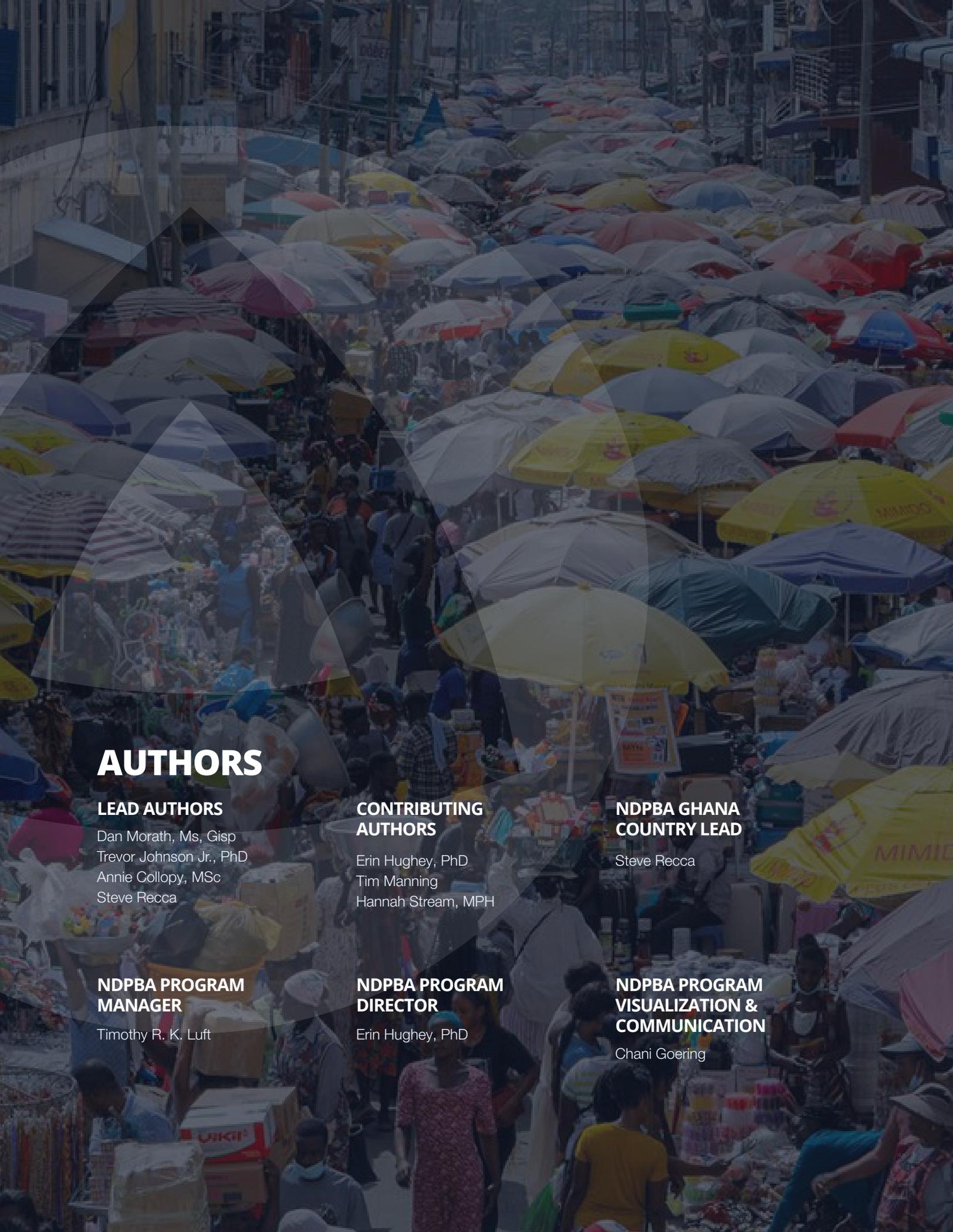




# GHANA NATIONAL DISASTER PREPAREDNESS BASELINE ASSESSMENT

**A DATA-DRIVEN TOOL FOR  
ASSESSING RISK AND BUILDING  
LASTING RESILIENCE**





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- National Ambulance Service
- Ghana’s Police Service
- Ghana Immigration Service
- University of Ghana
- National Centre for Early Warning
- Centre for Remote Sensing and Geographic Information Service
- Ministry of Sanitation and Water
- Red Cross
- Ghana Armed Forces, 48th Engineers
- Volta, Eastern, and Northern Regional Coordinating Councils (RCC)

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# LIST OF ABBREVIATIONS

**AIDS:** Acquired Immunodeficiency Syndrome

**BCP:** Business Continuity Planning

**CCA:** Climate Change Adaptation

**COG:** Continuity of governance

**DM:** Disaster management

**DMA:** Disaster Management Analysis (of the NDPBA program)

**DMF:** Disaster Management Fund

**DRM:** Disaster Risk Management

**DRR:** Disaster risk reduction

**DVG:** Disaster Volunteer Group

**EOC:** Emergency Operations Center

**EPRP:** Emergency Preparedness and Response Plan

**ESF:** Emergency support functions

**EWS:** Early Warning System

**FEWS:** Flood Early Warning System

**GARID:** Greater Accra Resilient and Integrated Development Project

**GDP:** Gross Domestic Product

**GIS:** Geographic Information Systems

**GOG:** Government of Ghana

**GSS:** Ghana Statistical Services

**HIV:** Human Immunodeficiency Virus

**ICS:** Incident command system

**MOI:** Ministry of Interior

**MOU:** Memorandum of Understanding

**NADMO:** National Disaster Management Organization

**NCCP:** National Climate Change Policy

**NDBPA:** National Disaster Preparedness Baseline Assessment (of PDC)

**NDMC:** National Disaster Management Committee

**NDMP:** National Disaster Management Plan

**NGO:** Nongovernmental Organization

**NRFCP:** National Flood Risk Contingency Plan

**NSOP:** National Standard Operating Procedures

**PDC:** Pacific Disaster Center

**PoA:** Program of Action

**RCC:** Regional Coordinating Council

**RVA:** Risk and Vulnerability Assessment (of the NDPBA program)

**SAR:** Search and Rescue

**SD:** Sustainable Development

**SDG:** Sustainable Development Goal

**SFDRR:** Sendai Framework for Disaster Risk Reduction

**SOP:** Standard Operating Procedure

**TTX:** Tabletop exercises

**T&E:** Training and Exercise

**UN:** United Nations

**UNFCCC:** United Nations Framework Convention on Climate Change

**UNICEF:** United Nations Children's Fund

**USAID:** United States Agency for International Development

**USSOUTHCOM:** United States Southern Command

**WASH:** Water and Sanitation and Hygiene

**WHO:** World Health Organization

**ECOWAS:** Economic Community of West African States

**EPA:** Environmental Protection Agency

**WB:** World Bank

**UNDP:** United Nations Development Program

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**NDPBA**

# **EXECUTIVE SUMMARY**

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# EXECUTIVE SUMMARY

The Pacific Disaster Center (PDC) completed the Ghana National Disaster Preparedness Baseline Assessment (NDPBA) in partnership with the Ghana National Disaster Management Organization (NADMO) and the support of in-country stakeholders. The NDPBA examines the country's unique hazard profile, cultural characteristics, geographical and geopolitical context, historical events, and other factors that could impact, both positively and negatively, the ability to manage disasters. Recommendations, at strategic and tactical levels, are developed based on the findings of the assessment and are aligned with the United Nations Sustainable Development Goals (SDGs) and the Sendai Framework for Disaster Risk Reduction.

The assessment consists of two components: the Risk and Vulnerability Assessment (RVA) and the Disaster Management Analysis (DMA). The RVA considers multi-hazard exposure, social-economic vulnerabilities, and coping capacities. The DMA takes a qualitative approach to assess six thematic areas including enabling environment; institutional arrangements; disaster governance mechanisms; capabilities and resources; capacity development; and communication and information management. The DMA results are used to contextualize the RVA findings, providing a comprehensive understanding of the current disaster management landscape. PDC worked in partnership with NADMO to integrate national priorities and stakeholder feedback throughout every step of the process, leveraging assessment findings to build recommendations and a Disaster Risk Reduction 5-Year Action Plan that allows for better targeted use of limited resources and identification of additional funding opportunities.

While the NDPBA was conducted, the effects of climate change, especially flooding, bushfires, and coastal inundation, as well as the enduring impacts of the global COVID pandemic, added to the complexities of the country's disaster risk environment. These events presented challenges and opportunities in helping to understand and actively observe the capabilities of Ghana's disaster management structure. The observations, as well as the lessons identified in this complex multi-hazard environment, informed the RVA and DMA portions of the report summarized immediately below and in the overall national and subnational recommendations.

The RVA results underline Ghana's exposure to numerous hazards, with flooding – and particularly flash flooding – earthquakes, extreme heat, drought, and malaria contributing to a considerable number of people, buildings, and critical infrastructure exposed. Exposure to these, and other hazards included in the assessment, highlights the importance of implementing preparedness strategies as well as risk reduction and climate adaptation initiatives. The assessment also identified vulnerabilities and coping capacities related to current socio-economic conditions and available resources that can be leveraged to support all phases of disaster management. RVA Indicators showed that overcoming

challenges related to household access to clean water and sanitation, economic constraints, gender inequality, and access to information provide opportunities to reduce vulnerability across the country. In addition, improving access to health care services, transportation, and energy capacity can bolster Ghana's coping capacity and disaster response capabilities. Endeavors to address these limitations, paired with efforts to mitigate the identified vulnerabilities, will strengthen the nation's overall resilience to disasters.

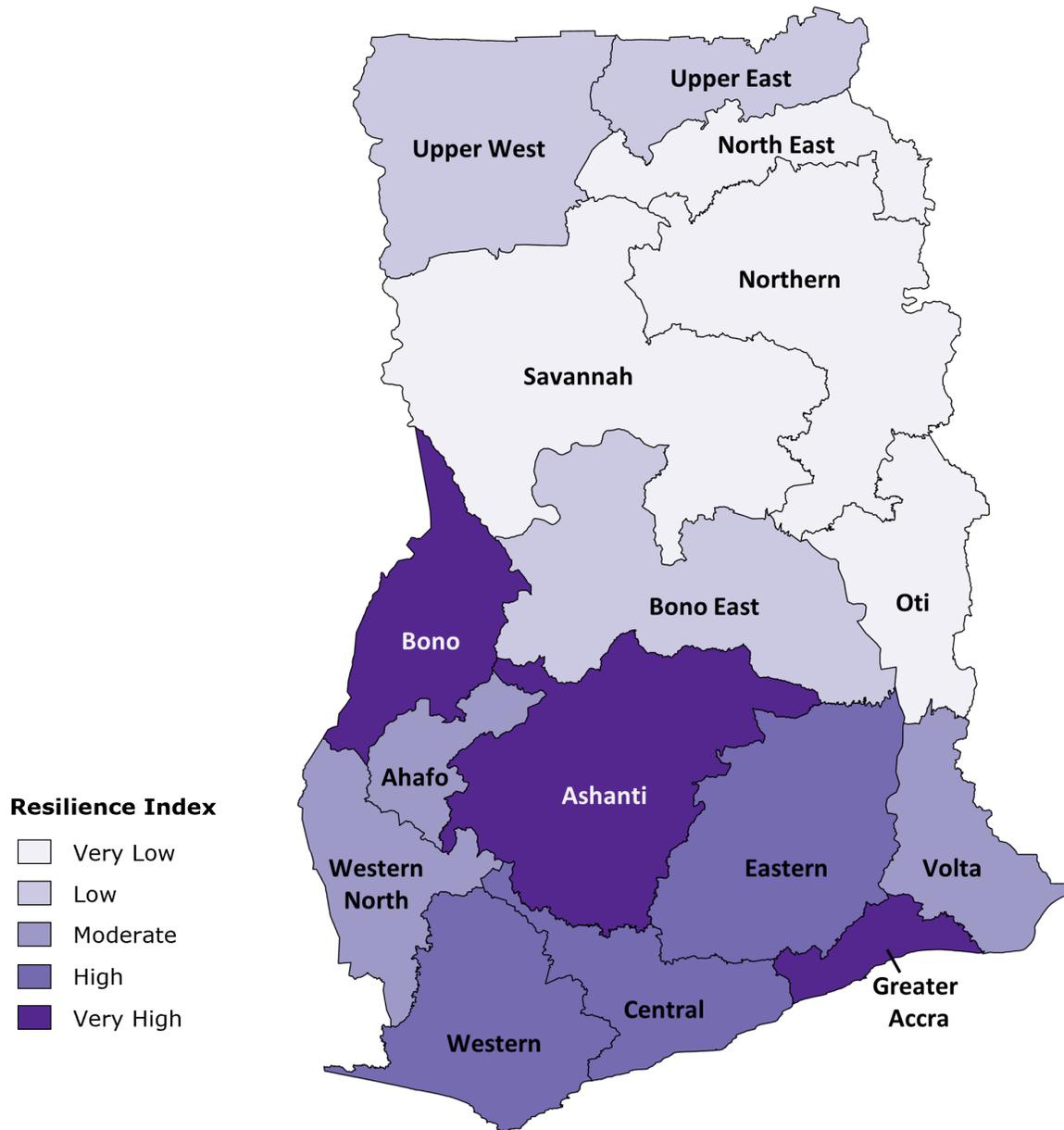
The DMA for Ghana reveals significant progress in the country's institutional arrangements and enabling environment of policies and legislation. As an organization, NADMO is well structured to deliver comprehensive disaster management, with a range of departments and units that consider critical functions and tasks related to preparedness, mitigation, response, recovery, and climate change. Further to this, the NADMO Act outlines essential mandates for decentralizing the management of disasters, coordinating NGO involvement, and augmenting local and national planning. While these efforts support resilience-building in Ghana, the DMA further identifies the need for (1) greater and sustainable disaster risk financing, (2) expanded resources at the local and regional levels, and (3) enhanced training programs at all jurisdictional levels. Strengthening these areas will fortify Ghana's resilience to the predicted impacts of climate change and existing hazards and improve the effectiveness of response and recovery operations.

To access findings, recommendations, and data developed for this analysis, please visit PDC's all-hazard early warning and decision support application for disaster managers and humanitarian assistance practitioners, DisasterAWARE Pro® <https://disasteraware.pdc.org/>.





# SUMMARY OF FINDINGS



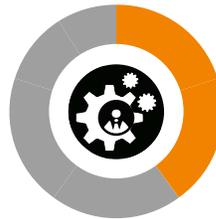
# DISASTER MANAGEMENT ANALYSIS

- Limited or No Capacity
- Early Capacity Development
- Achievement with Significant Limitation
- Substantial Progress with Some Limitation
- Advanced Capacity

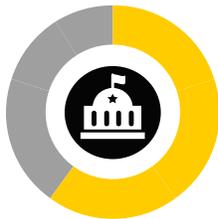
## STATUS



**Institutional Arrangements**



**Capabilities and Resources**



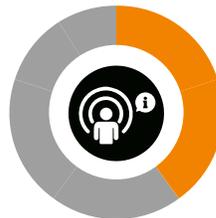
**Enabling Environment**



**Capacity Development**



**Disaster Governance Mechanisms**



**Communication and Information Management**

# RECOMMENDATIONS



These recommendations are included in greater detail in the body of the report. Leveraging the results of this comprehensive assessment may allow the Government of Ghana and key development and disaster management partners to enable a more robust and sustainable disaster risk-reduction effort in Ghana that will contribute to saving lives and property.

## IN LIGHT OF OUR FINDINGS, PDC MAKES THE FOLLOWING RECOMMENDATIONS:

- 1** Develop a national disaster risk financing strategy to promote long-term economic and financial stability while adapting to climate change.
- 2** Expand Ghana's institutionalization of disaster risk management to facilitate and expedite NADMO's policy and legislative agenda.
- 3** Develop a National Disaster Risk Reduction Development Plan to guide the legislative and operational agenda.
- 4** Increase the annual budget for NADMO to support the need for technical staff and programs required to address the rise in hazards in Ghana.

---

**5** Strengthen coordination and collaboration among all government ministries and departments involved in disaster management.

---

**6** Strengthen efforts to include vulnerable populations in disaster planning and operations.

---

**7** Empower women and girls to take active roles in disaster preparedness planning and response to reduce gender inequality and integrate their voices into decision-making.

---

**8** Address disparities in health care and enhance public health emergency preparedness.

---

**9** Develop mechanisms and initiatives to drive towards advanced disaster management capacity.

---

**10** Expand efforts that meaningfully support existing mechanisms to broaden disaster management participation in Ghana at the local level.

---

**11** Conduct a comprehensive planning audit to identify gaps in and among existing plans and update outdated plans.

---

**12** Ensure that disaster management plans consider the complexities and potential cascading impacts associated with response to emergencies in densely populated communities and urban areas.

---

**13** Utilize geospatial data and logistics to inform community-based disaster management and planning. Create and maintain robust inventories of disaster supplies locally and nationally through the National Logistics Plan/ Program.

---

**14** Strengthen all-hazards monitoring, data translation, and risk communications systems into comprehensive early warning systems (EWS) capabilities.

---

**15**

Establish a centralized digital repository within NADMO for disaster management supplies and resources to support strategic designation and procure storage facilities or warehouses across the country.

---

**16**

Enhance procedures and protocols for guiding, assessing, and reviewing disaster management activities to reduce loss of life

---

**17**

Establish a robust community-based disaster management program that includes a volunteer policy that establishes mechanisms and provisions for the successful integration

---

**18**

Formalize disaster training and exercise (T&E) initiatives into a centralized program, led and coordinated by NADMO.

---

**19**

Expand awareness and preparedness campaigns for youth, residents, and businesses about natural and human-caused hazards in Ghana.

---

**20**

Establish a clear plan of action to address demands associated with the influx of refugees in the country and sheltering needs during disasters to reduce impacts on the continuity of education.

---

**21**

Increase investment and education in water, sanitation, and hygiene to reduce clean water access vulnerability.

---

**22**

Improve transportation access through the maintenance of roads in urban and rural areas.

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**NDPBA**

# **COUNTRY BACKGROUND**

# GEOGRAPHY

## Accra

Capital City

**539 km**

Coastline (335 mi): Atlantic Ocean – Gulf of Guinea

**227,533 km<sup>2</sup>**

Land Area (87,851 mi<sup>2</sup>)

**11,000 km<sup>2</sup>**

Total Area (247 mi<sup>2</sup>)

### Neighboring Countries

- Burkina Faso
- Cote d'Ivoire
- Togo

### Administrative Divisions

- 16 Regions (Admin 1)
- 261 Districts (Admin 2)

# DEMOGRAPHICS



**30,832,019**

Total population (2021) (GSS)

**135 per km<sup>2</sup>**

Population density (2021), (351 per mi<sup>2</sup>)

**2.1%**

Average annual population growth (2000-2010)

**56.7%**

Urban population

**43.3%**

Rural population

**54%**

of the total population in four regions:

- 17.7%** Greater Accra
- 17.6%** Ashanti
- 9.5%** Eastern
- 9.3%** Central

## Ethnic groups

- 45.7%** Akan
- 18.5%** Mole-Dagbani
- 12.8%** Ewe
- 7.1%** Ga-Dangme
- 6.4%** Gurna
- 3.2%** Guan
- 2.7%** Grusi
- 3%** Mande

## Religions

- 71.3%** Christian
- 19.9%** Muslim
- 3.2%** Traditionalist
- 4.5%** Other
- 1.1%** None

Male Population



## AGE

- 80+
- 75-79
- 70-74
- 65-69
- 60-64
- 55-59
- 50-54
- 45-49
- 40-44
- 35-39
- 30-34
- 25-29
- 20-24
- 15-19
- 10-14
- 5-9
- 0-4

Female Population



### Healthcare access



**1 to 7,374**

Physicians



**1 to 505**

Nurses



**64**

Average life expectancy



**0.8**

Hospital beds per 1k people



**33**

Infant mortality rate per 1k live births



**Malaria is endemic in Ghana,** accounting for 2.2% of Malaria Cases Globally (2021) (WHO)

### Wash access



**87.7%**

Household Access to Basic Drinking Water Services



**12.9%**

Household Access to Septic or Sewer System



**33%**

Households with Garbage Collection Service

### Access to information



**81.7%**

Adult Literacy Rate



**81%**

Net Enrollment in Primary School



**35%**

Upper Secondary Education Complete Rate



**68.2%**

Population Aged 6 and Older Using the Internet



**86.3%**

Access to Electricity

# ECONOMY

## GDP and Key Exports

**\$77.59 billion (USD)**

GDP (2021)

**\$2,363 (USD)**

GDP per capita (2021)



**9.7%**

Avg. Annual Growth in GDP (2011-2021)



**45.6%**

Multidimensional Poverty Rate



**4.7%**

Unemployment (2021 est.)

