

BANGLADESH

Disaster Management Reference Handbook

June 2017

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Table of Contents

Welcome - Note from the Director.....	9
About the Center for Excellence in Disaster Management & Humanitarian Assistance.....	10
Disaster Management Reference Handbook Series Overview.....	11
Executive Summary.....	12

Country Overview.....	14
Culture.....	14
Demographics.....	15
Ethnic Makeup.....	16
Key Population Centers.....	16
Language.....	17
Religion.....	18
Vulnerable Groups.....	18
Economics.....	20
Government.....	20
Environment.....	23
Geography.....	23
Borders.....	23
Climate.....	24

Disaster Overview.....	26
Hazards.....	26
Recent History of Natural Disasters.....	27
Climate Change.....	31
Infectious Disease.....	31
Country Risks.....	32

Organizational Structure for Disaster Management34

Lead Government Agencies in Disaster Response	34
Military.....	45
Disaster Management Organizations in Bangladesh	46
Participation in International Organizations.....	46
International Agencies in Bangladesh	49
U.S. Government Agencies in Bangladesh.....	54
Foreign Disaster Relief and Emergency Response.....	54
Laws, Policies, and Plans on Disaster Management	55
Education and Training.....	58
Volunteers	59
Disaster Management Communications.....	60
Early Warning Systems.....	60
Responsible Agencies for Flood and Storm Warning	60
Military Role in Disaster Relief.....	62
Foreign Assistance and International Partners	68
Coordination Mechanisms between Government and Development Partners	69

Infrastructure.....72

Airports.....	72
Seaports	72
Land Routes	73
Roads.....	73
Railways.....	74
Waterways.....	75
Schools	76
Communications.....	77
Utilities.....	77
Power	77
Water and Sanitation.....	77

Health	80
Health Overview.....	80
Health Care System (Structure).....	80
Challenges in the Healthcare System.....	80
Health Assistance.....	81
Communicable Diseases	81
Non-Communicable Diseases	82
Training for Health Professionals.....	82
Women, Peace, and Security.....	84
Conclusion.....	86
Appendices	88
DMHA Engagements	88
Force Protection/Pre-Deployment Information	90
Passport/Visa	90
Emergency Contact Information	90
Currency Information.....	91
Travel Health Information.....	91
Sendai Framework.....	93
HFA Country Progress Report.....	95
Country Profile	99
Highlights of the Bangladesh Disaster Management Analysis Report (2016).....	113
Key Strategic Observations	113
Acronyms and Abbreviations	115
References (Endnotes)	120

List of Figures

Figure 1: Seven Major Regions of Bangladesh.....	17
Figure 2: Bangladesh Political Hierarchy.....	22
Figure 3: Map of Bangladesh.....	24
Figure 4: Bangladesh's Reported Losses Between 1990-2014 (EM-DAT)	29
Figure 5: INFORM Country Risk Profile for Bangladesh.....	30
Figure 6: WHO Confirmed Malaria Cases, 2005-2015	32
Figure 7: Disaster Management Institutions in Bangladesh.....	36
Figure 8: Who Non-Communicable Disease Country Profile, 2014.....	82
Figure 9: UN Sendai Framework for Disaster Risk Reduction 2015-2030.....	94
Figure 10: HFA Level of Progress Achieved	95

List of Tables

Table 1: Major Ethnic Groups in Bangladesh.....	16
Table 2: Bangladesh Ministries and Agencies Involved in Responding to Climate Change.....	31
Table 3: Disaster Management Organization in Bangladesh.....	47
Table 4: International Agencies in Bangladesh.....	49
Table 5: U.S. Government Agencies in Bangladesh.....	54
Table 6: Bangladesh National Committees and Committee Representatives.....	62
Table 7: Bangladesh Railway System.....	75
Table 8: Bangladesh National Progress Report on the Implementation of the HFA 2013-2015	95
Table 9: HFA Country Progress Report Future Outlook Areas, Bangladesh.....	97

List of Photos

Photo 1: Fire Destruction at Sat'tola Slum- Mohakhali, Dhaka.....	14
Photo 2: Bangladesh Popular Goddess	15
Photo 3: Traffic Jam in Dhaka, Bangladesh	16
Photo 4: East Darga Gate-Sylhet, Bangladesh	18

Photo 5: Child Labor, Old Dhaka	19
Photo 6: Slums, Hatir Jheel, Dhaka.....	19
Photo 7: Dry Season, Goyain River at Jaflong	23
Photo 8: Earthquake Resilience Ceremony, USAID	26
Photo 9: Aftermath of Cyclone Aila, 2008.....	27
Photo 10: Cycle Rickshaws Used for Transportation.....	73
Photo 11: Bangladesh Railway.....	74
Photo 12: Passenger Boat.....	75
Photo 13: Burganga River-Dhaka	76
Photo 14: Destruction from Cyclonic Storm Mora	81

Disclaimer

This report has been prepared in good faith based primarily on information gathered from open-source material available at the date of publication. Most of the information used was from United States (U.S.) or other government sources and is therefore considered to be in the public domain. Such sources include the Central Intelligence Agency (CIA) Fact Book, U.S. Department of State (DOS), and foreign government's web pages. Where possible, a link to the original electronic source is provided in the endnote (reference) section at the end of the document. Other sources used include Non-Governmental Organization (NGO) home pages, Relief Web, United Nations Development Program (UNDP), United Nations Office for the Coordination of Humanitarian Affairs (OCHA), World Bank, and Asian Development Bank (ADB). While making every attempt to ensure the information is relevant and accurate, Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) does not guarantee or warrant the accuracy, reliability, completeness or currency of the information in this publication.

Welcome - Note from the Director

The Asia Pacific region continues to be the most disaster prone region in the world. As we move into an uncertain future of stronger and more frequent disasters, civil-military coordination prior to a disaster has become ever more critical; civil-military cooperation and international partnerships are more important than ever. The U.S. has a strong partnership with the civil-military community in Bangladesh. The inclusion of organizations like the U.S. Office of Foreign Disaster Assistance (OFDA), the International Committee of the Red Cross (ICRC), the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA), and the World Food Program (WFP) in bilateral U.S.-Bangladesh military exercises bring unique expertise together and help promote vital coordination needed before, during, and in the aftermath of a disaster. After Cyclone Marian swept across Bangladesh in 1991, the U.S. assisted the Bangladeshi government-led response effort. Bangladesh stands as a regional example of the progress that can be made by a nation, and is an example of how strong civil-military relationships stand ready to support the government if they need assistance. These relationships were again tested in 2007 when Cyclone Sidr ravished Bangladesh. However, the capacity and capabilities built within government agencies since 1991 dramatically reduced the devastation and loss of life.¹

Historical patterns reveal that Bangladesh is three decades overdue for a major earthquake; the heavily populated country sits on three crossing fault lines. In an effort to prepare for the massive impact that such an unpredictable disaster would have on the country, members of the U.S. Army Pacific (USARPAC), have partnered with the Bangladesh Armed Forces Division (AFD), and government to develop a realistic exercise that brings together civil and military experts to build a framework of regional collaboration, readiness and response. The Pacific Resilience Disaster Response Exercise & Exchange (PR DREE) is an annual Humanitarian Assistance/Disaster Relief engagement between USARPAC and the Bangladesh AFD in Bangladesh. Its goal is to operationalize a Multi-National Coordination Centre plan that integrates response across civil and military institutions.²

In 2016, the Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) sponsored and executed a Bangladesh Disaster Management Analysis in coordination with the U.S. Embassy Dhaka and the Government of Bangladesh. The purpose was to provide the U.S. Pacific Command and supporting commands, the U.S. Government, and the U.S. Embassy detailed information about Bangladesh's disaster management capacity and capabilities. This analysis addressed two disaster scenarios: (1) The Most Likely - the regularly recurring rural annual disasters (cyclones, floods, river bank erosion, seasonal storms, tornados, and droughts) and, (2) the Most Dangerous - a sudden onset, urban-based catastrophic disaster (earthquake, gas explosions, multi-block fires) in Dhaka City where the social, economic, political, and structural impact of a disaster of such magnitude would severely test the capability and capacity of the Government of Bangladesh to respond.³

Coordination with Bangladesh and U.S. national agencies as well as international non-governmental organizations is necessary to effectively plan responses to scenarios that would exist in the wake of a large scale disaster. Without civil-military interoperability, disaster management can quickly slow and become less effective.⁴ Through this coordination and management, all responders will be more prepared to counter the impacts a large-scale earthquake that may affect Bangladesh.⁵

This Bangladesh Disaster Management Reference Handbook provides the reader a baseline of understanding of regional-specific factors, which influence disaster management. CFE-DM provides education, training and research about disaster management and humanitarian assistance, particularly in international settings that require coordination between the Department of Defense (DOD) and civilian agencies.



Sincerely,

Joseph D. Martin, SES
Director

Information about the Center for Excellence in Disaster Management and Humanitarian Assistance

Overview

CFE-DM is a U.S. DOD organization that was established by U.S. Congress in 1994. The Center is a direct reporting unit to U.S. Pacific Command and is located on Ford Island, Joint Base Pearl Harbor-Hickam, Hawaii.

CFE-DM was founded as part of the late Senator Daniel K. Inouye's vision. The Senator had witnessed the effects of Hurricane Iniki that struck the Hawaiian Islands in 1992, and felt the civil-military coordination in the response could have been more effective. He set about to establish CFE-DM to help bridge understanding between civil and military responders, and to provide a DOD platform for building Disaster Management and Humanitarian Assistance (DMHA) awareness and expertise in U.S. forces, and with partner nations in the Asia-Pacific. While maintaining a global mandate, the Asia-Pacific region is our priority of effort and collaboration is the cornerstone of our operational practice.

Mission

The Center's mission is to advise U.S. Pacific Command leaders; enable focused engagements, education and training; and increase knowledge of best practices and information to enhance U.S. and international civil-military preparedness for disaster management and humanitarian assistance.

Vision

CFE-DM exists to save lives and alleviate human suffering by connecting people, improving coordination and building capacity.

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Disaster Management Reference Handbook Series Overview

The Disaster Management Reference Handbook Series is intended to provide decision makers, planners, responders and disaster management practitioners with an overview of the disaster management structure, policies, laws, and plans for each country covered in the series. Natural and man-made threats most likely to affect the country are discussed. The handbooks also provide basic country background information, including cultural, demographic, geographic, infrastructure, and other relevant data.

Conditions such as poverty, water and sanitation, vulnerable groups, and other humanitarian issues are included. A basic overview of the health situation in the country and disease surveillance is also covered. The handbooks include information on key national entities involved in disaster management, disaster response and preparation, and the military's role in disaster relief. Information on United Nation agencies, international NGOs, major local NGOs, and key U.S. agencies and programs in the country, are also provided.

The overall aim is to offer a guide that brings together important information about disaster management and response for each country in an effort to provide a basic understanding for the reader. Information in the handbooks are compiled and based primarily on trusted, reliable, publicly available sources. Much of the information used is from U.S. or other government sources, United Nation sources, NGO websites, scholarly references, foreign government websites, and various media sources. When available, a link to the original internet source is provided.

Each handbook is a working document and will be updated periodically as new, significant information becomes available. We hope that you find these handbooks informative, relevant, reliable, and useful in understanding disaster management and response for this country. We welcome and appreciate your feedback to improve this document and help fill any gaps to enhance its future utility. Feedback, comments, or questions can be emailed to cfe-dmha.fct@pacom.mil. You may also contact the Center for Excellence at: (808) 472-0518. Please visit our website (<https://www.cfe-dmha.org>) to view the latest electronic versions available or to request a hard copy of a disaster management reference handbook.

Executive Summary

Bangladesh is susceptible to a variety of disasters including cyclones, earthquakes, droughts, storm-surge and flooding. In addition, the country encounters other man-made hazards such as fires and infrastructure collapses. Bangladesh is also vulnerable to climate change due to its location in South Asia.⁶ The government has made progress in preparing for much of these disasters through plans and policies by gradually shifting their disaster management approach to a comprehensive risk reduction methodology based on common disaster experiences, lessons learned, and the desire to reduce future impacts. The country has a well-established community preparedness capability due to the implementation of comprehensive education and training programs by government agencies and non-governmental organizations. Disaster management committees have been established and trained at all administrative levels. These committees and volunteers communicate disaster alerts and evacuation instructions to coastal residents and assist with coordinating relief supplies.

Climate change is a growing concern for Bangladesh because 90 percent of the country is approximately 10 feet above sea level. An evaluation was completed which discovered that high tides in Bangladesh were increasing 10 times more rapidly than the global average. This predicted rapid increase in sea levels places Bangladesh four times higher than the global average. By 2050, approximately 20 percent of the inhabited land in Bangladesh will be inundated by the sea resulting in displacement for nearly 20 million people. The Government of Bangladesh has implemented policies and plans to focus on climate change concerns, but there is still much work to be completed.⁷

The country has a history of poor infrastructure. Structure fires and building collapses have accounted for the loss of life of more than two thousand laborers in the past decade. The advancement of infrastructure development is imperative to expand the connectivity and land use of Bangladesh. The country is mainly a flat plain which consists of three major methods of transportation and a capable system is necessary to support economic progression. The road networks have been enhanced, but there is a lack of resources for effective upkeep and commuter safety.

Additionally, Bangladeshis continue to encounter water concerns such as water scarcity and water quality affecting both rural and urban areas. Improvements have been implemented in the supply and distribution of safe water, but there is still a deficiency in distribution and access to fresh, clean water in some remote and rural areas. Diarrheal disease is a major public health concern in Bangladesh. Waterborne diseases continue to claim the lives of over 100,000 children annually.

Bangladesh exceeded the regional averages for the Asia-Pacific in the Hyogo Framework for Action (HFA) progress report (2013) and scored a higher than the average score in every category including early warning systems, risk assessment, DRR policy, and preparedness for effective response. Bangladesh earned these scores by implementing various national plans and through the institution of the necessary legal framework to support disaster risk reduction and climate change adaptation.⁸ Bangladesh is a nation which will continue to experience the devastating effects of climate change. These concerns for the nation are recognized and the Government of Bangladesh is working progressively to implement mitigation and preparedness measures along with making national economic and transportation improvements to better serve and protect the people of Bangladesh.⁹



BANGLADESH

Country Overview

Country Overview

In 1971, a national crisis in Pakistan incited a third war between India and Pakistan and the separation of East Pakistan, establishing the independent state of Bangladesh. For the next 15 years Bangladesh remained under military control until democracy was reestablished in 1990.¹⁰ Bangladesh is an Asian country bordered by India and fosters a democratic political rule and constitution. In Bangladesh, the framework of parliamentary representative democratic republic exists in which the Prime Minister is the head of the government and there is a multi-party system. The governmental powers are distributed into three branches which are the executive branch, legislative branch, and the judiciary.¹¹

Bangladesh, officially known as the People's Republic of Bangladesh is one of the most densely populated countries in the world. Bangladesh is also one of the most impoverished countries in Asia, with a population of approximately 162 million people living in a nation 60 percent smaller than Japan (UN Data, 2016). Nearly 30 percent of the Bangladesh population lives in poverty. Bangladesh, due to its geographic location in south Asia, is highly vulnerable to man-made and natural disasters such as fires, structure collapse, cyclones, floods and earthquakes. Bangladesh is also vulnerable to the effects of climate change. Photo 1 depicts the aftermath of the 2012 fire at Sat'tola slum at Mohakhali in Dhaka, Bangladesh. The fire destroyed over 100 make-shift tin homes and left hundreds of impoverished Bangladeshis homeless.¹²

According to a 2016 world risk report by the United Nations University, Institute for Environment and Human Security (UNU-EHS), Bangladesh is ranked fifth in the disaster risk among the world. The Bangladeshi population is regularly impacted by water-related natural disasters. The Government of Bangladesh has shifted its focus to emergency response and post-disaster rehabilitation and recovery; however initiatives to address Disaster Risk Reduction (DDR) planning activities for prevention and mitigation for sustainable development will also need to be prioritized.¹³

In the 2000s, the country had stable economic development averaging six percent annually, and interest has been attracted to the nation as both an objective for investments and as a

business development market because the vast population and low-cost workforce.¹⁴ Bangladesh has a growing population and is a country with rich and diverse culture. Bangladesh has sustained a notable track record on growth and development. Poverty decreased by nearly a third (approximately 15 million Bangladeshis have improved their economic status since 1992), combined with improved life expectancy, literacy, and per capita food production. Additionally, the country has sustained growth and created an advanced demand for electricity, transportation and telecommunication services in recent years. Advancing labor force involvement and efficiency is helping to progress the economy.¹⁵

However, while the percentage of Bangladeshis living in poverty has been significantly reduced in both urban and rural areas, the total number of people living below the poverty line continues to remain substantial (nearly 47 million). Improving access to quality services for this vulnerable group is a priority. Many Bangladeshis who have been removed from the poverty threshold could potentially reemerge into the poverty class with the loss of employment or as a secondary impact of a natural disaster.¹⁶



Photo 1: Fire Destruction at Sat'tola Slum- Mohakhali, Dhaka

Culture

Bangladesh fosters a diverse culture, rich with heritage, tradition, and deeply influenced with traditional music, architecture, literature and garments. The prominent religion of

Bangladeshis, Islam, is also responsible for a significant influence on the nation's culture and history. The Bangladeshi national identity is deep-rooted, crossing international borders, extending into the area of Bangladesh along with West Bengal, India. The cultivation of the Bangladeshis' society, traditions and way of life is symbolic of their struggle for independence from Pakistan in 1971. Traditions and religious practice is deep-seated and passed down from generation to generation.¹⁷

Since the establishment of independence from Pakistan the Bangladeshi culture has been linked to the Islamic faith rather than Hindu Bengali. "Bangladesh" is derived from two Bengali words, Bangla and Desh, denoting the nation or land where the Bangla language is spoken and is the predominantly spoken language in the country.¹⁸ The language is rooted in literary history which the country shares with the Indian state of West Bengal.¹⁹

Most of the population practice Islam which was designated as the official religion

by a constitutional amendment in 1988. The majority of Bangladeshis are Muslim. However, many pre-Islam folk traditions are still present. Bangladeshis identify with the folk traditions of Bengali culture. This includes belief in shamanism and the powers of Fakirs (Muslim holy men who are exorcists and faith healers), Ojhaa (shamins with magical healing powers), and Bauls (religious mendicants and wandering musicians). There is a deep tradition of music, dance, and literature which include classical devotions of Hindu and Muslim music.²⁰ Photo 2 depicts Durga and Her Daughters in Dhaka, Bangladesh. Goddess Durga (the female form) is denoted as the Supreme Being - Goddess Durga is the most popular goddess in the Hindu religion.²¹

Demographics

Understanding the demographic context of Bangladesh provides insight into socio-cultural



Photo 2: Bangladesh Popular Goddess

factors that will affect disaster management effectiveness, disaster vulnerabilities, and resident capabilities. It is important to reflect gender, ethnicity, economics, and vulnerable groups in the planning and implementation of disaster preparedness, mitigation, and response activities to address gaps and risks.

