

HURRICANE IRMA: **POTENTIAL CATASTROPHIC IMPACT ON THE CDEMA PARTICIPATING STATES AS A** **CATEGORY 5 HURRICANE**

1.0 Situation

Hurricane IRMA, a Category 5 Hurricane formed in the Atlantic during the week of August 25th 2017. It rapidly grew from a tropical disturbance to a major Hurricane that now creates an unprecedented multi-state threat to potentially nine (9) of the 18 CDEMA Participating States (PSs). These include Anguilla, Antigua and Barbuda, the Commonwealth of the Bahamas, Dominica, Haiti, St Kitts and Nevis, Montserrat, Turks & Caicos Islands and the Virgin Islands. Impact is ongoing at the time of preparing this savingram.

The Caribbean Institute for Meteorology and Hydrology (CIMH) advises that according to the National Hurricane Center at 1100 AM AST (1500 UTC), the eye of Hurricane Irma was located near latitude 18.2 North, longitude 64.0 West. Irma is moving toward the west-northwest near 16 mph (26 km/h), and this general motion is expected to continue for the next couple of days. On the forecast track, the extremely dangerous core of Irma will move over portions of the Virgin Islands very soon, pass near or just north of Puerto Rico this afternoon or tonight, pass near or just north of the coast of the Dominican Republic Thursday, and be near the Turks and Caicos and southeastern Bahamas late Thursday.

Maximum sustained winds are near 185 mph (295 km/h) with higher gusts. Irma is a category 5 hurricane on the Saffir-Simpson Hurricane Wind Scale. Some fluctuations in intensity are likely during the next day or two, but Irma is forecast to remain a powerful category 4 or 5 hurricane during the next couple of days.

Hurricane-force winds extend outward up to 50 miles (85 km) from the center and tropical-storm-force winds extend outward up to 185 miles (295 km). The estimated minimum central pressure is 918 mb (27.11 inches).

3.0 Initial Reports:

Initial reports only are emerging from impacted CDEMA Participating States during the morning of September 6, 2017. These have revealed the following:

ANGUILLA

Initial reports suggest that the roofs of some critical facilities have been damaged.

Needs

No immediate needs identified at this time ***but Anguilla is still experiencing effects of Hurricane Irma.***

Warnings were discontinued for Antigua and Barbuda, Dominica, Sk. Kitts and Nevis and Montserrat at 11:00AM September 6, 2017. Initial reports from these states suggest that damage is at Level 1.

Level 1

A local event in which no external assistance is required is considered as Level 1. The affected Participating State has adequate resources to manage the event. The RRM is not activated for a

Level 1 event. The CDEMA CU monitors and shares information with partners and other CDEMA Participating States.

ANTIGUA AND BARBUDA

The following information was provided by the NEOC:

Antigua

- 3 minor injuries reported prior to the storm and one after
- Initial situation overview on-going
- Initial reports suggests Level 1 damage.
- Airport currently open for emergency landings, and VC Bird International Airport expected to re-open for commercial flights on Thursday, September 7th.

Barbuda

- The MET office has indicated that Barbuda had experienced winds of 119mph with gusts of 150mph.
- Contact was lost with Barbuda just after 1am. Note: Barbuda took down the antennae for radio communications as a mitigation measure and is expected to re-establish it after the winds have abated and hence a better idea of damage can be communicated.
- Reports of major roof damage
- Damaged utility poles
- Uprooted trees

Needs

No immediate needs identified at this time.

DOMINICA

The island experienced some rains, gusty winds and experienced flash flooding in the south of the island on Tuesday, September 5th. No fatalities have been reported. The following was provided by the NEOC:

- Shelters were opened yesterday and some persons took shelter
- Tropical Storm Warning has been lifted as of 5AM today, September 6, 2017
- The public has still been advised to exercise caution.
- Anticipate that the all clear will be given today.

Needs

No immediate needs identified at this time.

MONTSERRAT

The island experienced some wind and rain, with no reports of damage to date. The following was provided by the NEOC:

- Main power was shut off as a precautionary measure.
- Several evacuations were undertaken ahead of the event.

Needs

No immediate needs identified at this time.

ST. KITTS AND NEVIS

St. Kitts

The NEOC reported that the EOC was stood up yesterday September 5th and reported the following;

- No reports of deaths/missing persons at this time.
- Damage to homes in areas such as Conaree, Molineaux and St.Paul's Keys
- Downed poles and trees
- Disruption of electricity supply

Nevis

- Power is out.
- Twelve shelters were opened with 33 persons housed
- Several persons had to be evacuated this morning due to roofs of homes being blown off.
- Assessments starting at 7 with the known vulnerable areas

Needs

No immediate needs identified at this time.