### Major Exports (2019)



Gold



Crude  
Petroleum



Cocoa  
Products



Manganese



Cashews

### Sectors (% of GDP)



**57.2%**

Services



**24.5%**

Industry



**18.3%**

Agriculture

# KEY INFRASTRUCTURE

## Logistics and Transportation



Large airport  
Kotoka International



Medium airports  
Kumasi, Takoradi,  
Sunyani, Tamale, Ho



Small airports  
Wa, Navrongo



Heliports



Large ports  
Takoradi



Very small ports  
Including inland ferries



149,829 km

Roadways

## Emergency Services



Hospitals



Clinics and Doctor's  
Offices



Police Stations



Fire Stations



NADMO Offices  
and EOCs

## Other Key Infrastructure



Schools and Colleges



Dams



Power plants

## DISASTER MANAGEMENT

Riverine Flooding (1999) Deaths:52 Affected:324,602 Losses: \$36.9 million	Riverine Flooding (2001) Deaths: 12 Affected: 144,025 Losses: *	Riverine Flooding (2007) Deaths: 56 Affected: 332,600 Losses:*
Riverine Flood (2008) Deaths: * Affected: 58,000 Losses:*	Riverine Flooding (2009) Deaths: 24 Affected: 138,790 Losses:*	Cholera Outbreak (2011) Deaths: 101 Affected: 10,002 Losses: *
Riverine Flooding (2011) Deaths: 14 Affected: 81,473 Losses: *	Cholera Outbreak (2012) Deaths: 38 Affected: 4,975 Losses: *	Meningitis Outbreak (2012) Deaths: 38 Affected: 466 Losses: *
Riverine Flooding (2013) Deaths: 5 Affected: 25,000 Losses: *	Cholera Outbreak (2014) Deaths: 249 Affected: 56,469 Losses: *	Meningitis Outbreak (2016) Deaths: 85 Affected: 465 Losses: *
Flooding (2017) Deaths: * Affected: 1,000,000 Losses: *	Flooding (2018) Deaths: 34 Affected: 100,000 Losses: *	Flooding (2019) Deaths: 19 Affected: 26,102 Losses: *
Flooding (2022) Deaths: * Affected: 5,000 Losses: *		

### Major Capacity improvements/milestones (past 15 years):

- The National Disaster Management Organization Act, passed by the parliament in 2016, mandates and authorizes NADMO's objectives and functions, including the preparation of national, regional, metropolitan, municipal, and district disaster management plans and the establishment of a Disaster Management Fund (Mensah-Bonsu, 2022).
- The National Disaster Management Plan (NDMP) was developed in 1997 and revised in 2007 and 2010. It covers hazard mapping, education and training for preparedness and mitigation measures, and emergency response (Mensah-Bonsu, 2022; Sowah, 2019).
- National Standard Operating Procedures (NSOP) were developed to spell out the functions and responsibilities of various stakeholders and address duplication of efforts (Sowah, 2019).
- Ghana's Poverty Reduction Strategy incorporates disaster prevention in its thematic focus areas (Mensah-Bonsu, 2022).
- The Disaster Volunteer Corps program has been institutionalized, including Anti-Bush Fire Squads (Mensah-Bonsu, 2022).
- Education and awareness efforts were carried out in Northern Ghana to combat cerebrospinal meningitis epidemics, as well as a comprehensive anti-HIV/AIDS program emphasizing preventive behavior with the support of UNICEF, WHO, USAID, and other international and local NGOs (Mensah-Bonsu, 2022).
- The National Strategy for the Development of Statistics and the National Data Strategy were developed to support a data-driven environment for the country.



**THE RVA**

# **RISK AND VULNERABILITY ASSESSMENT RESULTS**

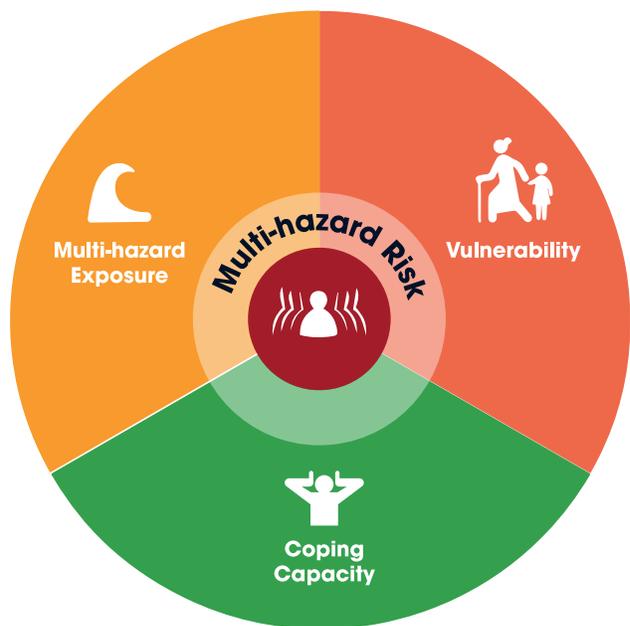
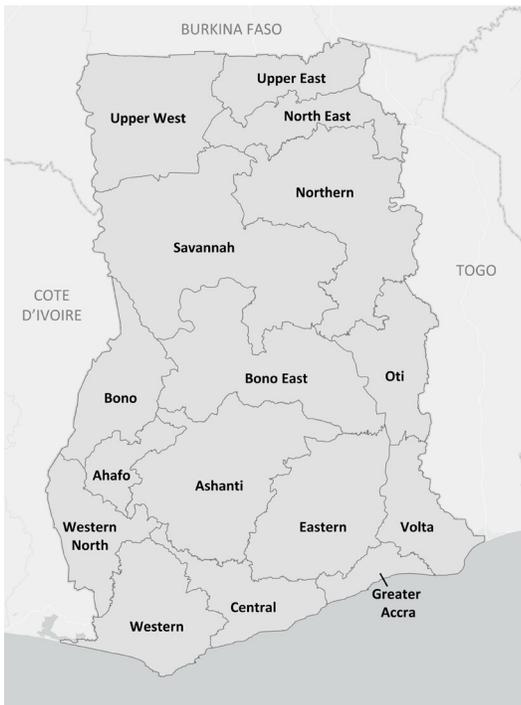
# RISK AND VULNERABILITY

## ASSESSMENT RESULTS

Provided in this section are the Risk and Vulnerability Assessment (RVA) results conducted by the Pacific Disaster Center as part of the Ghana National Disaster Preparedness Baseline Assessment.

For more information about PDC’s NDPBA Methodology, please visit: <https://www.pdc.org/wp-content/uploads/NDPBA-Data-Sharing-Guide-English-Screen.pdf>

### GHANA



### COMPONENTS OF RISK



**Multi-hazard Exposure**



**Vulnerability**



**Coping Capacity**



**THE RVA**

# **MULTI-HAZARD EXPOSURE**

# MULTI-HAZARD EXPOSURE

The following hazards were assessed by PDC as part of the National Disaster Preparedness Baseline Assessment:

## Global Multi-hazard Exposure Rank (PDC Global RVA)

**94** OUT OF 216 COUNTRIES / TERRITORIES ASSESSED

## Multi-Hazard Exposure within the West Africa Region

**2** OUT OF 16 COUNTRIES / TERRITORIES ASSESSED

### GHANA HAZARD ZONES

#### COASTAL FLOODING



**1%** Population Exposed

**197,038** Raw Population Exposure

**1%** Built Environment Exposed

**5%** Critical Infrastructure Exposed

#### SEA LEVEL RISE



**<1%** Population Exposed

**63,179** Raw Population Exposure

**<1%** Built Environment Exposed

**4%** Built Environment Exposed

#### DROUGHT



**25%** Population Exposed

**7,714,564** Raw Population Exposure

**29%** Built Environment Exposed

**28%** Critical Infrastructure Exposed

#### LANDSLIDE



**4%** Population Exposed

**1,325,942** Raw Population Exposure

**5%** Built Environment Exposed

**7%** Critical Infrastructure Exposed

#### EXTREME HEAT



**23%** Population Exposed

**7,055,048** Raw Population Exposure

**22%** Built Environment Exposed

**31%** Critical Infrastructure Exposed

#### BUSHFIRE



**6%** Population Exposed

**1,728,510** Raw Population Exposure

**5%** Built Environment Exposed

**10%** Critical Infrastructure Exposed

#### RIVERINE FLOODING



**3%** Population Exposed

**887,111** Raw Population Exposure

**3%** Built Environment Exposed

**16%** Critical Infrastructure Exposed

#### MALARIA



**15%** Population Exposed

**4,618,596** Raw Population Exposure

**13%** Built Environment Exposed

**6%** Critical Infrastructure Exposed

#### EARTHQUAKE



**39%** Population Exposed

**11,885,632** Raw Population Exposure

**41%** Built Environment Exposed

**42%** Critical Infrastructure Exposed

# Ghana: Coastal Flood Hazard Exposure (Year 2050)



VIEW IN DISASTERAWARE



## POTENTIAL POPULATION EXPOSURE



**197,038 (1%)**  
of 30,832,019 total

People exposed to coastal flooding by 2050

## POTENTIAL BUILT ENVIRONMENT EXPOSURE



**80,471 (1%)**  
of 13,007,893 total

Buildings exposed to coastal flooding by 2050

## CRITICAL INFRASTRUCTURE AND ASSETS EXPOSED



**0 (0%)**  
of 15 total

Airports and Heliports



**11 (33%)**  
of 33 total

Ports and Ferries



**0 (0%)**  
of 10 total

NADMO Offices and EOC



**0 (0%)**  
of 360 total

Hospitals



**4 (<1%)**  
of 1,841 total

Clinics and Doctor Offices



**9 (<1%)**  
of 2,566 total

Schools and Colleges



**662 km (<1%)**  
of 150k total

Roads



**0 (0%)**  
of 80 total

Fire Stations



**1 (<1%)**  
of 285 total

Police Stations



**3 (12%)**  
of 26 total

Power Plants



**1 (7%)**  
of 14 total

Dams

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# Ghana: Sea Level Rise Hazard Exposure (Year 2050)



VIEW IN DISASTERAWARE



## POTENTIAL POPULATION EXPOSURE



**63,179 (<1%)**  
of 30,832,019 total

People exposed to sea level rise by 2050

## POTENTIAL BUILT ENVIRONMENT EXPOSURE



**21,683 (<1%)**  
of 13,007,893 total

Buildings exposed to sea level rise by 2050

## CRITICAL INFRASTRUCTURE AND ASSETS EXPOSED



**0 (0%)**  
of 15 total

Airports and Heliports



**11 (33%)**  
of 33 total

Ports and Ferries



**0 (0%)**  
of 10 total

NADMO Offices and EOC



**0 (0%)**  
of 360 total

Hospitals



**0 (0%)**  
of 1,841 total

Clinics and Doctor Offices



**6 (<1%)**  
of 2,566 total

Schools and Colleges



**221 km (<1%)**  
of 150k total

Roads



**0 (0%)**  
of 80 total

Fire Stations



**0 (0%)**  
of 285 total

Police Stations



**2 (8%)**  
of 26 total

Power Plants



**0 (0%)**  
of 14 total

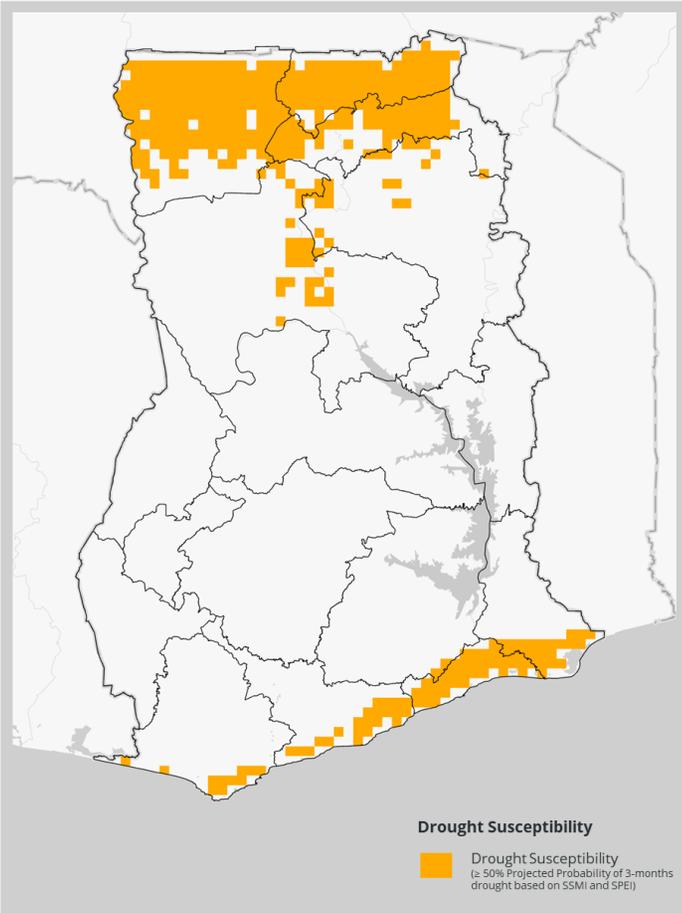
Dams

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# Ghana: Drought Hazard Exposure (Year 2050)



VIEW IN DISASTERAWARE



### POTENTIAL POPULATION EXPOSURE



**7,714,564 (25%)**  
of 30,832,019 total  
People exposed to drought

### POTENTIAL BUILT ENVIRONMENT EXPOSURE



**3,748,298 (29%)**  
of 13,007,893 total  
Buildings exposed to drought

### FOOD INSECURITY & FOOD INFLATION



**12.9 Million (39%)**  
Population experiencing moderate to severe food insecurity, 2022



**+23%**  
Food inflation rate, May 2024

### CRITICAL INFRASTRUCTURE AND ASSETS EXPOSED



**10 (30%)**  
of 33 total  
Ports and Ferries



**809 (32%)**  
of 2,566 total  
Schools and Colleges



**15 (19%)**  
of 80 total  
Fire Stations



**11 (42%)**  
of 26 total  
Power Plants



**8 (57%)**  
of 14 total  
Dams



**964 km² (11%)**  
of 8.8k total  
Cropland



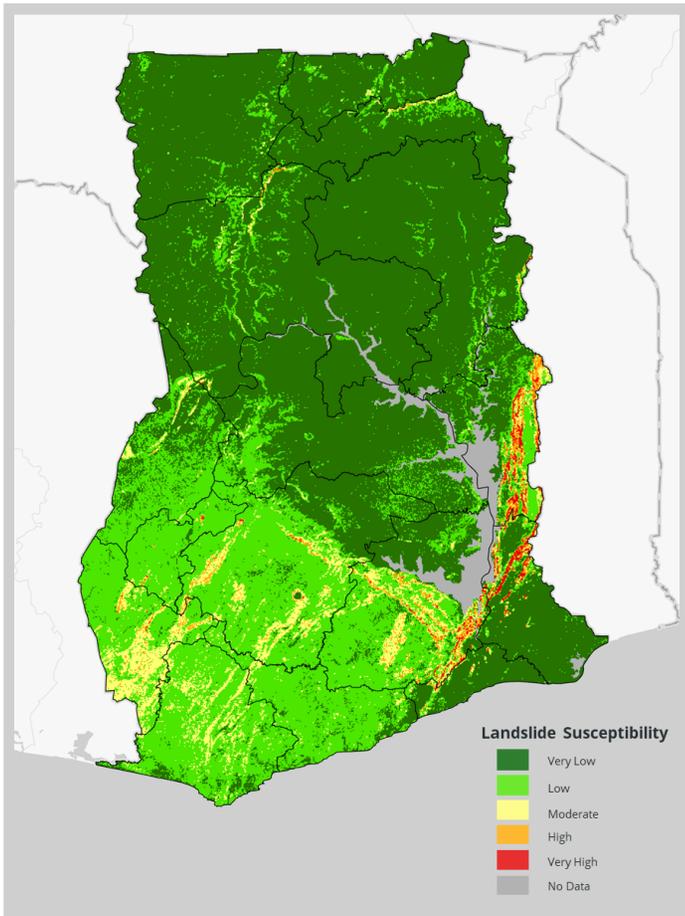
**3,981 km² (4%)**  
of 105k total  
Forest

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# Ghana: Landslide Hazard Exposure



VIEW IN DISASTERWARE



## POTENTIAL POPULATION EXPOSURE



**1,325,942 (4%)**  
of 30,832,019 total  
People exposed to landslide  
(moderate to very high)

## POTENTIAL BUILT ENVIRONMENT EXPOSURE



**674,941 (5%)**  
of 13,007,893 total  
Buildings exposed to landslide  
(moderate to very high)

## CRITICAL INFRASTRUCTURE AND ASSETS EXPOSED



**0 (0%)**  
of 15 total  
Airports and  
Heliports



**3 (1%)**  
of 33 total  
Ports and  
Ferries



**0 (0%)**  
of 10 total  
NADMO Offices  
and EOC



**27 (8%)**  
of 360 total  
Hospitals



**124 (7%)**  
of 1,841 total  
Clinics and  
Doctor Offices



**162 (6%)**  
of 2,566 total  
Schools and  
Colleges



**7,734 km (5%)**  
of 150k total  
Roads



**6 (8%)**  
of 80 total  
Fire Stations



**22 (8%)**  
of 285 total  
Police Stations



**3 (12%)**  
of 26 total  
Power Plants



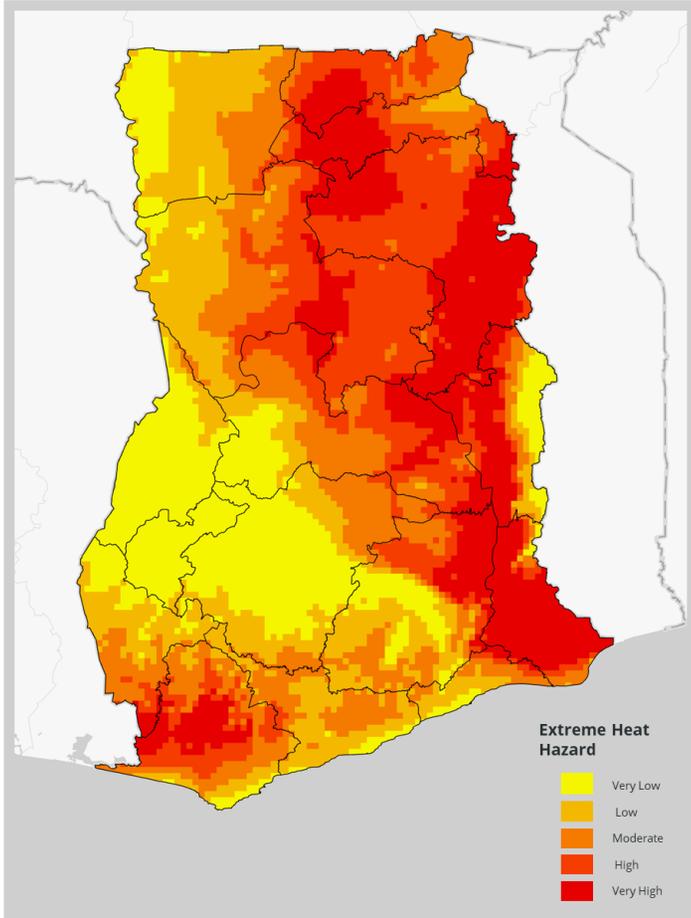
**2 (14%)**  
of 14 total  
Dams

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# Ghana: Extreme Heat Hazard Exposure



VIEW IN DISASTERWARE



## POTENTIAL POPULATION EXPOSURE



**7,055,048 (23%)**  
of 30,832,019 total  
People exposed to extreme heat  
(moderate to very high)

## POTENTIAL BUILT ENVIRONMENT EXPOSURE



**2,840,829 (22%)**  
of 13,007,893 total  
Buildings exposed to extreme heat  
(moderate to very high)

## CRITICAL INFRASTRUCTURE AND ASSETS EXPOSED



**3 (20%)**  
of 15 total  
Airports and  
Heliports



**18 (55%)**  
of 33 total  
Ports and  
Ferries



**3 (30%)**  
of 10 total  
NADMO Offices  
and EOC



**56 (16%)**  
of 360 total  
Hospitals



**369 (20%)**  
of 1,841 total  
Clinics and  
Doctor Offices



**739 (29%)**  
of 2,566 total  
Schools and  
Colleges



**43,029 km (29%)**  
of 150k total  
Roads



**24 (30%)**  
of 80 total  
Fire Stations



**83 (29%)**  
of 285 total  
Police Stations



**3 (12%)**  
of 26 total  
Power Plants



**7 (50%)**  
of 14 total  
Dams



**5,012 km² (57%)**  
of 8.8k total  
Cropland



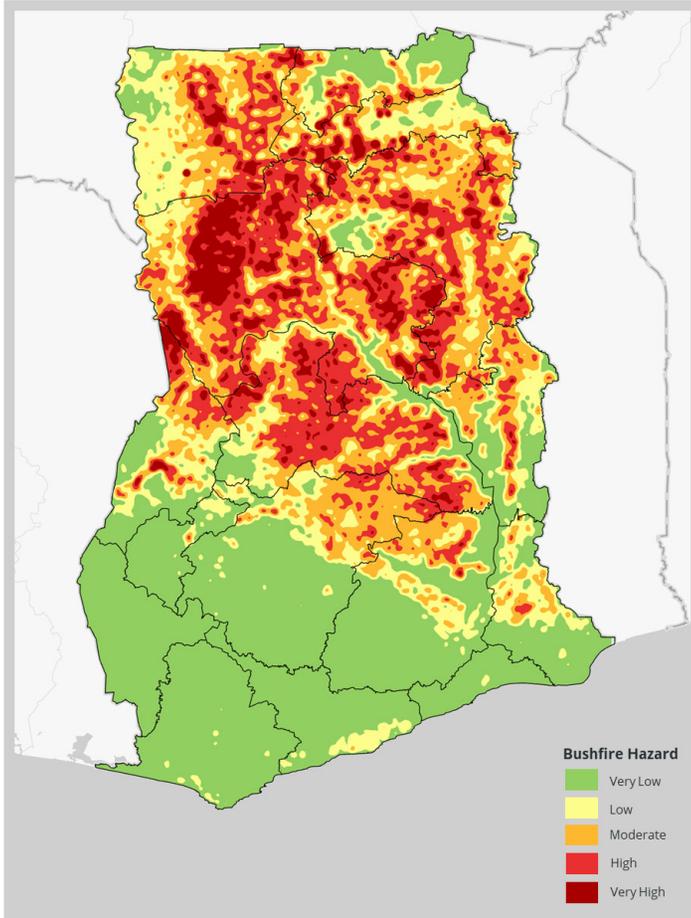
**24,122 km² (23%)**  
of 105k total  
Forest

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# Ghana: Bushfire Hazard Exposure



[VIEW IN DISASTERAWARE](#)



