meetings, including a 3 days workshops on which UNDRR played a critical role. In addition to this a proposal for an event in the framework of the First International Conference of the Ocean Decade has been sent. This event would like to promote synergies between Ocean data and science with the GRAF.

- Development of guidelines for integrating DRR in the Humanitarian Cycle: 1) Recommendations for the Humanitarian Programme Cycle; and, 2) Checklist on Scaling Up Disaster Risk Reduction in Humanitarian Action. This including piloting these guidelines in Haiti.

EU DELEGATION FOR BARBADOS AND EASTERN CARIBBEAN

CARIBBEAN REGIONAL INDICATIVE PROGRAMME IIth EUROPEAN DEVELOPMENT FUND (EDF) 2014-2020

FOCAL AREA 2: CLIMATE CHANGE, DISASTER MANAGEMENT, ENVIRONMENT, AND SUSTAINABLE ENERGY

- Specific objective 1: Improve regional resilience to impacts of climate change and natural disasters affecting sustained economic and social development
- Specific objective 2: To support regional capacity for the suitable use of natural resources
- Specific objective 3: to promote Energy Efficiency (EE) and development and use of renewable energy

The Americas and the Caribbean Regional Multiannual Indicative Programme 2021-2027

2.2. Caribbean window

- Caribbean-EU Partnership for a Green Deal
- Caribbean-EU Partnership for Economic Resilience and Trade
- Caribbean-EU Partnership for governance, security and human development

Inputs specific to Investment in Risk Reduction and Resilience

Executive Directors of sixteen (16) Chambers of Commerce across the Caribbean region gathered at the Accra Beach Resort and Spa in Barbados on April 1 and 2, 2019, for the Official Launch and First Meeting of the Network of Chambers of Commerce (CARICHAM). During the two day meeting, history was created with the official signing of a Memorandum of Understanding (MOU) establishing the Network. Signatories were from Antigua and Barbuda, Barbados, Belize, Cuba, Dominica, Grenada,
Guyana, Haiti, Jamaica, Martinique, St Kitts and Nevis, St Vincent and the Grenadines, Saint Lucia, Trinidad and Tobago and Suriname.

Small and medium enterprises (SMEs), including micro SMEs, are the bedrock of global, national, and local markets. Two in every three people works in an SME (OECD 2019). When disaster strikes, SMEs are hit harder, suffer longer and are slower to recover than larger businesses.

**Launch of the Caribbean Facility for Recovery (CRRF):**

[Launch of the CRRF | Launch of the Caribbean Resilient Recovery Facility | By CDEMA - Caribbean Disaster Emergency Management Agency | Facebook](#)

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20 NETWORK OF CHAMBERS OF COMMERCE (CARICHAM) LAUNCHED AND FIRST OFFICIAL MEETING HELD. PRESS RELEASE. 03 APRIL, 2019

21 [Resilience of SMEs | UNDRR](#)