Ethnic Makeup

Bangladesh is one of the most densely populated nations in the world. Its diverse ethnic groups have deepened the culture of the country. The majority of the population is Bengali and the remaining belongs to tribal or non-Bengali groups. There are roughly 35 groups of native people, which make up two percent of the population. The indigenous population resides in the hills and flat lands such as the Chittagong Hill Tracts, Syhlet Division, Rajshahi Division, and the Mymensingh District. Their background, social structure, religious beliefs and festivals make them very distinct. Table 1 depicts the 12 major ethnic groups are present in Bangladesh.²²

Chakma	Hajong
Manipuri	Marma
Rakhain	Santal
Khasia	Mandi
Murong	Rajbangshi
Tanchyanga	Tripura

Table 1: Major Ethnic Groups in Bangladesh

Key Population Centers

Bangladesh continues to face rapid population growth and over the next decade is expected to experience increased urbanization. Similar to other countries in Asia, a large percentage of the population is migrating to urban centers to search for better employment opportunities. The urban population has been growing at the rate of 6 percent since Bangladesh's independence in 1971.

The agriculture sector is one cause of urbanization due to the sector not being able to take on the additional labor force entering the economy each year. The majority of the urban population lives in the four major cities: Dhaka, Chittagong, Khulna, and Rajshahi. The growing urbanization in Dhaka has placed pressure on the city's limited land, weak environment, and fragile infrastructure. Traffic in the capital city

is described as a "nightmare." The severe slum population is growing further and adding to human and law and order issues.²³

Photo 3 depicts a traffic jam in Dhaka, Bangladesh.²⁴



Photo 3: Traffic Jam in Dhaka, Bangladesh

All of the major urban centers in Bangladesh have slum settlements with the largest being located in Dhaka, Chittagong, Khulna, and Rajshahi. Slums are defined as settlements with a minimum of 10 households or a mess unit with a minimum of 25 members and the following:²⁵

- Majority of very poor housing;
- Elevated population concentration and room crowding;
- Decreased environmental services, including water and sanitation;
- Extreme poverty and lowered socio-economic status; and
- Lack of security tenure

Bangladesh is divided into 7 major regions, also called divisions. Each division is named after a major city located within it and serves as the administrative headquarters for that division. Each division is split into districts which are then sub-divided into upazillas.²⁶ Bangladesh is one of the least urbanized countries in South Asia. The three major cities are Dhaka, Chittagong, and Khulna. Due to the densely settled rural areas throughout the country, it is difficult to differentiate a well-defined pattern of individual villages. There are a series of settlements along roads in areas near the Padma River and the floodplains of the Mahananda, with similar settlements in the Chittagong Hills and hilly areas of the Sylhet Region. However, settlement

patterns are more scattered in the southwestern area along the Bay of Bengal.

Dhaka is the capital and the largest city in the country. It is located in the center of Bangladesh near the region of the Ganges and Brahmaputra Rivers. Today, the city is home to roughly 10.3 million people covering an area of 1,353 square miles.²⁷ Dhaka has become the hub for the country's industrial, commercial, cultural, educational and political activities.²⁸

Chittagong is home to lush green hills and forests, sandy beaches and a cool climate.²⁹ The city is located on the Karnaphuli River which is approximately 12 miles from the mouth of the Bay of Bengal. The estimated population of Chittagong is 3.9 million people. The main port for the country is located here and has developed port facilities for ocean steamers. Chittagong is the country's main commercial and manufacturing center, with a few industrial areas developed around the outskirts of the city.³⁰ The main products of Chittagong include: jute, cotton, rice, tea, petroleum (from offshore installations) and bamboo. Bamboo is mainly harvested from the Chittagong Hill tracts which is a rugged, thick forest land located along the Bay of Bengal that is inhabited from mountain tribes.³¹

Khulna has a population of around 1.3 million and is located in the southwestern part of the country. The population has increased due to the opening of the Port of Mongla and the growth of the Daulatpur industrial area nearby. Khulna is one of Bangladesh's industrial cities located on the Rupsa River and is home to an important river port and trade center. The city is connected by river steamer, road and rail to all the major cities located in the southern Gangetic Delta.³²

Figure 1 depicts the seven major regions of Bangladesh.³³

Language

The official language of the Bangladeshis is Bangla or Bengali. The official language is spoken by the majority of the population and Bangla is also spoken in other nations



Figure 1: Seven Major Regions of Bangladesh

including India, Malawi, Nepal, Saudi Arabia, Singapore, the United Arab Emirates, the UK and the UA due to large pockets of Bangladeshi establishing residence in these nations. There are various dialects of the Bangla language which are common in different regions throughout Bangladesh. British influence during colonization accounts for English also being a commonly spoken and understood language throughout Bangladesh. Additionally, there are 38 less common languages spoken in Bangladesh including Arakanese, Assamese, Bishnupriya, Burmese, Chak and Chakma, Asoh Chin, Bawm Chin, Falam Chin, Haka Chin, Khumi Chin, Chittagonian, Darlong, Garo, Hajong, Ho, Khasi, Koch, Kok Borok, Kurux, Megam, Meitei, Mizo, Mru, Mundari, Pankhu, Pnar, Rajbanshi, Riang, Oraon Sadri, Santali, Shendu, Sylheti, Tangchangya, Tippera, Usui and War. Many of the less common languages are attributed to geographical location, religious affiliations or ethnic origins and are the predominately spoken languages in specific regions.³⁴

Religion

The official religion of Bangladesh is Islam and is practiced by the majority of the population (88 percent of the population). While the Islamic religion is the nationally recognized religion, there are additional religions which are practiced by small sectors of the population. Religions such as, Hinduism, Christianity, Buddhism, Animism and tribal belief systems are also practiced by approximately 12 percent of the population. The greater parts of the populations who practice Islam observe the Sunni branch of the Muslim religion although some small groups identify as Shia. During the 13th century a mass conversion to Islam began in the nation and has continued for the centuries to follow. Muslim missionaries and mystics introduced the religion of Islam to the inhabitants of Bangladesh.³⁵

The religion of Islam contributes to everyday life in Bangladesh and is evident in the celebration of festivals such as Eid-ul-Fitr, Eid-e-Miladunnabi, and Muharra. Although Muslims in Bangladesh are devoted to Islam, in some rural regions people have started to integrate other beliefs into their religion, some of which may not be considered orthodox Islam.³⁶ Photo 4 depicts the East Darga Gate which is the main entrance to the Shrine of Hazrat Shah Jalal in Sylhet, Bangladesh.³⁷



Photo 4: East Darga Gate-Sylhet, Bangladesh

Additionally, the Hindu religion in Bangladesh accounts for a small part of the country's population. Hindu communities are concentrated in areas such as Barisal, Khulna, Dinajpur, Jessore and Faridpur. Hindu temples are located throughout the country. Followers

of the Theravada school of Buddhism, account for roughly one percent of the population with the majority of this populace residing in the Chittagong Hills. The tribes in the Chittagong Hills region created their own religion, a blending of Buddhism and tribal rituals. Additionally, Christians account for one percent of the Bangladesh population. The Church of Bangladesh, a united church formed by several protestant churches, is another prominent church in Bangladesh.³⁸

Vulnerable Groups

Refugees

The United Nations High Commission for Refugees (UNHCR) provides protection and assistance to refugees residing in refugee camps to address their humanitarian needs and ensure the minimum living standards are met. For refugees residing outside the camps, UNHCR advocates for them to register so they may receive the protection needed. The organization also has ongoing advocacy for stateless people.³⁹ Bangladesh is home to over 200,000 Rohingya refugees who originated from Myanmar (Burma). Only 29,000 refugees live in official camps while 200,000 reside in unofficial camps or villages in Bangladesh. Refugees in official camps are assisted by UNHCR and other NGOs but they are not permitted to work or leave the camps. Refugees residing in unofficial camps have no legal protection from arrest or abuse.⁴⁰ From 1992-2005, roughly 230,000 Rohingyas returned back to Myanmar under an agreement between the two governments, but the repatriation process stopped when the Burmese government refused to extend the agreement. In September 2014, Bangladesh announced it was sending 2,000 Rohingyas who have already been verified for repatriation since 2005 to Myanmar. This decision was made after eight rounds of discussions between the two governments.⁴¹

Women

Bangladesh is a highly patriarchal society as gender is a main factor in defining social roles, responsibilities, and power relationships within the family and workplace. In 2014, 43.1 percent of females and 80.9 percent of males were recorded as working.⁴² More than three-quarters of the female labor force work in the agricultural sector. However, women do not experience the same working conditions, wages and benefits as men. The Ministry of Women and Children

Affairs has undertaken various programs to help reduce poverty of women and ensure women's economic empowerment. Women are more vulnerable to the effects of natural disasters and climate change. Specific gender characteristics contribute to their vulnerability, which the government is aware of. Reducing poverty is critical and lack of resources is a major issue.⁴³ According to the United Nations Development Programme (UNDP), Bangladesh has made much progress in promoting the objectives of ensuring gender equality and empowerment of women.⁴⁴

Children

Social customs and economic conditions result in child labor being broadly accepted and customary in the Bangladesh culture. Many family unit's survival depend on the revenue earned by their children, thus child labor is often greatly valued. However, when children have to enter the workforce to support their families, they often lose their right to an education. Additionally, child labor increases the risk of children becoming exposed to situations which make them susceptible to trafficking, abuse, violence and corruption. Amongst children ranging in the age group of 5-14 years old, approximately five million are economically active. According to the International Labour Organization (ILO), there are approximately 3.2 million child laborers in Bangladesh. In the urban slums of Bangladesh, nearly one in five children 5-14 years old are forced into child labor and of these, only 25 percent receive a proper education.⁴⁵ Social indicators suggest the annual population growth rate in Bangladesh between the years of 2010-2015 was 1.2 percent per year with the urban annual population growth rate increasing by 3.6 percent.⁴⁶ Rapid urbanization suggests that an increased number of children will move into urban slums and be forced to work in order to help support their families.⁴⁷ Photo 5 depicts a young delivery boy in Old Dhaka, Bangladesh.⁴⁸

Impoverished Communities

Bangladesh has increased its real per capita income by more than 130 percent and decreased impoverishment by more than half since gaining their independence in 1971; however, poverty is still prevalent in the nation. Bangladesh is actively working to reach their Millennium Development Goals (MDG), but it remains a low-income country with significant



Photo 5: Child Labor, Old Dhaka

poverty, inequality and deficiency and attaining development goals may require increased time. Over 45 million people, nearly a third of the total population, live below the poverty line, and a significant percentage of them live in life-threatening deprivation. The poverty rate is highest in rural areas, reaching 36 percent, compared with 28 percent in urban centers (slums). Many people have a deficient nutrition and endure from periods of food scarcity. Approximately 50 percent of all rural youths are chronically undernourished and 14 percent experience acute malnutrition.⁴⁹

Photo 6 depicts a photo taken in the slums at Hatir Jheel, Dhaka in 2014.⁵⁰



Photo 6: Slums, Hatir Jheel, Dhaka

Economics

Bangladesh is a low income country according to the World Bank. The UNDP Human Development Report (2015) list Bangladesh as a country with the most people in multidimensional poverty or extreme poverty. Multidimensional poverty is defined as individuals living on less than USD\$1.25 a day and whom are deprived of schooling, malnourished, and have a lack of access to clean drinking water.⁵¹ In Bangladesh, approximately 31.5 percent of the population lives below the national poverty line. Additionally, 56.6 percent of all persons over the age of 15 are employed.⁵²

Bangladesh's economic freedom score is 54.1, ranking its economy as the 131st freest in the 2015 index. The score rose just 1.5 points from the previous due to improvements in trade freedom and business freedom. Bangladesh is ranked 27 out of the 42 countries in the region in the same index, making its score lower than the regional average. The country is considered "mostly unfree" due to the lack of progress in the areas of economic freedom.⁵³

The World Bank reports that over the past decade, the Bangladesh economy has grown almost 6 percent each year and that human development progressed along with the economic development. For the fiscal year 2016 (ending June 2016), Bangladesh's gross domestic product (GDP) was estimated at 7.1 percent due to higher public investment and strong exports. Due to political unrest disrupting the supply, food prices were high for most of the year and inflation rose.⁵⁴

Most of Bangladesh's workforce occupies laborious, low-income jobs. Although the agricultural sector accounts for only 20 percent of Bangladesh's GDP, it employs approximately 44 percent of the nation's workforce. Conversely, with rapid urbanization in many areas where agriculture was once prominent Bangladesh is witnessing a significant decrease in land available for farming, and a majority of rural households have limited, if any, sustainable farming land. Rice is the main crop for Bangladeshi farmers; however cultivation expansions are reduced because local farmers have limited access to adequate tools and the inflated pricing for tools and seeds. Climate change has also significantly changed the agricultural landscape of Bangladesh, specifically in low-lying, coastal regions where the lands are prone to saline intrusion from excessive and constant

flooding. Fisheries are an imperative part of the Bangladeshi economy. Yet the fishing industry continues to be an underutilized market.⁵⁵

Bangladesh's textile industry is the second largest in the world. The industry includes knitwear, ready-made garments and specialized textile products are the top export for the country with earnings totaling over twenty billion dollars in 2013. Over three million people are employed in this industry. The urban garment industry has contributed to high labor participation from women, creating over a million jobs, although working conditions in garment factories are not the best.⁵⁶

Government

The political setting in Bangladesh is described as moderate and democratic. The country is a constitutional nation with a multi-party parliamentary democracy. Political elections in Bangladesh are held on the foundation of the extension of the right to vote to adult citizens.⁵⁷

Parliament

Bangladesh is unitary, self-governing and independent republic comprising of the executive, the legislature, and the judiciary. The President is the Head of State and is elected by the members of Parliament. The President acts in accordance with the advice of the Prime Minister and the supreme command of the Armed Forces rests with him. The executive power of the Republic is exercised by or on the advice of the Prime Minister who commands the support of the majority members of Parliament and is appointed by the President.⁵⁸

All Ministers, State Ministers and Deputy Ministers are appointed by the Prime Minister. The Prime Minister nominates the cabinet members from among Parliament members and one-tenths of the total members are from outside of the Parliament. The cabinet is collectively accountable to the Parliament. The Government is unitary in structure and parliamentary in form. A quick overview on the administration structure of Bangladesh is also available. The roles of head of state and head of government are separated. In the Bangladesh parliamentary systems, the head of state (the President) is generally a ceremonial position.⁵⁹

Three hundred members of parliament are elected. The parliament consists of a 330-seat legislature and local elections are conducted every five years. Thirty seats are retained for female members of parliament.⁶⁰

The Tenth National Parliamentary Elections were held on 5 January 2014 and won by the Awami League led by Sheikh Hasina. Most major opposition parties boycotted the elections with 154 of the total 300 seats being decided uncontested.⁶¹

Judiciary

The Supreme Court of Bangladesh is the highest judicial court in the country and comprises the Appellate Division and the High Court Division. The Supreme Court consists of the Chief Justice and a number of other judges. The Chief Justice and the Judges appointed to the Appellate Division sit only in that Division and other judges sit in the High Court Division. The Chief Justice and other Judges are appointed by the President. A Judge holds office until he attains the age of sixty five years. The Appellate Division hears and determines appeals from judgements, decrees, orders or sentences of the High Court Division.⁶²

The High Court Division has superintendence and control over all subordinate courts and functions as the Appellate Court. Administrative tribunals exercise jurisdiction in respect of matters as specified in the constitution. There are currently two administrative tribunals. At the district level, the district court is headed by the District and Sessions Judge who is assisted by Additional District Judges, subordinate Judges, Assistant Judges and Magistrates.⁶³

Figure 2 depicts the political hierarchy of Bangladesh.⁶⁴

Human Rights in Bangladesh

While Bangladesh is a parliamentary democracy with reasonably free and fair elections, opposition to government policies is often displayed through violent demonstrations and enforced strikes (hartals). This is irrespective of which party is in power. In recent years the major opposition parties have boycotted parliamentary sessions.⁶⁵

Like most developing countries, Bangladesh too has its share of human rights issues and problems. While fundamental freedoms are part in the constitution regardless of race, gender and religion, there are many instances where the rights are often ignored. There is a singular lack of tolerance in the political system where the major opposition parties are often at violent sides.⁶⁶

The party in power usually takes advantage of state resources to suppress opposition activities.

Opposition to ruling government policies are often portrayed as anti-state treasonable activities and the state police is used to make politically motivated arrests and repression of opposition members. The police in Bangladesh are also known as corrupt, partially as a consequence of being misused as party functionaries by the ruling government. Police related human-rights abuses are plentiful include unlawful detention, excessive use of force, torture, and deaths in custody. Repression against women is still widespread. Women remain in a subordinate position in society.⁶⁷

Women often are ignorant of their rights because of continued high illiteracy rates, unequal educational opportunities, strong social stigmas, and lack of economic means to obtain legal assistance, frequently keep women from seeking redress in the courts. More recently, employment opportunities have improved for women with the growth of the garments industry and through NGOs whose policies and activities help empower women.

Bangladesh is relatively more stable in terms of communal harmony than some neighboring states. However, religious minorities are often preyed upon with sometimes very little active opposition from the government agencies. Religious minorities are disadvantaged in practice in such areas as access to government jobs and political office.