## POTENTIAL POPULATION EXPOSURE



**1,728,510 (6%)**  
of 30,832,019 total  
People exposed to bushfire  
(moderate to very high)

## POTENTIAL BUILT ENVIRONMENT EXPOSURE



**630,683 (5%)**  
of 13,007,893 total  
Buildings exposed to bushfire  
(moderate to very high)

## CRITICAL INFRASTRUCTURE AND ASSETS EXPOSED



**0 (0%)**  
of 15 total  
Airports and  
Heliports



**3 (9%)**  
of 33 total  
Ports and  
Ferries



**0 (0%)**  
of 10 total  
NADMO Offices  
and EOC



**3 (1%)**  
of 360 total  
Hospitals



**96 (5%)**  
of 1,841 total  
Clinics and  
Doctor Offices



**190 (7%)**  
of 2,566 total  
Schools and  
Colleges



**28,856 km (19%)**  
of 150k total  
Roads



**1 (1%)**  
of 80 total  
Fire Stations



**6 (2%)**  
of 285 total  
Police Stations



**0 (0%)**  
of 26 total  
Power Plants



**0 (0%)**  
of 14 total  
Dams



**5,028 km² (57%)**  
of 8.8k total  
Cropland



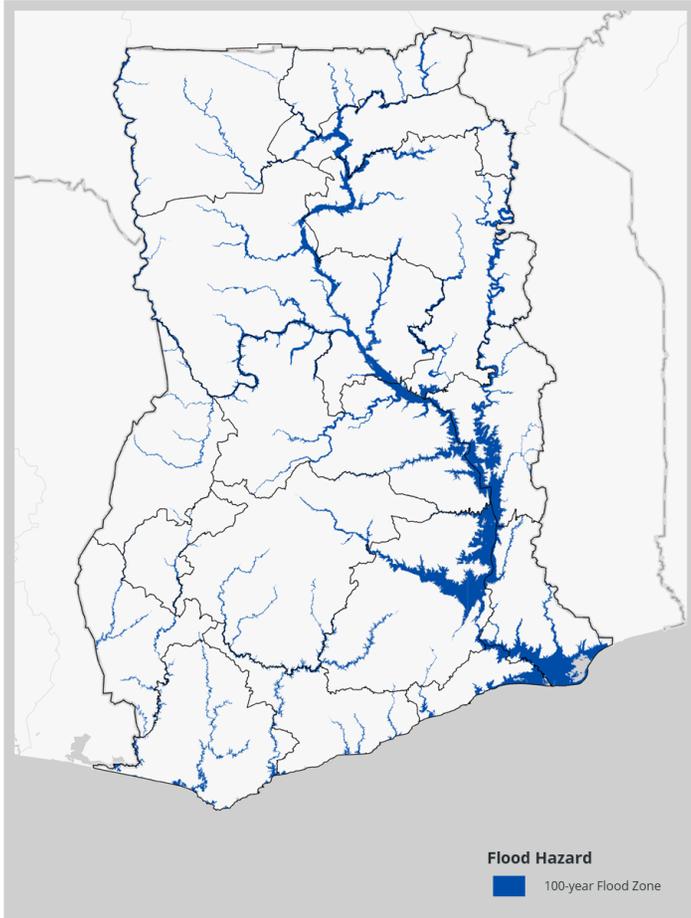
**29,816 km² (28%)**  
of 105k total  
Forest

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# Ghana: Riverine Flood Hazard Exposure\*



VIEW IN DISASTERAWARE



## POTENTIAL POPULATION EXPOSURE



**887,111 (3%)**  
of 30,832,019 total

People exposed to 100-year flood zone

## POTENTIAL BUILT ENVIRONMENT EXPOSURE



**438,090 (3%)**  
of 13,007,893 total

Buildings exposed to 100-year flood zone

## CRITICAL INFRASTRUCTURE AND ASSETS EXPOSED



**0 (0%)**  
of 15 total

Airports and Heliports



**26 (79%)**  
of 33 total

Ports and Ferries



**0 (0%)**  
of 10 total

NADMO Offices and EOC



**8 (2%)**  
of 360 total

Hospitals



**65 (4%)**  
of 1,841 total

Clinics and Doctor Offices



**92 (4%)**  
of 2,566 total

Schools and Colleges



**4,766 km (5%)**  
of 150k total

Roads



**1 (1%)**  
of 80 total

Fire Stations



**10 (4%)**  
of 285 total

Police Stations



**5 (19%)**  
of 26 total

Power Plants



**8 (57%)**  
of 14 total

Dams

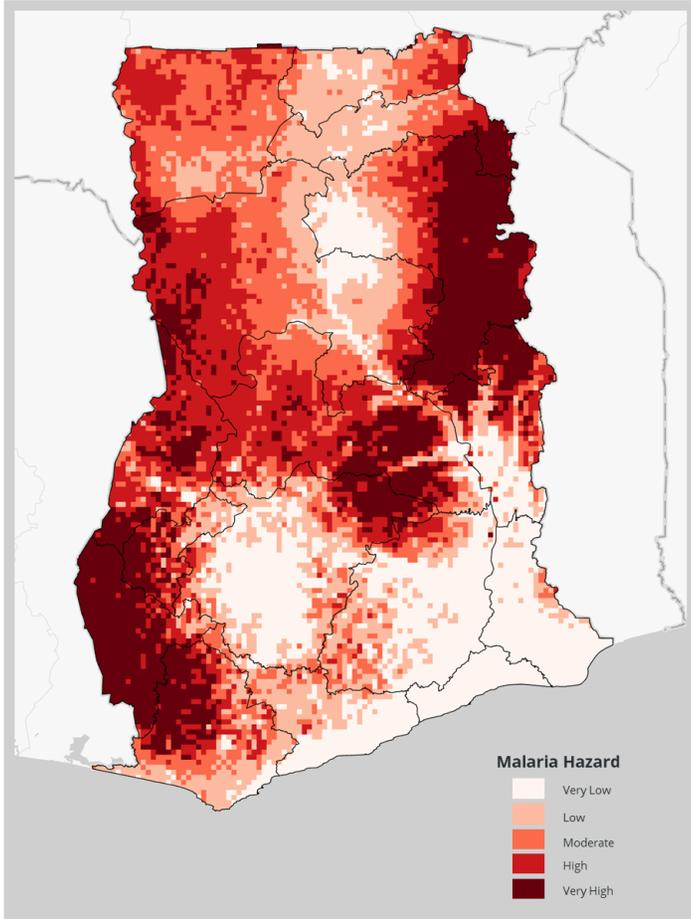
\*PDC recognizes that flash flooding poses a significant hazard risk to the population and infrastructure and has factored that risk into this analysis. However, reliable data for a holistic estimate of flash flood risk across Ghana is not yet available.

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# Ghana: Malaria Hazard Exposure



[VIEW IN DISASTERAWARE](#)



## POTENTIAL POPULATION EXPOSURE



**4,618,596 (15%)**  
of 30,832,019 total  
People exposed to malaria (high, very high)

## POTENTIAL BUILT ENVIRONMENT EXPOSURE



**1,628,574 (13%)**  
of 13,007,893 total  
Buildings exposed to malaria (high, very high)

## MALARIA DIAGNOSIS & TREATMENT CAPACITY



**97%**  
Ghana health facilities providing malaria diagnosis and treatment, 2023



**71%**  
Ghana health facilities with capacity to conduct rapid diagnostic test, 2023



**12%**  
Ghana health facilities with capacity to conduct malaria microscopy, 2023

## CRITICAL INFRASTRUCTURE AND ASSETS EXPOSED



**0 (0%)**  
of 15 total  
Airports and Heliports



**1 (3%)**  
of 33 total  
Ports and Ferries



**0 (0%)**  
of 10 total  
NADMO Offices and EOC



**14 (4%)**  
of 360 total  
Hospitals



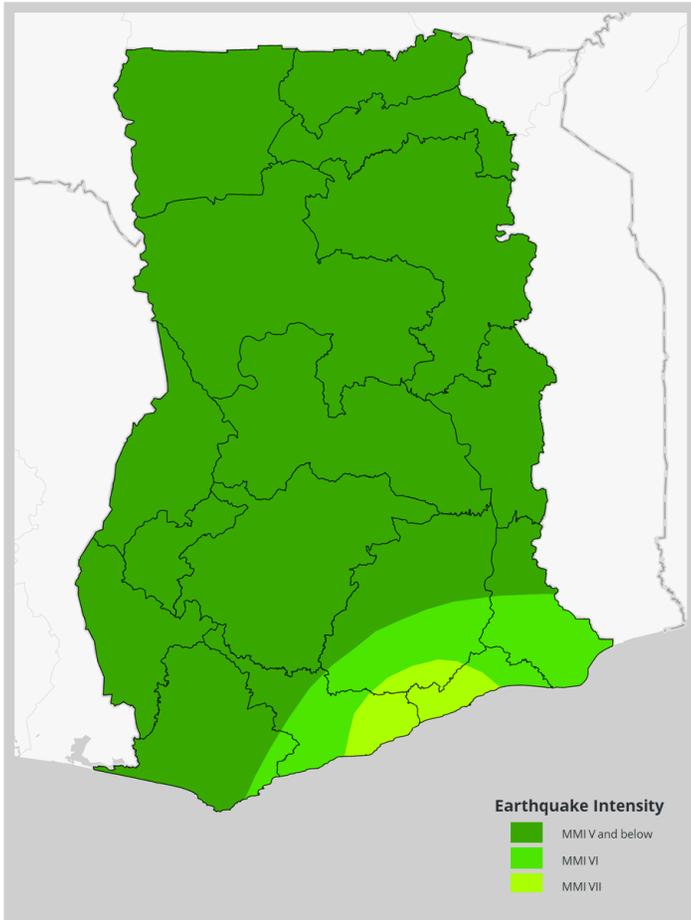
**255 (14%)**  
of 1,841 total  
Clinics and Doctor Offices



**337 (13%)**  
of 2,566 total  
Schools and Colleges

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# Ghana: Earthquake Hazard Exposure



## POTENTIAL POPULATION EXPOSURE



**11,885,632 (39%)**  
of 30,832,019 total  
People exposed to earthquake  
(MMI VI and Higher)

## POTENTIAL BUILT ENVIRONMENT EXPOSURE



**5,349,238 (41%)**  
of 13,007,893 total  
Buildings exposed to earthquake  
(MMI VI and Higher)

## CRITICAL INFRASTRUCTURE AND ASSETS EXPOSED



**7 (47%)**  
of 15 total  
Airports and  
Heliports



**15 (45%)**  
of 33 total  
Ports and  
Ferries



**4 (40%)**  
of 10 total  
NADMO Offices  
and EOC



**166 (46%)**  
of 360 total  
Hospitals



**715 (39%)**  
of 1,841 total  
Clinics and  
Doctor Offices



**1,173 (46%)**  
of 2,566 total  
Schools and  
Colleges



**43,092 km (29%)**  
of 150k total  
Roads



**16 (20%)**  
of 80 total  
Fire Stations



**72 (25%)**  
of 285 total  
Police Stations



**20 (77%)**  
of 26 total  
Power Plants



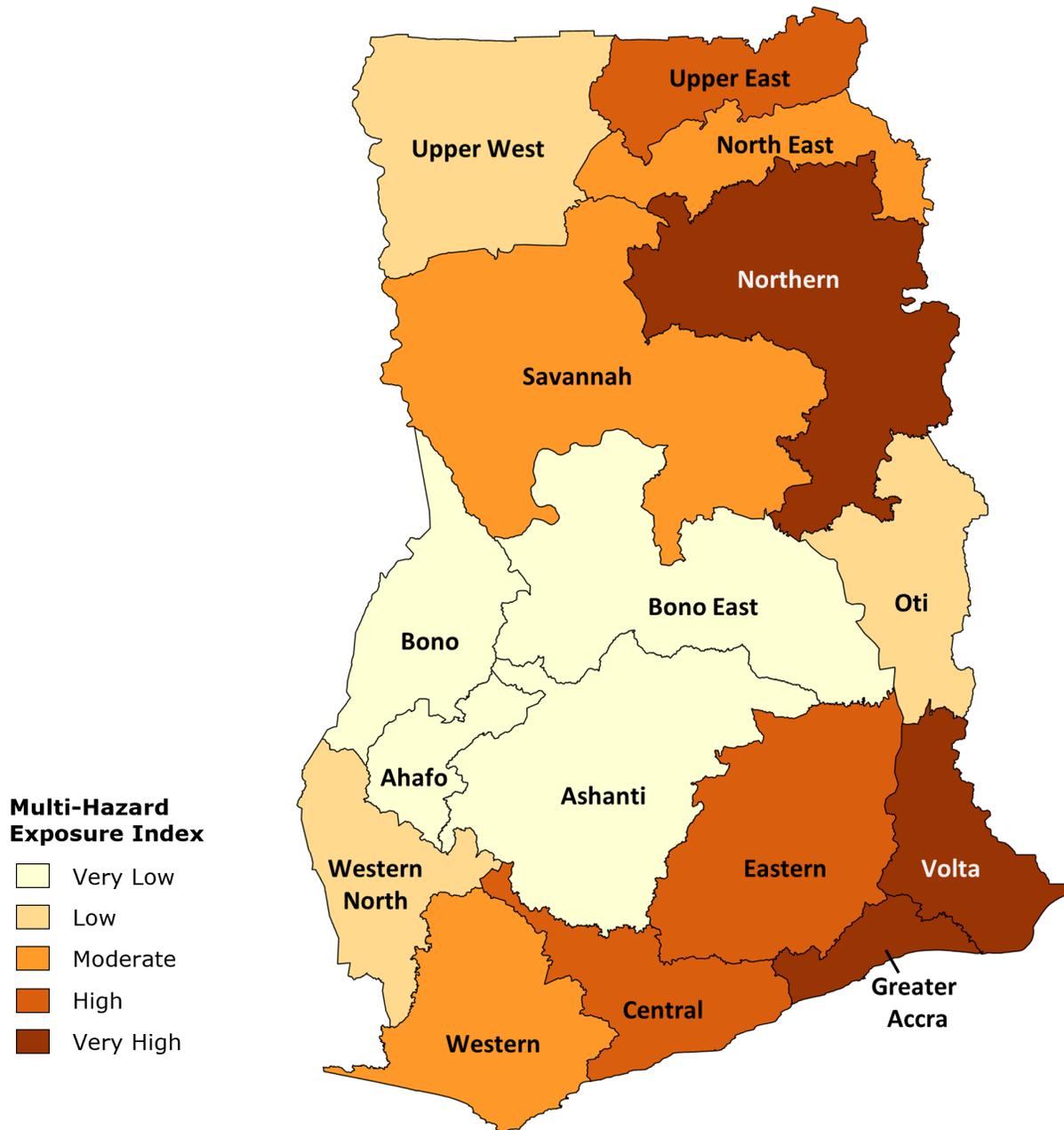
**7 (50%)**  
of 14 total  
Dams

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## MULTI-HAZARD EXPOSURE BY REGION

	RANK	REGION	INDEX SCORE
VERY HIGH	1	Greater Accra	0.950
	2	Volta	0.658
	3	Northern	0.564
HIGH	4	Central	0.465
	5	Upper East	0.463
	6	Eastern	0.401
MEDIUM	7	Western	0.385
	8	North East	0.374
	9	Savannah	0.363
LOW	10	Oti	0.303
	11	Western North	0.296
	12	Upper West	0.272
VERY LOW	13	Bono East	0.197
	14	Bono	0.125
	15	Ahafo	0.047
	16	Ashanti	0.012





**THE RVA**

# **VULNERABILITY**

# VULNERABILITY

Vulnerability measures the physical, environmental, social, and economic conditions and processes that increase susceptibility of communities and systems to the damaging effects of hazards. Vulnerability data is designed to capture the multi-dimensional nature of poverty, the inequality in access to resources due to gender, and the ability of a given area to adequately support the population. In coordination with stakeholders, the following indicators were selected to measure vulnerability subcomponents in the country. Breaking down each vulnerability subcomponent to the indicator level allows users to identify the key drivers of vulnerability to support risk reduction efforts and policy decisions.

## Global Vulnerability Rank (PDC Global RVA)

**75** OUT OF 204 COUNTRIES /  
TERRITORIES ASSESSED

## Vulnerability within the West Africa Region

**16** OUT OF 16 COUNTRIES /  
TERRITORIES ASSESSED

### VULNERABILITY SUBCOMPONENTS AND INDICATORS



#### Population Pressures

- Average Annual Total Population Change
- Average Annual Urban Population Change
- Youth Bulge
- Prevalence of Food Insecurity
- Conflict per 100,000 Persons
- Youth Not in Employment, Education, Training (NEET)



#### Gender Inequality

- Unmet Need for Family Planning
- Teenage Pregnancy
- Prevalence of Domestic Abuse
- Female to Male Home Ownership
- Female to Male Land Ownership
- Female to Male Bank Account Ownership
- Female to Male Secondary Education
- Female to Male Earnings



#### Information Access Vulnerability

- Adult Illiteracy Rate
- Residential Access to All Levels of Education
- Primary School Net Attendance Ratio
- Radio Access
- Television Access
- Lack of Internet Access



#### Economic Constraints

- Economic Dependency Ratio
- Poverty Incidence
- Poverty Intensity
- Income Inequality – Gini Index
- Unemployment Rate



#### Clean Water Access Vulnerability

- Household Water Source Over 30 Minutes Away
- Households with Unimproved Water Source
- Households with Unimproved Toilet Facility
- Prevalence of Open Defecation
- Household Wastewater Disposed to Ground

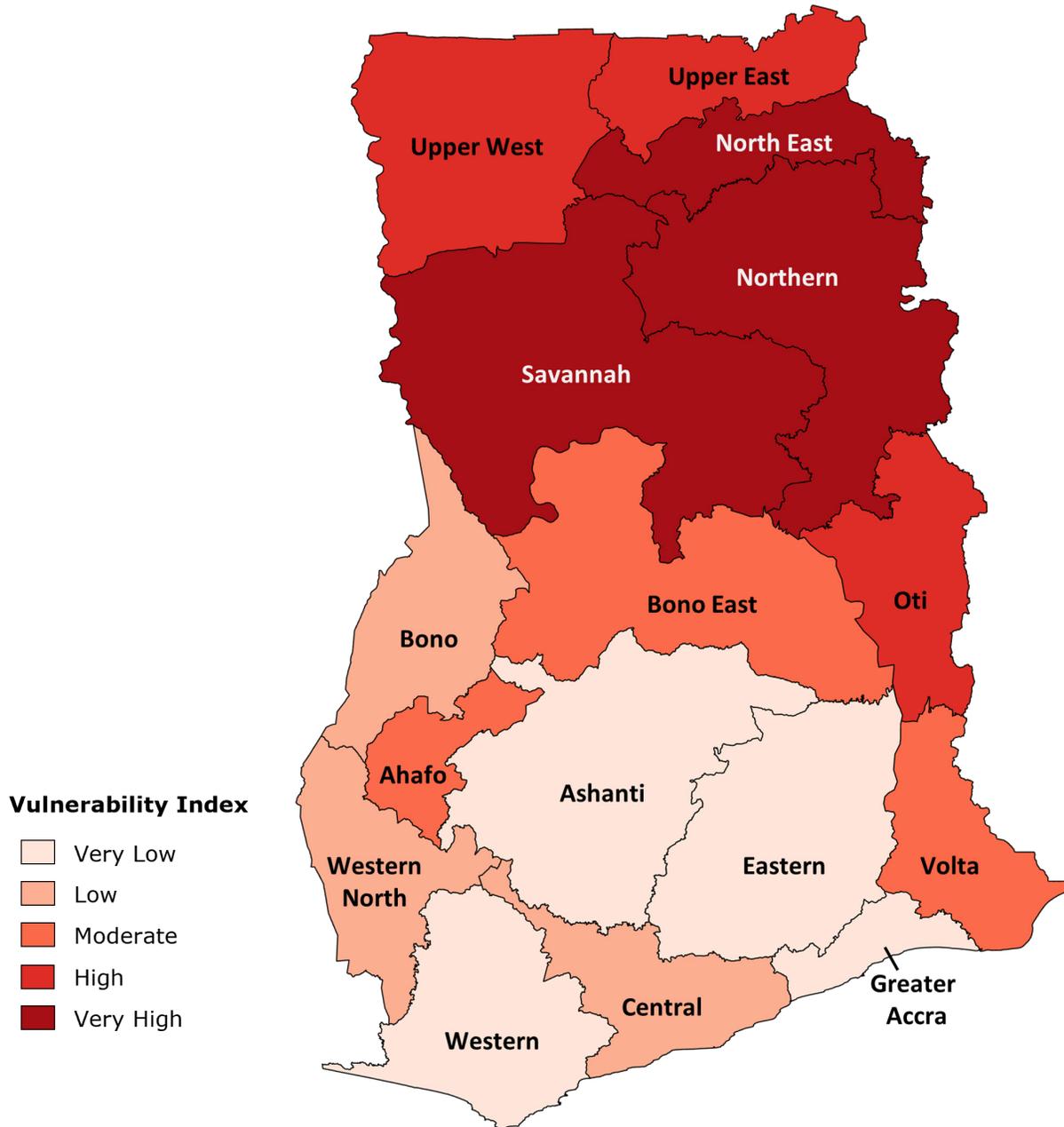


#### Vulnerable Health Status

- Infant Mortality Rate
- Prevalence of Stunting
- Prevalence of Disability
- Maternal Mortality Ratio
- Prevalence of ARI Among Children
- Prevalence of Diarrheal Diseases Among Children
- Prevalence of Anemia Among Children
- Medically Underserved Areas

## VULNERABILITY BY REGION

	RANK	REGION	INDEX SCORE
VERY HIGH	1	North East	0.803
	2	Savannah	0.798
	3	Northern	0.666
HIGH	4	Upper East	0.576
	5	Upper West	0.528
	6	Oti	0.504
MEDIUM	7	Bono East	0.481
	8	Volta	0.374
	9	Ahafo	0.365
LOW	10	Western North	0.353
	11	Central	0.317
	12	Bono	0.273
VERY LOW	13	Western	0.267
	14	Eastern	0.258
	15	Ashanti	0.249
	16	Greater Accra	0.148





**THE RVA**

# **COPING CAPACITY**

# COPING CAPACITY

Coping Capacity measures the systems, means, and abilities of people and societies to absorb and respond to disruptions in normal function.