Potential Impacts

The Caribbean Institute for Meteorology and Hydrology has identified the following potential impacts:

Flood/Landslide: Satellite-based rainfall estimates show 24 hr rainfall in excess of 300 mm. Rainfall amounts likely to be enhanced due to local topographic conditions. Intense rainfall activity will lead to flash flooding, dangerous river conditions, landslides and debris flows. Flooding likely to be significantly enhanced within coastal bays due to expected runoff, wave run up, storm surge and tides.

Wind: Winds large at Hurricane force with extremely strong gusts in areas of thunderstorms. Hurricane force winds are very dangerous especially in elevated areas and will produce significant damages to infrastructure and life threatening conditions.

Waves: Significant wave heights likely to exceed 15 metres mainly in the Northern Leeward Islands. Storm surge in excess of 4 m, rough seas and damaging waves are imminent, leading to inundation and damages along coastlines and to coastal infrastructure especially in the northern Leeward Islands. Areas to the south could experience rough sea conditions.

4.0 The Context

General

- a. The threat of Hurricane Irma is unprecedented with a potential catastrophic or significant impact on 9 CDEMA Participating States
- b. This scenario will stretch the limits of the CDEMA system resources and potentially exceed limits specifically in the area of technical support resources
- c. Regional military assets are a viable option to support post impact requirements and a dialogue has been initiated in this regard with the Coordinating Chief of Staff
- d. Potential impact to overseas territories of the United Kingdom (4), Dutch (3), French (3) and United States (2) by one event is unprecedented and the traditional assumption of logistical support from these partners should be tempered given their priority obligations to dependent states or territories.
- e. In the case of the four (4) British Overseas Territories, Anguilla, Montserrat, Turks and Caicos and Virgin Islands, all are CDEMA Participating States.
- f. The CDEMA CU is in dialogue with the UK to ascertain its ability to lead on support to address post-impact needs for the Overseas Territories. Initial investigations reveal that the RFA Mounts Bay would be in a position to support two of the four British Overseas Territories at any given time. There is therefore a need to weigh available UK support with the emerging post impact needs of the British Overseas Territories in the unfolding scenario.
- g. Strategic engagement within the context of the Regional Response Mechanism and beyond will therefore be required to manage the response this event.
- h. The CDEMA system is predicated on horizontal cooperation and many of the trained resources within the system are themselves based in CDEMA Participating States which are under threat and therefore not immediately accessible for deployment at a time when most required.
- i. There are therefore limitations on the number of trained personnel within the CDEMA system to address all identified potential Participating State post impact requests should a worst case scenario play out. This limitation becomes more acute with a prolonged operation.

Financial:

- j. The CDEMA Coordinating Unit has developed operational scenarios on the potential impact of Irma. A response operation in the worst case scenario, informed by past operations is initially estimated to cost US\$750,000-US\$ 1 Million.
- k. The CDEMA CU is currently operating without an approved budget for the Financial Year 2016-2017 and is awaiting a revert from the some Ministerial Council Representatives of Participating States on the proposed Budget. *This revert was due on August 20, 2017.*
- l. The proposed administrative budget for 2016-2017 **excluded** a budget allocation for deployment due to concerns expressed by the CDEMA Participating States on the total budget.
- m. This scenario reiterates the need for the incorporation of operational deployment costs within the administrative budget of the CDEMA CU.
- n. The CDEMA Emergency Assistance Fund currently contains a balance of US\$129,401.00.

- o. Following discussions, the President of the Caribbean Development Bank has authorized a grant of US\$150,000 to address initial operational costs of CDEMA's Regional Response to the Hurricane Irma Event. This represents approximately 15% of the overall estimated costs of a worse case scenario.
- p. Technical human resources are limited at the CDEMA Coordinating Unit at this time due to the delay in responses on the approval of the CDEMA CU administrative budget 2016-2017. Contingency arrangements have therefore been made to solicit the services of volunteers to facilitate the operation of the Regional Coordination Centre in response to Irma. It is intended that this arrangement will deliver some predictability to the regional coordination requirements at this time.