Selection boards in the government services often lack minority group representation. Bangladesh has a very small majority of indigenous people. They have had a marginal ability to influence decisions concerning the use of their lands and are facing increased pressure from migrant majority Bengalis in their original land.⁶⁸

Corruption in Bangladesh is prevalent. Bangladesh ranked as the 136th country on the Transparency International's Corruption Perception Index (CPI) out of the 177 countries evaluated, rendering a score of 27 out of 100 (100 representing less corruption) in 2013.⁶⁹ Corruption affects all levels of society in Bangladesh and is considered an endemic issue without social, governmental, religious or ethnic boundaries. The Anti-Corruption Commission (ACC) of 2004 was created to counteract corruption and other unethical practices in the country and to conduct investigations for other offences.⁷⁰ Public trust in politicians is low due to the persistent observation of political corruption in the county.⁷¹

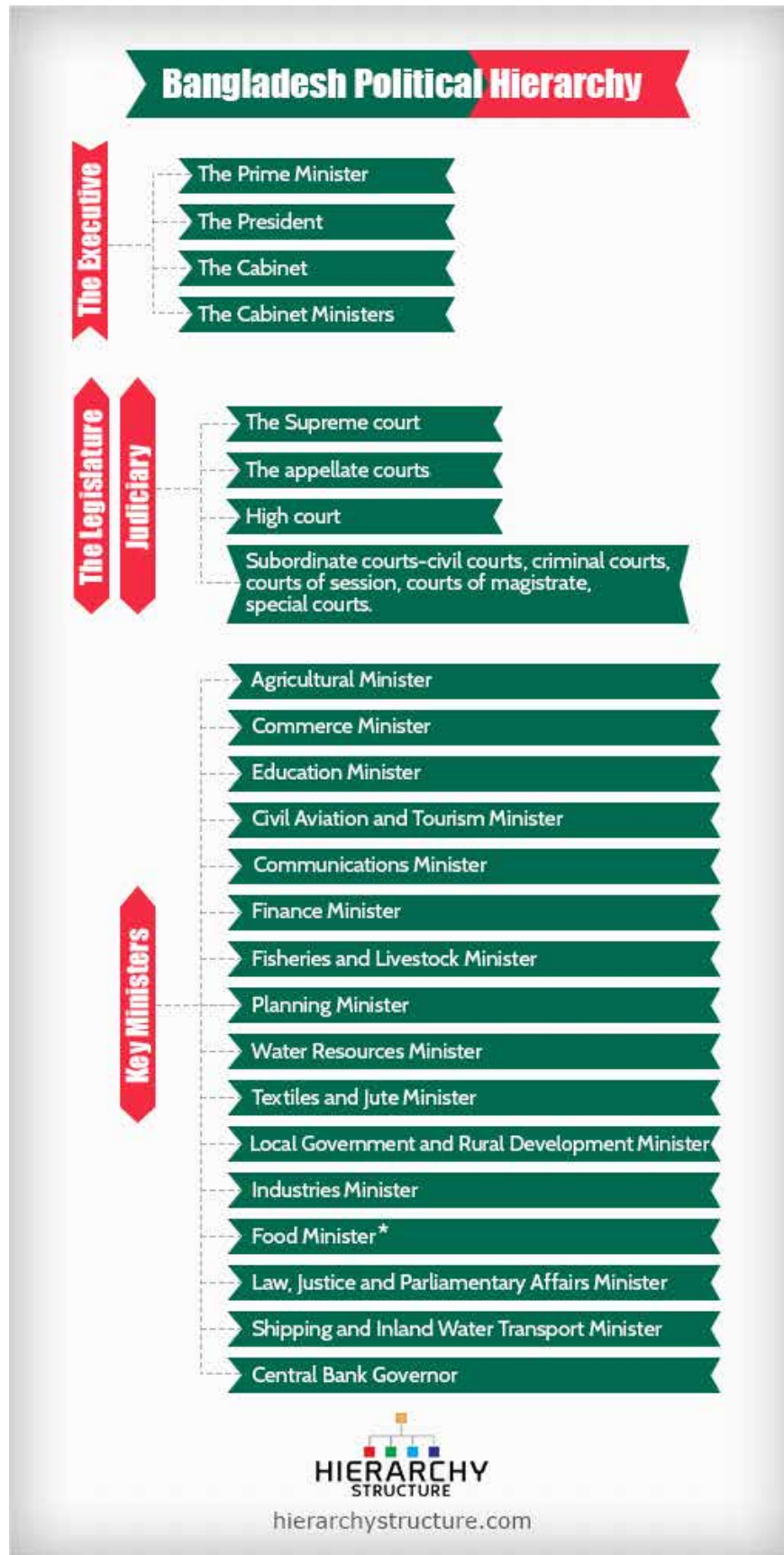


Figure 2: Bangladesh Political Hierarchy

*Note: Food Minister is also known as the Ministry of Food and Disaster Management (MoFDM). MoFDM is now called the Ministry of Disaster Management and Relief (MoDMR).

Environment

Environmental considerations influence disaster management in profound ways, from the types of risks that are prevalent to natural protections that mitigate disasters. This section outlines some of the key environmental factors that contribute to Bangladesh's disaster hazards and affect potential response operations. Natural disasters, such as floods, tropical cyclones, tornadoes, and earthquakes occur frequently, resulting in increased deforestation, soil degradation and coastal erosion.⁷²

Geography

Bangladesh meets the Bay of Bengal to its south. To the west and north it is bordered by India; to the southeast, it is bordered by Myanmar. The landscape is largely a low-lying floodplain. Nearly half the total land area in Bangladesh is susceptible to severe flooding during the monsoon season which extends from May through September of each year. The Padma River flows into the country from the northwest, while the Jamuna River enters from the north. The capital city of Bangladesh, Dhaka, is near the location where the major river systems connect. The northern and southeast regions of Bangladesh are hilly and have predominately dry climates. The Chittagong Hill Tracts are lush with hardwood forests and the low-lying river delta is provides a home to the plains culture.⁷³

The highest point of elevation in Bangladesh is in Mowdok range, reaching 1,052 m (3,451 ft.). The Mowdok range is located in the Chittagong Hill Tracts in the southeast region of the nation. Cox's Bazar, south of the city of Chittagong, meets the ocean with uninterrupted coastlines expanding approximately 120 kilometers (75 miles).⁷⁴

Water is one of Bangladesh's most concerning problems. For approximately 50 percent of the year, the monsoon rains cause severe flooding in the regions adjacent to the country's three major rivers, the Ganges, Brahmaputra and Meghna, and their tributaries. Devastating floods often stress the local communities and result in entire

communities becoming displaced. For the remainder of the year, the dry season results in little to no rainfall, and severe droughts threaten the livelihoods of effected communities and further damage the physical environment.⁷⁵

Due to the abundance of rivers throughout the country, the government has developed water control projects to provide irrigation, flood control, drainage facilities, river navigation, road construction and hydroelectric power. Also, thousands of tube wells and electric pumps are used for local irrigation. The government of Bangladesh plans to strengthen hydropower ability both in Bangladesh and abroad. Expansive dams in adjacent Myanmar could in the future supply a new source of hydroelectricity for Bangladesh.⁷⁶ Photo 7 depicts the Goyain River at Jaflong, Bangladesh during the dry season in 2016.⁷⁷

Borders

Bangladesh is bordered by the Indian States of West Bengal to the west and north, Assam to the north, Meghalaya to the north and northeast, and Tripura and Mizoram to the east. To the southeast, Bangladesh shares a border with Myanmar and the southern part of the country meets the Bay of Bengal.

The Border Guard Bangladesh (BGB) is a paramilitary force that is entrusted with the protection of the Bangladesh border, anti-smuggling and anti-narcotics operations, and prevention of women and children trafficking,



Photo 7: Dry Season, Goyain River at Jaflong

prevention of all sorts of trans-border crimes and internal security duties.⁷⁸ In 2011, the prime ministers of Bangladesh and India signed a Land Boundary Agreement to resolve their border disputes.⁷⁹ Recently, India moved closer to a resolution in the drawn out border dispute with Bangladesh. This deal would end decades of uncertainty for thousands of citizens living in areas on the wrong side of their homeland's border. There are at least a dozen areas on each side of the border.

The proposed solution would enable each country to regain the areas within its borders along with other disputed territories. People who live in these areas would have the right to move to live in their original country of nationality or become nationals of the other country. Many are expected to stay where they currently are.⁸⁰ In July 2014, the United Nations tribunal ruled in favor of Bangladesh regarding a sea boundary dispute with India. Bangladesh was awarded 80 percent of an area covering over 25,000 square kilometers (15,534 square miles).⁸¹ Figure 3 depicts a map of Bangladesh.⁸²

Climate

Bangladesh experiences a tropical monsoon type climate which consists of a hot and rainy summer and a dry winter. Bangladesh is vulnerable to destructive cyclones, approaching over the Bay of Bengal, in the months of April to May and September to November. Frequently resulting in swelling waves, the storms cause great damage to infrastructure and the natural environment, and also result in loss of lives. Bangladesh has warm temperatures with slight variation from month to month. January tends to be the coolest month and May the warmest. In Dhaka the median winter temperature is approximately 19°C (about 66°F), and the median summer temperature is 29°C (about 84°F).⁸³

The country has one of the wettest climates in the world with most areas receiving more than 1,525 millimeters (82 feet) of rain annually. Around 80 percent of rain occurs during the monsoon season starting in June and ending in September, some occurs during the winter months of November to February. During the winter, winds are from the north and northwest blowing at just under 2 miles per hour (mph) in the northern and central areas, and up to 4 mph along the coast. From March to May, powerful thunderstorms (also known as northwesterers) generate winds of up to 40 mph. During the

summer and late monsoon season, winds from the south averaging roughly 100 mph cause waves to reach as high as 20 feet in the Bay of Bengal which leads to catastrophic flooding in the coastal areas.⁸⁴



Figure 3: Map of Bangladesh



BANGLADESH

Disaster Overview

Disaster Overview

Hazards

Bangladesh is broadly distinguished as one of the world's countries most susceptible to climate change. Natural hazards are a direct result of increased rainfall in the monsoon season, rising sea levels from climate change, and tropical cyclones. The occurrences of natural disasters in the nation are expected to increase as a result of climate change. Each disaster brings about devastating effects on the nation's agriculture, water supply, food resources, health and shelter. It is predicted that the effects of climate change, in the future, will generate more than 20 million climate refugees. Bangladesh is among the countries most predisposed to extensive flooding, tornados and destructive cyclones. Additionally, the water in Bangladesh is frequently contaminated with arsenic due to flooding and the high arsenic contents in the soil. It is estimated that nearly 77 million people in Bangladesh are exposed to toxic arsenic from drinking water.⁸⁵

Earthquakes

Bangladesh is geographically located in the Alpine-Himalayan orogenic belt which is considered one of the most seismically active regions globally. Several earthquakes have occurred in Nepal and India which have affected the northern part of Bangladesh. As a mitigation measure to help prevent the continued loss of property and lives due to devastating earthquakes, the Government of Bangladesh, in 2008, revised the Bangladesh National Building Code (BNBC), a national standard of building construction. Assessments conducted by UNDP in 2013 warned the Government of Bangladesh that an earthquake of 6.5 or greater magnitude occurring in the proximity of Dhaka, could result in more than 88,000 buildings collapsing and the total loss of life would be significant. The collapse of Rana Plaza in April 2013 and the Nepali Earthquake in April 2015, became a realization to urban resilience issues against earthquakes in Bangladesh.⁸⁶ Photo 8 depicts an equipment handover ceremony between United State Agency for International Development (USAID) and Bangladesh for Strengthening Earthquake Resilience in Bangladesh.⁸⁷

Flood and Riverbank Erosion

Seasonal flooding and riverbank erosion are common in Bangladesh. The people of Bangladesh have historically adapted their life styles to endure the naturally occurring hazards. However, the destruction of floods has become more significant with variations in land use and urbanization. In urban areas such as Dhaka, the annual rainfall can measure 2,000 mm, predominately occurring during the monsoon, but due to improper management of wetlands and drainage systems with fewer pump stations, Dhaka experiences significant water logging and river flooding.⁸⁸

The country is also known as largest delta globally and is situated on an immense flat floodplain at the convergence of three main rivers the Jamuna (and Padma), the Ganges, and the Meghna. The winding of the rivers due to highly dynamic river channels that have changed in shape and direction over time causes riverbank erosion resulting in one of the most frequently occurring disasters in Bangladesh, flooding. Frequent flooding causes the communities living along the rivers to relocate.⁸⁹

Cyclones

The coastal districts of Bangladesh, predominantly the regions neighboring the Meghna estuary, are extremely vulnerable to critical destruction from cyclones, which cause major losses of life and infrastructure. At the beginning of the summer months (April and May) and late in the monsoon season (September to November) storms of elevated strength are common. The storm patterns generate winds speeds of 100-150 miles per hour creating in waves in the Bay of Bengal as high as 20 feet high. Rouge waves and storm surges collide with the shore producing a tremendous force onto the



Photo 8: Earthquake Resilience Ceremony, USAID

coastal areas and offshore islands often causing severe flooding.⁹⁰

The total number and the extreme severity of cyclones in Bangladesh along with the related loss of life have differed significantly over the course of the past 50 years. The two cyclones which yielded the highest recorded mortality rates occurred in 1970 and 1991, with 500,000 and approximately 140,000 deaths in Bangladesh. New technology and mitigation measures over the past 20 years have greatly reduced the number of cyclone-related deaths through improving early warning systems, implementing shelters and evacuation plans, constructing coastal embankments, sustaining and improving coastal forest cover and increased public education.⁹¹ Photo 9 depicts the embankments in Shatkhira, Bangladesh where many Bangladeshi families set up shelter in the aftermath of Cyclone Aila in 2008.⁹²

Man-Made Hazards

Natural disasters are frequent in Bangladesh; yet, man-made disasters have had some of the most destructive effects to the nation. Fire and infrastructure collapse is a continual man-made hazard in Bangladesh. The nation's inadequately administered building codes, high population density, and developing industry base are all contributing factors in the country's extreme vulnerability for fire and building collapse. Factory fires are the most hazardous and destructive. Infrastructure collapse is problematic, and there have been recent high profile incidents. Bangladesh's Search and Rescue (SAR) capacity is expanding, but there is still significant advancements needed. In 2012 the Bangladeshi government reported 234 large fire-related incidents. The large fires spanned across



Photo 9: Aftermath of Cyclone Aila, 2008

the country, including 1.) a fire in Hajaribag that displaced 300 families, 2.) a fire in Shyamoli that displaced 500 families, 3.) a fire in Boubazar baste that displaced 907 families and killed 12 people, 4.) and a fire at the Tazreen fashion factory that killed 117 people and injured 200.⁹³

Bangladesh's most notorious building collapse occurred in 2013 at Rana Plaza in Dhaka. The building collapsed On April 24 2013, trapping and killing 1,110 people. Prior to the incident, workers reportedly noticed cracks in the building and attempted to strike for safer conditions.⁹⁴ Prior to the Rana Plaza collapse, there was no national Occupational Safety and Health Policy. This has now changed and the availability of emergency exits is becoming better enforced. Remaining concerns related to fire and building collapse include availability of water, unenforced building codes, and traffic congestion.⁹⁵

Recent History of Natural Disasters

Bangladesh has a long standing history of natural disasters. The geographical location, low-lying lands, vast plains and expansive delta, combined with multiple large river systems and a monsoon climate make Bangladesh highly susceptible to natural disasters. Bangladesh is prone to floods, cyclones, tidal waves, river bank erosion, earthquakes, severe droughts, salinity intrusion, fires and tsunamis. Cyclones and floods particularly caused severe destruction in the nation and occur frequently.⁹⁶

Floods and Landslides June 2017

Torrential monsoon rains in southeastern Bangladesh triggered deadly mudslides. This has claimed at least 135 lives. This disaster occurred just two weeks after Cyclone Mora took lives and caused significant damage across the region. The rains caused severe flooding in low-lying areas, causing significant damage to road and communication infrastructure. Remote communities in Bandarban, Chittagong and Rangamati districts have been cut off and remain without water, electricity, and food supplies.

Tropical Cyclone Mora-May 2017

Tropical Cyclone Mora, which made landfall in Chittagong Division on May 30, 2017, has affected an estimated 3.3 million people. Six people were reportedly killed, 136 people injured and 200,000 people have been displaced by the disaster. The most severely affected area has been Cox's Bazar, where more than 300,000 Rohingya

refugees and undocumented Myanmar Nationals are residing. Six Rohingya settlements in the area have reportedly been severely affected, with up to 70 percent of shelters as well as latrines, clinics and other infrastructure damaged. Agencies working in Cox's Bazar and other affected areas, are providing assistance in support of the Government response. As of 3 June 2017, 540,000 people are estimated to require humanitarian assistance.