## Global Coping Capacity Rank (PDC Global RVA)

**125** OUT OF 198 COUNTRIES / TERRITORIES ASSESSED

## Coping Capacity within the West Africa Region

**2** OUT OF 16 COUNTRIES

### COPING CAPACITY COMPONENTS



#### Economic Capacity

- Highest Wealth Quintile
- Average Hourly Earnings
- Labor Force Participation
- Average Regional Inflation
- Residential Access to Financial Institution



#### Healthcare Capacities

- Basic Antigen Vaccination Rate
- Health Insurance Coverage
- Hospital Beds per 10,000 Persons
- Residential Access to Any Health Facility
- Residential Access to Hospital
- Services for Chronic Noncommunicable Disease
- General Service Readiness Index



#### Energy Capacity

- Household Access to LPG
- Household Access to Electricity



#### Emergency Services Capacity

- Average Distance to Fire Station
- Average Distance to Police Station
- Residential Structures within 5km of Police Station
- Health Facilities with Emergency Services
- Health Facilities with Emergency Transportation



#### Communications Capacity

- Mobile Phone Ownership
- Smartphone Ownership

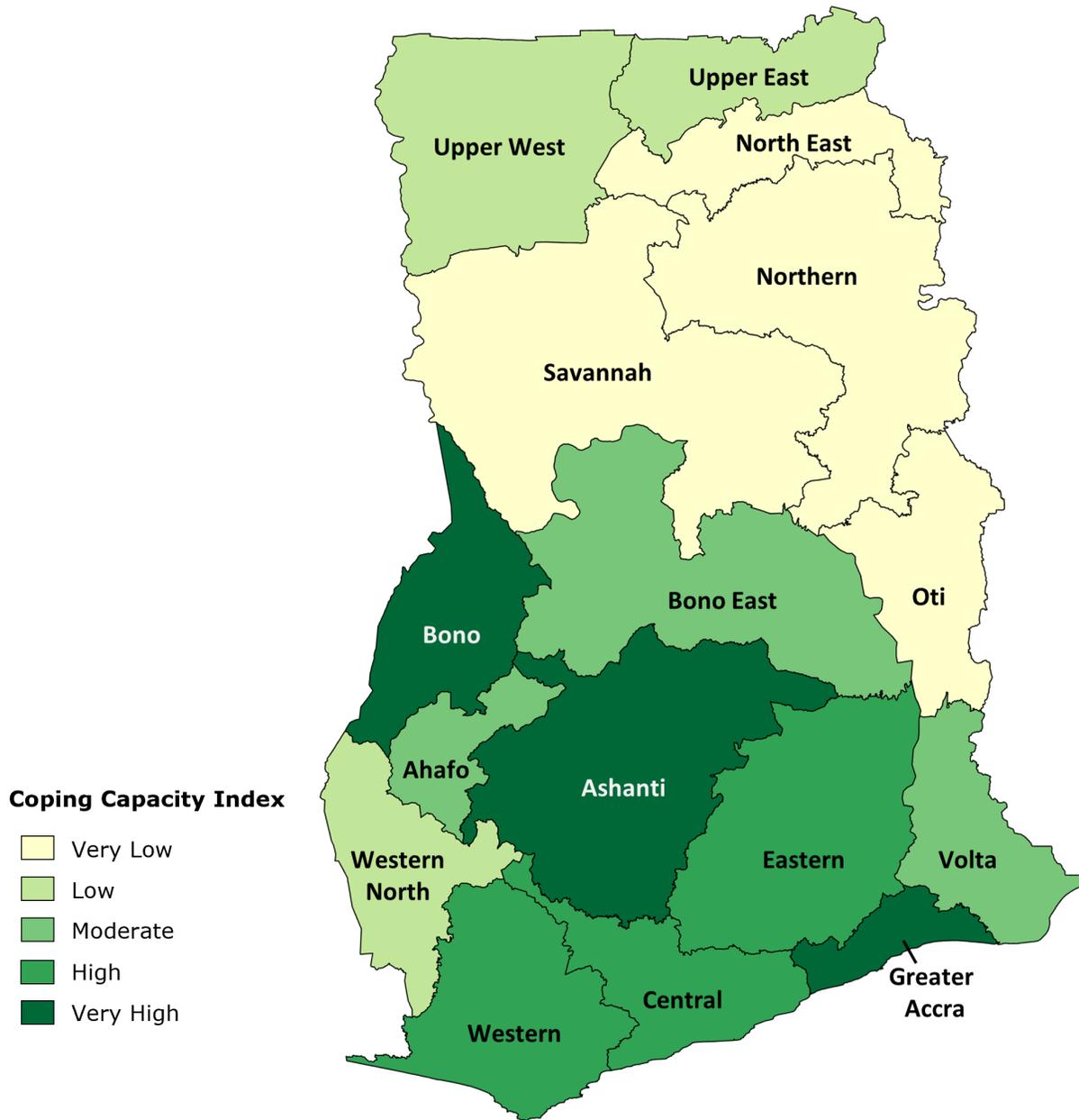


#### Transportation Capacity

- Road Density
- Average Distance to Nearest Port or Airport

## COPING CAPACITY BY REGION

	RANK	REGION	INDEX SCORE
VERY HIGH	1	Greater Accra	0.952
	2	Ashanti	0.636
	3	Bono	0.544
HIGH	4	Central	0.534
	5	Western	0.527
	6	Eastern	0.484
MEDIUM	7	Volta	0.477
	8	Ahafo	0.470
	9	Bono East	0.381
LOW	10	Upper West	0.339
	11	Western North	0.331
	12	Upper East	0.328
VERY LOW	13	Northern	0.255
	14	Oti	0.234
	15	North East	0.207
	16	Savannah	0.184





**THE RVA**

**RESILIENCE**

# RESILIENCE

Resilience in Ghana was calculated by averaging Vulnerability and Coping Capacity. Results are displayed in forthcoming pages, while the main drivers of resilience with detailed recommendations are provided in the detailed subnational profiles.

## Global Resilience Rank (PDC Global RVA)

**125** OUT OF 194 COUNTRIES / TERRITORIES ASSESSED

## Resilience Rank within the West Africa Region

**2** OUT OF 16 COUNTRIES

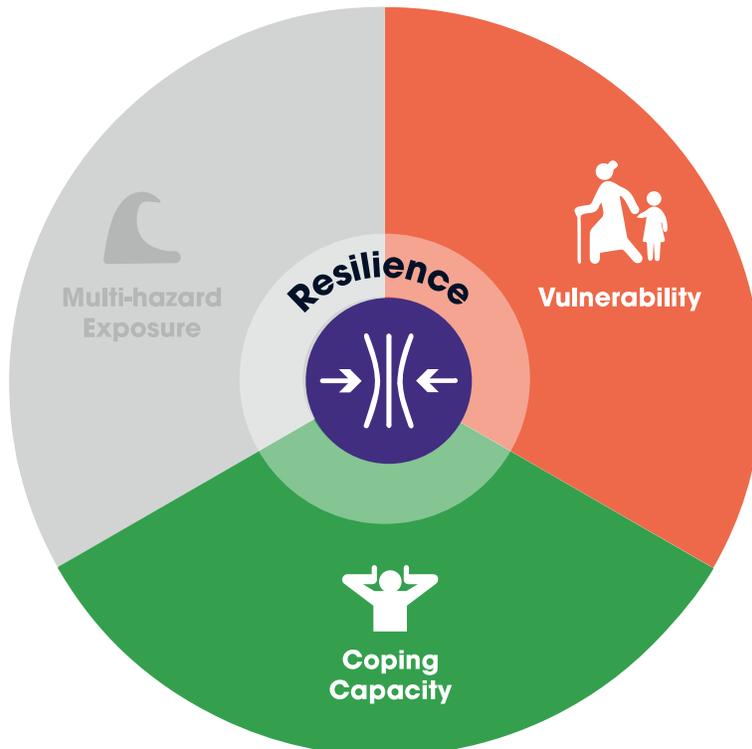
### RESILIENCE COMPONENTS



Vulnerability

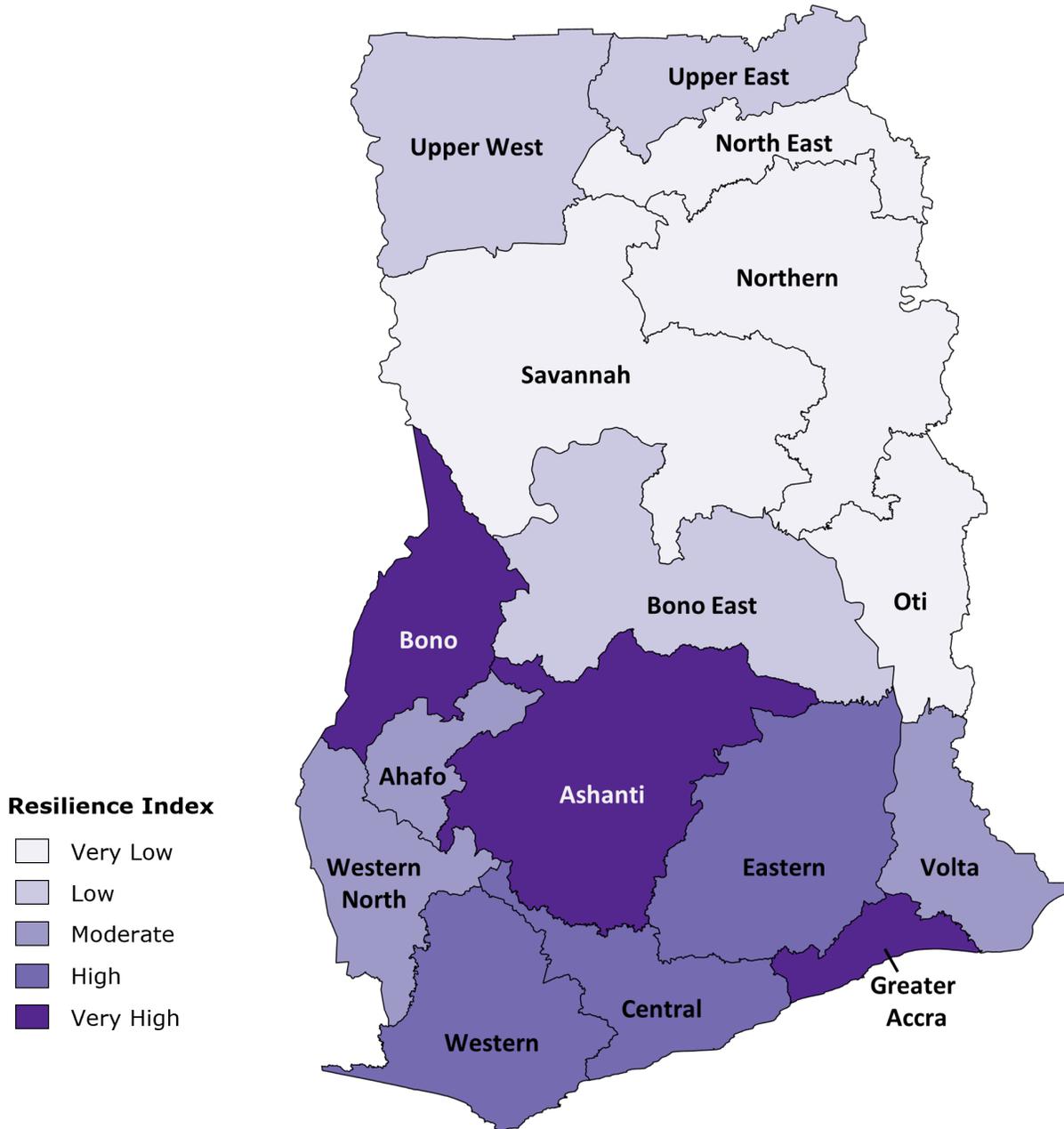


Coping Capacity



## RESILIENCE BY REGION

	RANK	REGION	INDEX SCORE
VERY HIGH	1	Greater Accra	0.902
	2	Ashanti	0.694
	3	Bono	0.635
HIGH	4	Western	0.630
	5	Eastern	0.613
	6	Central	0.608
MEDIUM	7	Ahafo	0.552
	8	Volta	0.551
	9	Western North	0.489
LOW	10	Bono East	0.450
	11	Upper West	0.406
	12	Upper East	0.376
VERY LOW	13	Oti	0.365
	14	Northern	0.294
	15	North East	0.202
	16	Savannah	0.193





**THE RVA**

# **MULTI-HAZARD RISK**

# MULTI-HAZARD RISK

Multi-hazard risk combines hazard exposure, susceptibility to impact, and the relative ability to absorb negative disaster impacts to provide a collective measure of how each region may be affected by hazards and disasters as a whole over time. Analyzing risk information throughout all phases of disaster management – mitigation, preparedness, response, recovery – improves operations and promotes efficient resource allocation.

Multi-hazard risk was calculated by averaging multi-hazard exposure, vulnerability, and coping capacity. Results are displayed below, while additional detailed analysis of risk is provided in the subnational profiles report.

## Global Multi-Hazard Risk Rank (PDC Global RVA)

**82** OUT OF 193 COUNTRIES /  
TERRITORIES ASSESSED

## Multi-Hazard Risk Rank within the West Africa Region

**15** OUT OF 16  
COUNTRIES

### MULTI-HAZARD RISK COMPONENTS



Multi-Hazard Exposure



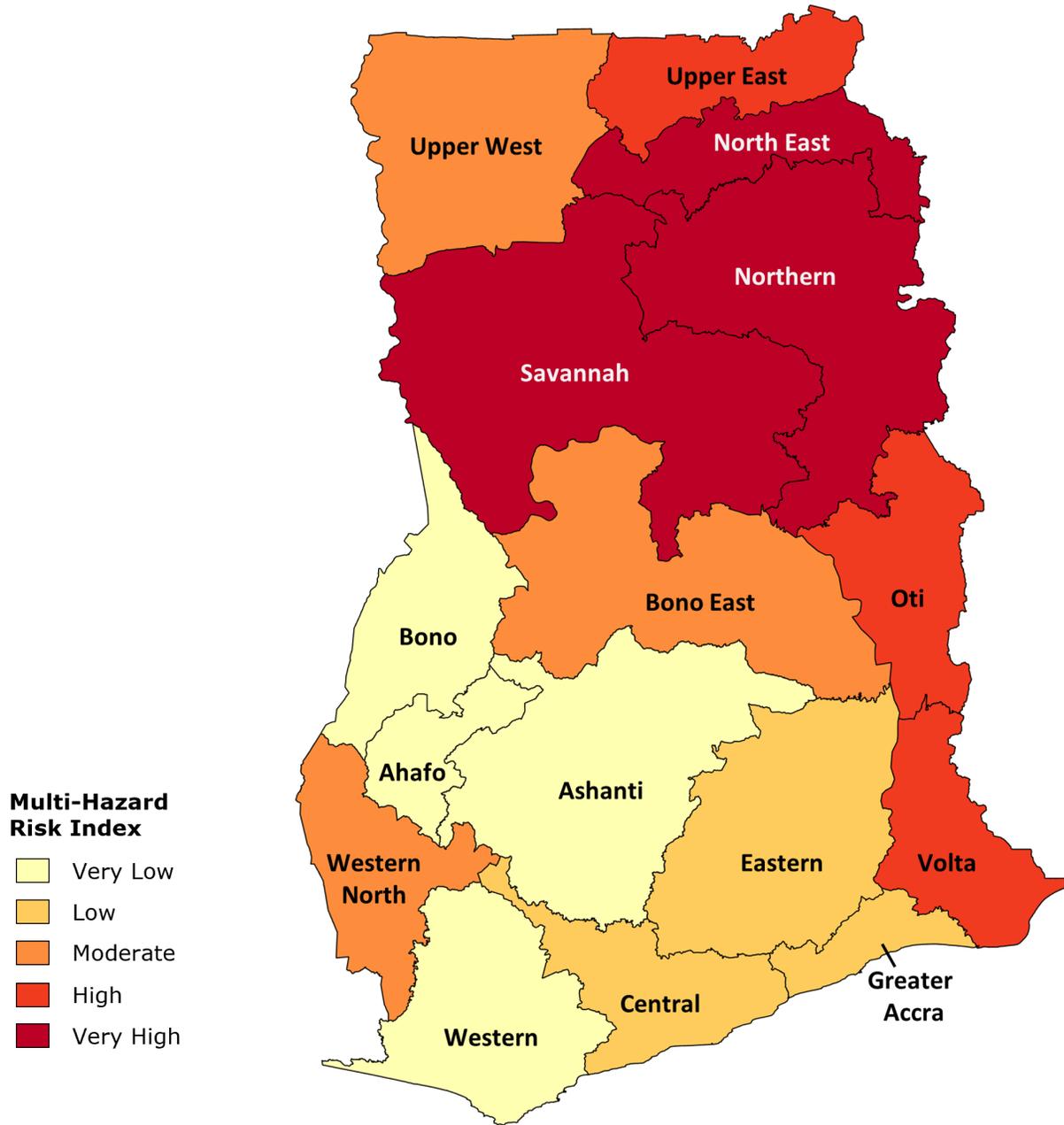
Vulnerability



Coping Capacity

## MULTI-HAZARD RISK BY REGION

	RANK	REGION	INDEX SCORE
VERY HIGH	1	Savannah	0.659
	2	Northern	0.659
	3	North East	0.657
HIGH	4	Upper East	0.570
	5	Oti	0.524
	6	Volta	0.518
MEDIUM	7	Upper West	0.487
	8	Western North	0.439
	9	Bono East	0.432
LOW	10	Central	0.416
	11	Eastern	0.392
	12	Greater Accra	0.382
VERY LOW	13	Western	0.375
	14	Ahafo	0.314
	15	Bono	0.285
	16	Ashanti	0.208





**THE DMA**

# **DISASTER MANAGEMENT ANALYSIS**

**SUMMARY OF FINDINGS**

# DISASTER MANAGEMENT ANALYSIS

Provided in this section are the results of the Disaster Management Analysis (DMA) conducted as part of the Ghana National Disaster Preparedness Baseline Assessment. The recommendations presented as part of this analysis support opportunities to enable more effective prioritization of risk-reduction and resilience-building initiatives and investments.

Considering a spectrum of operational achievements and challenges, the DMA examined six core disaster management themes: Enabling Environment; Institutional Arrangements; Disaster Governance Mechanisms; Capabilities and Resources; Capacity Development; and Communication and Information Management.



# DISASTER MANAGEMENT ANALYSIS RESULTS

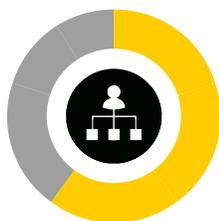
## STATUS

Limited or No Capacity



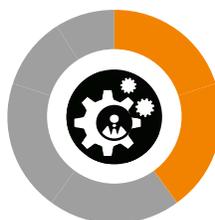
Advanced Capacity

## DISASTER MANAGEMENT ANALYSIS THEME AND SUBTHEMES



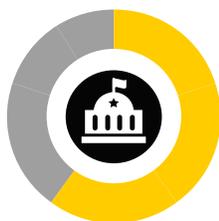
### A. Institutional Arrangements

Organizational Structures  
Leadership Arrangements  
Mechanisms for Stakeholder Engagement



### D. Capabilities and Resources

Dedicated Facilities and Equipment  
Human Resources  
Inventory of Commodities and Supplies  
Targeted Functional Capabilities



### B. Enabling Environment

Legal Instruments  
Financial Resources  
Strategies  
Public Confidence and Political Support  
Attitudes and Experience



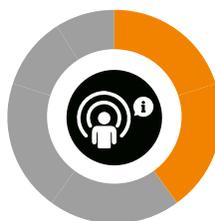
### E. Capacity Development

Capacity Development Plans and Strategies  
Training and Education Programs and Facilities  
Monitoring and Evaluation  
Processes and Systems



### C. Disaster Governance Mechanisms

Plans and Processes  
Command, Control, and Coordination Systems  
Emergency Operations Centers



### F. Communication and Information Management

Hazard and Risk Analysis Systems  
Monitoring and Notifications  
Disaster Assessment  
Information Collection, Management, and Distribution  
Media and Public Affairs

Limited or No Capacity

Early Capacity Development

Achievement with Significant Limitation

Substantial Progress with Some Limitation

Advanced Capacity

---

# DISASTER MANAGEMENT ANALYSIS RESULTS

The disaster management analysis (DMA) involved a series of stakeholder interviews, focus groups, and desk-top exercises spanning over 18 months. The variety of data collection tools employed in this analysis supported the validity of the DMA's conclusions and recommendations. Through these methods of inquiry, it is evident that Ghana's disaster management program has made significant progress over time. However, there are also areas of improvement that should also be highlighted to support the resilience and protection of the country's 33 million citizens.

As the lead disaster management agency, the National Disaster Management Organization (NADMO) is well structured to support efforts related to comprehensive disaster management. NADMO's organogram considers departments for recovery (e.g., Livelihoods), response (e.g., Resource Mobilization), and preparedness (e.g., Research, Planning, and Monitoring). The consideration of these units or departments evidences an effort to support the reduction of risk. Further to this, the considerations to establish regional and district disaster committees are positive steps towards the decentralization of disaster management functions. However, there is an urgent need to invest more resources to meaningfully support and empower local and regional committees. Similarly, NADMO's efforts could be strengthened by leveraging the resources and skills of the private sector, as businesses and corporations are not sufficiently incorporated in disaster management frameworks.

Moreover, the NADMO Act of 2016 provides a solid basis for disaster management policy and regulation. The potential of this legislation could be enhanced by the development of an implementation schedule to support the timely execution of key policy initiatives. Furthermore, there is a need for a greater focus on disaster risk financing that will enable the execution of various mandates. With respect to disaster governance mechanisms, NADMO has made progress in developing various national-level standard operating procedures, but there are some discrepancies between the planning documents. This issue suggests that NADMO could benefit from a planning audit to identify strengths, weaknesses, opportunities, and threats.

Regarding capabilities and resources, local and regional committees have a diverse composition of public entities. Notably, all emergency services (e.g., police, fire, and ambulatory services) are represented. This is indeed commendable for ensuring an effective and efficient response. However, these emergency services are understaffed and resourced. Considering the lack of resources, NADMO's efforts could be augmented by leveraging disaster volunteer groups (DVGs) to support disaster management functions in various communities across the country. Local and regional communities could also benefit from working more closely with private sector partners.

The capacity of a disaster management organization to execute activities is important. The country

has made very progressive strides in expanding technical capacity and augmenting knowledge bases. Specifically, various universities in the country have established degree programs related to disaster management. However, capacity development also needs to consider the constant refinement and improvement of practices and policies. When considering that national disaster management plans have not been amended, NADMO could benefit from more robust mechanisms to monitor and evaluate current practices.

Moreover, early warning is critical to preventing the loss of lives. Ghana has made some efforts to augment its early warning systems (i.e., the flood early warning system (FEWS) associated with the GARID project). However, a more comprehensive approach is needed to meet the needs of the country's hazard landscape. Specifically, there is a need for a greater focus on risk communication. The processes associated with an individual making risk decisions are very complex and multilayered; therefore, it is important that government personnel, the media, and the private sector understand their role in supporting the effective dissemination of risk messages.

This analysis has found that effective disaster management in Ghana is attainable. The knowledge, skills, and commitment of Ghanaian civil servants are commendable. This talent pool, coupled with systematic policy reform outlined in this report, can ensure the country's resilience in the face of a changing climate. This study establishes Ghana's baseline disaster management preparedness levels presented in six interconnected themes. It is a step towards tracking progress while setting clear and coherent objectives aligned with Ghana's commitment to the Sendai Framework for Disaster Risk Reduction, the Sustainable Development Goals (SDGs), and the Paris Agreement for Climate Change.