5.0 Regional Readiness Actions

- a. The Regional Coordination Plan (RCP) was activated on Sunday September 3, 2017
- b. The Regional Response Mechanism (RRM) was activated as at 3:00PM Monday September 5, 2017 and continues to be on standby. The RRM is an arrangement for the coordination of disaster response among CDEMA Participating States, and Regional and International Agencies. The RRM is coordinated by CDEMA through the Regional Coordination Centre in Barbados.
- c. The CDEMA Regional Coordination Centre activated September 5, 2017
- d. The CDEMA Coordinating Unit has continued to track the progress of the Irma.
- e. Is maintaining regular contact with impacted and threatened Participating States
- f. Provided periodic briefings to the Secretary-General of CARICOM
- g. Prepared and disseminated Information Notes to stakeholders on TS Irma,
- h. Conducted technical and operational briefings in collaboration with CIMH for the Eastern Caribbean Development Partner Group for Disaster Management (ECDPG-DM) and threatened States
- i. The regional response teams including the Rapid Needs Assessment Teams, CARICOM Disaster and Assessment Coordination (CDAC) Team, the CARICOM Operations Support Team (COST) have been placed on standby
- j. The Regional Security System has placed the CARICOM Disaster Relief Unit (CDRU) on stand-by.
- k. The CDEMA CU has prepared an Operational Plan with potential scenarios and Pre-Impact Analysis of vulnerable areas in the threatened States.
- l. CDEMA is equipped to offer support through the mobilization and deployment surge capacity in specialized technical areas to its Participating States and stands ready to respond as required.

Partners in the Regional Response Mechanism have initiated the following actions:

Regional Partners

- 3.2.1. Caribbean Development Bank (CDB) has provided a grant of US\$150,000 to CDEMA to support the response efforts for Hurricane Irma
- 3.2.2. Caribbean Development Fund (CDF) has indicated that a Disaster Assistance Facility of \$100,000 USD is available to support response and relief operations to impacted states. There is flexibility to increase this amount based on the severity and complexity of the impact and this is informed by reliable damage assessment reports.
- 3.2.3. Caribbean Institute for Meteorology and Hydrology (CIMH)
- 3.2.4. Caribbean Public Health Agency (CARPHA) is monitoring the system. Their disaster management plans are activated and staff have been identified to support regional deployment teams.
- 3.2.5. Caribbean Water and Waste Water Association (CWWA) have been in touch with the heads of the national Water and Sanitation Companies in the threatened states and have offered their support to conduct assessments and conduct repairs to damaged water systems.
- 3.2.6. CARICOM IMPACS stands ready to assist the Regional Response Mechanism by providing support to the security forces. Is able to facilitate a discussion between the RRM and the Regional Military Chiefs of Staffs in reference to their support to regional response and relief operations post Hurricane Irma.
- 3.2.7. Organization of Eastern Caribbean States (OECS) are actively** monitoring the system. Technical Staff can be made available to support assessments in affected Participating States.
- 3.2.8. Regional Security System (RSS) has placed the Caricom Disaster Relief Unit on Standby. The Barbados Coast Guard has been placed on standby to support operations. RSS Airwing is also on standby to support response efforts.

International Partners

- 3.2.9. Global Affairs Canada confirmed the Government of Canada's commitment to the provision of 2 airport specialists.
- 3.2.10. The International Federation of the Red Cross (IFRC) has mobilized 60,000 Swiss Francs to the national Red Cross Societies in Antigua and Barbuda and St Kitts and Nevis. They have activated the Americas office in Trinidad. Surge capacity have also been mobilized and on route to the Americas office. The IFRC is in close communication with the overseas territories and has one team coordinating in Haiti.
- 3.2.11. United States Agency of Foreign Disaster Assistance (USAID OFDA) has pre-deployed personnel to threatened states. Specifically, a Disaster Risk Management Specialist (DRMS) is on location in St Kitts at NEMA along with three surge consultants; similarly a DRMS is covering Antigua and Barbuda along with two local surge consultants; A regional officer will arrive in Barbados September 5, 2017 along with a communications officer out of Costa Rica.
- 3.2.12. United Kingdom: Royal Fleet Auxiliary Ship Mounts Bay is positioned in the region in support of the British Overseas Territories and subsequently, any other State in need of assistance

United Nations (UN) Agencies

- 3.2.13. The UN System has pledged its commitment to a coordinated response in support of the CDEMA system.
- 3.2.14. The Pan-American Health Organisation (**PAHO**) has personnel based in Antigua and Barbuda and St. Kitts and Nevis. Consultants have been pre deployed to TCI and the Bahamas. PAHO continues to maintain contact with the Health Disaster Coordinators in countries. Teams are on stand-by for deployment. Focus areas include coordination, logistics, water and sanitation, damage assessment and information management.
- 3.2.15. United Nations Development Programme (UNDP) identified a number of human resources to support assessment teams.
- 3.2.16. United Nations Population Fund (UNFPA) have reproductive health kits, as well as dignity and hygiene kits available for deployment.
- 3.2.17. United Nations Childers's Fund (UNICEF) has placed surge capacity from Latin America and the Caribbean are on standby, with one team member arriving in Barbados today to support Rapid Assessment and WASH. Also advised that water purification tablets are in Barbados with additional items in Panama. Consideration will be given to providing technical support for the operation of desalination plants. Supplies have been pre-positioned in Barbados and Antigua and there is a commitment to work with PAHO to provide psycho-social support.
- 3.2.18. United Nations Office for the Coordination of Humanitarian Affairs (**OCHA**) has mobilized the United Nations Damage Assessment and Coordination Team (UNDAC). The first member should arrive in Barbados on September 05th 2017 and two more are expected on September 07th 2017. They have also deployed two additional staff members to Haiti to support logistics.
- 3.2.19. UNWOMEN has advised that Water Sanitation and Hygiene (WASH) specialists and social protection specialist are available to support assessment teams.