Floods and Landslides - July 2016

At least 4.2 million people were affected by flooding in at least 19 districts from the monsoon-induced floods which began in July. The flooding wiped out entire villages and crops, sending farmers deeper into debt. Officially, 106 people died as a consequence of the floods. Approximately 16,770 houses/homesteads were completely lost with a further 65,156 partially damaged by erosion. The districts which experienced the greatest impact of the floods are Jamalpur, Kurigram, Sirajgonj, Tangail, and Gaibanda.⁹⁷

Cyclone Roanu- May 2016

Tropical Cyclone Roanu hit the coast of Bangladesh with heavy winds and rain, killing at least 21 people and displacing half a million residents. The cyclone hit the south and southeast regions of Barisal and Chittagong especially hard, damaging hundreds of houses and causing landslides.⁹⁸

Tropical Cyclone Komen- July 2015

More than 1.5 million people across the coastal districts of Bhola, Cox's Bazar, Chittagong, Nohakhali, Feni and Bandarban were affected by Komen. Thousands of homes were reported flattened or flooded and power supplies were disrupted. More than 161 Red Crescent volunteers were deployed in search and rescue, first aid and psychosocial support.⁹⁹

Floods and Landslides - June 2015

Torrential rains set off flash floods and landslides in the low-lying areas in the south-eastern districts of Cox' Bazar, Bandarban and Chittagong, the floods drowned hundreds of villages and killed at least 19 people, stranding over 200,000.¹⁰⁰

Floods - August 2014

Nearly 2.8 million people were affected by the August floods. More than 57,000 families

(275,000 people) were displaced, including more than 31,000 families (150,000 people) whose homes were totally inundated and destroyed. A total of 99 floods shelters were active in the affected districts, housing some of the displaced population. Nine deaths were reported.¹⁰¹

Tropical Storm - October 2012

On 10 October 2012, a heavy tropical storm hit some remote islands of the coastal districts of Noakhali, Bhola and Chittagong, killing at 36 people and damaging over 24,000 houses.¹⁰²

Floods and Landslides - June 2012

Torrential rain starting on 23 June 2012 resulted in floods and landslides, killing 139 people and causing the destruction of homesteads and significantly affecting ten districts in the northern and south-eastern parts of Bangladesh. More than 5 million people were affected by the floods, which damaged over 360,000 houses and 230,000 areas of crops. A total of 50,778 people were evacuated to 246 shelters.¹⁰³

Floods and Landslides - July 2011

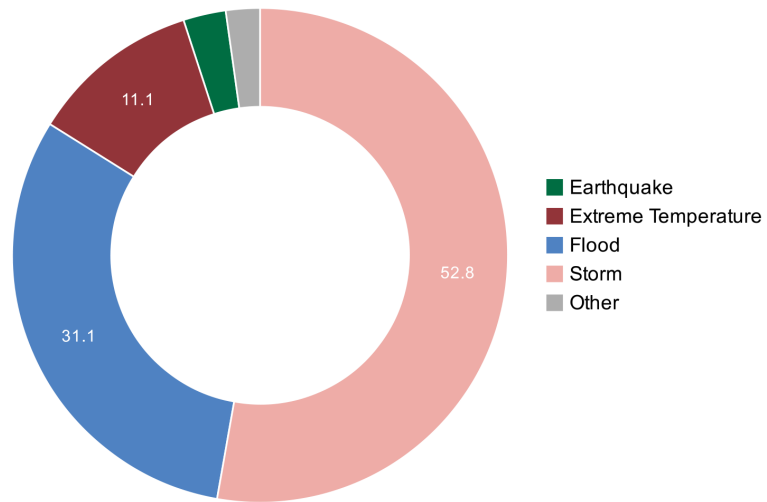
Around 300,000 people in Cox's Bazar district were reported to be marooned as the flood situation deteriorated, and at least 10 people died. The seawater overtook the coastal embankment and entered neighboring villages. Low-lying areas of more than 50 Union Parisads of the district were inundated. Chittagong district experienced a rain-triggered landslide. Heavy monsoon rains caused several major rivers in Bangladesh to burst their banks, displacing thousands and affecting nearly a million.¹⁰⁴

Cyclone Aila - May 2009

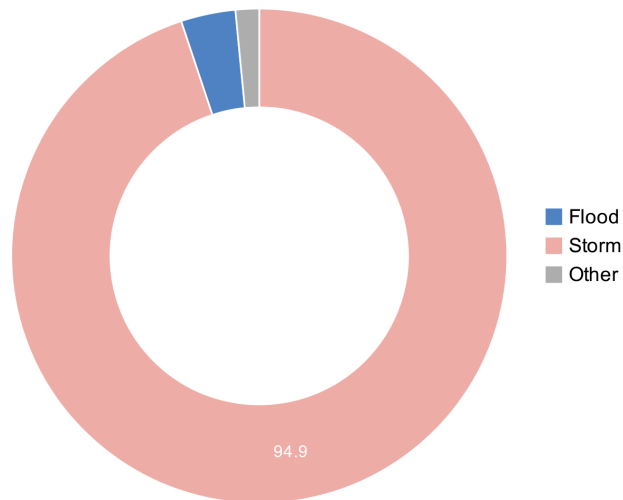
Cyclone Aila hit Bangladesh on 25 May 2009 and produced substantial damage across areas of southern Bangladesh. It resulted in 190 deaths and 3,935,341 people were affected. The total damage was US \$270 million.¹⁰⁵

Figure 4 reflects internationally reported losses in terms of frequency, mortality, and economics for Bangladesh spanning from 1990-2014. The research is from the EM-DAT International Disaster Database. For a disaster to be entered into the database at least one of the following criteria must be fulfilled; ten (10) or more people reported killed; a hundred (100) or more people reported affected; a declaration of a state of emergency is made; or a call for

Frequency



Mortality



Economic issues

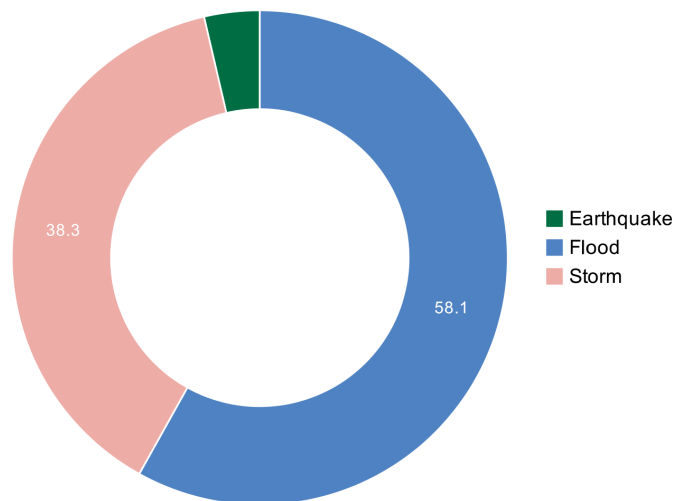


Figure 4: Bangladesh's Reported Losses Between 1990-2014 (EM-DAT)

international assistance is requested. From the frequency circle graph, storms and floods are the most frequently occurring hazard. From the mortality circle graph storms cause the most deaths (94.9 percent). Floods also cost the most economic destruction (58.1 percent) as seen on the economic circle graph. Storms also cause approximately 1/3 of the economic issues in Bangladesh.¹⁰⁶

Figure 5 shows INFORM’s (Index for Risk Management) risk profile for Bangladesh. INFORM is a global, objective and transparent tool for understanding the risk of humanitarian crises. The INFORM index is a way to understand and measure the risk of a humanitarian crisis. INFORM is a composite indicator, developed by the Joint Research Center, combining 53 indicators into three dimensions of risk: hazards (events that could

occur) and exposure to them, vulnerability (the susceptibility of communities to those hazards) and the lack of coping capacity (lack of resources that can alleviate the impact). The index results are published once every year. They give each country an overall risk score of 1-10 (1 being the lowest and 10 the highest) for each of the dimensions, categories, and components of risk. The higher the score the more vulnerable a country is. The purpose of INFORM is to provide an open, transparent, consensus-based methodology for analyzing crisis risk at global, regional or national level. Bangladesh has a 2017 Hazard and Exposure risk of 7.5/10; a Vulnerability score of 4.7/10; and a Lack of Coping Capacity score of 5.5/10. Physical exposure to earthquakes, floods, tsunamis, and cyclones rate the highest.¹⁰⁷

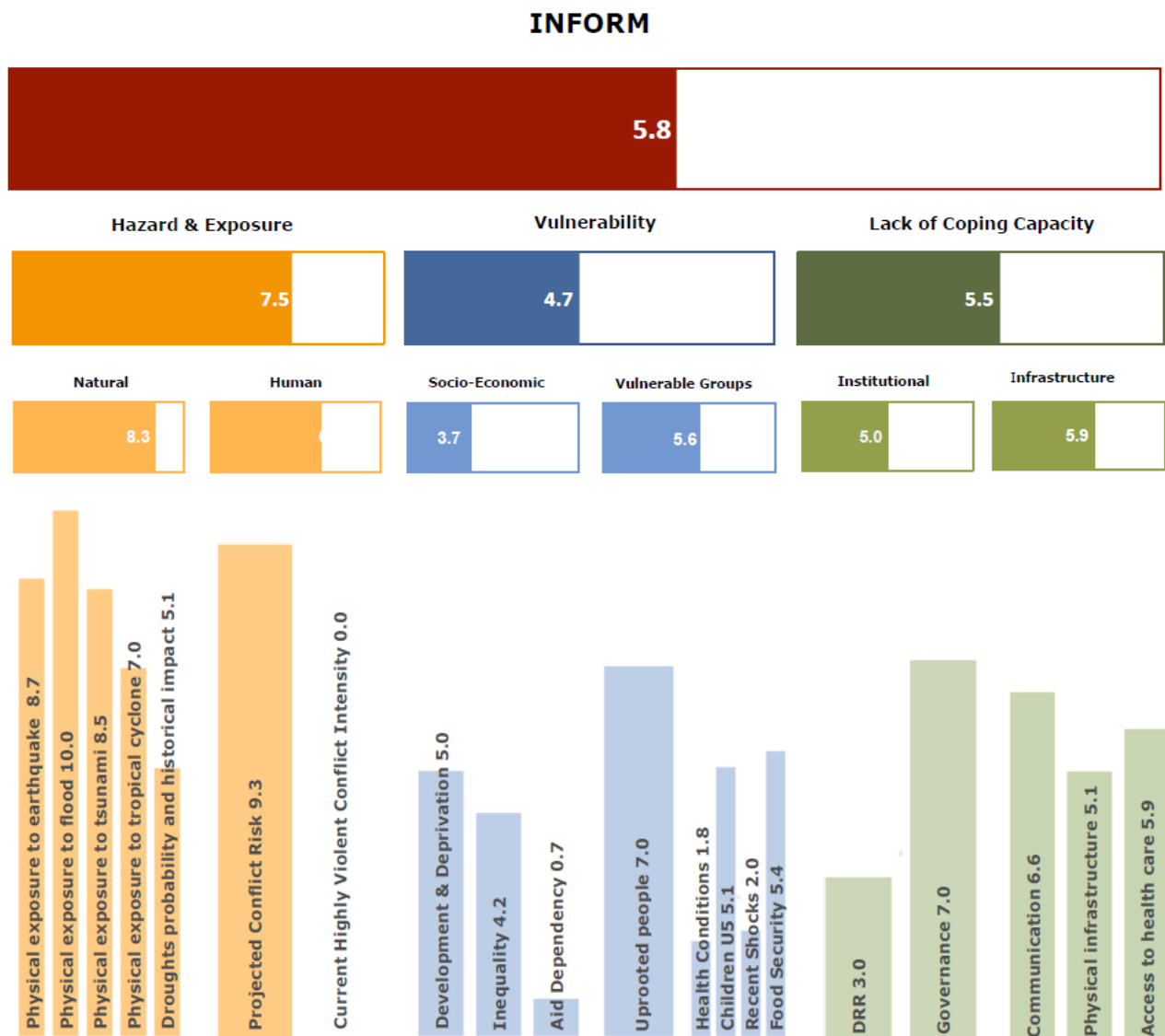


Figure 5: INFORM Country Risk Profile for Bangladesh

Climate Change

An analysis was completed which found that high tides in Bangladesh were rising 10 times faster than the global average. It was predicted that the sea level in Bangladesh could rise as much as 13 feet by the year 2100, which puts them four times higher than the global average.¹⁰⁸ In 2005, the National Adaptation Programme of Action (NAPA) was developed after extensive discussions with communities across the country, professional groups, and members of civil society. Since then, the government adopted the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) in 2008, which is considered a living document. In 2009, the plan was revised to incorporate the views and thinking of the Cabinet Review Committee. According to the BCCSAP 2009, climate change in Bangladesh will intensify issues and natural hazards the country currently faces. It also says that climate change will lead to increased frequency and severity of tropical cyclones with higher wind speeds and storm surges; and heavier and more erratic rainfall in the Ganges-Brahmaputra-Meghna system during monsoon seasons.¹⁰⁹

The Climate Change Action Plan (2009-2018) is a 10 year program which builds the capacity and resilience of the country to meet the challenge of climate change. The first five years of the plan comprised of six pillars:¹¹⁰

1. Food Security, social protection and health
2. Comprehensive Disaster Management
3. Infrastructure
4. Research and knowledge management
5. Mitigation and low carbon development
6. Capacity building and institutional strengthening

Table 2 list the Government of Bangladesh ministries and agencies involved in responding to climate change.¹¹¹

Infectious Disease

Bangladesh experiences repeated spread of communicable diseases, including cholera, malaria, tuberculosis (TB), Japanese encephalitis (JE), and selected neglected tropical diseases (NTDs).¹¹² The prevalence of disease is intensified by recurrent flooding, which enhances the likelihood of disease transmission. Diseases including cholera, malaria, dengue fever, and TB peak during flood incidents. The Government of Bangladesh and the Health Ministry proactively work to limit the transmission of disease, and the transmission rates of communicable disease have decreased due to routine vaccinations and medical interventions. Access to sanitation infrastructure is inadequate in the country, with nearly 45 percent of Bangladeshis without access to safe drinking water, thus enhancing the risk for disease transmission. HIV is a minor concern in Bangladesh; the country's overall infected population percentage is low and the transmission rate is also low.¹¹³

Endemic diseases transmitted by mosquitos and other vectors include malaria, dengue, and filariasis. Malaria is endemic in 13 northern and eastern districts in Bangladesh. In malaria-endemic districts, 3.1 percent of the overall population is infected. However, the numbers of reported malaria cases continue to decline as government and NGO funded initiatives have spread the use of mosquito nets. The decline in deaths from malaria is most encouraging, with a 70 percent decline in deaths from malaria

Ministry/Agency	Role/Responsibility
Ministry of Environment and Forest	Focal ministry for all work on climate change, including international negotiations
National Disaster Management Council (NDMC)	The highest level forum for the formulation and review of disaster management policies
Ministry of Food and Disaster Management	Focal ministry for disaster management
Meteorological Department and Bangladesh Space Research and Remote Sensing Organization (SPARRSO)	Two key institutions in this field
Planning Commission (under Ministry of Planning)	Looks into the overall integration of climate change issues within the planning framework
Other Ministries	35 other ministries responsible for sectors that are vulnerable to the effect of climate change

Table 2: Bangladesh Ministries and Agencies Involved in Responding to Climate Change

between 2011 and 2012.¹¹⁴ Figure 6 depicts the number of confirmed malaria cases per 1000 from 2005 to 2015 in Bangladesh. As you can see from the Figure (as depicted in orange), overall cases have declined.¹¹⁵

Dengue remains endemic in Bangladesh and the country has reported at least 400 cases annually since 2000. As with malaria, case fatality has been declining in recent years, dropping from a high of 2 percent down to 0. Filariasis is a third endemic disease transmitted by mosquitos. Common in rural areas, it causes excessive swelling of the lymphatic system. The disease is currently endemic in 34 districts in Bangladesh and 20 million people are infected.¹¹⁶ The Government of Bangladesh has demonstrated success in eliminating the disease by means of mass drug administration in many districts, and plans to continue the program. Schistosomiasis and other Soil-transmitted helminthes (STH's) are diseases caused by parasitic worms commonly associated with farming and fishing. Endemic throughout Bangladesh, STH's are transmitted via insufficient sanitary and waste management facilities, lack of potable water, and poor nutrition. Children are at greatest risk due to symptom-associated malnutrition during growth stages. TB remains endemic in Bangladesh and the country is one of 22 countries considered high-burden. Transmitted directly from person to person, 225 new infections per 100,000 people are reported annually in the country. Bangladesh has achieved a 92 percent treatment rate despite 29 percent of cases being multi-drug resistant. TB control

is a major point of effort in Bangladesh, and the government works closely with NGOs and IOs.¹¹⁷

Country Risks

Salinity Intrusion

Salinity intrusion is a hazard, which affects the soils in southern Bangladesh. During the dry season, regions that are typically saturated with fresh water from rivers become susceptible to sea water moving upland with the occurrence of extensive flooding. While only 10 percent of land is affected during the monsoon, the dry season can increase the affected area to 40 percent. High salinity levels kill crops and threaten food security.¹¹⁸

Arsenic Contamination

Arsenic contamination is a naturally occurring and an endemic hazard in Bangladesh. Soils contain high levels of arsenic, and the use of groundwater for irrigation and drinking means that Bangladeshi people are at risk of chronic illness. Roughly 61 of 63 districts have well water which is contaminated with arsenic.¹¹⁹ In total, 20 million people are at an elevated risk of arsenicosis. Estimates suggest approximately 60 million Bangladeshi drink water which exceed WHO's recommendations for arsenic content.¹²⁰ Public health education campaigns in the country are decreasing the number of people ingesting the highest levels of arsenic, but arsenic's presence in soils cannot be removed and therefore will remain a national hazard.¹²¹

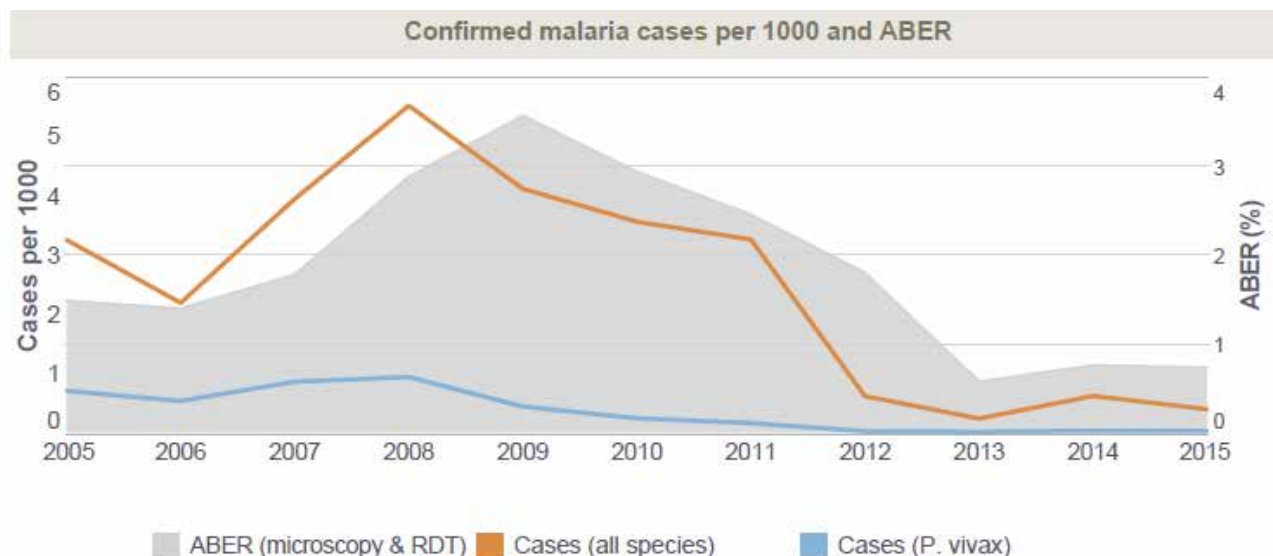


Figure 6: WHO Confirmed Malaria Cases, 2005-2015



BANGLADESH

Organizational Structure

Organizational Structure for Disaster Management

Disaster management has undergone a shift since the change of government administration in 2009, moving focus from relief and rehabilitation to risk reduction. The effects of two key events in the country's history involving the destructive 1998 floods and devastating 1991 cyclone emphasized the need for a national disaster management plan and disaster management framework.¹²²

The redrafting of the Standing Orders on Disasters (SODs) in 2010 and enactment of the 2012 National Disaster Management Act and the five year National Disaster Management Plan (NDMP) (2010-15) provides the new legislative framework and revised institutional arrangements. The next plan is currently being drafted (2016-2020). The apex National Disaster Management Council (NDMC), led by the Prime Minister, formulates and reviews disaster management policies. Under this, the Inter-Ministerial Disaster Management Coordination Committee (IMDMCC) implements policies and decisions; the IMDMCC is assisted by the National Disaster Management Advisory Committee (NDMAC). A number of other national committees were established under the NDMC by the SODs, 4 with the aim of improved coordination of disaster management activities. However, not all are functioning and there is no overall review of their status.¹²³

The government's Ministry of Disaster Management and Relief (MoDMR) was previously called the Ministry of Food and Disaster Management (MoFDM). The MoDMR functions as the government's focal point for disaster management and coordination.

