

## CONCEPT NOTE

### Regional Early Warning Systems Consortium for the Caribbean Region

January 31, 2019

### Background

The Caribbean is the second most hazard prone region in the world. A range of natural and man-made hazards affects the region including tropical cyclones, other severe weather events, landslides, earthquakes, volcanoes and tsunamis as well as oil and chemical spills. Whilst the diverse characteristics of the countries within the region viz: single and multi-island Small Island Developing States (SIDS) jurisdictions as well as low-lying continental states informs the priority hazards at the national level, all states are facing the challenges of (current day) climate variability and climate change. In the case of SIDS, special attention and support is required in building resilience to the multiplicity of hazards faced (including those hazards which are exacerbated by climate change) due to their relatively isolated geographic situation, limited physical size, concentration of population along coastal zones, ecological fragility and the social and economic disadvantages related to their small size (UN 2014).

Natural hazard impacts produce different outcomes in Caribbean States due to the hazard characteristics as well as varied vulnerability, exposure and coping capacities. The incidence of natural hazards as well as the human and economic losses stemming from their impact have increased over the past century in the Latin American and Caribbean region. Since 1950, 250,000 people have been killed and more than 24 million affected through injury and loss of homes and livelihoods. The economic cost of these disasters has exceeded \$22 billion (in constant 2009 dollars) between 1950 and 2016<sup>1</sup>. Repeated events have demonstrated that the susceptibility of the economies in SIDS to natural hazard impact affects their developmental trajectories (Montserrat, Volcanic Eruption 1995; Hurricane Ivan, Grenada 2004; Haiti, Earthquake 2010; Dominica, Hurricane Maria, 2017). Within recent years, loss of life associated with severe weather events and tropical cyclones within English Speaking Caribbean States has emerged as an area of concern. In Dominica 2015, 30 persons lost their lives during Tropical Storm Erika and at least 30 during Hurricane Maria in 2017<sup>2</sup>. With a population of more than 40 million living in Caribbean Small Island Developing States (SIDS), safety of persons is paramount and is achieved through the development and maintenance of effective Early Warning Systems (EWS).

The UNISDR defines an Early Warning System as “An integrated system of hazard monitoring, forecasting and prediction, disaster risk assessment, communication and preparedness activities systems and processes that enables individuals, communities, governments, businesses and others to take timely action to reduce disaster risks in advance of hazardous events.” It further recognizes that effective “end-to-end” and “people-centred” early warning systems may include four interrelated key elements: (1) disaster risk knowledge based on the systematic collection of data and disaster risk

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<sup>1</sup> <https://www.imf.org/external/pubs/ft/fandd/2018/03/pdf/otker.pdf>

<sup>2</sup> <https://blogs.iadb.org/caribbean-dev-trends/en/surviving-the-storm/>

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.

Various assessments and the outcomes of the mid-term review of the Hyogo Framework for Action (UNISDR, 2011) have revealed that many nations around the globe operate Early Warning Systems (EWS) for various natural and human-induced hazards. However, the governmental priority, stage of development and overall effectiveness of these EWS at national to local levels, vary widely. Many countries, especially those at highest risks but with the least resources, remain highly challenged in building and sustaining their EWS from the national level down to the level of communities. (UNISDR 2015).

The Regional Comprehensive Disaster Management (CDM) Strategy and Results Framework (2014 - 2024), provides the framework for Disaster Risk Management (DRM) in the Caribbean. The Strategy provides scope for assessing, analyzing and making targeted interventions to achieve its Regional Outcomes. Priority Area 4 which seeks to 'address community level vulnerability within the overall framework for disaster management' and the associated Regional Outcome 4.3. which states 'Community Early Warning Systems, integrated, improved and expanded' require countries to establish early warning systems that are end-to-end, integrated and fully functional to warn the population of impending danger and to take appropriate actions. The Strategy is supported by the Resilience Pathway which has been adopted by the CARICOM Heads of Government in July 2018. The Pathway identifies 5 pillars: Social Protection for the Marginal and Most Vulnerable, Enhancing Economic Opportunities, Safeguarding Infrastructure, Environmental Protection and Operational Readiness and Recovery.

The Desk Review of EWS in the Caribbean (Collymore, 2016) presented a picture of some progress in advancing early warning in the region whilst at the same time called for the acceleration of the enhancement process. It suggested that over the last 15 years there have been observed improvements in early warning systems though this has been variable both by hazard and in space. Movement towards an integrated multi-hazard warning systems culture is evident though this may be characterized as slow. The region's desire for an inclusive EWS culture in an environment of scarce resources and the unavoidable need for a discussion of the costs and benefits of early warning investments, value chain analysis and prioritization are recognised. The desk review encouraged a revisit of the mindset that currently drives DRM and EWS Policy in the Caribbean to include issues such as the placement of EWS in the strategic and operational plans of stakeholders at all levels, the embracing of monitoring and evaluation frameworks and standards for measuring performance.