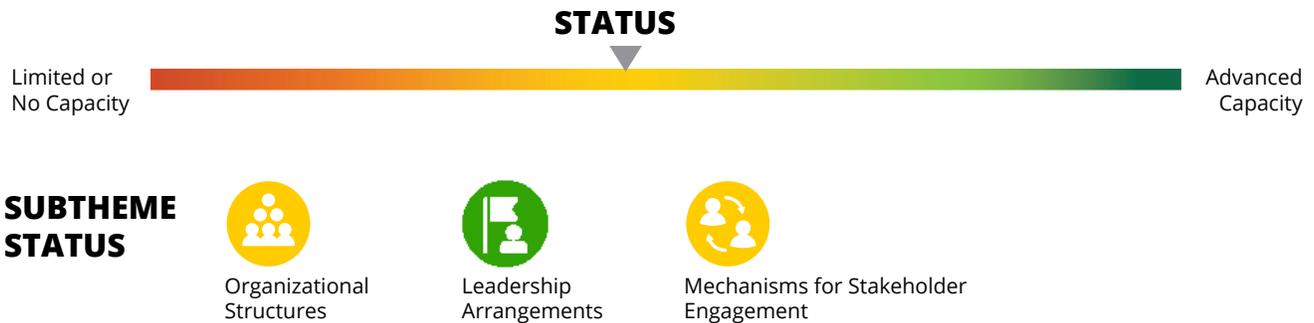
**THE DMA**

# **INSTITUTIONAL ARRANGEMENTS**



# INSTITUTIONAL ARRANGEMENTS

**Findings indicate Ghana’s current Institutional Arrangements have made achievements with significant limitations.**



The organizational and institutional structures through which disaster management capacity develops are indications of Ghana’s institutional arrangements. Examining the organization and composition of diverse agencies and individuals that constitute a nation’s disaster management capacity—detailing the relationships and collaboration between them—reveals tangible opportunities for increased effectiveness. The DMA examined the existing disaster management Organizational Structures, Leadership Arrangements, and Mechanisms for Stakeholder Engagement.

# INSTITUTIONAL ARRANGEMENTS



## MECHANISMS FOR STAKEHOLDER ENGAGEMENT

### FINDINGS

Coordination is a central tenant of disaster management and its related functional areas (e.g., response or recovery). However, various studies and reports have indicated coordination challenges between different levels of government, and public agencies at the same governance level in Ghana.

The Minister of Interior has not convened the National Disaster Management Committee (NDMC), and therefore, national coordination has been impacted. Moreover, regional and local disaster management committees do not meet regularly. Some districts and regions noted a lack of funds as a significant impediment to meeting.

### RECOMMENDATIONS

**It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.**

- ✔ Establish a standard protocol for quarterly National Disaster Management Committee meetings to be facilitated by NADMO.
- ✔ Advocate that the NDMC supports the provisioning of critical emergency resources and personnel for the effective implementation of local plans.
- ✔ Encourage and support local, regional, and national disaster management agencies to meet periodically to enhance collaboration and foster partnerships.

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

#### Priorities for Action

1, 2, 4

#### Global Targets

A, B, C, E

#### Guiding Principles

(a), (b), (d), (e), (f), (g), (h), (i)

#### SDGs

13, 16

#### Paris Agreement

7.1, 8.1

#### Responsibilities outlined in Africa's PoA

(b), (d), (f), (h)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## MECHANISMS FOR STAKEHOLDER ENGAGEMENT

### FINDINGS

Emergency support functions (ESFs), taskforces, and clusters are organizing structures used around the world to foster the multiagency coordination required to execute critical disaster management functions (e.g., sheltering or food security). These groupings comprise governmental agencies, private sector partners, and non-governmental organizations whose capabilities are required to save lives, protect property and the environment, and restore essential services.

In Ghana, some planning documents identify a cluster system for organizing government actors and their responsibilities (i.e., food nutrition, logistics, and emergency telecommunication). In contrast, another plan indicated that government partners were grouped as task forces. Both documents were published in 2010 and evidence a lack of consistency regarding how critical disaster management functions are arranged within planning documents. The country's disaster management program could benefit from a consistent and cogent approach to multi-agency coordination and collaboration. NADMO would like full adoption and integration of the cluster system to ensure alignment with international partners and augment coordination efforts.

### RECOMMENDATIONS

**It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.**

- ✔ Formalize the agreement on a single structure for organizing stakeholders involved in various disaster management tasks and activities (i.e., a cluster, task force, or emergency support functions).
- ✔ Ensure clear communication to stakeholders at all levels regarding the standardized language of a cluster system to ensure integration into planning efforts.
- ✔ Host training to support the implementation of the cluster system across the nation and within the Districts.

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

#### Priorities for Action

1, 2, 4

#### Global Targets

A, B, C, E

#### Guiding Principles

(a), (b), (d), (e), (f), (g), (h), (i)

#### SDGs

13, 16

#### Paris Agreement

7.1, 8.1

#### Responsibilities outlined in Africa's PoA

(b), (d), (f), (h)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## MECHANISMS FOR STAKEHOLDER ENGAGEMENT

### FINDINGS

Memorandums of Understanding (MOUs) can proactively secure assets and resources vital to establishing a robust operational capacity for disaster preparedness, response, and recovery efforts. National Disaster Management Organization (NADMO) could benefit from securing targeted MOUs with private sector entities that possess critical resources in key areas. A heightened level of community, public, and private involvement is a cornerstone for reinforcing support during disaster management. Securing MOUs would further provide NADMO with a strategic framework to optimize resource allocation, directing efforts where they are most needed and fostering collaboration and coordination across sectors crucial for effective disaster management.

### RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✔ Create a public-private sector working group that allows various private sector companies (e.g., food manufacturers, hardware stores, and transport and logistics entities) to (1) build a relationship with NADMO and (2) discuss their potential role pre- and post-disaster.
- ✔ Create and maintain a national database of businesses whose services are relevant to disaster management.
- ✔ Establish and leverage MOUs and/or PPPs to support hazard mitigation.
- ✔ Establish mutual aid agreements with businesses regarding the services they can provide for response and recovery. Areas to consider include:
  - debris removal
  - rehabilitation with the construction and mining sector,
  - shelter/accommodation/warehouse planning with the hotels sector,
  - transportation of relief materials with the transportation/shipping sector.

### SEDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

#### Priorities for Action

2, 4

#### Global Targets

A, B, C, D, E

#### Guiding Principles

(a), (b), (d), (e), (f), (h), (j)

#### SDGs

8, 9, 13, 17

#### Paris Agreement

7.1, 8.1

#### Responsibilities outlined in Africa's PoA

(b), (d), (f)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## MECHANISMS FOR STAKEHOLDER ENGAGEMENT

### FINDINGS

Many scholars are actively pursuing academic studies and research in disaster risk management. Extensive research has been conducted on how individuals, organizations, and institutions cope with disasters in Ghana. Further to this, several higher education programs in disaster management exist in Ghana (e.g., those degree programs at the University of Ghana and the University of Cape Coast). While NADMO has established working relationships with various universities, there is a need for greater engagement in all aspects of disaster management with higher educational institutions.

The participation of the country's academic institutions could help to generate high-quality information, standardized methodologies and improved technical capabilities. An enhanced relationship with universities would help optimize evidence-based decision-making through the evaluation of data analytics and research opportunities related to DRR, SDGs, and PoA efforts.

### RECOMMENDATIONS

**It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.**

- ✔ Develop a memorandum of understanding (MOU) with national higher education institutions that consider (1) promoting and sensitizing disaster management degree programs to secondary school students and (2) the commitment of NADMO in hiring graduates.
- ✔ Host opportunities, such as a Disaster Management Capacity Building Dialogue, to allow disaster management practitioners and academics to further advance the professionalization of the field in the country.
- ✔ Create internship opportunities within NADMO that appeal to university students and augment technical staffing needs.
- ✔ Ensure inclusion of academic institutions and partners in DM training and exercise opportunities to promote collaboration.

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

#### Priorities for Action

1, 2, 4

#### Global Targets

A, B, C, D

#### Guiding Principles

(a), (b), (d), (g), (f), (h)

#### SDGs

4, 11, 13, 16

#### Paris Agreement

7.1, 8.1

#### Responsibilities outlined in Africa's PoA

(b), (d), (f)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## MECHANISMS FOR STAKEHOLDER ENGAGEMENT

### FINDINGS

NGOs are a critical component to the success of disaster management activities within Ghana. Section 53 of the National Disaster Management Organization Act of 2016 outlines certain considerations for non-governmental organizations. The importance of these organizations in responding to and recovering from disasters in Ghana has also been emphasized in planning documents, including the National Contingency Plan (2010).

However, the Act and planning documents do not guide how NGOs should be organized and integrated formally into disaster management. Optimizing the management of NGOs and their resources would be a pivotal measure for NADMO to improve the efficiency, coordination, and credibility of emergency response initiatives within Ghana.

### RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✓ Amend the National Disaster Management Organization Act of 2016 to establish a body that organizes NGOs (e.g., Non-Governmental Council, Unmet Needs Committee, or Long-Term Recovery Group).
- ✓ Encourage this coordinating body to convene regularly by providing the necessary resources, with NADMO coordinating the agenda.
- ✓ Establish a department in NADMO that is responsible for volunteer management and NGO relations.
- ✓ Develop a registry of all local and international NGOs. This registry should clearly outline the services that the organization provides.

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

#### Priorities for Action

1, 2, 4

#### Global Targets

A, B, E, F

#### Guiding Principles

(a), (b), (c), (d), (e), (h)

#### SDGs

13, 16, 17

#### Paris Agreement

7.1, 8.1

#### Responsibilities outlined in Africa's PoA

(b), (d), (f)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## ORGANIZATIONAL STRUCTURES

### FINDINGS

Ghana has 16 regions and over 200 local government structures. Given the nation’s vast size and measurable disaster experience, the national government has meaningfully expanded disaster management authorities and responsibilities shared with regional and district entities.

The NADMO Act makes numerous provisions for decentralization. An example of a successful delegation of authority within Ghana is the country’s establishment of regional disaster management committees. These committees will play a critical role in supporting disaster management capabilities and efforts across the country.

While these policy efforts are commendable, the effectiveness of these entities hinges on their fiscal and administrative autonomy. Therefore, additional steps should be taken to provide regional and local governments with the capacity and capability to effectively manage hazard events in their jurisdiction.

### RECOMMENDATIONS

**It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.**

- ✔ Develop formal mechanisms and procedures that allow for the administrative and fiscal decentralization of disaster management.
- ✔ Develop protocols that systematically integrate disaster management plans, policies, and procedures across regional and district entities.
- ✔ Empower local and regional committees with the necessary training, equipment, and resources, with NADMO as the oversight agency.
- ✔ Create a list of national standards and core competencies in disaster management practice to share with all regions and districts.

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA’S PROGRAM OF ACTION

#### Priorities for Action

2, 3, 4

#### Global Targets

A, B, C, E

#### Guiding Principles

(a), (b), (d), (e), (f), (g), (h), (i), (j)

#### SDGs

8, 9, 10, 11, 13, 16

#### Paris Agreement

7.1, 8.1

#### Responsibilities outlined in Africa’s PoA

(b), (d), (h)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## ORGANIZATIONAL STRUCTURES

### FINDINGS

Many West African countries, including Ghana, are expected to face devastating impacts on critical sectors such as health, energy, and agriculture due to the effects of climate change.

In alignment with the Paris Agreement, Ghana has made significant policy advancements concerning climate change, such as the National Climate Change Policy (NCCP) 2013. The NCCP has identified "disaster preparedness and response" as one of its primary focus areas. Specifically, there is a significant focus on early warning systems (EWS). However, the role of the National Disaster Management Organization (NADMO) in supporting this thematic area has not been adequately outlined in the policy document. The country's climate adaptation program could be augmented by integrating NADMO's knowledge, skills, and resources.

### RECOMMENDATIONS

**It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.**

- ✔ Advocate for the role of NADMO to be formally outlined and integrated into the NCCP and delegation of authority to oversee the implementation of DM policy, DRR, and CCA efforts.
- ✔ Invite the Ministry of Environment, Science, Technology and Innovation and the National Environmental and Natural Resources Council to the first meeting of the National Disaster Management Committee to ensure further integration.
- ✔ Work with the Ministry responsible for Climate Change to support various initiatives related to Early Warning Systems.

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

#### Priorities for Action

1, 2, 4

#### Global Targets

A, B, G

#### Guiding Principles

(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k)

#### SDGs

9, 10, 11, 13

#### Paris Agreement

7.1, 8.1

#### Responsibilities outlined in Africa's PoA

(b), (d), (f), (g), (h)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# INSTITUTIONAL ARRANGEMENTS



## ORGANIZATIONAL STRUCTURES

### FINDINGS

The National Disaster Management Organization (NADMO) is currently situated within the Ministry of Interior (MOI). The MOI aims to provide a safe and secure environment that supports the country's socioeconomic advancement. The MOI is a sizable institution housing ten other agencies, including the Ghana Police Service, the National Fire Service, and the Ghana Immigration Service. However, because of its size, the Ministry cannot give significant emphasis to disaster management, as NADMO receives less than 3% of its budget.

International best practices and researchers have noted the importance of disaster management offices being standalone agencies and autonomous entities reporting directly to the President or cabinet.

Disasters have significant economic and social impacts on the Ghanaian society. With ministerial level authority, NADMO could better facilitate effective communication channels and high-level support, therefore, guaranteeing that cross-sector planning efforts receive the necessary attention, resources, and alignment with national objectives and international commitments.

### RECOMMENDATIONS

**It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.**

- ✔ Advocate for the establishment of NADMO as a stand-alone agency with authority commensurate with that of the Ministries.
- ✔ Advocate for the revision of the NADMO Act to create and establish a Ministry for Disaster Management to oversee NADMO.
- ✔ Advocate for the appointment of a Minister of Disaster Management from the Parliament, with disaster management expertise and experience working at multiple levels of government.

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

#### Priorities for Action

2, 4

#### Global Targets

E

#### Guiding Principles

(b), (d), (e)

#### SDGs

13, 17

#### Paris Agreement

7.1, 8.1

#### Responsibilities outlined in Africa's PoA

(b), (d), (h)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

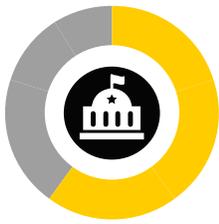
■ Substantial Progress with Some Limitation

■ Advanced Capacity



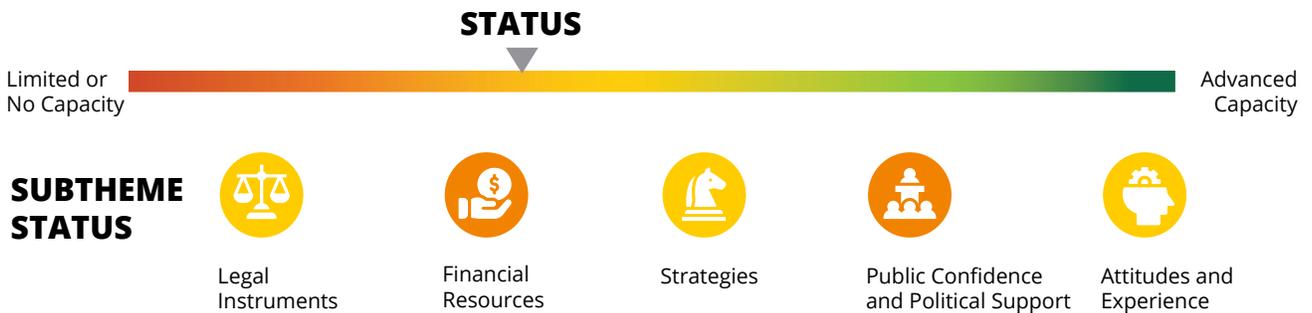
**THE DMA**

# **ENABLING ENVIRONMENT**



# ENABLING ENVIRONMENT

**Findings indicate Ghana’s current Enabling Environment shows achievement with significant limitations.**



Disaster management structures, authorities, processes, and capabilities are enabled by a country’s legal, institutional, financial, and social instruments. These rules, laws, policies, and other instruments allow capacity to develop and to achieve an effective risk reduction vision. Characterization of an enabling environment covers a range of issues from the existence and applicability of legislation to disaster management stakeholders’ attitudes and experience. The DMA analyzed the following sub-themes that characterize the enabling environment of Ghana: Legal Instruments; Financial Resources; Strategies; Public Confidence and Political Support; and Attitudes and Experiences.

# ENABLING ENVIRONMENT



## FINANCIAL RESOURCES

### FINDINGS

The National Disaster Management Organization (NADMO) Act of 2016 outlines financial provisions that establish the Disaster Management Fund (DMF) to support the implementation of disaster management activities. This is a positive step towards codifying these provisions in law. Historically, funding for NADMO or local and regional disaster management committees has been drawn from the District Assembly Common Fund and Contingency Fund. However, consistent and reliable funding presents a considerable challenge, particularly in light of the country's risk and disaster management requirements.

Moreover, most of the funding allocated for disaster management is concentrated on preparedness and response activities. There is very little emphasis on hazard mitigation and recovery. Therefore, it is necessary to incorporate the importance of funding disaster risk reduction activities into the law.

### RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✓ Identify and designate multiple funding sources to support the DRM Fund (e.g., taxes), set minimum annual targets (e.g., 2% of GDP), and ensure funding designations are incorporated into the NADMO Act.
  - Establish mechanisms to ensure that NADMO and regional and district disaster committees have access to the resources of the DMF.
- ✓ Establish standard and emergency mechanisms to transfer funds to regional and local governments and disaster committees.
- ✓ Amend the NADMO Act to establish a (1) Disaster Prevention Fund and a (2) Disaster Response Fund to ensure that funding is designated to focus on all areas of disaster management, from risk assessment to recovery and rehabilitation.

### SEDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

#### Priorities for Action

1, 2, 3, 4

#### Global Targets

A, B, C, D, E

#### Guiding Principles

(a), (b), (f), (j), (k)

#### SDGs

8, 9, 10, 12, 13, 15, 16

#### Paris Agreement Articles

7.1, 8.1

#### Responsibilities outlined in Africa's PoA

(b), (d)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# ENABLING ENVIRONMENT



## LEGAL INSTRUMENTS

### FINDINGS

The National Disaster Management Organization (NADMO) is currently facing challenges in fulfilling its mission requirements due in part to hindrances in the implementation and execution of the policies and procedures governing disaster management within Ghana.

In its current state, the National Disaster Management Organization Act (2016) is insufficient to facilitate effective management of disasters due to the overarching complexities of implementing the law. Streamlining the National Disaster Management Organization Act (2016) would enhance NADMO’s ability to effectively prepare for and respond to disasters.

### RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✓ Conduct a multistakeholder audit of the Act, to better operationalize disaster management mandates with a focus on improved delivery of service.
- ✓ Amend the NADMO Act to include an implementation schedule or regulations to guide the execution of DM legal provisions.
- ✓ Expand and ensure provisions to support NADMO, including human resource capabilities, technical staffing, and support for extensive outreach and logistical demands.
- ✓ Prioritize the movement of the NADMO Act regulations through the necessary legislative process.

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA’S PROGRAM OF ACTION

#### Priorities for Action

2, 4

#### Global Targets

E, G

#### Guiding Principles

(a), (e), (f), (h), (i), (j), (k)

#### SDGs

13

#### Paris Agreement Articles

7.1, 8.1

#### Responsibilities outlined in Africa’s PoA

(b), (d)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# ENABLING ENVIRONMENT



## STRATEGIES

### FINDINGS

The NADMO and supporting agencies are working towards mitigating the effects of floods through various activities. The Greater Accra Resilient and Integrated Development (GARID) Project is a positive step in this direction. However, more significant policy and planning efforts are necessary to address the frequency and cost of flood-related disasters across other regions and districts in the country. The government has commissioned an Earthquake Taskforce and released “A Framework for Refocusing Ghana’s Earthquake Preparedness and Response.” This plan is essential as tremors are frequently experienced in the country. The report provides several recommendations, including creating new National Seismic Hazard Maps and a robust Probabilistic Seismic Hazard Analysis (PSHA) for Ghana. Many of these recommendations have not been implemented yet.

The GARID Project and the Earthquake Commission are good practices for reducing risk. However, there should be a more holistic approach to reducing risk and coordinating all activities. A National Disaster Risk Management Policy would play a significant role in providing a visionary framework and outlining a system of critical actions needed to protect lives and minimize losses and damages.

## RECOMMENDATIONS

**It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.**

- ✔ Develop a National Disaster Risk Reduction Policy, in tandem with Ghana’s National Development Commission, that outlines a clear disaster governance framework, a multi-hazard approach, and an inclusive whole-of-society approach.
- ✔ Develop a comprehensive flood mitigation plan that outlines a range of structural and non-structural measures to systematically reduce flood risk across the country.
- ✔ Establish fiscal arrangements and sufficient resources to support the development and execution of the flood mitigation plan.
- ✔ Support the reconvening and resourcing of the Earthquake Preparedness Committee to ensure the country’s readiness for earthquakes.

## SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA’S PROGRAM OF ACTION

### Priorities for Action

1, 2, 3, 4

### Global Targets

A, B, C, D, E

### Guiding Principles

(a), (b), (c), (e), (f), (g), (h), (i), (j), (k)

### SDGs

6, 9, 13

### Paris Agreement Articles

7.1, 8.1

### Responsibilities outlined in Africa’s PoA

(b), (d), (f), (g)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# ENABLING ENVIRONMENT



## CONFIDENCE AND SUPPORT

### FINDINGS

The NADMO and supporting agencies are working Disaster management policies and activities require a whole community approach and active engagement from the public. The NADMO Act calls for the development of community-based-Disaster Volunteer Groups (DVGs). However, these DVGs have struggled to thrive for various reasons, including but not limited to the inability of local and regional disaster committees to meaningfully integrate them into their structures. Further to this, there is a need to capture indigenous and local knowledge to record past disasters and support the identification of community vulnerabilities.

The NADMO would benefit from a focused and expanded public integration campaign to amplify the impact of its outreach. Disaster management activities could be strengthened if local people are meaningfully engaged.

### RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✔ Develop a public engagement action plan that identifies various means to both gather indigenous knowledge from the public (i.e., town hall meetings, focus groups, or surveys) and to share disaster management information with the public.
- ✔ Foster and sustain the development of community groups through exercises, neighborhood watch or planning groups, community emergency response teams, and volunteer brigades.
- ✔ Engage with the Minister of Gender to find ways to invite women to contribute to stakeholder mapping, disaster planning, and decision-making processes

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

#### Priorities for Action

2, 4

#### Global Targets

A, B, E

#### Guiding Principles

(a), (b), (c), (d), (e), (f), (h), (i), (j)

#### SDGs

5, 11, 13, 16

#### Paris Agreement Articles

7.1, 8.1

#### Responsibilities outlined in Africa's PoA

(b), (d), (h)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# ENABLING ENVIRONMENT



## COMMAND, CONTROL AND COORDINATION SYSTEMS

### FINDINGS

Ghana's disaster management program considers an Incident Command System (ICS) to coordinate response operations during disasters. The National Standard Operating Procedures (2010) clearly outlines the significance of ICS in the Ghanaian context. However, implementation challenges exist regarding knowledge and training of ICS roles and responsibilities. It would benefit all stakeholders in Ghana for the National Disaster Management Organization (NADMO) to continue to provide leadership and training resources on ICS to effectively harmonize response efforts.

### RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✔ Develop Incident Command System training, led by NADMO, for national, regional, and district disaster management committees and other relevant government agencies to ensure that all stakeholders are familiar with their roles and responsibilities and the activation protocols of the national and regional Emergency Operation Centers (EOCs).
- ✔ Leverage tools and resources already developed, and tailor needs to the current Ghanaian ICS structure.

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

#### Priorities for Action

2, 4

#### Global Targets

A, B, E

#### Guiding Principles

(a), (b), (c), (e), (f), (h), (i)

#### SDGs

11, 13, 16

#### Paris Agreement Articles

7.1, 8.1

#### Responsibilities outlined in Africa's PoA

(b), (d)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# ENABLING ENVIRONMENT



## EMERGENCY OPERATIONS CENTER

### FINDINGS

EOCs are critical coordination sites that should support collecting, analyzing, and sharing information. The National EOC for Ghana is housed at the NADMO's headquarters. The responsibility of the EOC falls under the direct purview of the Director of the EOC, who is also responsible for "Geospatial and Big Data." This portfolio requires a range of resources to ensure that NADMO can coordinate an effective response and recovery by generating a clear, common operating picture. However, funding and resource limitations hinder these efforts. Interagency collaboration and coordination have also been challenging due to the absence of a common alerting protocol.

Similarly, EOCs across the country at the regional and local levels are significantly understaffed and under-resourced. Various EOC strengthening projects were funded by international partners to support the growth of 22 EOCs. However, once funding for these projects ended, NADMO faced significant challenges in ensuring the longevity of these EOCs. NADMO's disaster response and recovery coordination could benefit from a greater investment in EOC resources (e.g., computers, phones, and internet) and training.

### RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✔ Develop clear guidelines and standard operating procedures for activating, operating, and deactivating an EOC in incorporating DisasterAWARE.
  - Ensure that guidelines consider mechanisms for activation, operation, and deactivation at the district and regional levels.
  - Develop and implement training requirements for EOC personnel at national, regional, and district levels.
- ✔ Ensure agency EOC representatives have the authority to make decisions on behalf of the ministry, agency, or department they represent.
- ✔ Complete the assessment of local and regional EOCs and procure the required staffing, training, and infrastructure/equipment resources.

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

#### Priorities for Action

2, 4

#### Global Targets

A, B, E

#### Guiding Principles

(a), (b), (e), (f), (h), (i)

#### SDGs

11, 13, 16

#### Paris Agreement Articles

7.1, 8.1

#### Responsibilities outlined in Africa's PoA

(b), (d), (g), (h)

# ENABLING ENVIRONMENT



## WATER AND SANITATION AND HYGEINE

### FINDINGS

Ghana has made strides in improving WASH considerations by mainstreaming WASH into disaster planning and management. Various committees and task forces were established to provide strategic leadership and a greater focus on WASH during disasters. Specifically, the National WASH Emergency Preparedness and Response Plan (EPRP) was developed to reduce disease outbreaks and ensure the development of basic human needs. These efforts are a positive sign for ensuring access to clean water and adequate sanitation during emergencies.

However, Ghana's efforts in this space could benefit from policy revision and capacity strengthening to support the implementation of hygiene and sanitation programs.

### RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✓ Advocate for reviewing and revising the National Water, Sanitation & Hygiene (WASH) Emergency Preparedness and Response Plan (EPRP).
- ✓ Support the review of the national WASH standards for safe havens to ensure their applicability and practicality in the Ghanaian context.
  - Develop a basic checklist of water, sanitation, and hygiene requirements for all shelters for use by regional and district stakeholders.
- ✓ Leverage the support of the Interagency Working Group for Emergencies to train disaster managers at the regional and district level on WASH in emergencies.

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

#### Priorities for Action

2, 3, 4

#### Global Targets

A, B, D, E

#### Guiding Principles

(a), (b), (c), (e), (f), (g), (h), (i), (j), (k)

#### SDGs

1, 3, 4, 5, 6, 7, 8, 10, 11, 13, 16

#### Paris Agreement Articles

7.1, 8.1

#### Responsibilities outlined in Africa's PoA

(b), (d), (h)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity





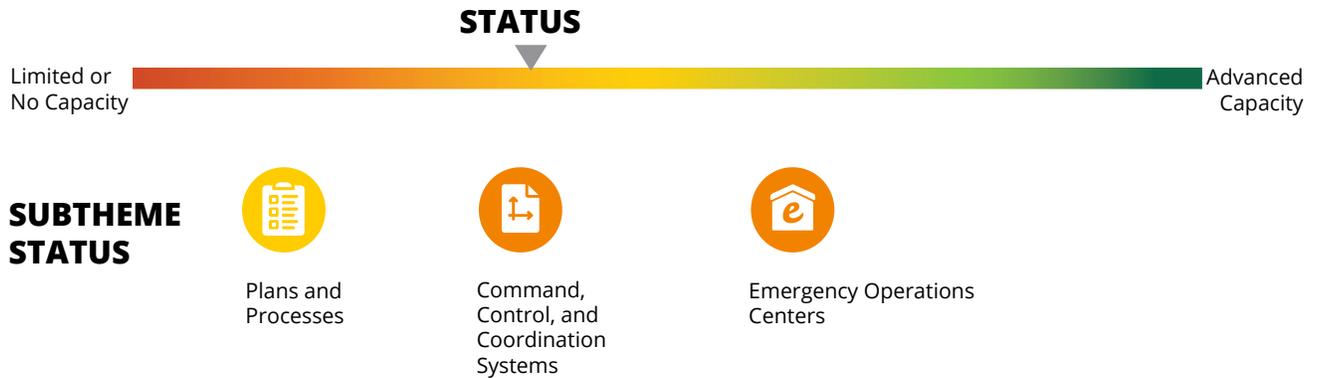
**THE DMA**

# **DISASTER GOVERNANCE MECHANISMS**



# DISASTER GOVERNANCE MECHANISMS

Ghana’s current Disaster Governance Mechanisms show early capacity development.



The effectiveness of all disaster management phases, including disaster preparedness, hazard mitigation, response, and recovery, is dependent on establishing and documenting such mechanisms. Disaster management efforts are most effective when guided by standard, formalized systems and procedures that dictate how and by whom activities are conducted. The DMA analyzed the following sub-themes that characterize the disaster governance mechanisms of Ghana: Plans and Processes; Command, Control, and Coordination Systems; and Emergency Operations Centers.

# DISASTER GOVERNANCE MECHANISMS



## PLANS AND PROCESSES

### FINDINGS

Through direct initiatives and programs, the NADMO has made good progress in strengthening its disaster management programs and initiatives. The NADMO Act of 2016 outlines prevention, preparedness, disaster risk reduction, recovery, and rehabilitation as the primary functions of NADMO.

Despite these efforts, challenges persist; notably, there are significant gaps associated with recovery and rehabilitation activities. Notably, there is a lack of coordination between NADMO and other relevant public agencies. To further advance resilience and comprehensive disaster management, Ghana would benefit from particularly focusing on recovery and rehabilitation endeavors.

## RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✔ Develop a National Recovery Plan that clearly identifies:
  - relevant recovery functions (such as housing recovery, debris management, infrastructure recovery, social and psychological recovery),
  - lead and support agencies to implement and support recovery functions, and
  - roles and responsibilities of all national, local, and regional authorities and agencies.
- ✔ Outline guidelines and communication plans for providing livelihood assistance to individuals and households in their recovery from disasters.
- ✔ Develop outcomes and monitoring and evaluation indicators that guide economic, social, infrastructure, and environmental recovery. These indicators must be evidenced-based and developed from (1) past evaluations of disaster recovery, (2) official statistics, (3) inputs from specialists, and (4) contributions from the impacted community.

## SEDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

### Priorities for Action

1, 2, 3, 4

### Global Targets

A, B, C, D, E, F

### Guiding Principles

(a), (b), (e), (f), (h), (i), (j), (k), (m)

### SDGs

7, 8, 9, 10, 11, 13, 15

### Paris Agreement Articles

7.1, 8.1

### Responsibilities outlined in Africa's PoA

(b), (d), (g), (h)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# DISASTER GOVERNANCE MECHANISMS



## PLANS AND PROCESSES

### FINDINGS

Disasters can impact the functioning of government facilities and inhibit the delivery of critical services. Continuity of governance (COG) plans or contingency plans are essential for ensuring that a government can sustain essential services and functions after a major disaster. The Government of Ghana (GoG) has recognized this premise and has legally mandated the Ministry of Finance (MoF) not to provide funding allocations to a public body unless a contingency plan is in place. However, the MoF has not strictly enforced this rule.

It would benefit all stakeholders in Ghana for the National Disaster Management Organization (NADMO) to continue to provide leadership, planning templates, and training resources to promote COG planning among government sectors. Additionally, harmonizing COG efforts is essential to ensure the provision of critical services, while upholding the objectives of disaster management. This focus on promoting sustainable governance principles ultimately results in enhanced standards and systematic oversight of vital personnel and infrastructure.

## RECOMMENDATIONS

**It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.**

- ✔ Develop and disseminate a standardized template for contingency plans, facilitating consistent planning.
- ✔ Advocate for the Ministry of Finance to enforce compliance mechanisms associated with public bodies having contingency plans.
- ✔ Host workshops with various public bodies to increase disaster and risk salience.
- ✔ Develop COG training and exercises to ensure alignment in response and recovery procedures.
- ✔ Establish and integrate into plans and protocols formal memoranda of understanding (MOU) that outline roles, responsibilities, and expectations of both government and private sector entities, ensuring inclusion of liabilities and resource allocation.

## SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

### Priorities for Action

2, 4

### Global Targets

B, C, D, E

### Guiding Principles

(a), (b), (e), (f), (h), (i), (k), (m)

### SDGs

6, 7, 8, 9, 11, 12, 13, 15, 16

### Paris Agreement Articles

7.1, 8.1

### Responsibilities outlined in Africa's PoA

(b), (d), (g), (h)

# DISASTER GOVERNANCE MECHANISMS



## PLANS AND PROCESSES

### FINDINGS

In 2010, NADMO published two key disaster management plans. The NSOP aimed to prevent unnecessary errors, promote efficiency, and minimize redundant tasking in disaster response efforts. Similarly, the National Flood Risk Contingency Plan (NRFCP) was developed in collaboration with the United Nations Country Team, Ghana Red Cross Society, Government, and Non-Governmental Organizations (NGOs). However, inconsistencies throughout the documents could hinder the effective coordination of response activities. Ghana's disaster management program could benefit from a compilation, comprehensive assessment, and revision of these plans.

## RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✓ Leverage the results of the RVA to serve as a fact base for the development of all national plans.
- ✓ Advocate for a participatory planning process that seeks to identify multiple ways to get information to or from the public.
- ✓ Review the NSOP and NRFCP with all governmental, NGO, and private sector stakeholders to develop and update a consolidated national-level contingency plan.
  - Ensure a unified plan encompasses an all-hazards approach to disaster management.

## SEDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

### Priorities for Action

1, 2, 3, 4

### Global Targets

A, B, C, D, E

### Guiding Principles

(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k)

### SDGs

9, 10, 11, 13, 16

### Paris Agreement Articles

7.1, 8.1

### Responsibilities outlined in Africa's PoA

(b), (d), (g), (h)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# DISASTER GOVERNANCE MECHANISMS



## FINDINGS

Volunteers are a critical component to the success of disaster management activities, and NGOs have a long history of supporting many communities within Ghana.

NADMO's efforts to cultivate an active volunteer network to augment its operations have added value and allowed the organization to meet its mission requirements. However, the need has been identified to integrate volunteers and volunteer organizations more systematically into the disaster management structure following a standardized process to support the continuity of operations and ensure quality service delivery. The country could benefit from a formal donations and volunteer management plan to manage or reduce unsolicited donated goods and spontaneous volunteers coming to the country or a district after a disaster.

## PLANS AND PROCESSES

### RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✓ Develop the necessary volunteer policy so appropriate mechanisms and provisions can be made to ensure the successful integration of individuals/organizations into the formalized national response system.
- ✓ Secure proper recruitment, training, and tracking of both volunteers and their credentials for guaranteed reliability and readiness when needed during disasters.
- ✓ Work in tandem with the Interagency Working Group for Emergencies to develop a process to screen and train all NGOs before they are allowed to work in the country.
- ✓ Ensure that local NGOs and community organizations (e.g., churches and political parties) are educated on the issues associated with poor coordination and unsolicited or misaligned donations.

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

#### Priorities for Action

1, 2, 3, 4

#### Global Targets

A, B, D, E

#### Guiding Principles

(a), (b), (c), (e), (f), (g), (h), (i)

#### SDGs

9, 10, 11, 13, 14, 15, 16

#### Paris Agreement Articles

7.1, 8.1

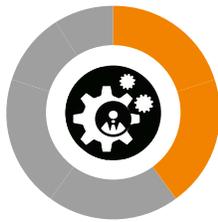
#### Responsibilities outlined in Africa's PoA

(b), (d), (g), (h)



**THE DMA**

# **CAPABILITIES AND RESOURCES**



# CAPABILITIES AND RESOURCES

Ghana’s current Capabilities and Resources show early capacity development.



The nature and extent of skills, knowledge, supplies, resources, equipment, facilities, and other capacity components dedicated to meeting disaster management needs indicate Ghana’s overall capabilities and resources. The DMA examined the source and size of surge capacities available in times of disaster and a broad array of disaster-focused functional capabilities like search and rescue, sanitation, and security. For this analysis, the following sub-themes were reviewed: Dedicated Facilities and Equipment; Human Resources; Inventory of Commodities and Supplies; and Targeted Functional Capabilities.

# CAPABILITIES AND RESOURCES



## FACILITIES AND EQUIPMENT

### FINDINGS

Warehouses are vital hubs where relief supplies are stored, managed, and dispatched to disaster-impacted communities. They act as the logistical backbone of humanitarian operations, enabling the timely and efficient delivery of life-saving aid. Ghana's main warehouse is co-located with the National Security Warehouse. However, this warehouse is in need of repair, given its structural issues. Additionally, the 16 regional offices and 261 district offices serve as "warehouses" during times of crisis. The Contingency Plan noted that the country has the resources to respond to approximately sixty thousand (60,000) persons country-wide in the most likely scenario and at least one million (1,000,000) people in the worst-case scenario. However, this is problematic when considering the population of Ghana and the affected population in recent disasters.

Moreover, various studies and reports have indicated significant wait time on relief items. Local officials noted constraints with current protocols that inhibit timely release of resources to districts. Ghana would benefit from an enhanced logistical program, including a newly built facility that is (1) capable of supporting air operations during times of disaster and (2) strategically positioned to serve as a transfer point for relief supplies.

### RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✓ Advocate for the construction of a national warehouse that can accommodate non-perishable items needed for humanitarian response.
- ✓ Establish ways and means to augment the stockpiles across the country, including through partnerships with the Interagency Working Group on Emergencies, the private sector, and enhanced budgetary allocations to NADMO.
- ✓ Develop a system for resource management that considers (1) regularly inventorying resources, (2) identifying and categorizing resources, and (3) qualifying and credentialing personnel who can obtain resources and maintain stockpiles.
  - Develop procedures and mechanisms for requesting and distributing items from the national or regional warehouses that prioritize the urgency of the post-disaster landscape and ensure accountability.

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

#### Priorities for Action

1, 2, 3, 4

#### Global Targets

A, B, D, E

#### Guiding Principles

(a), (b), (c), (f), (h), (i)

#### SDGs

9, 11, 13

#### Paris Agreement Articles

7.1, 8.1

#### Responsibilities outlined in Africa's PoA

(b), (d), (f), (g), (h)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# CAPABILITIES AND RESOURCES



## SHELTERING

### FINDINGS

Access to safe and adequate shelter is paramount in disaster response and recovery. Like most countries, Ghana uses schools, churches, and other large spaces as “safe havens.” However, there is an inadequate number of these shelters and no comprehensive listing of these “safe havens.” The usage of schools as safe havens has been identified as very problematic, given its impact on the continuity of education. Moreover, many buildings used as shelters do not meet national safety and hygienic standards.

Ghana also has experienced an influx of over 15,000 refugees from other African countries, and the government has established refugee camps. Like “safe havens” used throughout the country, these refugee camps are not adequately equipped and are plagued with water, sanitation, and health issues.

### RECOMMENDATIONS

**It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.**

- ✔ Develop an inventory of all buildings across the country that are used as safe havens and ensure that the public is fully aware of their location.
- ✔ Use DisasterAWARE to identify low-risk locations to construct multi-purposed safe havens to reduce the dependency on schools as shelters.
- ✔ Develop sheltering plans for each region that consider funding and staffing requirements to equip and maintain shelters and mechanisms to assess them annually for operational readiness.
- ✔ Ensure that shelters consider the needs of vulnerable populations and those with access and functional needs.
- ✔ Leverage the support and resources of the Interagency Working Group for Emergencies to ensure the continued safety and well-being of refugees.
  - Make direct requests to partners for minimal-cost projects and funding to increase capacity, enforce standards, and create additional safe-havens.

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

#### Priorities for Action

1, 2, 4

#### Global Targets

A, B, C, D, E, F

#### Guiding Principles

(a), (b), (c), (d), (e), (f), (g), (h), (i)

#### SDGs

1, 3, 4, 5, 6, 7, 8, 10, 11, 13, 16

#### Paris Agreement Articles

7.1, 8.1

#### Responsibilities outlined in Africa's PoA

(b), (d), (h)

# CAPABILITIES AND RESOURCES



## HUMAN RESOURCES

### FINDINGS

NADMO has a staff strength of 6,199. However, it is widely agreed that the organization relies on volunteers to meet various demands. The organization would benefit by securing additional staffing, particularly in technical roles. A properly staffed NADMO would help optimize evidence-based decision-making through the evaluation of data analytics and best practices related to DRR, SDGs, and CCA efforts.

Staffing shortages can present unique challenges to fulfill crucial disaster management roles effectively. While most departments at NADMO require additional staff capacity, the Planning and Monitoring and Evaluation department is significantly under-resourced when considering its mandate. With just 12 staff members, the department is responsible for (1) mainstreaming disaster risk management into all national policies, (2) crafting and revising all disaster management plans, (3) after-action reviews, (4) research, and (5) reporting losses and damages of all hazard events to national and international partners. The planning, policy, and research mandate of NADMO could benefit from strengthening human resources in this department.

### RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✓ Identify funding allocations and resources available to support the recruitment and hiring of additional NADMO personnel at all levels of government.
- ✓ Secure additional technical staffing within the NADMO to augment the organization’s existing capacity and effectively execute legislative mandates.
  - Hire additional planners and disaster management specialists to work in the Planning & Monitoring and Evaluation department.
  - Ensure the capabilities of new recruits include specialized expertise to contribute to evidence-based decision-making processes via analyzing data and conducting research related to DRR, SDGs, and CCA.

### SEDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA’S PROGRAM OF ACTION

#### Priorities for Action

1, 2, 3, 4

#### Global Targets

A, B, D, E

#### Guiding Principles

(a), (b), (d), (e), (f), (g), (h), (i), (j), (k)

#### SDGs

4, 9, 10, 11, 13, 16

#### Paris Agreement Articles

7.1, 8.1

#### Responsibilities outlined in Africa’s PoA

(b), (d), (f), (g), (h)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# CAPABILITIES AND RESOURCES



## COMMODITIES AND SUPPLIES

### FINDINGS

Disasters are local occurrences. Therefore, in keeping with best practices, Ghana has established local disaster committees. All local committees include representatives from the fire, police, and ambulatory services. While these efforts are commendable, the presence of decentralized participatory governance structures is not enough to enable participatory disaster risk management. The local emergency services in districts across the country face significant resource gaps. Considering that effective decentralization of disaster management can be constrained by low capacity at a local level, Ghana's disaster response program could be improved by greater financial and human resources for these emergency services.

### RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✓ Advocate for the national fire, police, and ambulatory services to increase recruitment for rural areas.
- ✓ Leverage the relationship with international partners to support the procurement of emergency response vans to aid emergency response.
- ✓ Leverage partnerships with the International Federation of the Red Cross and Ghana's Red Cross Society to scale up first aid training across the country.
- ✓ Leverage partnerships with higher education institutions to support the enhanced capacity of firefighters and EMS personnel.

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

#### Priorities for Action

1, 2, 3, 4

#### Global Targets

A, B, D, E

#### Guiding Principles

(a), (b), (c), (f), (h), (i)

#### SDGs

9, 11, 13

#### Paris Agreement Articles

7.1, 8.1

#### Responsibilities outlined in Africa's PoA

(b), (d), (g), (h)



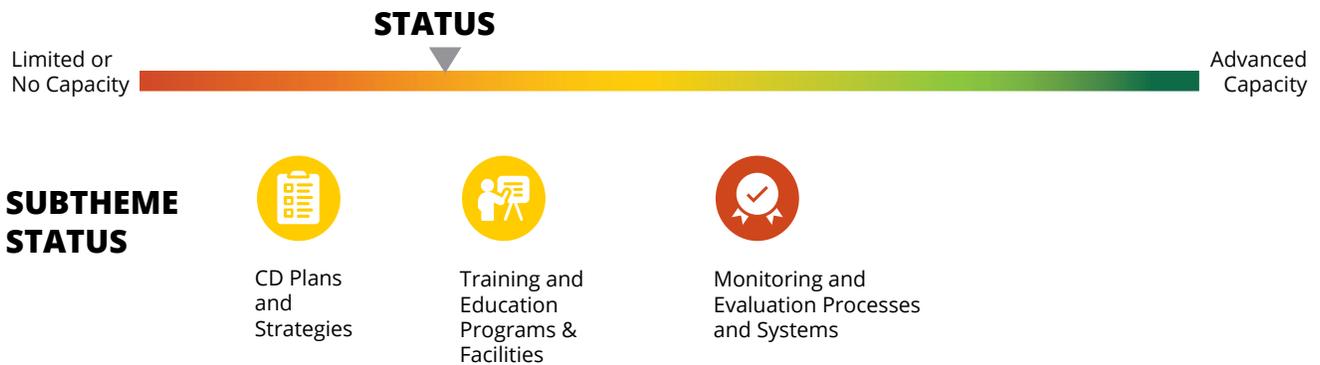
THE DMA

# CAPACITY DEVELOPMENT



# CAPACITY DEVELOPMENT

Ghana’s current Capacity Development is at early capacity development.