Lead Government Agencies in Disaster Response

Information on the lead government agencies in disaster response of The People's Republic of Bangladesh was retrieved directly from the Bangladesh National Plan for Disaster Management 2008-2015 in section 9-Disaster Management System in Bangladesh. The information obtained from the plan provides a comprehensive overview of the lead disaster response agencies in the country.¹²⁴

At the national level, organizations exist to stipulate policy guidance and facilitate coordination within the country. The Standing Orders on Disaster describes the membership, meeting schedule and sub-committee direction for each entity.

The Government has been developing the National Plan on Disaster Management 2016-2020. This national plan will be coordinated with the writing of the National Adaptation Plan. The Climate Change and Disaster Management document references the disaster management plan.

Standing Orders on Disaster

Standing Orders on Disaster (SOD) exist to delineate the duties and responsibilities of the designated agencies and sectors to facilitate coordination in joint operations and mobilize resources to support disaster management. The plan describes the disaster management roles for 28 agencies/organizations from the government and private sectors. Highlights from some of the key agencies are provided and the organizations are listed as written in the plan.¹²⁵

The Standing Orders have been prepared with the objective of making the concerned persons understand their duties and responsibilities regarding disaster management at all levels, and accomplishing them. All Ministries, Divisions/ Departments and Agencies shall prepare their own Action Plans in respect of their responsibilities under the Standing Orders for efficient implementation. The National Disaster Management Council (NDMC) and Inter-Ministerial Disaster Management Coordination Committee (IMDMCC) will ensure coordination of disaster related activities at the National level. Coordination at district, upazila and union levels will be done by the respective District, Upazila and Union Disaster Management Committees.

The Disaster Management Bureau will render all assistance to them by facilitating the process.¹²⁶

Ministry responsibilities and general roles are designated for all ministries, division, departments and government-owned corporations and then specific duties are outlined according to the Standing Orders.

A summarized list of the shared roles includes some of the ministry level tasks below:

- Develop policies and incorporate disaster risk reduction and climate change adaptation approaches into planning and development programs and processes, and ministry activities;
- Develop programs and conduct activities related to hazard and disaster risk analysis;
- Prepare the ministry for activation for response, relief and recovery operations;
- Establish and maintain an emergency operations center and maintain liaison officers;
- Conduct training and education of staff on disaster management;
- Conduct damage assessments and reports and anticipated repair and reconstruction with costs; and
- Reallocate resources to provide support for relief, recovery, and rehabilitation.

Figure 7 depicts the disaster management institutions in Bangladesh.¹²⁷

National Disaster Management Council

The National Disaster Management Council (NDMC) is led by the Prime Minister and exists to provide policy guidance for disaster risk reduction and emergency response management for the country. The multi-sectoral and interdisciplinary council is supported by 41 members from the ministries, departments, and armed forces divisions and meets once a year.¹²⁸

The responsibilities of the NDMC include:

- Review national disaster management system and provide strategic advice for disaster risk reduction and emergency response management;
- Review policy and planning documents on disaster management and provide strategic advice;
- Promote dialogue across sectors with a view to integrate disaster risk reduction into sectoral development plans and programs;
- Promote awareness regarding disaster risk reduction among top policy makers;

- Evaluate disaster preparedness measures and provide strategic advice;
- Evaluate response and recovery measures, particularly after a large-scale disaster and provide strategic direction towards improvement of the system and procedures; and
- Facilitate coordination of multi-hazard and multi-sectoral measures in relation to disaster risk reduction and emergency response management.

Inter-Ministerial Disaster Management Coordination Committee

The Inter-Ministerial Disaster Management Coordination Committee (IMDMCC) functions at the national level to facilitate policy making, planning, programming, and implementation of measures for disaster risk reduction and emergency response management. The committee is chaired by the Minister of the Ministry of Food and Disaster Management and comprised of 33 members from all key ministries and the Bangladesh Red Crescent Society (BDRCS). The members meet twice a year or as determined by the chair.¹²⁹

Risk Reduction responsibilities include:

- Act on advice of the National Disaster Management Council;
- Recommend enactment of legislation, policies, Standing Orders and national level plans (sector and hazard specific) to the Cabinet Committee / Council of Advisers;
- Review, revise and approve contingency plans of various First Responding Organizations;
- Approve guidelines and templates prescribed by the NPDM and SOD;
- Approve City Corporation Disaster Management Plans and District Disaster Management Plans;
- Recommend an appropriate regulatory mechanism for the implementation of the Bangladesh Disaster Management Framework, including prevention, mitigation, preparedness, emergency response, recovery and rehabilitation;
- Approve national and sub-national programs for disaster risk reduction;
- Advocate and ensure disaster risk reduction is mainstreamed in development policies, plans and programs;

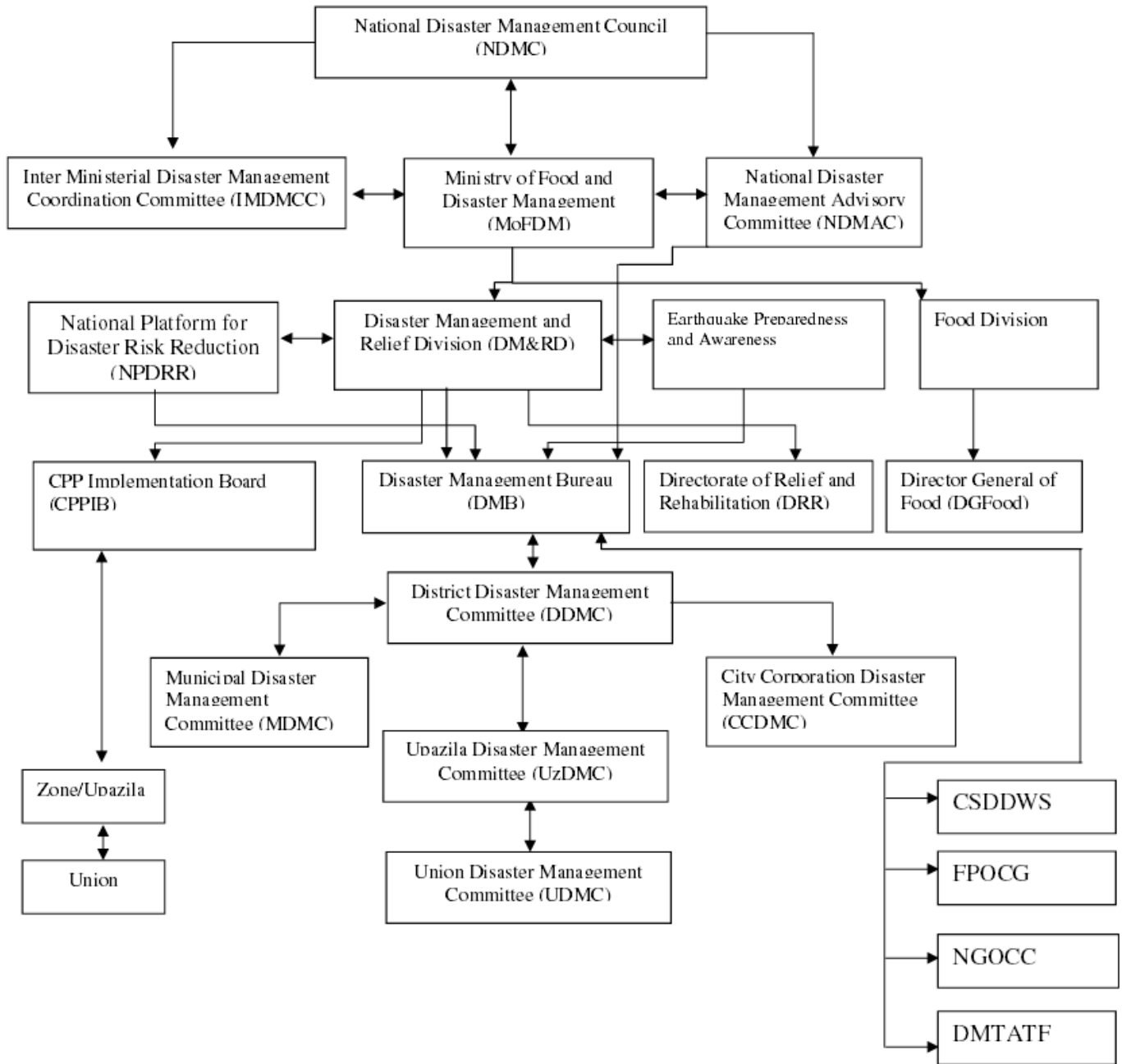


Figure 7: Disaster Management Institutions in Bangladesh

*Note: The Ministry of Food and Disaster Management (MoFDM) is now called the Ministry of Disaster Management and Relief (MoDMR).

- Monitor DRR activities and programs, and keep the NDMC informed of their progress;
- Review and promote emergency preparedness and public awareness capacity development in disaster management; and
- Promote monitoring, evaluation, education, and research on disaster risk reduction and emergency response management.

Emergency response responsibilities include:

- Evaluate emergency preparedness status and recommend corrective measures;
- Approve response and recovery plans;
- Promote preparedness activities, such as fire evacuation drills, search and rescue mock exercise, etc.;
- Ensure whole-of-government coordination in emergency response, relief and rehabilitation operations;
- Approve guideline for multi-agency incident management; and
- Establish Urban Search and Rescue Taskforces.

Ministry of Food and Disaster Management (MoFDM) *now called the Ministry of Disaster Management and Relief (MoDMR)

The Ministry of Food and Disaster Management (MoFDM) of the Government of Bangladesh has the responsibility for coordinating national disaster management efforts across all agencies. In January 1997 the Ministry issued the Standing Orders on Disaster (SOD) to guide and monitor disaster management activities in Bangladesh.¹³⁰ The Standing Orders for Disasters tasks the MoFDM with the mandate to drive the national risk reduction programs. MoFDM focuses on disaster risk reduction and emergency response related issues. The ministry works to shift the paradigm from conventional response in Bangladesh to a more comprehensive risk reduction culture and promote food security to ensure community resilience to hazards. In particular, there is a mission to reduce risk for the vulnerable population especially the poor and disadvantaged from all hazards and have efficient emergency response management systems in place. Two main agencies of MoFDM are the Disaster Management Bureau (DMB) and Department of Relief and Rehabilitation.¹³¹

The Disaster Management Information Centre (DMIC) under the Disaster Management Bureau (DMB) provides information to the Ministry and Government during normal, warning and activation, emergency response, relief and recovery stages. MoFDM supports the National Disaster Management Council (NDMC), Inter-Ministerial Disaster Coordination Committee (IMDMCC), and the National Disaster Response Coordination Group (NDRCG) with information and assists in decision making.¹³²

National Disaster Management Advisory Committee

The National Disaster Management Advisory Committee (NDMAC) is chaired by a nominee by the Prime Minister and is comprised of 47 members with representatives from parliament, government departments, universities, experts, business groups, insurance companies, financial organizations, research institutes, Fire Service, and Civil Defense. The members meet at least twice a year or more often as required.¹³³

General responsibilities of the committee include:

- Advise NDMC, IMDMCC, DMRD and DMB on technical matters and socio-economic aspects of Disaster Risk Reduction and emergency response management;
- Alert the Committee members about the risk of disaster and mitigation possibilities and encourage them in respect of workshop, training and research;
- Create a forum for discussion by experts on the risk of disaster, opening opportunities for cooperation towards solution of problems relating to disaster management;
- Recommend release of funds for special project works and also for introduction of special emergency methods or empowerment, if needed;
- Recommend solution of problems identified by the DMB or any other agency/person;
- Propose long term recovery plans;
- Hold post-mortem or prepare final evaluation on programs undertaken to meet the disaster; and
- Submit a report with recommendations to the NDMC.

National Platform for Disaster Relief Reduction (NPDRR)

The National Platform for Disaster Relief Reduction (NPDRR) is chaired by the Secretary, Disaster Management & Relief Division, has 39 members from public, private and civil society groups and meets twice a year or as needed.¹³⁴

General responsibilities include:

- Coordinate various relevant stakeholders for interrelated social, economic and environmental risks and vulnerabilities;
- Support identification of priority needs in the area of DRR, advise for allocating resources, presenting time table for actions and monitoring and reviewing the implementation of DRR activities in line with the HFA;
- Provide technical support and advice for effective integration into all national regional and international policies and programs;
- Serve as a catalyst for national consultations and consensus building for DRR; and
- Facilitate for allocation of resources from donors, development banks, financial institutions, and UN agencies that are not represented in their respective countries.

Disaster Management and Relief Division (DM&RD)

The DM&RD is responsible for the disaster management issues. The DMB will assist the DM&RD and Ministry with all necessary information during normal time, alert and warning stage, disaster stage and post- disaster recovery stage. The division will supply information to NDMC and IMDMCC and assist them in taking decisions. The Secretary of the DM&RD, MoFDM will control the activities of all officials engaged either directly or indirectly for emergency relief work.¹³⁵

Earthquake Preparedness and Awareness Committee

The Earthquake Preparedness and Awareness Committee (EPAC) were formed in 2009 to prepare the country for earthquake risk management. The committee is headed by the Minister, Ministry of Food and Disaster Management and consists of 39 members from government departments, Armed Forces Division (AFD), academia, research institutes, Fire Service and Civil Defense, and NGOs.

Representatives from international organizations such as CARE, Oxfam, CARITAS, Save the Children, BRAC, and World Vision participate. The members meet twice a year or more often as necessary.¹³⁶

General responsibilities include:

- Review national earthquake preparedness and awareness program and recommend suggestions for concerned organizations;
- Review the list of Search and Rescue equipment for earthquakes; and
- Prepare and recommend a list of equipment for earthquake risk reduction and search and rescue programs after an earthquake.

Food Division

The role of Food Division is important for maintaining adequate stocks of food grains in disaster prone areas anticipating the vulnerability and risk of natural hazards.¹³⁷

Cyclone Preparedness Programme Implementation Board

The Cyclone Preparedness Programme Implementation Board (CPPIB) is headed by the Secretary, Disaster Management & Relief Division and has 14 members.¹³⁸

The board's responsibilities include:

- To determine and recommend frame an content of the program;
- To supervise the implementation of the program;
- To administer all resources of the program placed at the disposal of the Board by the Policy Committee;
- To approve all expenditure incurred on the of Cyclone Preparedness Program;
- To determine priority and consistency with other related program of coastal region;
- To fulfill all other functions necessary for the effective implementation of the cyclone Preparedness Program; and
- The committee will convene meeting immediately after heaving No.4 cyclone signal for all-out preparatory measures.

Disaster Management Bureau

The Disaster Management Bureau (DMB) performs specialist support functions at the national level in collaboration with the District and Upazila authorities and appropriate line ministries under the authority of the IMDMCC. The bureau is the technical arm of the Disaster

Management and Relief Division involved in the overview and coordination of disaster management activities from the national to the local level.¹³⁹

The objectives of the DMB include the following:

- Increase society awareness at all levels to reduce disaster risks and losses;
- Strengthen disaster management capacity at the national institutional level through District, Upazila, and Union levels;
- Establish disaster action plans in the most disaster prone Districts and Upazilas;
- Increase the knowledge and skills of key personnel with disaster management responsibilities;
- Promote proven local level risk reduction measures; and
- Improve the warnings and warning dissemination systems effectiveness.

Directorate of Relief and Rehabilitation (DRR)

The Directorate of Relief and Rehabilitation (DRR) will perform the following tasks in addition to its normal duties.¹⁴⁰

Risk Reduction

- Develop and establish guidelines and procedures to assess hazard risks and vulnerabilities at the community level;
- Conduct national, district, upazila and union level hazard, risk and vulnerability assessments and
- mapping to identify the disaster prone Upazilas and special disaster prone areas under such Upazila and the population likely to be affected by the disaster;
- Design and implement the safety net programmes to contribute to the community level risk reduction efforts
- Introduce agency contingency planning;
- Organize regular training for the selected volunteers on earthquake preparedness; and
- Organize training on earthquake preparedness and response for selected DRR officials.

Emergency Response-Normal Times

- Ensure stock, security and maintenance of adequate materials in disaster-prone areas; and

- Utilize the materials received under the Food for Works Programme for construction of roads to raised places and shelter places and for tree plantation.

Emergency Response -Alert and Warning Stage

- Open Control Room in the Department and maintain link with the EOC of the Ministry;
- Direct all officials to remain alert;
- Inform the Ministry about relief preparedness in affected areas;
- Send Daily Situation Report to the Ministry; and
- Keep information about the available quantity of relief materials and food grains in the LSD and CSD of the affected areas.

Disaster Stage

- Ensure quick dispatch of relief materials to affected areas;
- Instruct field officers for helping the local administration in evacuation and rescue operations;
- Place the water transports at the disposal of appropriate authority for transportation of relief materials and evacuation and rescue operations of affected people;
- Inform the Ministry about the requirement of relief materials;
- Inform the Ministry instantaneously about special relief; and
- Ensure proper account-keeping of the use of allotted relief materials.

Rehabilitation Stage

- Recommend allocation of relief materials after assessing the requirement by touring the affected areas with intimation to the Ministry;
- Ensure quick supply of house building grants, gratuitous relief and other materials in accordance with the delegation of powers;
- Recommend to the Ministry for allocation of (needed) house building grant, test relief, gratuitous relief and other materials beyond delegation of power;
- Issue required government order;
- Continue the most essential rehabilitation work; and

- Submit the consolidated expenditure accounts to the government.