CDEMA continues to monitor the system and provide daily updates. The CDEMA CU 24-hour contact number is 1(246) 434-4880.

5.0 Considerations for CDEMA Participating States and Recommendations

- 4.1 The potentially catastrophic multi-island impact of Hurricane Irma is highlighting the upper limits of the capability of the Regional Response Mechanism. The pending review of the Regional Response Mechanism is therefore timely and will capture lessons and derive recommendations from Irma for the enhancement and sustainability of the Regional System.
- 4.2 Participating States are encouraged to discuss and consider initial technical and/or humanitarian assistance they may be able to provide to a CDEMA affected state which may require the highest tier of response (a Level 3 response), as a worst case scenario and communicate this to the CDEMA Coordinating Unit by close of business September

7, 2017 to facilitate further operational planning and sharing with the region's delegation. This should include:

a. Emergency assistance personnel who can be rotated in to support Emergency Operations Centre and Damage Assessment in affected countries (in the case of Haiti, personnel with language capabilities in French and French Creole are encouraged and this should be clearly signaled)

b. Telecommunications Specialists

c. Coastal Zone Management specialists

e. Available air and marine assets which may support logistics

f. Supporting the efforts of the Coordinating Chief of Staff to identify military assets to augment manpower on the ground

4.3 In consideration of the technical support to be deployed, Participating States are also asked note that, recognizing the Participating States which are under threat, we are desirous of utilizing personnel from the Central Sub-Region (Barbados, Dominica, Saint Lucia and St. Vincent and the Grenadines), and Southern sub-region (Grenada, Guyana, Suriname and Trinidad and Tobago, and from the country of Belize.

4.4 The threat of Hurricane Irma to the north-western sub-region also includes a potential impact on the focal point of Antigua and Barbuda. In that context, other focal points Barbados and Jamaica, should examine options for providing support including as a staging area based on the logistical best-fit as the event unfolds.

4.5 The Hurricane Irma event is reiterating the need for greater predictability in the financing of regional response operations through the Regional Response Mechanism. Participating States are encouraged to undertake further reflection on the importance of integrating deployment budgets into the CDEMA administrative budget dialogue

4.6 The dependence of the CDEMA CU on mobilising support from external partners to deploy these assets, undermines the raison d'être for the establishment of the RRM at its inception, which is, timely response from sister Participating States, when the impacted countries need it most.

4.7 The CDEMA Coordinating Unit will continue to liaise with development partners on potential areas of support.

4.8 The CDEMA Coordinating Unit will continue regional coordination actions for Hurricane Irma and will continue to share information on the situation in the affected Participating State as updated reports become available.

4.9 The CDEMA Coordinating Unit will mobilize and deploy all resources and assets possible to our requesting Member States within the current resources on hand.

5.0 Participating States are asked to:

- 5.1 **Recall** that a key objective of CDEMA, as expressed in Article V of the Agreement Establishing CDEMA, paragraphs a), b), c), d) and f) and by Article XIII paragraphs a) to q), is to provide immediate and coordinated response to any affected Participating State.
- 5.2 **Reaffirm** commitment to the coordination of the Hurricane Irma Response within the context of the Agreement Establishing CDEMA
- 5.3 **Note** the actions to date on the planning for response to Hurricane Irma.
- 5.4 **Note** the challenges being experienced with predictably in mobilizing the human and physical assets of the Regional Response Mechanism (RRM).
- 5.5 **Further note** that the Caribbean Development Bank has authorized a grant of US\$150,000 to the CDEMA Coordinating Unit to support the regional response efforts.
- 5.6 **Also note** that this is anticipated to cover approximately 15% of the initial estimated response budget for the worse case scenario.
- 5.7 **Consider options** in keeping with the Agreement Establishing CDEMA, for increasing the financing of the Emergency Assistance Fund (EAF). This will provide greater predictability in mobilizing the Regional Response Mechanism, to provide timely support from sister Participating States to impacted countries when they need it most.
- 5.7 **Indicate** any specific pledges of assistance to threatened Participating States by September 8, 2017.
- 5.8 **Examine arrangements** in Barbados, Trinidad and Jamaica for providing support as a sub-regional focal point including as a staging area based on the logistical best-fit as the event unfolds.
- 5.9 **Revert** on or before September 7, 2017 on the specific technical support being offered.
- 5.10 **Also note** that information updates may be viewed on CDEMA's website www.cdema.org