A salient message from the Review is that the convergence of regional and international agendas can be rewarded with increased financial and capacity building support for the vulnerable states of the Caribbean. However, it also noted that the growth and diversity in the number of EWS sponsoring entities and project collaborators required a facility to address an observed gap in the harnessing of these common interests. It was against this background of the urgent need for a facility to harmonize these efforts and share a common Early Warning Vision for the Caribbean that a Caribbean Early

Warning Alliance was proffered. It was platformed on broad strategic recommendations that spoke to:

- The establishment of a strategic vision for EWS development
- Revisiting and strengthening the governance framework of EWS
- Prioritizing EWS investments
- Making EWS more visible in national and regional strategies and programs

## **Problem Statement**

The UNISDR states that for EWS to work effectively, “... (the) four inter-related components (of EWS) need to be coordinated within and across sectors and multiple levels ... Failure in one component or a lack of coordination across them could lead to failure of the whole system.” There is therefore a need for coordinated governance arrangements for EWS at the regional level (and the national level). In response to this challenge the establishment of the Regional Early Warning Systems Consortium with a mandate to advance and strengthen EWS coordination is proposed.

The current arrangements for early warning systems in the Caribbean comprise a multiplicity of stakeholders whose functions fall within one or more of the four EWS pillars, address one or more hazards and operate at different jurisdictional levels. To date, a strategic vision around which the efforts of these diverse organizations is focused is to be articulated. This should be rooted in a robust enabling framework addressing the policy, and legislative and regulatory environment supported by an agreed work programme, and appropriate monitoring, evaluation and reporting mechanisms. Whilst legal guidance on EWS exists in the Model Comprehensive Disaster Management Bill and Regulations, many countries are to enact the legislation and at this time, no agreed EWS policy document exists.

There is a partial understanding of the mandates and activities of some organisations in relation to EWS but no established coordination of this area to ensure the maximisation of synergies, standardization of methodological approaches and reduction of overlaps and duplication. While there have been assessments undertaken at the national level for four countries of the Region, there is no comprehensive baseline reflecting the status and gaps. Initiatives have been undertaken in an ad hoc manner although the interventions are recognised as necessary.

Significant gaps exist in the pillar of disaster risk knowledge which is based on the systematic collection of data and disaster risk assessments. There is limited knowledge related to vulnerabilities related priority hazards are often not known and a similar scenario exists in the development of risk maps. Whilst significant progress has been made in the area of detection, monitoring, analysis and forecasting of the volcanic hazard, tropical cyclones for example, there is a need to strengthen this area for other hazards such as severe weather events and landslides. The need for this is reiterated by the fact that specialist skills in detection, monitoring, analysis and forecasting often reside within specialized regional institutions and the capacity for interpreting regional level products may vary across states.

Repeated events have proven that dissemination and communication by an official of authoritative, timely, accurate and actionable warnings require strengthening. There is a need to strengthen messages through a revisit of language and tailoring for specific audiences. In addition, assumptions

made about the capacity of the whole population to prepare and respond to the warnings are often flawed due to capacity constraints amongst some segments of the population including the marginal and those within vulnerable groups.

Given this environment, there is a need for strengthened coordination of EWS interventions in the region within each of the four pillars and across the four pillars particularly within the context of scarce human and financial resources. This function is seen as critical noting the more advanced development of some sub-systems and EWS pillars when compared with others. Also critical is the need for cooperation in a region with Coordination of the Consortium being led by the Caribbean Disaster Emergency Management Agency (CDEMA) which is the organisation with the broadest scope and mandate for coordination of disaster risk management in the Caribbean region. There is strong engagement however with partner institutions such as academic, scientific, donors, private sector and civil society.

The matters to be addressed by the Consortium should be guided by the various assessments of EWS in the region including those resulting from the application of the MHEWS Checklist (gap analyses) at the national level in 4 CDEMA Participating States<sup>3</sup>. In particular there should be a review exercise to assess the elements of the gap analyses, to inform areas for collaboration to ensure optimal levels of integration within and between sub-systems. Key issues identified by Collymore (2014) that should be considered further are: early warning communications; accelerated engagement of all stakeholders in the EWS triangle; a strategic vision for EWS development; strengthening of the EWS governance framework; cooperation around a shared EWS agenda; consideration of EWS within the context of climate services; and EWS monitoring evaluation and reporting against the CDM strategy.