Disaster Management Committees conduct disaster management activities for prevention, mitigation, preparedness, and response and relief at the different administrative levels of government. The government administrative levels include City, District, Upazila, Pourshava, and Union designations. All committees include an Honorable Member of the Parliament as the advisor. A summary description of the local level committees is provided from review of the Standing Orders.¹⁴¹

District Disaster Management Committee

The District Disaster Management Committee (DDMC) is led by the Deputy Commissioner and an Honorable Member of the Parliament is the advisor. The 15 member committee meets once every two months during normal times and once a week or more often during the phases of a disaster. The DDMC conducts activities and reports which are connected to the Upazila and Pourshava government levels and mirror the city's primary roles from a district level.¹⁴²

Primary responsibilities of the DDMC:

Risk Reduction:

- Conduct hazard, vulnerability, and risk analysis at the District level which compiles the Upazila and Pourshava reports and submit to the DMB;
- Prepare contingency plans with emphasis on earthquake and fire;
- Prepare short, medium, and long-term action plans at the district level which also compiles the Upazila and Pourshava plans;
- Educate and organize disaster management training and workshops;
- Disseminate forecasts of hazards and possible disaster situations to prepare the public;
- Incorporate risk factors and risk reduction in development programs (eg. building codes);
- Prepare district disaster risk reduction action plan (RRAP) which includes preparedness of the district authority and local organizations;
- Determine safe and shelter locations and assign organizational responsibilities for the shelters; and

- Take measures to activate Union, Pourshava, and Upazila DMCs at the same time and provide support to these entities for rescue, emergency relief and contingency plan preparation.

Emergency Response:

- Warning Period: Same tasks as the City Corporation however conducted at the district level;
- Disaster Period: Similar tasks as the City Corporation however conducted at the district level and an additional task involves coordination of relief activities (GO-NGO) at the Union, Pourshava, Upazila, and District level for the impartial distribution of relief materials; and
- Post Disaster Period: Similar tasks related to the provision of relief, arrangements and care of the people and their tasks include data collection of losses as requested by DMB and national organizations from Upazila and Pourshava DMCs and supervise the distribution of relief and rehabilitation materials and maintain accountability.

City Corporation Disaster Management Committee

The City Corporation Disaster Management Committee (CCDMC) is established at the City Corporation level to conduct prevention, mitigation, preparedness, and response and relief disaster management activities. The Mayor is the chairperson of the 35 person committee and an Honorable Member of the Parliament is the advisor. The CCDMC meets once every two months during normal times and once a week or more often during the phases of a disaster.¹⁴³

Primary responsibilities for the CCDMC:

Risk Reduction:

- Educate and organize disaster management training and workshops with emphasis on earthquake issues, disaster preparedness and response, and risk reduction measures for home and livelihood;
- Conduct hazard, vulnerability, and risk analysis at the City Corporation level and prepare contingency plans for earthquakes and natural and human induced disasters. Ensure city level agencies have prepared contingency plans;

- Identify the community at risk using age, sex, physical fitness, social status, profession, and economic condition factors;
- Prepare short, medium, and long-term action plans to reduce vulnerability and build capacity for the high-risk population while coordinating with appropriate city agencies;
- Determine safe and shelter locations and assign organizational responsibilities for the shelters;
- Disseminate forecasts of hazards and possible disaster situations to prepare the public; and
- Develop preparedness plans for search and rescue, primary relief operations, and rehabilitation of severely impacted families.

Emergency Response:

- **Warning Period:** Key tasks include disseminating information and evacuating the vulnerable population, preparation of the rescue teams, shelters, checklists, training of youth and volunteers, and overall conduct of emergency activities.
- **During Disaster Onset:** Efforts are taken to conduct emergency rescue work, stabilize the environment and population to prevent disease outbreak, disseminate information to the public, provide security for the relief workers and the vulnerable population, and assisting the people to move essential home and livelihood items to safe places.
- **Post Disaster Period:** The committee focuses on the allocation and distribution of relief supplies, making arrangements for the return of the people to their homes, receipt of counseling due to the psycho-trauma, receipt of medical care, and obtaining damage and loss information for the DMB.

Upazila Disaster Management Committee

The Upazila Disaster Management Committee (UzDMC) is chaired by the Upazila Nirbahi Officer and advised by the Honorable Member of Parliament. The 12 member committee meets once a month during normal times and once a week or more often during the phases of disaster.¹⁴⁴

Primary responsibilities of the UzDMC:

Risk Reduction:

- Major tasks are similar to the City and District levels except conducted at levelsto assist the Union and Pourashava DMC. Roles key to the UzDMC include assisting Union and Pourashava levels to activate a comprehensive DMC, facilitating interagency coordination through regular coordination meetings, preparing a Comprehensive Disaster Management Action Plan which helps the local, Union, Pourashava, and Upazila authorities with assistance for the vulnerable population, capacity building for Union and Pourashava people involved with disaster management.

Emergency Response:

- **Warning Period:** Similar tasks as City and District levels.
- **Disaster Period:** Similar tasks as City and District levels with the additional duty of operating an Emergency Operations Center (EOC) at the Upazila level to coordinate evacuation, rescue, and relief activities.
- **Post Disaster Period:** Similar tasks to the City and District levels at the Upazila level with emphasis on providing information and following guidelines from DDMC.

The Union Disaster Management Committee

(UDMC) is chaired by the Union Parishad Chairman and has 14 members. The committee meets once a month during normal times and once a week or more often during the phases of disaster. The Primary responsibilities of the UDMC include risk reduction and emergency response. Committee tasks are similar to the City and District levels with the UDMC reporting to the Upazila DMC.¹⁴⁵

Pourashava Disaster Management Committee

The Pourashava Disaster Management Committee (PDMC) is led by the Mayor of the Pourashava with advice provided by the Honorable Member of the Parliament. The 13 member committee meets once a month during normal times and once a week or more often during the phases of disaster.

Primary responsibilities of the PDMC include:

Risk Reduction:

- Responsibilities are similar to the tasks described for the different DMCs with the different reporting mechanisms dependent on the Pourashava levels (grades A, B, C).

Emergency Response:

- Similar tasks to the City level for the different disaster periods Union Disaster Management Committee.

Local Disaster Response Coordination Group

Disaster risk management at the national level is conducted between the ministries, state departments, NGOs, and civil society organizations. At the local level, the Disaster Management Committees at the City Corporation, Districts, Pourashava, Upazila, and Union levels fulfill a major role in disaster risk management. When a disaster occurs, emphasis is placed on efficient coordination at the lowest level of government organization and the Local Disaster Response Coordination Group (LDRCG) will accomplish this role.¹⁴⁶

The chairperson and number of committee members will vary by LDRCG however, the responsibilities are the same.

- Establish a local emergency operations center;
- Liaise with the higher authorities to provide situational awareness and obtain guidance;
- Maintain a directory of local and national resources (people, infrastructure, financial);
- Coordinate with the armed forces team;
- Evaluate the disaster situation and activate systems and procedures for disaster response and early recovery;
- Mobilize resources and team for disaster response;
- Ensure effective dissemination of warnings;
- Coordinate response and early recovery activities;
- Supervise Urban Search and Rescue task force operations;
- Coordinate relief operations in post-impact recovery period;
- Ensure rapid supply of additional equipment/materials to areas without telecommunication;

- Determine priorities and issue guidance for relief materials, funding, and transport;
- Coordinate manpower and resources to disaster affected areas with assistance from the armed forces for communications and essential services; and
- Recommend local preparedness and risk reduction measures to the DMCs.

Local Level Multi-Agency Disaster Incident Management System

The Local Disaster Incident Manager position is established to assume control of events at the local level and in alignment with the National Multi-Agency Disaster Incident System. Local level incident is defined as the Ward, Union, Upazila, District, Pourashava, or City Corporation. The Disaster Incident Manager may create a Disaster Incident Management Team to assist in the incident management.

The Local Disaster Incident Manager's responsibilities involve assuming control of the incident, assessing the situation, advising the authorities and team, prioritizing the response, creating the DMIT and appropriate plans together with other standard incident command system duties.¹⁴⁷

Ministry of Disaster Management and Relief (formerly Ministry of Relief and Rehabilitation)

The Ministry of Relief and Rehabilitation was retitled to the Ministry of Disaster Management and Relief to reflect the change in approach by the government towards disaster management. After experiencing the severe impacts of the flood cyclone disasters from 1988 to 1991, the government realized the need to strengthen the institutional infrastructure. The change in approach shifted to capacity building and disaster preparedness at all levels of government.¹⁴⁸

Department of Disaster Management

The Disaster Management Act 2012 established the Department of Disaster Management (DDM) and aligned it under the Ministry of Disaster Management and Relief. DDM implements risk reduction activities, conducts humanitarian assistance programs to increase the capacity of the vulnerable populations, and strengthens and coordinates government and non-government programs for disaster risk reduction and emergency response. The Director General leads the department in collaborating with the Ministries, Departments and Scientific, Technical, Research, Academic

Institutions, Development Partners, United Nations agencies and NGOs. DDM serves the Ministry by undertaking risk reduction activities; responding to disaster events, and coordinating and strengthening disaster risk reduction and disaster risk management programs.¹⁴⁹

NGO Affairs Bureau

Risk reduction activities for the NGO Bureau include issuing directives and working with the NGOs to disseminate disaster management messages through their programs to build awareness, guiding NGOs involved in the urban areas to prepare earthquake contingency plans and management practices, and including the DMB in NGO disaster risk reduction projects.

Emergency Response

Normal Times: A senior staff member will function as the disaster management focal point and participate in IMDMCC and NGO coordination meetings by the MoFDM. The bureau will create and maintain a database of NGOs with humanitarian programs, and establish communication and connections with the NGOs.

Warning/Alert Stage: The bureau will advise the NGOs to disseminate warning signals to the communities.

Disaster Stage: The NGOs will be directed to assist the DDMC and UzDMC and the local administration. At the local level support will include:

- Evacuation of affected people to safer areas;
- Damage and needs assessments;
- Medical services;
- Transport and distribution of relief goods;
- Communications;
- Collection of micro-credit installments to the affected areas; and
- Ensure immediate assistance in the release of NGOs' international humanitarian goods from air/sea ports.

Rehabilitation Stage: Develop guidelines to streamline and coordinate early recovery and rehabilitation activities of the government, international, national, and local NGOs. Maintain a database of the NGOs by geographical areas. A series of inter-related institutions, at both national and sub-national levels have been created to ensure effective planning and coordination of disaster risk reduction and emergency response management.¹⁵⁰

National Disaster Response Coordination Group

The National Disaster Response Coordination Group (NDRCG) is led by the Minister, Ministry of Food and Disaster Management, has 13 members, and is activated as necessary to manage and offer coordination support for the disaster impacted communities.¹⁵¹

Responsibilities for the NDRCG include:

- Evaluate disaster situation and activate systems and procedures for disaster response and early recovery;
- Mobilize resources and team for disaster response;
- Ensure effective dissemination of warning signals;
- Coordinate response and early recovery activities;
- Supervise operations conducted by Urban Search and Rescue Taskforces;
- Coordinate relief operations in post-impact recovery period;
- Ensure the rapid supply of additional equipment/materials to places where telecommunication has been disrupted;
- Determine priorities and issue instructions regarding relief materials, funds and transport;
- Coordinate the provision of additional manpower and resources to disaster affected areas, including the provision of members of the armed forces with assigned duties for communications and essential services;
- Provide an information flow during disaster emergencies;
- Implement decisions of the CCDR and keep CCDR informed of the disaster situation;
- Review and revise guidelines for multiagency disaster incident management; and
- Recommend preparedness and risk reduction measures to IMDMCC.

Cyclone Preparedness Programme Policy Committee

The Cyclone Preparedness Programme (CPP) Policy Committee is chaired by the Minister, Ministry of Food and Disaster Management and has six committee members.¹⁵²

The committee functions to:

- To provide policy directives and guideline to the CPP implementation board for effective implementation of the program; and

- To allocate funds and other resources for the CPP and placing them at the disposal of the CPP Implementation Board.

Committee for Speedy Dissemination and Determination of Strategy of Special Weather Bulletin (renamed to Committee for Speedy Dissemination of Disaster Related Warning/Signals)

The Committee for Speedy Dissemination of Disaster Related Warning/Signals (CSDDWS) is chaired by the Director General, Disaster Management Bureau and is comprised of 11 members at the Director General and Chairman level of the organizations.¹⁵³

Committee responsibilities include:

- To determine the means, methods and strategy of Disaster related publicity matters e.g. weather bulletins, warning signals, slogans, etc.;
- To discuss matters relating to weather Bulletins and signals and formulate recommendations thereof;
- To discuss from time to time with the help of slides etc. how disaster related publicity might be strengthened for public awareness building;
- To determine the ways and means for speedy dissemination of weather signals among the people; and
- To take steps for enhancing public awareness in respect of weather.

Committee for Focal Points Operational Co-ordination Group (renamed to Focal Point Operations Coordination Group Disaster Management)

The Focal Point Operations Coordination Group Disaster Management (FPOCG) is led by the Director General, Disaster Management Bureau and has 43 members from government departments and directorates and representatives from international organizations. The group meets once every three months and more than once a week during a disaster period.

The responsibilities of the group include:

- It shall supervise the overall coordination of national and field-level activities of the Disaster Management Committees and give appropriate directions in this respect;
- The committee shall review the disaster preparedness and post disaster programs; and

- The group shall identify the different problems relating to disaster management and make recommendations for their solutions and other miscellaneous duties.¹⁵⁴

Co-ordination Committee of NGOs relating to Disaster Management (renamed to NGO Coordination Committee on Disaster Management)

The NGO Coordination Committee on Disaster Management (NGOCC) is chaired by the Director General, Disaster Management Bureau and has 29 members. The committee meets every three months during normal times or more than once a week during a disaster period.

Primary responsibilities for the committee include:

- Ensure the co-ordination of disaster management and relief work between governmental and non-governmental organizations;
- To ensure the transmission and preservation of disaster related information;
- Identify the co-ordination problems relating to Disaster Management Activities and make recommendations in this respect; and
- Carry out related task as advised by NDMC and IMDMCC.¹⁵⁵

Disaster Management Training and Public Awareness Task Force

The Disaster Management Training and Public Awareness Task Force (DMTATF) are headed by the Director General, Disaster Management Bureau and have a large membership of 42 representatives. The task force meets once every three months during normal times or more than once a week during a disaster period.

The task force functions involve:

- Act as consulting and advisory committee for planning;
- Implement and evaluate of disaster management training and awareness raising activities;
- Assist in the activities relating to public awareness building and communication in respect of disaster management;
- Coordinate public awareness building training and other programs relating to disaster management;

- Assist the concerned agencies in respect of planning and implementation of other necessary activities relating to disaster management training and public awareness building; and
- Carry out related task as advised by NDMC and IMDMCC.¹⁵⁶

Military

The Bangladesh Armed forces is composed of three main uniformed military branches, the Bangladesh Army, the Bangladesh Navy, and the Bangladesh Air Force. Paramilitary forces include the Bangladesh Border Guards, the Bangladesh Coast Guard and the Bangladesh National Cadet Corps.

The president of Bangladesh is the Commander-in-chief of the military. The civilian administration authority of the armed forces are vested with the Ministry of Defence and headed by the Minister of Defence. This post has been usually held by the prime minister of Bangladesh who holds executive power.¹⁵⁷

- Military manpower – fit for military service:
 - 30,486,086 males, age 19–49
 - 35,616,093 females, age 19–49
- Reaching military age annually:
 - 1,606,963 males
 - 1,689,442 females
- Active personnel:
 - 157,000

Bangladesh Army

The following is the list of regional commands and formations of Bangladesh Army as of 2014.¹⁵⁸

Army Headquarters, Dhaka Cantonment

- Logistics Area Command
- 6th Independent Air Defence Artillery Brigade (Mirpur Cantonment)
- 14th Independent Engineer Brigade
- 46th Independent Infantry Brigade
- Independent Signals Brigade
- Army Aviation Group

Savar Area Command, headquartered at Savar Cantonment

- 9th Infantry Division HQ
- 9th Artillery Brigade
- 71st Infantry Brigade
- 27th Infantry Brigade

Bogra Area Command, headquartered at Majhira Cantonment

- 11th Infantry Division HQ
- 11th Artillery Regiment
- 93rd Armoured Brigade
- 111th Infantry Brigade

Ghatail Area Command, headquartered at Shahid Salahuddin Cantonment

- 19th Infantry Division HQ
- 19th Artillery Regiment
- 77th Infantry Brigade (Mymensingh Cantonment)
- 309th Infantry Brigade
- 98th Composite Brigade (Jamuna Bridge)

Chittagong Area Command, headquartered at Chittagong Cantonment

- 24th Infantry Division HQ
- 24th Artillery Brigade (Guimara Cantonment)
- 65th Infantry Brigade (Kaptai Cantonment)
- 69th Infantry Brigade (Bandarban Cantonment)
- 203rd Infantry Brigade (Khagrachari Cantonment)
- 305th Infantry Brigade (Rangamati Cantonment)

Comilla Area Command, headquartered at Comilla Cantonment

- 33rd Infantry Division HQ
- 33rd Artillery Regiment
- 44th Infantry Brigade
- 101st Infantry Brigade

Jessore Area Command, headquartered at Jessore Cantonment

- 55th Infantry Division HQ
- 55th Artillery Brigade
- 21st Infantry Brigade
- 88th Infantry Brigade
- 15th Armored Brigade

Rangpur Area Command, headquartered at Rangpur Cantonment

- 66th Infantry Division HQ
- 66th Artillery Brigade
- 16th Infantry Brigade
- 72nd Infantry Brigade
- 222nd Infantry Brigade (Saidpur Cantonment)

Sylhet Area Command, headquartered at Jalalabad Cantonment

- 17th Infantry Division HQ[1]
- 18th Infantry Brigade
- 32nd Infantry Regiment
- 33rd Infantry Regiment
- Total Bangladesh Army Strength: 100,000¹⁵⁹

Bangladesh Navy

Strength: 10,900 (940 officers)

Organization/ Formation:¹⁶⁰

- Chief of Naval Staff Director,
- Naval Operations
- Assistant Chief of Naval Staff (Personnel)
- Assistant Chief of Naval Staff (Logistics)
- Assistant Chief of Naval Staff (Material)
- Assistant Chief of Naval Staff (Operations)
- Director General Coast Guard

Bangladesh Air Force

The Bangladesh Air Force was officially constituted in 1972 after Bangladesh's War of Independence. It started with a few left over aircrafts and equipment of the Pakistan Air Force (mostly F-86 Sabres) augmented by other donated equipment from India (C-47 Dakotas, DHC-3s and Alouette Helicopters). In spite of the lack of equipment, the nascent Bangladesh Air Force had a good number of well-trained pilots who were in the Pakistan Air Force and had distinguished themselves in combat.¹⁶¹

Currently the Air Force is mostly equipped with Chinese Air Craft – A-5s and F-7s. It has recently acquired some Mig-29s from Russia.