Ghana’s ability to advance disaster management strategies that achieve risk reduction and resilience goals is ultimately dependent on its ability to support capacity development. From training and education that supports the advancement of knowledge and skills to the institutionalization of appropriate attitudes and cultures, capacity development requires the continuous advancement of assessments, strategic plans, programs, facilities, and many other components of the sub-themes examined in this report. The DMA analyzes resources and opportunities for all stakeholders and all sectors, from individuals and vulnerable populations to government responders. Sub-themes examined include Capacity Development Plans and Strategies; Training and Education Programs and Facilities; and Capacity Development Monitoring and Evaluation.

# CAPACITY DEVELOPMENT



## FINDINGS

Ghana has developed a comprehensive disaster risk management program. However, one of NADMO’s most significant challenges is its lack of human resources to carry out the mandates outlined in the NADMO Act. Closing these gaps requires a systematic approach to ensure that skilled and qualified disaster management staff occupy district, regional, and national positions. All stakeholders working in disaster management in Ghana should have foundational knowledge of concepts, tasks, and the role of a disaster manager. Many persons who work in disaster management offices or committees around the country have varying academic qualifications or come from diverse backgrounds. The educational qualifications of the staff range from a middle school leavers certificate to a university degree. Additionally, the distribution of experienced staff ranged from one to 15 years. This reality requires an intensive program to ensure that the staff are grounded in the foundation and fundamentals of disaster management. Moreover, NADMO faces challenges with other government ministries understanding its day-to-day function and role in climate change adaptation and development. Ghana’s developmental progress would benefit from a streamlined and integrated approach to building and expanding disaster management knowledge.

## CD PLANS AND STRATEGIES

### RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✔ Facilitate a workshop with Ghana’s higher education programs and NADMO’s training department to develop an “Introduction to Disaster Management” course for new recruits and relevant public stakeholders.
- ✔ Create a national training plan that aligns training with position descriptions and skill requirements.
  - Develop a schedule of all training offered by NADMO and other local and international partners.
- ✔ Work with international partners, including through embassy representatives, to identify best-of-class disaster management education programs worldwide that would engage with Ghanaian universities to expand training, education, and certification opportunities.

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA’S PROGRAM OF ACTION

#### Priorities for Action

1, 2, 3, 4

#### Global Targets

A, B, D, E

#### Guiding Principles

(a), (b), (d), (e), (f), (g), (h), (i), (j), (k)

#### SDGs

4, 9, 10, 11, 13, 16

#### Paris Agreement Articles

7.1, 8.1

#### Responsibilities outlined in Africa’s PoA

(b), (d), (g), (h)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# CAPACITY DEVELOPMENT



## FINDINGS

Full-scale and functional exercises are essential as they test and assess the operational capability of disaster management plans and procedures. Moreover, these activities allow for the validation and refinement of roles and responsibilities. Ensuring that lead and supporting agencies are purposefully engaged in plan testing endeavors is important.

However, full-scale and functional exercises have not occurred as frequently as they should because of limited financial resources to support their execution, including incidental costs associated with transportation and meals. Moreover, when functional exercises are hosted, they are primarily supported by international partners. An enhanced focus on and national funding for NADMO's plan testing program could strengthen disaster preparedness and coordination between internal and external teams, organizations, and entities.

## CD PLANS AND STRATEGIES

### RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✓ Ensure all response and recovery plans include plan testing considerations.
- ✓ Develop a training catalog for all table-top (TTX), functional, and full-scale exercises conducted by international partners.
- ✓ Identify funding lines in the NADMO budget that could be allocated to plan testing.
  - Consider funding for incidental costs associated with training and planning disaster committee meetings to encourage all national, regional, and district stakeholders to participate.

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

#### Priorities for Action

1, 2, 3, 4

#### Global Targets

A, B, D, E

#### Guiding Principles

(a), (b), (d), (e), (f), (g), (h), (i), (j), (k)

#### SDGs

4, 9, 10, 11, 13, 16

#### Paris Agreement Articles

7.1, 8.1

#### Responsibilities outlined in Africa's PoA

(b), (d), (f)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# CAPACITY DEVELOPMENT



## TRAINING AND EDUCATION

### FINDINGS

The integration of disaster risk management in primary and secondary schools could equip children with the knowledge, attitudes, and skills needed to prepare for, respond to, and recover from disasters. Disaster education at the lower level can also increase students awareness about the disaster management field, potentially attracting more first-career students. While efforts have been made to increase disaster knowledge, there appears to be a gap in the mainstreaming of disaster management and disaster preparedness in the primary and secondary levels of education. The Government of Ghana and NADMO could benefit from an enhanced focus on disaster education for children. To do this, formal and informal education and training should be considered.

### RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✔ Coordinate with the Ministry of Education to integrate disaster preparedness into the curricula of primary and secondary schools.
- ✔ Develop age-appropriate disaster preparedness campaigns for primary and secondary school-aged children.
- ✔ Utilize social media influencers to promote disaster preparedness on various platforms (e.g., Facebook, TikTok or Twitter).
- ✔ Provide opportunities for secondary school students to complete internships at NADMO.

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

#### Priorities for Action

1, 2, 4

#### Global Targets

A, B, D, E

#### Guiding Principles

(a), (b), (d), (f), (g), (i)

#### SDGs

4, 5, 11, 13

#### Paris Agreement Articles

7.1, 8.1

#### Responsibilities outlined in Africa's PoA

(b), (d), (f)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# CAPACITY DEVELOPMENT



## AFTER ACTION REVIEWING

### FINDINGS

The development of an After-action report (AAR) involves the analysis of the management of an incident, exercise, or event by identifying strengths to be maintained and built upon, as well as identifying potential areas of improvement. Additionally, reviewing the steps taken in responding to and recovering from disaster is vital to ensuring that disaster management processes are efficient and effective in meeting a community's needs and demands. Furthermore, an AAR can allow stakeholders to identify the root causes of vulnerability that drive impacts and needs.

Local, regional, and national stakeholders have noted that after-action meetings have not been conducted after hazard events. NADMO's disaster management program could benefit from comprehensive mechanisms that ensure that procedures are agile and iterative.

### RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✔ Create and sustain a post-event after-action report program that updates all plans and procedures based on lessons identified.
  - Develop standard operating procedures or guidelines for when after-action meetings will occur, the specific matters to be discussed, and the timeline for delivering the AAR.
  - Develop guidelines for how the AAR will be used to influence or update national, regional, and local plans and legislation.
- ✔ Integrate questions/guidelines for identifying the root causes of vulnerability that drive impacts.

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

#### Priorities for Action

1, 2, 3, 4

#### Global Targets

A, B, C, D, E, G

#### Guiding Principles

(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k)

#### SDGs

8, 9, 10, 11, 13, 16

#### Paris Agreement Articles

7.1, 8.1

#### Responsibilities outlined in Africa's PoA

(b), (d), (f)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity



**THE DMA**

# **COMMUNICATION AND INFORMATION MANAGEMENT**

M



# COMMUNICATION AND INFORMATION MANAGEMENT

Ghana's Communication and Information Management shows early capacity development.



Disaster management is a risk-based endeavor, and as such, the capacity of stakeholders to generate, manage, and share risk and incident-related information is critical. This analysis looked at the systems, processes, and procedures established in Ghana to inform pre- and post-disaster activities: Hazard and Risk Analysis Systems; Monitoring and Notification; Disaster Assessment; Information Collection, Management, and Distribution; and Media and Public Affairs.

# COMMUNICATION AND INFORMATION MANAGEMENT



## FINDINGS

Risk assessments are essential for guiding the development of plans that consider the features, vulnerabilities, and resources of a community. Various risk assessments have been conducted in Ghana (e.g., Comprehensive Food Security and Vulnerability Analysis). However, they do not give a comprehensive overview of the country's risk profile.

Additionally, risk assessments require a lot of capacities and capabilities. Ghana has made significant efforts to augment its technical capacity to conduct risk assessments. In 2023, the Ghana Statistical Service won the UN Datathon, evidencing their expanded knowledge bases and skill set in data sciences. Furthermore, this enhanced capacity is also evidenced by the designing and usage of hazard maps by local and regional disaster management committees. These efforts can all support development and climate adaptation via risk-based decisions. However, there is a lack of financial resources to complete a comprehensive risk assessment at the national, regional, and local levels. Ghana's disaster risk management system and existing risk assessments could be supported and expanded by the integration of the RVA of the NDPBA.

## HAZARD AND RISK ANALYSIS

### RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✔ Leverage the NDPBA as a primary national and subnational risk and vulnerability assessment to support national development plans.
  - Leverage resources within the RVA, including hazard mapping for population exposures, critical infrastructure locations, and evacuation/shelter identification to drive sector-based community planning, improved infrastructure for facilities, and profiling of vulnerable groups.
- ✔ Leverage higher education partners to support local and regional risk assessments.
- ✔ Utilize risk assessment to guide development and all disaster management plans.

### SENDAI FRAMEWORK, SDGS, AND CDEMA CDM PRIORITY AREAS ADVANCED

#### Priorities for Action

1, 2, 3, 4

#### Global Targets

A, B, C, D, E, G

#### Guiding Principles

(a), (b), (c), (e), (f), (h), (i), (j), (k)

#### SDGs

5, 8, 9, 10, 11, 13, 16, 17

#### Paris Agreement Articles

7.1, 8.1

#### Responsibilities outlined in Africa's PoA

(b), (d), (f), (g), (h)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT



## HAZARD MONITORING

### FINDINGS

Hazard monitoring plays a critical role in supporting an Early Warning System (EWS). Hazard monitoring describes the technologies and machinery/equipment that provide direct observations of hazards to prevent catastrophic events from occurring. Through the assistance of various partners, Ghana has made progress in monitoring some of the hazards that impact communities and cities across the country. Despite these efforts to be proactive, some gaps remain. There remains a lack of modern weather monitoring stations in many rural communities across the country. Furthermore, some of the donated weather stations have not been placed in communities that need them the most. To ensure “early warning for all,” the NADMO’s desire to be proactive could be complemented by investing in hazard monitoring technologies.

### RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✔ Invest in modern weather, flood water, and tsunami/tidal wave monitoring stations to expand hazard early warning.
- ✔ Coordinate and prioritize with international partners active in disaster management and directly supporting the Government of Ghana in enhancing hazard monitoring to ensure that resources are sent to communities most in need.

### SENDAI FRAMEWORK, SDGS, AND CDEMA CDM PRIORITY AREAS ADVANCED

#### Priorities for Action

1, 2, 3, 4

#### Global Targets

A, B, C, D, E

#### Guiding Principles

(a), (b), (e), (f), (g), (h), (i), (j), (k)

#### SDGs

5, 8, 9, 10, 11, 13, 16, 17

#### Paris Agreement Articles

7.1. 8.1

#### Responsibilities outlined in Africa’s PoA

(b), (d), (f), (g), (h)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT



## EARLY WARNING SYSTEMS

### FINDINGS

EWSs play a critical role in saving lives. These systems enable communities to prepare for an imminent threat and act accordingly to mitigate or avoid it. There is evidence of efforts to develop a “Flood Early Warning System (FEWS)” to give prior warning to residents in the Greater Accra Region via the GARID Project. This initiative marks an effort to support early warning. However, the GARID project has yet to be fully executed and is focused on a specific location in the country. Moreover, using a hazard-specific EWS can be problematic when considering the range of hazards the country faces. Ghana’s efforts to reduce risk and save lives could be supported by a clear and systematic EWS that facilitates public education and awareness of risks and disseminates messages and warnings efficiently.

### RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✓ Develop a standard EWS for the entire country that considers (1) risk knowledge of the public, (2) monitoring and warning services, (3) communication of warnings, and (4) community response capability.
  - Incorporate indigenous knowledge into risk communication plan and EWS.
- ✓ Engage with members of the disabled community and other vulnerable populations to ensure that efforts are made to effectively communicate risk to persons with disabilities.
- ✓ Develop risk communication training for local and regional government counterparts.
- ✓ Conduct training to ensure that disaster managers understand the multi-stage and psychological processes associated with citizens taking protective action.
- ✓ Conduct training on risk communication with the media/press to ensure they have the tools to effectively convey warnings.

### SENDAI FRAMEWORK, SDGS, AND CDEMA CDM PRIORITY AREAS ADVANCED

#### Priorities for Action

1, 2, 3, 4

#### Global Targets

A, B, C, D, E

#### Guiding Principles

(a), (b), (c), (e), (f), (h), (i), (j), (k)

#### SDGs

5, 8, 9, 10, 11, 13, 16, 17

#### Paris Agreement Articles

7.1, 8.1

#### Responsibilities outlined in Africa’s PoA

(b), (d), (f), (g), (h)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity

# COMMUNICATION AND INFORMATION MANAGEMENT



## INFORMATION MANAGEMENT

### FINDINGS

Information and data are critical components of effective decision-making in disaster management. Various stakeholders (i.e., universities) across the country have developed maps and critical hazard data that can be used to drive risk-based decision-making. However, there remain many challenges with respect to the collection and management of risk-related data, including but not limited to (1) a lack of a centralized database for disaster information, (2) limited data sharing, and (3) limited digitized data. To further address lingering digital infrastructure gaps, Ghana would benefit from establishing a multi-agency data repository with added integration of existing GIS capabilities.

### RECOMMENDATIONS

It is recommended that the following activities be implemented to support NADMO in fulfilling its mandates.

- ✓ Harmonize the national data collection and storage standards with Ghana’s overarching digital transformation agenda.
- ✓ Facilitate the sharing of data among governmental entities, non-governmental disaster management stakeholders, and the general public.
- ✓ Leverage DisasterAWARE to support a common operating picture.

### SENDAI FRAMEWORK, SDGS, AND CDEMA CDM PRIORITY AREAS ADVANCED

#### Priorities for Action

1, 2, 3, 4

#### Global Targets

A, B, C, D, E

#### Guiding Principles

(a), (b), (c), (e), (f), (h), (i), (j), (k)

#### SDGs

5, 8, 9, 10, 11, 13, 16, 17

#### Paris Agreement Articles

7.1, 8.1

#### Responsibilities outlined in Africa’s PoA

(b), (d), (f), (g), (h)

■ Limited or No Capacity

■ Early Capacity Development

■ Achievement with Significant Limitation

■ Substantial Progress with Some Limitation

■ Advanced Capacity



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Climate change • Climate change refers to long-term shifts in temperatures and...

# BEST VISUALIZATION



# GHANA STATISTICAL SERVICE DATA SCIENCE TEAM

Ghana

Simon Tichutab Onilimor, Laurent Smeets,  
Peter Yeltulme Mwinlaaru, Ahmed Salim Adam,  
Femke van den Bos



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Maria Si...



Ashwell ...



Yugratna..



Pedro Pa...



Simon T ...



José Hu...



Maryam ...



VS



AV

## THE NDPBA

# COMMENDATIONS FOR BEST PRACTICES

# COMMENDATIONS FOR BEST PRACTICES



## BEST PRACTICES COMMENDATION

## COMMUNICATIONS AND INFORMATION MANAGEMENT

### Recognizing a Standard of Practice for Statistics and Data

The Sendai Framework for Disaster Risk Reduction calls for national and local governments to build a comprehensive understanding of the drivers of risk. Meeting this lofty goal requires consideration of many factors, including but not limited to demographics, hazard exposure, socioeconomic vulnerabilities, and coping capacities. The Ghana Statistical Service has made significant progress in ensuring the availability and digitization of critical data needed to measure risk. Notably, data are readily available through such online resources as the Ghana Statistical Service StatsBank and have been leveraged by local partners to support risk analysis and evidence-based decision making.

Further, the Government of Ghana has supported the development of a National Strategy for the Development of Statistics and the National Data Strategy. Both policies seek to support the vision and goals of Ghana's Long-term National Development Plan (2018-2057) and the National Medium-term Development Policy Framework (2022-2025) and demonstrate a focused effort toward shaping the country's data-driven future.

Ghana's endeavors to create a conducive data-driven environment are reflected in policy and the technical capacity of its institutions. In 2023, the Ghana Statistical Service Data Science Team won first place at the UN Datathon, in addition to awards for best presentation, best visualization, and best youth team. These outstanding achievements highlight the country's advanced capacity to collect, organize and share high-quality data needed to support sustainable development, adaptation, and risk reduction – and represents a global standard of best practices that other nations should look to as a model.

### SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

#### Priorities for Action

1, 2, 3, 4

#### Global Targets

A, B, C, D, E, G

#### Guiding Principles

(a), (b), (c), (e), (f), (h), (i), (j), (k)

#### SDGs

5, 8, 9, 10, 11, 13, 16, 17

#### Paris Agreement

7.1, 8.1

#### Responsibilities outlined in PoA

(b), (d), (f), (g), (h)



**THE NDPBA**

# **NATIONAL RECOMMENDATIONS**

# THE NDPBA NATIONAL RECOMMENDATIONS

## 1

### DEVELOP A NATIONAL DISASTER RISK FINANCING STRATEGY TO PROMOTE LONG-TERM ECONOMIC AND FINANCIAL STABILITY WHILE ADAPTING TO CLIMATE CHANGE.

- Implement comprehensive insurance programs that consider:
  - National Flood Insurance Program
  - Public Assets Financial Protection Program
- Identify a variety of financing instruments (e.g., budget allocation, reserves, contingent credit, resilience bonds, or indemnity insurance) to support ex-ante and ex-post disaster risk management initiatives.
- Continue to leverage and expand coverage associated with the African Risk Capacity.

#### **ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION**

**Priorities for Action**

1, 2, 3, 4

**SDGs**

8, 9, 10, 12, 13, 15, 16

**Global Target (s)**

A, B, C, D, E

**Paris Agreement Articles**

7.1, 8.1

**Guiding Principle(s)**

(a), (b), (f), (j), (k)

**Responsibilities outlined in Africa's PoA**

(b), (d)

# 2

## EXPAND GHANA'S INSTITUTIONALIZATION OF DISASTER RISK MANAGEMENT TO FACILITATE AND EXPEDITE NADMO'S POLICY AND LEGISLATIVE AGENDA.

- Evaluate the effectiveness of a standalone ministry for Disaster Risk Management in the Ghanaian context.
  - Study the strides made by other African countries in advancing and elevating DRM institutions (e.g., Rwanda).
- Develop a clear training curriculum for staff members to include minimum training proficiencies and competency checks to execute the mandates of the NADMO Act.

### ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

<b>Priorities for Action</b> 2, 4	<b>SDGs</b> 13, 17
<b>Global Target (s)</b> E	<b>Paris Agreement Articles</b> 7.1
<b>Guiding Principle(s)</b> (b), (d), (e)	<b>Responsibilities outlined in Africa's PoA</b> (b), (d), (h)

NATIONAL RECOMMENDATIONS

# 3

## DEVELOP A NATIONAL DISASTER RISK REDUCTION DEVELOPMENT PLAN TO GUIDE THE LEGISLATIVE AND OPERATIONAL AGENDA.

- The National Disaster Risk Reduction Development Plan should provide identification and implementation of structural and non-structural mitigative measures to reduce the impact of various hazards, and provide long-term funding for NADMO to ensure financial stability and enable the necessary investments to protect the nation and connect recovery with:
  - (1) development plans
  - (2) climate change adaptation
  - (3) government compensation for the private sector
  - (4) support for vulnerable groups such as women and children.
- Identification and implementation of structural and non-structural mitigative measures to reduce the impact of various hazards.

### ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

**Priorities for Action**

1, 2, 3, 4

**SDGs**

9, 11, 13, 15, 16

**Global Target (s)**

A, B, C, D, E

**Paris Agreement Articles**

7.1, 8.1

**Guiding Principle(s)**

(a), (b), (c), (d), (g), (h), (i), (j), (k)

**Responsibilities outlined in Africa's PoA**

(b), (d), (g)

NATIONAL RECOMMENDATIONS

# 4

## INCREASE THE ANNUAL BUDGET FOR NADMO TO SUPPORT THE NEED FOR TECHNICAL STAFF AND PROGRAMS REQUIRED TO ADDRESS THE RISE IN HAZARDS IN GHANA.

- Provide annual funding for NADMO to cover operating costs and meet program requirements.
- Secure funding to support human resources, programs, equipment, infrastructure, capacity building, and response operations.

**ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION**

**Priorities for Action**

1, 2, 3, 4

**SDGs**

9, 11, 13, 15, 16

**Global Target (s)**

A, B, C, D, E

**Paris Agreement Articles**

7.1, 8.1

**Guiding Principle(s)**

(a), (b), (c), (d), (g), (h), (i), (j), (k)

**Responsibilities outlined in Africa's PoA**

(b), (d), (g)

NATIONAL RECOMMENDATIONS

# 5

## STRENGTHEN COORDINATION AND COLLABORATION AMONG ALL GOVERNMENT MINISTRIES AND DEPARTMENTS INVOLVED IN DISASTER MANAGEMENT.

- Agree and finalize the structure (e.g., cluster system) to be used to organize governmental and non-governmental actors.
- Maintain strong communication with the President’s Office and other high-level decision-making bodies for swift coordination, resource allocation, and integrated planning.
- Track all Disaster Risk Reduction (DRR), Sustainable Development Goals (SDGs), and Climate Change Adaptation (CCA) initiatives to streamline efforts and avoid duplication.

**ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA’S PROGRAM OF ACTION**

**Priorities for Action**

2, 4

**SDGs**

9, 11, 13, 15, 16

**Global Target (s)**

A, B, C, E

**Paris Agreement Articles**

7.1, 8.1

**Guiding Principle(s)**

(a), (b), (e), (h)

**Responsibilities outlined in Africa’s PoA**

(b), (d), (g), (h)

# 6

## STRENGTHEN EFFORTS TO INCLUDE VULNERABLE POPULATIONS IN DISASTER PLANNING AND OPERATIONS.

- Ensure that national and subnational plans identify vulnerable populations and barriers to access in health care, transportation, communications, independence, and support and safety.
- Integrate representatives from vulnerable populations in planning processes and during disaster response operations.

### ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

**Priorities for Action**

1, 2, 4

**SDGs**

1, 3, 4, 5, 6, 7, 8, 10, 11, 13, 16

**Global Target (s)**

A, B, C, E

**Paris Agreement Articles**

7.1

**Guiding Principle(s)**

(a), (b), (c), (d), (e), (f), (g), (h)

**Responsibilities outlined in Africa's PoA**

(b), (d), (h)

NATIONAL RECOMMENDATIONS

# 7

## EMPOWER WOMEN AND GIRLS TO TAKE ACTIVE ROLES IN DISASTER PREPAREDNESS PLANNING AND RESPONSE TO REDUCE GENDER INEQUALITY AND INTEGRATE THEIR VOICES INTO DECISION-MAKING.

- Enhance collaboration with the Ministry of Gender to reduce the disproportionate impacts of disasters on women and girls.
- Actively engage women in disaster management and community planning to appropriately address gender-based disparities, experiences, and challenges in emergency plans and protocols.
- Support equal opportunity recruiting for leadership roles in disaster management.

### ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

**Priorities for Action**

1, 2, 4

**SDGs**

1, 3, 4, 5, 6, 7, 8, 10, 11, 13, 16

**Global Target (s)**

A, B, C, E

**Paris Agreement Articles**

7.1

**Guiding Principle(s)**

(a), (b), (c), (d), (e), (f), (g), (h)

**Responsibilities outlined in Africa's PoA**

(b), (d), (h)

# 8

## ADDRESS DISPARITIES IN HEALTH CARE AND ENHANCE PUBLIC HEALTH EMERGENCY PREPAREDNESS.

- Collaborate with the Ministry of Health to ensure that all facilities have and maintain emergency plans and procedures for continuity of operations during disasters.
- Establish training protocols to ensure that health facility staff are trained to the same standards in emergency and disaster preparedness.
- Work with national and subnational governments, NGOs, private hospitals and clinics, and non-traditional partners to expand the availability of skilled medical staff and resources.
- Ensure that healthcare capacities reflect existing vulnerabilities and resource gaps, as well as changes to population dynamics. Use evidence-based decision-making to shift resource allocations and fund new construction in underserved communities.
- Increase medical stockpiles in areas prone to natural and public health disasters.

### ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

**Priorities for Action**

1, 2, 3, 4

**SDGs**

3, 6, 13

**Global Target (s)**

A, B, C, D, E

**Paris Agreement Articles**

7.1

**Guiding Principle(s)**

(a), (b), (d), (e), (f), (g), (h)

**Responsibilities outlined in Africa's PoA**

(b), (d), (f), (h)

NATIONAL RECOMMENDATIONS

# 9

## DEVELOP MECHANISMS AND INITIATIVES TO DRIVE TOWARDS ADVANCED DISASTER MANAGEMENT CAPACITY.

- Leverage higher education to support the development of the next generation of disaster management specialists.
- Foster connections with key stakeholders like the Red Cross and volunteer organizations to fill gaps at varying levels of government.
- Perform regular evaluations to assess current capacity and enhance resource needs across sectors for disaster management.

### ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

**Priorities for Action**

1, 2, 4

**SDGs**

4, 11, 13

**Global Target (s)**

E

**Paris Agreement Articles**

7.1

**Guiding Principle(s)**

(d), (e), (h)

**Responsibilities outlined in Africa's PoA**

(b), (d), (f), (h)

# 10

## EXPAND EFFORTS THAT MEANINGFULLY SUPPORT EXISTING MECHANISMS TO BROADEN DISASTER MANAGEMENT PARTICIPATION IN GHANA AT THE LOCAL LEVEL.

- Expand efforts that support the fiscal and administrative decentralization of governmental processes.
- Establish and enforce existing accountability and compliance mechanisms for lower levels of government.
- Invest in critical technical capacity and resources needed for emergency response operations (e.g., emergency response vans).

### ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

**Priorities for Action**

2, 3, 4

**SDGs**

8, 9, 10, 11, 13, 16

**Global Target (s)**

A, B, C, E

**Paris Agreement Articles**

7.1

**Guiding Principle(s)**

(a), (b), (d), (e), (f), (g), (h), (i), (j)

**Responsibilities outlined in Africa's PoA**

(b), (d), (h)

NATIONAL RECOMMENDATIONS

# 11

## CONDUCT A COMPREHENSIVE PLANNING AUDIT TO IDENTIFY GAPS IN AND AMONG EXISTING PLANS AND UPDATE OUTDATED PLANS.

- Harmonize contingency planning (e.g., Continuity of Government (COG) and Business Continuity Planning (BCP)) efforts to maintain critical services and support disaster management and sustainable governance for greater national resilience.
  - Establish mechanisms for sharing critical information, data, and resources, including real-time data such as weather forecasts and disaster impact assessments, to aid decision-making during crises.
- Secure targeted Memorandums of Understanding (MOUs) in critical areas such as medical provisions and services, transportation, and information governance and communication coordination
- Develop joint Continuity of Operations based training and exercises that includes government, businesses, and health sectors for better coordinated disaster response and recovery.

### ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

**Priorities for Action**

1, 2, 3, 4

**SDGs**

9, 10, 11, 13, 16

**Global Target (s)**

A, B, C, D, E

**Paris Agreement Articles**

7.1

**Guiding Principle(s)**

(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k)

**Responsibilities outlined in Africa's PoA**

(b), (d), (g), (h)

NATIONAL RECOMMENDATIONS

# 12

## **ENSURE THAT DISASTER MANAGEMENT PLANS CONSIDER THE COMPLEXITIES AND POTENTIAL CASCADING IMPACTS ASSOCIATED WITH RESPONSE TO EMERGENCIES IN DENSELY POPULATED COMMUNITIES AND URBAN AREAS.**

- Utilize up-to-date hazard maps to identify locations where hazard impacts may interfere with ingress and egress routes.
- Identify locations of vulnerable populations that may need additional time or assistance for evacuation.
- Engage communities in planning to identify challenges and proactive solutions before a disaster.
- Include public transportation companies in disaster management planning to support sustainable economic growth through greater accessibility of goods and services.
- Establish formal arrangements to help disaster-affected populations with transportation needs related to evacuation and sheltering.

**ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION**

**Priorities for Action**

1, 2, 3, 4

**SDGs**

6, 9, 10, 11, 13

**Global Target (s)**

A, B, C, D, E

**Paris Agreement Articles**

7.1, 8.1

**Guiding Principle(s)**

(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k)

**Responsibilities outlined in Africa's PoA**

(b), (d), (f), (g), (h)

NATIONAL RECOMMENDATIONS

# 13

## UTILIZE GEOSPATIAL DATA AND LOGISTICS TO INFORM COMMUNITY-BASED DISASTER MANAGEMENT AND PLANNING.

- Resource district and regional disaster management EOCs with relevant equipment to support the integration of geospatial data.
- Promote data sharing among government entities, non-governmental disaster management stakeholders, academia, and with the public to provide all stakeholders with the most current information.
- Leverage and socialize resources such as the NDPBA for hazard mapping for population exposures, critical infrastructure, and evacuation/shelter sites to guide sector-specific community planning, improve infrastructure, and provide for vulnerable populations.
- Employ GIS-based mapping systems, such as the DisasterAWARE Platform, for risk assessments, management, and decision-making processes to prioritize policy implementation and establish requirements for risk and vulnerability assessments in Disaster Management and Disaster Risk Reduction planning.
- Promote vertical sharing of risk information, from the community to national levels, to continuously refine and improve risk assessments.
- Create local hazard and risk maps to support and advance data-driven and scenario-based training, exercises, and preparedness efforts.

### ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

**Priorities for Action**

1, 2, 3, 4

**SDGs**

9, 10, 11, 13

**Global Target (s)**

A, B, C, D, E, G

**Paris Agreement Articles**

7.1, 8.1

**Guiding Principle(s)**

(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k)

**Responsibilities outlined in Africa's PoA**

(b), (d), (f), (g), (h)

# 14

## STRENGTHEN ALL-HAZARDS MONITORING, DATA TRANSLATION, AND RISK COMMUNICATIONS SYSTEMS INTO COMPREHENSIVE EARLY WARNING SYSTEMS (EWS) CAPABILITIES.

- Invest in advanced communication technologies to overcome challenges in areas with limited connectivity.
- Enhance risk communication mechanisms to ensure the effective and efficient dissemination of information during all phases of disaster management.
- Tailor EWS to the specific needs of different communities, ensuring they effectively reach exposed and vulnerable communities promptly.
  - Identify gaps in education, literacy, and access to information mediums (internet, television, radio) to prioritize investments that increase educational attainment and communications capacity.
- Regularly evaluate notification and EWS to identify areas for improvement and maintain ongoing effectiveness.
  - Assess public awareness and response to emergency messaging to evaluate actions taken by the public upon receipt.

### ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

**Priorities for Action**

1, 2, 3, 4

**SDGs**

9, 10, 11, 13

**Global Target (s)**

A, B, C, D, E, G

**Paris Agreement Articles**

7.1, 8.1

**Guiding Principle(s)**

(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k)

**Responsibilities outlined in Africa's PoA**

(b), (d), (f), (g), (h)

NATIONAL RECOMMENDATIONS

# 15

**ESTABLISH A CENTRALIZED DIGITAL REPOSITORY WITHIN NADMO FOR DISASTER MANAGEMENT SUPPLIES AND RESOURCES TO SUPPORT STRATEGIC DESIGNATION AND PROCURE STORAGE FACILITIES OR WAREHOUSES ACROSS THE COUNTRY.**

- Construct or identify a location to serve as NADMO’s central warehouse facility.
- Standardize reporting of DM supplies across all facilities and administrative levels.
- Maintain commodity stockpiles at levels that meet estimated requirements, particularly in underserved, and densely populated areas.

**ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA’S PROGRAM OF ACTION**

<b>Priorities for Action</b> 1, 2, 3, 4	<b>SDGs</b> 9, 11, 13
<b>Global Target (s)</b> A, B, D, E	<b>Paris Agreement Articles</b> 7.1
<b>Guiding Principle(s)</b> (a), (b), (c), (f), (h), (i)	<b>Responsibilities outlined in Africa’s PoA</b> (b), (d), (f), (g), (h)

# 16

## ENHANCE PROCEDURES AND PROTOCOLS FOR GUIDING, ASSESSING, AND REVIEWING DISASTER MANAGEMENT ACTIVITIES TO REDUCE LOSS OF LIFE.

- Expand the capacity of the Monitoring and Evaluation Department to meet the country’s disaster management legislative requirements.
- Ensure the development of indicators to guide and monitor disaster recovery.
- Expand disaster management plan testing endeavors across all levels of government.

### ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA’S PROGRAM OF ACTION

**Priorities for Action**

1, 2, 3, 4

**SDGs**

9, 10, 11, 13, 16

**Global Target (s)**

A, B, D, E

**Paris Agreement Articles**

7.1

**Guiding Principle(s)**

(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k)

**Responsibilities outlined in Africa’s PoA**

(b), (d), (g), (h)

NATIONAL RECOMMENDATIONS

# 17

## **ESTABLISH A ROBUST COMMUNITY-BASED DISASTER MANAGEMENT PROGRAM THAT INCLUDES A VOLUNTEER POLICY THAT ESTABLISHES MECHANISMS AND PROVISIONS FOR THE SUCCESSFUL INTEGRATION OF INDIVIDUALS AND ORGANIZATIONS INTO THE NATIONAL RESPONSE SYSTEM.**

- Identify mechanisms and resources to support the longevity of Disaster Volunteer Groups (DVGs).
- Define formal roles for volunteers and volunteer organizations to engage effectively in preparedness and response efforts aligned with the mission of the NADMO.
  - Implement appropriate recruiting, training, and tracking of volunteers within District Disaster Committees to ensure reliability and availability.
- Socialize risk and vulnerability assessment results with community leaders.
  - Engage communities in the review of risk maps to promote information sharing and validation.
- Develop region-specific community education programs to engage the public and increase awareness of the specific risks and vulnerabilities that populations may face in each region.
- Advocate for community-based programs that promote disaster resilience and climate adaptation, such as reforestation, community clean-up, water conservation and storage, sustainable agriculture, and public education.

### **ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION**

**Priorities for Action**

1, 2, 3, 4

**SDGs**

9, 10, 11, 13, 14, 15, 16

**Global Target (s)**

A, B, D, E

**Paris Agreement Articles**

7.1

**Guiding Principle(s)**

(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k)

**Responsibilities outlined in Africa's PoA**

(b), (d), (g), (h)

NATIONAL RECOMMENDATIONS

# 18

## FORMALIZE DISASTER TRAINING AND EXERCISE (T&E) INITIATIVES INTO A CENTRALIZED PROGRAM, LED AND COORDINATED BY NADMO.

- Appoint dedicated staff within the NADMO to lead a formal T&E program focused on exercise logistics, coordination, and multi-agency scheduling.
- Develop a master training schedule and manage communication channels, including social media, to enhance visibility, share information, and improve collaboration.
- Implement a digital record management system accessible to all participating agencies to organize T&E schedules, participant tracking, evaluations, and lessons learned for both review and real-time updates.
- Expand simulation and scenario-based exercises, particularly for response agencies, to boost collaboration and capacity-building across communities.

### ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

**Priorities for Action**

1, 2, 3, 4

**SDGs**

4, 9, 10, 11, 13, 16

**Global Target (s)**

A, B, D, E

**Paris Agreement Articles**

7.1

**Guiding Principle(s)**

(a), (b), (d), (e), (f), (g), (h), (i), (j), (k)

**Responsibilities outlined in Africa's PoA**

(b), (d), (g), (h)

NATIONAL RECOMMENDATIONS

# 19

## EXPAND AWARENESS AND PREPAREDNESS CAMPAIGNS FOR YOUTH, RESIDENTS, AND BUSINESSES ABOUT NATURAL AND HUMAN-CAUSED HAZARDS IN GHANA.

- Promote development and empowerment of young people through social support structures and employment opportunities including diverse school-to-work programs and leadership academies.
- Enhance public awareness of hazards, alert and warning messages, and safety measures to protect lives and property through a coordinated engagement strategy involving disaster managers, schools, media, non-governmental organizations, and other partners.
  - Include information and resources for audiences requiring special considerations such as the very young, elderly, and disabled populations.
- Develop evacuation plans and conduct exercises for high-density housing developments and communities near industrial or hazardous material sites to mitigate exposure to dangerous substances.
- Promote the knowledge and use of alert and warning system tools through targeted outreach campaigns that involve multiple stakeholders.
- Partner with the Ministry of Education to promote youth education, engagement, and integration of disaster management into the pre-primary and secondary school curriculum.

### ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

**Priorities for Action**

1, 2, 4

**SDGs**

4, 9, 10, 11, 13, 16

**Global Target (s)**

A, B, E, G

**Paris Agreement Articles**

7.1

**Guiding Principle(s)**

(a), (b), (c), (d), (e), (f), (g), (h)

**Responsibilities outlined in Africa's PoA**

(b), (d), (h)

NATIONAL RECOMMENDATIONS

# 20

**ESTABLISH A CLEAR PLAN OF ACTION TO ADDRESS DEMANDS ASSOCIATED WITH THE INFLUX OF REFUGEES IN THE COUNTRY AND SHELTERING NEEDS DURING DISASTERS TO REDUCE IMPACTS ON THE CONTINUITY OF EDUCATION.**

- Enhance working relationships with the Ghana Refugee Board.
- Identify open spaces in rural and urban areas that can be used for refugee camps.
- Encourage the Ministry of Education to leverage the support of international partners to ensure the continuity of education during emergencies.
- Increase investment in education in water, sanitation, and hygiene to reduce clean water access vulnerability.
  - Invest in improved water and sanitation infrastructure, including piped water, toilet facilities, and wastewater containment and treatment to reduce the burden of water collection, reduce exposure to disease, and increase resilience.

**ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION**

**Priorities for Action**

1, 2, 4

**SDGs**

1, 3, 4, 5, 6, 7, 8, 10, 11, 13, 16

**Global Target (s)**

A, B, C, D, E, F

**Paris Agreement Articles**

7.1

**Guiding Principle(s)**

(a), (b), (c), (d), (e), (f), (g), (h), (l)

**Responsibilities outlined in Africa's PoA**

(b), (d), (h)

NATIONAL RECOMMENDATIONS

# 21

## INCREASE INVESTMENT AND EDUCATION IN WATER, SANITATION, AND HYGIENE TO REDUCE CLEAN WATER ACCESS VULNERABILITY.

- Invest in improved water and sanitation infrastructure including piped water, toilet facilities, and wastewater containment and treatment to reduce the burden of water collection, reduce exposure to disease, and increase resilience.

**ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION**

**Priorities for Action**

2, 3, 4

**SDGs**

1, 3, 4, 5, 6, 7, 8, 10, 11, 13, 16

**Global Target (s)**

A, B, D, E

**Paris Agreement Articles**

7.1

**Guiding Principle(s)**

(a), (b), (c), (d), (e), (f), (g), (h), (l)

**Responsibilities outlined in Africa's PoA**

(b), (d), (h)

# 22

## IMPROVE TRANSPORTATION ACCESS THROUGH THE MAINTENANCE OF ROADS IN URBAN AND RURAL AREAS.

- Expand the structural transformation and quality improvements of roads and highways to enhance productivity, meet increasing demand, and minimize potential logistical challenges for improved response times and access to emergency services during disasters. Increases in transportation capacity also support sustainable economic growth through greater accessibility of goods and services.
- Invest in climate and earthquake-resistant transportation infrastructure.
- Leverage the support of multilateral organizations to expand and improve railway infrastructure.

### ALIGNMENTS: SENDAI FRAMEWORK, SDGS, PARIS AGREEMENT, AND AFRICA'S PROGRAM OF ACTION

**Priorities for Action**

1, 2, 3, 4

**SDGs**

7, 8, 9, 10, 11, 12, 13, 16

**Global Target (s)**

A, B, C, D, E

**Paris Agreement Articles**

7.1, 8.1

**Guiding Principle(s)**

(a), (b), (d), (e), (f), (g), (h), (i), (j), (k)

**Responsibilities outlined in Africa's PoA**

(b), (d), (f), (g), (h)



# 5-YEAR PLAN



## GHANA NATIONAL RECOMMENDATIONS

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
<b>RECOMMENDATION 1</b> Develop a national disaster risk financing strategy to promote long-term economic and financial stability while adapting to climate change.				
<b>RECOMMENDATION 2</b> Expand Ghana's institutionalization of disaster risk management to facilitate and expedite NADMO's policy and legislative agenda.				
<b>RECOMMENDATION 3</b> Develop a National Disaster Risk Reduction Development Plan to guide the legislative and operational agenda.				
	<b>RECOMMENDATION 4</b> Increase the annual budget for NADMO to support the need for technical staff and programs required to address the rise in hazards in Ghana.			
	<b>RECOMMENDATION 5</b> Strengthen coordination and collaboration among all government ministries and departments involved in disaster management.			
		<b>RECOMMENDATION 6</b> Strengthen efforts to include vulnerable populations in disaster planning and operations.		
		<b>RECOMMENDATION 7</b> Empower women and girls to take active roles in disaster preparedness planning and response to reduce gender inequality and integrate their voices into decision-making.		
			<b>RECOMMENDATION 8</b> Address disparities in health care and enhance public health emergency preparedness.	

# 5-YEAR PLAN

## GHANA NATIONAL RECOMMENDATIONS



YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
		<p><b>RECOMMENDATION 9</b></p> <p>Develop mechanisms and initiatives to drive towards advanced disaster management capacity.</p>		
<p><b>RECOMMENDATION 10</b></p> <p>Expand efforts that meaningfully support existing mechanisms to broaden disaster management participation in Ghana at the local level.</p>				
	<p><b>RECOMMENDATION 11</b></p> <p>Conduct a comprehensive planning audit to identify gaps in and among existing plans and update outdated plans.</p>			
		<p><b>RECOMMENDATION 12</b></p> <p>Ensure that disaster management plans consider the complexities and potential cascading impacts associated with response to emergencies in densely populated communities and urban areas.</p>		
	<p><b>RECOMMENDATION 13</b></p> <p>Utilize geospatial data and logistics to inform community-based disaster management and planning.</p>			
		<p><b>RECOMMENDATION 14</b></p> <p>Strengthen all-hazards monitoring, data translation, and risk communications systems into comprehensive early warning systems (EWS) capabilities.</p>		
<p><b>RECOMMENDATION 15</b></p> <p>Establish a centralized digital repository within NADMO for disaster management supplies and resources to support strategic designation and procure storage facilities or warehouses across the country.</p>				

# 5-YEAR PLAN



## GHANA NATIONAL RECOMMENDATIONS

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
		<p><b>RECOMMENDATION 16</b></p> <p>Enhance procedures and protocols for guiding, assessing, and reviewing disaster management activities to reduce loss of life.</p>		
<p><b>RECOMMENDATION 17</b></p> <p>Establish a robust community-based disaster management program that includes a volunteer policy that establishes mechanisms and provisions for the successful integration of individuals and organizations into the national response system.</p>				
		<p><b>RECOMMENDATION 18</b></p> <p>Formalize disaster training and exercise (T&amp;E) initiatives into a centralized program, led and coordinated by NADMO.</p>		
		<p><b>RECOMMENDATION 19</b></p> <p>Expand awareness and preparedness campaigns for youth, residents, and businesses about natural and human-caused hazards in Ghana.</p>		
			<p><b>RECOMMENDATION 20</b></p> <p>Establish a clear plan of action to address demands associated with the influx of refugees in the country and sheltering needs during disasters to reduce impacts on the continuity of education.</p>	
	<p><b>RECOMMENDATION 21</b></p> <p>Increase investment and education in water, sanitation, and hygiene to reduce clean water access vulnerability.</p>			
	<p><b>RECOMMENDATION 22</b></p> <p>Improve transportation access through the maintenance of roads in urban and rural areas.</p>			

# 5-YEAR PLAN

## GHANA NATIONAL RECOMMENDATIONS





**NDPBA**

# **GHANA REGION RISK PROFILES**

**SUBNATIONAL ASSESSMENT RESULTS**

# REGION RISK PROFILES

The subnational report developed for each region offers a more detailed understanding of risk in Ghana. These are provided separately from this report (linked below), and include drivers of vulnerability, coping capacity, and resilience; a comparison of each region within overall country; and strategic, data-driven, actionable recommendations.

## Download Here:

<https://www.pdc.org/wp-content/uploads/NDPBA-Ghana-Subnational-Profiles-merged.pdf>



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