The Consortium should promote the integration of expertise from the perspective of the four pillars of the EWS that involve scientific and academic institutions, authorities and civil protection agencies and communities; and the development of the multi-hazard approach which has been considered as 'embryonic' noting the there are some more advanced elements of the system, for example, early warning for hurricanes and floods, and less so for tsunamis, volcanoes, forest fires, localised intense rainfall, landslides, earthquakes, climate change and El Niño.

## **Strategic Approach**

In June 2017, the Regional Early Warning Systems Consortium was proposed with the purpose of advancing and strengthening coordination of EWS. The Regional Early Warning Systems Consortium is a multi-stakeholder group of national and regional agencies with mandates and/or activities targeted at the development and enhancement of early warning systems across multiple hazards. This governing mechanism is expected to provide guidance to Participating States of CDEMA, individually and collectively, on areas pertinent to integrated MHEWS systems that deliver on CDM Regional Outcome 4.3 specifically and more broadly on Regional Outcomes 1, 2 and 3.

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<sup>3</sup> Antigua and Barbuda, The Commonwealth of Dominica, Saint Lucia and St. Vincent and the Grenadines

## Objectives

The Regional EWS Consortium is intended to provide strategic direction to the development and sustainability of MHEWS in the region from the regional to community levels within the context of the CDM Regional Outcome 4.3 'Community early warning systems, integrated, improved and expanded'.

The main objectives are to:

- Provide oversight for EWS developments in the Caribbean region, emphasizing the need for a multi-hazard approach
- Revisit and propose areas of strengthening for the MHEWS governance framework
- Review and provide policy direction to CDEMA and countries on MHEWS
- Ensure that MHEWS as a theme is more visible in national and regional strategies and programs
- Support the implementation of national and regional MHEWS initiatives
- Keep under review the status of MHEWS in the Caribbean region

Key next steps to support the establishment of the Regional EWS Consortium should include:

1. A mapping of agencies and their mandates and activities against the four EWS pillars
2. Consensus on the strategic vision and mission of the Consortium
3. An action plan to support the mission of the Consortium that is updated and reported against, on a yearly basis

## Theory of Change

The long-term outcome of the work of the consortium is strengthened coordination for EWS across multiple hazards affecting the region. To achieve this the work of the Consortium is proposed to focus on three (3) outputs which will contribute to the long-term outcome. The theory of change is based on the assumptions which include *inter alia* that EWS Consortium members are committed to the Consortium objective of strengthened coordination and advancement of EWS; development partners who support the area of EWS recognize and support the objectives of the Consortium.

### **Output 1: The regional strategic vision for EWS established and action plan developed.**

Under this outcome, activities will be undertaken to identify critical stakeholders, build consensus and support for the EWS Consortium and strategies for the maintenance of engagement, elaborate a vision statement for EWS in the region and a mission statement for the REWSC, an action plan for the Consortium in support of its mission, and define roles and responsibilities. This will provide a strategic focus around which EWS stakeholders at national and regional levels may articulate institutional programmes in support of the strategic vision which will contribute to delivering agreed results. The EWS Consortium, in working towards the agreed vision, will also provide that necessary space to promote and facilitate integration of the four EWS components within and across sectors and multiple levels since these are requirements for the system to work effectively and strengthen over all coordination. It is anticipated that once the vision is articulated, it will be periodically reviewed in line with the monitoring and evaluation of the implementation of the action plan and overall EWS under

output 3. Further, that the progress achieved will provide the impetus for deepening commitment of EWS Consortium partners and broader stakeholders over time.

**Output 2: Common standards in support of EWS established.**

Past EWS interventions in the region have been ad hoc Collymore (2016), including utilizing diverse methodologies and approaches across the four components. Under this output, activities will give due consideration to supporting inter-operability of MHEWS, including through agreed methodologies for risk knowledge, enhancing existing standards for detection, monitoring, analysis and forecasting and warning communication and dissemination as well as assessing the effectiveness of the latter; and deepening the standardization of approaches to preparedness at all levels to respond to the warnings received. Activities under this output will build upon regional advances over the past years (e.g. expansion of the Common Alerting Protocol and the Caribbean DEWETRA platform), including areas of institutional specialization and give due consideration to gender-differentiated needs, the marginalised and the vulnerable that include the disabled, elderly, children, pregnant and lactating women, and the indigent. The development and/or enhancement of standards is expected to be delivered over time, commencing with ‘low-hanging’ results which will demonstrate the value of the Consortium intervention. Technical input and guidance from specialized institutions within the consortium will be paramount and standards developed will take into account the special needs of the marginalised and vulnerable.

**Output 3: Progress in the advancement of EWS monitored.**

In keeping with the commitment to results based approaches, the Regional EWS Consortium will perform the function of monitoring regional progress to towards the delivery of agreed results and report in keeping with agreed targets of the CDM Strategy. This may be through parallel or integrated support to the CDM Audit process.