There are 3 airbases:

- Bashar AB (Kurmitola and Tejgaon) near the capital Dhaka;
- Zahurul Haque AB in Chittagong; and
- Matiur Rahman AB at Jessore.

Current personnel strength is around 9800 and there are 12 operational squadrons:¹⁶²

- 2 X Squadrons of F-7MB fighters
- 1X Squadron of FT-6/A-5IIIA fighter-bombers
- 1X Squadron of Mig-29 multi-role fighters
- 1X Squadron of L-39 ZA light combat aircraft
- 1X Squadron of T-37 Jet Trainer aircraft
- 1X Squadron of PT-6 Basic Trainer aircraft
- 1X Squadron of An-32 transport aircraft
- 1X Squadron of C-130/Mi-17/Bell-212 for

VIP/VVIP flying

- 1X Squadron of Bell-212 helicopter
- 1 X Squadron of Mi-17 helicopter
- 1X Squadron of Bell-206 helicopter

Bangladesh Paramilitary

The main paramilitary force of the country is the Border Guard Bangladesh (BGB). It is the oldest uniformed force in Bangladesh. It is a paramilitary force under the Ministry of Home Affairs. BGB is primarily responsible for the border security of the country, and in Bangladesh the force is known as “The Vigilant Sentinels of the National Frontier”.¹⁶³

Disaster Management Organizations in Bangladesh

A list of contacts is included with the intent to provide planners and deploying personnel initial contacts for disaster management-related organizations in Bangladesh. Table 3 lists the disaster management organizations in Bangladesh.

Participation in International Organizations

Bangladesh participates in a number of international organizations:

Asia Development Bank (ADB), ASEAN Regional Forum (ARF), Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), Community of Democrats (CD), CICA (observer), Organization for Economic Cooperation (D-8), Food and Agriculture Organization (FAO), Group of 77 (G-77), International Atomic Energy Agency (IAEA), International Bank for Reconstruction and Development (IBRD), International Civil Aviation Organization (ICAO), International Chamber of Commerce (ICC) (national committees), ICRM, International Development Association (IDA), Inter-American Development Bank (IDB), International Finance Corporation (IFC), International Federation of Red Cross and Red Crescent Societies (IFRCS), International Hydrographic Organization (IHO), International Labour Organization (ILO), International Monetary Fund (IMF), International Organization for Migration (IMO), International Mobile Satellite Organization (IMSO), International Criminal Police Organization

(Interpol), International Olympic Committee (IOC), International Organization for Migration (IOM), Inter-Parliamentary Union (IPU), International Organization for Standardization (ISO), International Telecommunications Satellite Organization (ITSO), International Telecommunication Union (ITU), International Trade Union Confederation (ITUC), Multilateral Investment Guarantee Agency (MIGA), UN Mission for the Referendum in Western Sahara (MINURSO), United Nations Multidimensional Integrated Stabilization Mission in Mali (MINUSMA), United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO), Non-Aligned Movement (NAM), Organisation of Islamic Cooperation (OIC), Organisation for the Prohibition of Chemical Weapons (OPCW), Permanent Court of Arbitration (PCA), South Asian Association for Regional Cooperation (SAARC), South Asia Co-operative

Environment Programme (SACEP), United Nations (UN), African Union/United Nations Hybrid operation in Darfur (UNAMID), United Nations Conference on Trade and Development (UNCTAD), United Nations Educational, Scientific, Cultural Organization (UNESCO), United Nations High Commission for Refugees (UNHCR), United Nations Industrial Development Organization (UNIDO), United Nations Interim Force in Lebanon (UNIFIL), United Nations Mission in Liberia (UNMIL), United Nations Mission in South Sudan (UNMISS), United Nations Operation in Côte d'Ivoire (UNOCI), World Tourism Organization (UNWTO), Universal Postal Union (UPU), World Customs Organization (WCO), World Federation of Trade Unions (WFTU), World Health Organization (WHO), World Intellectual Property Organization (WIPO), World Meteorological Organization (WMO), and World Trade Organization (WTO).



 <p>Action Aid</p>	<p>Country Office</p>	<p>Aab.mail@actionaid.org 880 2 883 7796</p>	<p>Action Aid has worked in Bangladesh since 1983. Programs vary by district, but most focus on children, health, and disaster resilience. The organization also has a large program related to flooding preparedness.¹⁶⁴</p>
 <p>Adventist Development and Relief Agency</p>	<p>Country Office</p>	<p>adra@adrabd.org 88 02 903 4096</p>	<p>ADRA concentrates its efforts in community-based development activities and disaster preparedness, while also cooperating with other governmental and NGO agencies and organizations in fulfilling this goal. Areas of concentration include building civil society, economic development, food security, health, education, and disaster response and management. Disaster preparedness activities include advocacy and training of local partners in disaster prevention, mitigation, and preparedness, as well as direct interventions in disaster rescue, relief, and rehabilitation. ADRA is a member of the Disaster Emergency Response (DER group) a LCG (Local Consultative Group) in Bangladesh¹⁶⁵</p>
 <p>Aid Organization</p>		<p>info@aidobd.org 88 02 0431 64337</p>	<p>Aid Organization is a national NGO working in the field of disaster management, poverty alleviation, education, environment protection & climate change, human rights and advocacy, water and sanitation, waste management, health & nutrition, TB & HIV-AIDS, agriculture, improved cook stoves, micro credit and micro enterprise technical support program with assistance from community people, local government, GOB officials and donors.</p>

Table 3: Disaster Management Organization in Bangladesh






 <p>Bangladesh Disaster Preparedness Center (BDPC)</p>		<p>info@bdpc.org.bd 880 2 986 2169</p>	<p>BDPC is a non-profit, nongovernment organization that since 1992 has provided guidance, advice, inputs and knowledge towards capacity development of actors and institutions engaged in disaster management and risk reduction activities in Bangladesh. It is engaged in disaster management programs including research and publication, advocacy and lobbying, strategy formulation, training, media materials development, message dissemination, post-disaster response planning and intervention, and evaluation.¹⁶⁶</p>
 <p>BRAC</p>	<p>Country Office</p>	<p>info@brac.net 880 2 988 1265</p>	<p>BRAC was founded in Bangladesh in 1972, and is now a global development NGO. In Bangladesh, it works to enhance capacity and disaster preparedness.¹⁶⁷</p>
 <p>Food and Agriculture Organization (FAO)</p>	<p>Representative Office</p>	<p>FAO-BD@fao.org 880 2 811 8015-8</p>	<p>FAO in Bangladesh was established in 1973. Focus areas include agriculture, food, forestry, fisheries, livestock, rural development and climate change. FAO in Bangladesh also works to increase food security and food safety. There are three offices in total.¹⁶⁸</p>
 <p>Foundation for Disaster Forum</p>		<p>info@disasterforum.org 880 2 912 8963</p>	<p>The Foundation for Disaster Forum (DF) is a Dhaka-based National Disaster Preparedness Network of 70 humanitarian and development agencies, research institutions, government departments and independent activists who are working on various disaster and environmental issues with special focus on preparedness.</p>
 <p>NIRAPAD</p>	<p>National Organization</p>	<p>nirapad@nirapad.org.bd 880 2 814 3729</p>	<p>Launched in 1997, NIRAPAD is an open coalition established by CARE Bangladesh along with its disaster management partner NGOs. All 23 members under the coalition gather disaster information and disseminate it to a wider stakeholder audience for better response and preparedness.¹⁶⁹</p>

Table 3: Disaster Management Organization in Bangladesh (cont.)

International Agencies in Bangladesh

Table 4 lists the international agencies in Bangladesh.

 <p>Asia Development Bank (ADB)</p>	Resident Mission	88 02 5566 7000	The ADB sectors critical to attaining and sustaining socioeconomic development. Assistance covered many sectors but focused on agriculture and natural resources, education, energy, transport, finance, and urban development. ADB has supported the Emergency Flood Damage Rehabilitation Project, which helped restore infrastructure and the livelihoods of people, particularly the vulnerable poor. ¹⁷⁰
 <p>Australian High Commission Bangladesh</p>	Australia Department of Foreign Affairs and Trade (DFAT)	880 2 5881310-05	Australia runs a significant development assistance program in Bangladesh. Their focus is on education and building economic resilience with a strong focus on women's empowerment and gender equality. ¹⁷¹
 <p>CARE Bangladesh</p>	Country Office	info@bd.care.org 880 2 911 2315	In Bangladesh CARE works on women empowerment; food security; workforce engagement; good governance; health; education; private sector engagement; and climate change & DRR. Programs exist in Barendra, Char, Midlands, Haor and coastal areas. ¹⁷²
 <p>German Development Cooperation</p>	Country Office	giz-bangladesh@giz.de 880 966 6701 000	GIZ concentrates on renewable energies, energy efficiency, good governance, rule of law, human right, and adaptation to climate change in urban areas. ¹⁷³

Table 4: International Agencies in Bangladesh

ORGANIZATIONAL STRUCTURE






 <p>International Federation of Red Cross and Red Crescent Societies (IFRC)</p>	<p>Bangladesh Red Crescent</p>	<p>chairman@bdracs.org 880 2 831 9366</p>	<p>The Bangladesh Red Crescent provides six major services: Blood Services, Disaster Management Services, Safety Services, Health Services, Social Services, Red Cross Youth and Volunteer Services. There are 7 branch offices throughout the country.¹⁷⁴</p>
 <p>International Labour Organization (ILO)</p>	<p>Country Office</p>	<p>DHAKA@ilo.org 880 2 911 2836</p>	<p>The ILO has been active in Bangladesh since 1972. Focus areas include alleviating poverty and creating employment opportunities through technical vocational education and training reform, combating worst forms of child labor, promoting green jobs, improving occupational safety and health standards, and protecting the rights of migrant workers.¹⁷⁵</p>
 <p>International Monetary Fund</p>	<p>Resident Representative</p>	<p>RR-BGD@imf.org 880 2 950 0436</p>	<p>The IMF has significant loans on the books for Bangladesh. The money is used to safeguard macroeconomic stability; further strengthen the financial sector, business climate and labor conditions; and build fiscal space to increase the level and quality of spending on health, education, and critical infrastructure.¹⁷⁶</p>
 <p>International Organization for Migration</p>	<p>Country Office</p>	<p>iomBangladesh@iom.int 880 2 988 7978</p>	<p>IOM established its presence in Bangladesh in 1998. IOM provides support in the areas of counter-trafficking and migration. IOM has 3 satellite offices in addition to the main offices in the country.¹⁷⁷</p>
 <p>Islamic Relief</p>	<p>Country Office</p>	<p>info@islamicrelief-bd.org 880 2 989 3458</p>	<p>Islamic Relief has been active in Bangladesh since 1984. The organization promotes sustainable economic and social empowerment by working with local communities in times of disasters as well as through development programs in the sectors of child rights, gender, water and sanitation, education, sustainable livelihoods and disaster risk reduction.¹⁷⁸</p>

Table 4: International Agencies in Bangladesh (cont.)

 <p>Japan International Cooperation Agency</p>	Country Office	bd_oso_rep@jica.go.jp 880 2 989 1897	JICA in Bangladesh provides cooperation in economic growth, poverty reduction, disaster mitigation, and other development issues such as health and governance. ¹⁷⁹
 <p>Joint United Nations Programme on HIV/AIDS</p>	Program Office	KennyL@unaids.org 880 2 812 4051	National HIV prevalence remains low in Bangladesh through support from the Global Fund to Fight AIDS. ¹⁸⁰
 <p>Korea International Cooperation Agency</p>	Country Office	Koicabangladesh@gmail.com 880 2 988 4690	KOICA's focus areas in Bangladesh are Education, Governance, Industry Energy, Environment and Others. ¹⁸¹
 <p>National Alliance for Risk Reduction and Response Initiative (NARRI)</p>	National Organization	Khemraj.upadhyaya@actionaid.org 880 2 988 8006	NARRI is a consortium of eight International NGOs (INGOs) working on Disaster Risk Reduction (DRR) and Response in Bangladesh: ActionAid International, CARE International, Concern Universal, Concern Worldwide, Islamic Relief Worldwide, Oxfam GB, Plan International, and Solidarites International, with HelpAge International and Handicap International as the technical partners completing the team on disability and aging issues. ¹⁸²
 <p>Office for the Coordination of Humanitarian Affairs (OCHA)</p>	Humanitarian Advisor	ocha-roap@un.org 880 2 815 0088	In 2012, OCHA placed a Humanitarian Advisor in Bangladesh to play an advisory role to the Resident Coordinator, focusing on supporting improved humanitarian coordination mechanisms and structure, strengthening links with relevant government line ministries and specifically the Ministry of Disaster Management and Relief. ¹⁸³
 <p>Plan International</p>	Country Office	plan.bangladesh@laninternational.org 880 2 986 0167	Plan has been operating in Bangladesh since 1994, helping poor children to access their rights to health, education, economic security and protection. Plan International currently works on child protection and participation, community learning, community managed health, and disaster risk management in Bangladesh. ¹⁸⁴

Table 4: International Agencies in Bangladesh (cont.)




 Save the Children	Country Office	info.bangladesh@savethechildren.org 880 2 882 8081	Save the Children has worked in Bangladesh since 1970 and quickly delivers humanitarian relief after the nations frequent cyclones and other disasters. Their work is focused on: education, child protection, child rights governance, health and nutrition, livelihoods and food security. Save the Children has 10 satellite offices in Bangladesh. ¹⁸⁵
 Solidarites International	Country Mission	dha.hom@solidaritesbangladesh.org	Solidarites International is a France based organization that works on disaster resiliency and climate change. It is a member of NARRI, and provides humanitarian aid both pre and post disaster. ¹⁸⁶
 United Nations Children's Fund (UNICEF)	Country Office	sislam@unicef.org 880 2 556 68088	UNICEF works in partnership with the Government of Bangladesh, development partners and civil society to ensure the survival and development of children with specific focus on the poorest children to achieve global and national targets for child rights. ¹⁸⁷
 United Nations Development Programme (UNDP)	Country Office	communications.bgd@undp.org 880 2 556 67788	Since 1972, the United Nations Development Programme (UNDP) has been partnering with the people and communities of Bangladesh at various levels with significant contributions in reducing poverty, and the country's vulnerability to climate change and disaster, supporting democratic governance and sustainable, green growth. ¹⁸⁸
 United Nations High Commission for Refugees (UNHCR)	Country Office	bgdco@unhcr.org 880 2 882 6801 06	UNHCR has been active in Bangladesh since 1992. UNHCR Bangladesh works to ensure the protection of registered Myanmar refugees pending a durable solution. It provides support to more than 32,000 registered refugees in two official camps (Nayapara and Kutupalong) in the district of Cox's Bazar. ¹⁸⁹
 United Nations Office for Disaster Risk Reduction (UNISDR)		66 022882894	No country office exists in Bangladesh but the country is covered by the UNISDR Asia and Pacific office in Bangkok, Thailand. ¹⁹⁰

Table 4: International Agencies in Bangladesh (cont.)






 <p>United Nations Population Fund</p>	Country Office	bangladesh @unfpa.org 880 2 918 3049	UNFPA has been active in Bangladesh since 1974. In Bangladesh, UNFPA strives for a Bangladesh where no woman dies giving life, where people young and old enjoy their reproductive health and rights, and where violence against girls and women is no more. ¹⁹¹
 <p>The World Bank</p>	Country Office	Bangladeshinfo @worldbank.org 880 2 556 67777	The World Bank has supported Bangladesh since 1972, providing more than \$15 billion in support. The organization's primary goal is to help Bangladesh becomes a middle income country by 2021. ¹⁹²
 <p>World Food Programme (WFP)</p>	Country Office	WFP.Dhaka @wfp.org 880 2 91830 22	WFP Bangladesh supports national and local government efforts to effectively and efficiently prepare for and respond to natural disasters, as well as the impacts of climate change, by implementing various projects in selected highly disaster prone provinces. WFP also addresses the food security needs of vulnerable people. The organization has six satellite offices in Bangladesh. ¹⁹³
 <p>World Health Organization (WHO)</p>	Country Representative	registryban @searo.who.int 880 2 883 1415	WHO and the Bangladeshi government have been working together to improve the health of people. The Country Cooperation Strategy provides an in-depth analysis of the challenges and strengths, and takes into account the objectives of the MOH while detailing how WHO will support the national health development strategies. ¹⁹⁴
 <p>World Vision</p>	Country Office	880 2 9821004 11	World Vision provides emergency assistance to children and families affected by natural disasters and civil conflicts, work with communities to develop long-term solutions to alleviate poverty and advocates for justice on behalf of the poor. ¹⁹⁵

Table 4: International Agencies in Bangladesh (cont.)

U.S. Government Agencies in Bangladesh

Table 5 lists U.S. Government agencies in Bangladesh.


 <p>United States Agency for International Development (USAID)</p>	<p>Country Mission</p>	<p>idhaka@usaid.gov 880 2 885 5500</p>	<p>The USAID Mission in Bangladesh is one of the largest USAID development assistance programs in the world. USAID has been a development partner in Bangladesh since the country's independence in 1971. USAID currently dedicates its resources to promote democratic institutions and practices; expand economic opportunity; improve health and education services; increase food security and support Bangladeshi efforts to mitigate the impact of natural disasters.¹⁹⁶</p>
<p>U.S. Embassy in Bangladesh</p>		<p>DhakaPA@state.gov 880 2 5566-2000</p>	<p>The U.S. Embassy in Bangladesh provides services to U.S. citizens residing in Bangladesh. The Ambassador is assisted by the staffs of the Political/Economic/Commercial, Public Affairs, Management and Consular Sections. The U.S. Mission to Bangladesh includes several other agencies of the U.S. Government, including the U.S. Agency for International Development (USAID), the Foreign Agriculture Service of the U.S. Department of Agriculture, and the U.S. Defense Attache Office.¹⁹⁷</p>

Table 5: U.S. Government Agencies in Bangladesh

Foreign Disaster Relief and Emergency Response

Disaster Relief Program Description

Pursuant to 10 U.S.C. 404, the DOD can assist foreign countries to respond to manmade or natural disaster situations when necessary to prevent loss of lives. After the local U.S. Embassy has officially declared a disaster, the OFDA assesses the needs and priorities of the country and may request DOD assistance. The assistance may be in the form of transportation, excess property items, Humanitarian Daily Rations (HDR), or some other commodity. The Overseas Humanitarian, Disaster, and Civic Aid (OHDACA) appropriation or USAID may fund transportation of disaster relief.

Foreign Disaster Relief and Emergency Response Program Process

When a foreign country suffers a disaster, it may request assistance through the U.S. Embassy. DOS and OFDA validate the request. If deemed necessary, the DOS requests disaster relief assistance from the DOD. Assistant Secretary of

Defense (Special Operations and Low Intensity Conflict) approves the request and forwards it to Defense Security Cooperation Agency (DSCA) for action. DSCA (Programs Directorate) identifies the required supplies (HDRs, Excess Property, etc.) and works directly with the Joint Staff Logistics Directorate (J4) to provide transportation in support of disaster relief efforts.

Congressional Notification for Foreign Disaster Assistance

Not later than 48 hours after the commencement of disaster assistance activities, the President is required by law (10 U.S.C. 404) to transmit a report to Congress containing notification of the assistance (proposed or provided) and a description of the following as is available: the man made or natural disaster for which disaster assistance is necessary; the threat to human lives presented by the disaster; the U.S. military personnel and material resources involved; the disaster assistance provided by other nations or public or private relief organizations; and the anticipated duration of the disaster assistance activities.¹⁹⁸

Laws, Policies, and Plans on Disaster Management

The Government of Bangladesh has invested time and effort to integrate risk reduction into the legal infrastructure by instituting critical documents as exemplified by the Standing Orders on Disaster and the National Plan for Disaster Management. The governmental structure supporting disaster management is founded on the detailed roles and responsibilities and reflected in the administrative levels down to the community.

Information on the disaster management institutional arrangement of The People's Republic of Bangladesh was retrieved directly from the Bangladesh National Plan for Disaster Management 2008-2015 in section 10: Disaster Management Regulatory Framework. The information obtained from the plan provides a comprehensive overview of the institutional arrangements implemented in the country's DRR activities. Bangladesh's regulative framework for disaster management provides for the relevant legislative, policy and best practice framework under which the activity of Disaster Risk Reduction and Emergency Management in Bangladesh is managed and implemented.¹⁹⁹

The framework includes:

Disaster Management Act

A Disaster Management Act will be enacted with a view to create the legislative tool under which disaster risk and emergency management will be undertaken in Bangladesh, and the legal basis in which activities and actions will be managed. It will also create mandatory obligations and responsibilities on Ministries, committees and appointments. The objectives of the Act will be:

- a) To help communities to mitigate the potential adverse effects of hazard events, prepare for managing the effects of a disaster event, effectively respond to and recover from a disaster or an emergency situation, and adapt to adverse effects of climate change;
- b) To provide for effective disaster management for Bangladesh;
- c) To establish an institutional framework for disaster management; and
- d) To establish risk reduction as a core element of disaster management.²⁰⁰

National Disaster Management Policy

A National Disaster Management Policy will be formulated to define the national perspective on disaster risk reduction and emergency management, and to describe the strategic framework, and national principles of disaster management in Bangladesh. It will be of strategic in nature and will describe the broad national objectives, and strategies in disaster management.²⁰¹

Disaster Management Plans

The Bangladesh National Plan for Disaster Management is a strategic document to be effective for a certain period of time. This is an umbrella plan which provides the overall guideline for the relevant sectors and the disaster management committees at all levels to prepare and implement their area of roles specific plans. The MoFDM (now the MoDMR) is the focal ministry for disaster risk reduction and emergency management and will take the lead role in disaster risk reduction and emergency management planning. Additionally, there will be a few hazard specific management plans, such as Flood Management Plan, Cyclone and Storm Surge and Tsunami Management Plan, Earthquake Management Plan, Drought Management Plan, River Erosion Management Plan, etc. Moreover, there will be a detailed Disaster Management Plan for each District, Upazila, Union and Paurashava and City Corporation of the country. A District Disaster Management Plan will be the compilation of the Upazila Disaster Management Plans of the district. Similarly an Upazila Disaster Management Plan will be the compilation of the union disaster management plans of that Upazila prepared by the Union DMCs. DMCs at Union and Paurashava levels will be mainly responsible for conducting the risk assessments and prepare the ground level plans. Once developed those will be sent to the DMCs at one level higher – Upazila DMCs, whose role will be to verify and compile the union plans and identify the resource requirements for the Upazila.²⁰²

Standing Orders on Disaster

The Standing Orders on Disaster describes the detailed roles and responsibilities of committees, Ministries and other organizations in disaster risk reduction and emergency management, and establishes the necessary actions required in implementing Bangladesh's Disaster Management Model. The Standing Orders have been prepared

with the avowed objective of making the concerned persons understand their duties and responsibilities regarding disaster management at all levels, and accomplishing them. All Ministries, Divisions/Departments and Agencies shall prepare their own Action Plans in respect of their responsibilities under the Standing Orders for efficient implementation. The National Disaster Management Council (NDMC) and Inter-Ministerial Disaster Management Coordination Committee (IMDMCC) will ensure coordination of disaster related activities at the National level. Coordination at district, Thana and union levels will be done by the respective District, Upazila and Union Disaster Management Committees. The Disaster Management Bureau will render all assistance to them by facilitating the process.²⁰³

Guidelines for Government at all Levels (Best Practice Models)

Guidelines for Government is to be implemented at all levels are developed as best practice models, and are used to assist Ministries, Directorate, Institutions and Divisions under the Ministry, NGOs, disaster management committees and civil society in implementing disaster risk management. Guidelines will include, among others:²⁰⁴

- Disaster Impact and Risk Assessment Guideline;
- Local Disaster Risk Reduction Fund Management Guidelines;
- Emergency Fund Management Guidelines;
- Indigenous Coping Mechanism Guidebook;
- Community Risk Assessment Guidelines;
- Damage and Needs Assessment Methodology;
- Hazard Specific Risk Assessment Guidelines;
- Emergency Response and Information Management Guideline;
- Contingency Planning Template;
- Sectoral Disaster Risk Reduction Planning Template;
- Local Level Planning Template;
- National Risk Reduction Fund Management Guideline;
- National Disaster Reduction and Emergency Fund Management Guideline;
- Local Disaster Management Fund Guideline;
- Guideline for Road and Water Safety;
- Guideline for Industrial Safety;

- Guideline for Disaster Shelter Management;
- Monitoring and Evaluation Guideline for the Implementation of the Plan; and
- Guideline for International Assistance in Disaster Emergency.

Comprehensive Disaster Management Programme II (2010-2014)

The Comprehensive Disaster Management Programme (CDMP) II builds upon the foundation of CDMP I. The first phase secured the basis for institutionalizing the risk reduction framework. The management program conducts activities for knowledge building and policy support within the government and the community to reach the vulnerable populations. As a result of the program, communities have been integrating disaster risk reduction and climate change adaptation and raised their resiliency. CDMP II expands the Phase I activities and channels support through the government and development partners, civil society, and NGOs into a people centric disaster management and risk reduction alliance. Cooperation, coordination, prioritization, and allocation of resources to activities for disaster management, risk reduction, and climate change are promoted through these partnerships.²⁰⁵

Cyclone Shelter Construction, Maintenance and Management Policy 2011

The Disaster Management and Relief Division (DMRD) developed the Cyclone Shelter Construction, Maintenance and Management Policy 2011 to ensure appropriate use of the multi-purpose cyclone shelters that are currently constructed, undergoing construction, and planned for construction in the coastal areas.²⁰⁶

National Plan for Disaster Management 2010-2015

The Government of Bangladesh developed the National Plan for Disaster Management (NPDM) 2010-2015 as an implementing measure related to the Hyogo Framework for Action and the SAARC Framework for Action (SFA). The plan utilizes a model with three key components to guide disaster risk reduction and emergency response management efforts in the country.²⁰⁷

The first model element involves defining and re-defining risk environments to promote both traditional and formal hazard analysis.

Steps in the first element included the following:

- Establish the context by understanding the social, political and community environment;
- Identify hazards and risks by establishing what are the likely threats;
- Analyze the risks by understanding the likelihood and consequences;
- Evaluate the risks by ranking risks in priority; and
- Identify risk treatment strategies by determining what can be done to eliminate, reduce or manage risk.

The second model element involves managing the risk environment to promote the design of risk reduction strategies through the Community Bases Adaptation Programs as an outcome of the risk assessment process. This approach helps to ensure Prevention, Preparedness, Response and Recovery programs are multi-hazard focused and risk specific to enable better understanding by the communities of the changing risk environment and encourage resiliency through proactive efforts.

The third model element involves responding to the threat environments and the actual threat situation. The intent is to assist disaster management officials by defining the difference between risk reduction and emergency response and how understanding risk environments can influence and improve emergency response systems and decisions. Responses can include alert and activation in the warning period, response in disaster onset, and relief, early recovery and rehabilitation for the post disaster period.

The NPDM is the result of the national and international commitments of the Government of Bangladesh (GoB) and the Disaster Management and Relief Division (DM&RD). The plan comprehensively addresses disaster risks and encapsulates the GoB Vision and Ministry of Foreign Disaster Management (MoFDM) to 1) create a paradigm shift from the conventional disaster response and relief to a risk reduction culture and 2) strengthen the capacity of the Bangladesh management system by improving the response and recovery management at all levels. The strategy is intended to reduce the effects of natural, environmental, and human induced hazards on the vulnerable population.

The scope of the plan involves seven key areas.

1. Analyze the natural and man-made disaster threats to include climate change

in relation to the people, society, economy, and infrastructure and identify where, and when the threats are most likely to occur with the frequency.

2. Identify the vulnerabilities of the population and the country to the disaster threats and potential impact.
3. Identify measures to prevent, mitigate, and prepare for the threats.
4. Determine prevention, mitigation, and preparedness responsibilities of the government, non-governmental organizations (NGOs) and private sector.
5. Fund disaster reduction and disaster relief activities through the national budget for all administrative levels.
6. Ensure disaster relief and post-disaster recovery costs are managed by a high level committee to prevent waste and duplication across the donor agencies, government, national and international NGOs, and the private sector.
7. Ensure the government has an effective system to connect and coordinate planning, management of sustainable development, environmental management, and disaster reduction.

National Plan on Disaster Management 2016-2020

The Government has been developing the National Plan on Disaster Management 2016-2020. This national plan will be coordinated with the writing of the National Adaptation Plan. The Climate Change and Disaster Management document references the disaster management plan.²⁰⁸

Sixth Five Year Plan 2011-2015

The Sixth Five Year Plan 2011-2015 is the sixth development plan in the series which the Government of Bangladesh initiated in 1973. The fundamental task of the plan at the operational level is to develop strategies, policies, and institutions which will allow Bangladesh to increase growth and reduce poverty. The plan seeks to reduce natural disaster and climate change risks by strengthening the social protection programs. In the development document, the Government focuses on disaster risk reduction to decrease the suffering of the communities as a result of any disaster. Pursuing an environmentally sustainable development process is one of the key strategic elements of the plan. The environmental management strategy

concentrates on conserving and maintaining natural resources, reducing air and water pollution, and saving encroached waterways (rivers and water bodies) and forest or khas land/state-owned land (typically along coasts and rivers).²⁰⁹

Seventh Five Year Plan 2016-2021

The Government of Bangladesh is developing the Seventh Five Year Plan for 2016-2020 and utilizing 28 background papers which are generally sector specific as a basis. The Government is planning risk reduction approaches due to the nation's susceptibility to high intensity and climate induced hazards and increasing occurrence of these types of events. The theme of the plan is "Accelerating Growth: Empowering Every Citizen." View exchange meetings have been held with various sectors such as economists from the Economic Department of Dhaka University. The economists emphasized the need to concentrate on infrastructural development, resource mobilization, and building skilled human resources towards achieving the goal of a middle income country. Climate Change Adaptation (CCA) will be fully mainstreamed into the Annual Development Plan during the time period of the Seventh Five Year Plan. The intent is to institute a whole-of government approach in climate change readiness for planning and capacity building, in addition to designing bankable programs and projects, financing, implementation and monitoring mechanisms. The Bangladesh Climate Change Strategy and Action Plan (BCCAP) are revised to synchronize with the Seventh Five Year Plan.²¹⁰

Bangladesh Perspective Plan 2010-2021 (Vision-2021)

The Bangladesh Perspective Plan 2010-2021 is the long term development plan also named Vision 2021. The plan is described by the Department of Disaster Management as the stepping stone and guideline for the sectoral, yearly development, and public investment plans. The plan strategically describes the development of vision, mission, and goals of government as it progresses to a middle income country by 2021. This road map for accelerated growth includes expansive approaches to eliminate poverty, inequality, and human deprivation. Development priorities within the plan which will foster risk reduction for the country include mitigating the impact of climate change, and building a sound infrastructure.²¹¹

Education and Training

National and local level training and awareness programs have been organized by the Ministry of Disaster Management and Relief (MoDMR) and other ministries. The Government and public education system have actively incorporated disaster risk reduction (DRR) and climate change adaptation (CCA) into programs.²¹²

The Comprehensive Disaster Management Program (CDMP) was implemented to strengthen the Bangladesh Management System and shift the disaster approach from reactive to proactive risk reduction. The CDMP is a collaborative initiative of the MoFDM (now MoDMR) and UNDP. The National Society for Earthquake Technology-Nepal (NSET), Asian Disaster Preparedness Centre (ADPC), Oyo International Corporation (OIC) – Japan, and Asian Institute of Technology (AIT) – Thailand partner with the Government of Bangladesh to provide technical services to execute the CDMP. One of the three main projects involves training, advocacy, and awareness with regards to earthquake and tsunami hazards. The training objective speaks to the development of trainings, drills, advocacy, and awareness activities for a cross-section of the people from government officials to the community level. Training activities encompass training for teachers, engineers, masons, government officials, policy makers, and others. As a result of the program, training curricula for the different audiences have been developed and will be continued to be used for the people.²¹³

Elected representatives and members of 4486 Union Parishad received DRR and CCA training in 2011 that was integrated into the National Institute of Local Government (NILG) process. The Institute of Disaster Management was established by the Director General of Health Services to conduct certified training for medical staff on disaster induced health crisis management. The Bangladesh Public Administration Training Centre (BPATC) and 11 other training institutes together with 17 private and public universities offer certificates, diplomas, honors, and masters disaster management courses with CDMP support. An estimated 700+ students enroll in the courses each time according to the course schedules.

Twenty-two universities and institutes created disaster management reference areas for people to access. Access to disaster management

training and reference materials by government officials and NGO workers have been facilitated through the CDMP. The program finances 300+ individual items related to research, operational guidelines, training manuals, and related products and enabled the creation of the Department of Disaster Management's e-library.

Two major networks have been developed with the Climate and Disaster Risk Reduction Community (CDRR) and the Bangladesh Disaster Knowledge Network (BDKN). The UNDP promoted the CDRR which has more than 470 participants in the online network to include members from Parliament, Academia, Government officials, and DRR and CCA stakeholders. The MoDMR founded the BDKN which is comprised of 30 partner organizations such as Government offices, NGOs, community based organizations, scientific and research organizations, and universities.²¹⁴

Critical infrastructure development and disaster preparedness assistance are provided by international organizations such as the Japan International Cooperation Agency (JICA) and SDMC. JICA sponsored a project on disaster resistant techniques of construction and retrofitting for the Engineers of Public Works Department (PWD). The University of Dhaka works with SDMC on the regional training program for river bank erosion and embankment safety management.

Disaster preparedness has been incorporated into primary and secondary schools since 2004. The Bangladesh 2010 Education Policy identifies disaster preparedness as a core topic to be integrated into curriculum to build student capabilities related to climate change and natural disasters. The schools also conduct earthquake awareness and preparedness drills.²¹⁵

Volunteers

Over 16 million people volunteer each year in areas such as education, health, environmental protection and disaster response.²¹⁶ Training volunteers is important for disaster response and recovery therefore the government invests time and effort to expand the volunteer pool. The CDMP strengthens national capacity to manage risks related to disasters and manage the immediate response and recovery efforts with volunteers. The CDMP has supported Bangladesh Fire Service and Civil Defence in training and development of 26,465 urban community volunteers. These volunteers successfully took part in search and rescue operation of

fire, landslide and building collapse incidents including catastrophic Rana Plaza (April, 2013) rescue operation. CDMP also supported Cyclone Preparedness Programme (CPP). Over 49,365 CPP volunteers have been trained. The CPP played the fore front role during tropical storm Mahasen (2013) response that successfully evacuated people to safe shelters.²¹⁷

The Government of Bangladesh expanded the CPP to encompass all coastal districts. In the South-West coast area of the country over 6,540 volunteers were trained under the program. Over 20,000 NGO staff has received disaster management training while 65,000+ Livestock Office staff and 400 journalists obtained training on the bird flu. Media personnel have also been the recipient of disaster risk reduction training organized by the National Institute of Mass Communication and the SAARC Disaster Management Centre (SDMC).²¹⁸

In May 2013, more than 3.5 million people were evacuated through an effective early warning system and a network of 48,540 trained volunteers to prepare for Cyclone Mahasen to hit Bangladesh. UNDP trained staff at the Bangladesh Meteorological Department to help track tropical storms with modern equipment connecting them to international weather forecasting agencies.²¹⁹

There are many Urban Community volunteers that respond within their communities. For instance, in May 2016, a fire broke out at Kolabagan Slum, Tongi, Bangladesh. Ten rooms caught fire but volunteers extinguished the fire before fire fighters responded. Many volunteers attended training from CARE Bangladesh during a disaster preparedness tracking. The volunteers threw water and sand from all sides of the fire to extinguish it. CARE is implementing Building Resilience of the Urban Poor (BRUP) Project through its local partner VERC with the financial assistance of C&A Foundation. BRUP is trying to address both shocks and stresses by simultaneously working at both community and institutional levels, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030 and Bangladesh National Plan for Disaster Management. Under this project, a number of two hundred Urban Community Volunteer have been trained by the BFSCD.²²⁰

Just days before Cyclone Mora struck Bangladesh's South West coastline in May 2017, IFRC initiated its cyclone contingency plan and activated its emergency control room to prepare for the disaster. Around 55,000 CPP volunteers

and 800 Red Crescent Youth volunteers were out in full force in 15 of the country's coastal districts to disseminate early warnings in communities that would be affected by the cyclone. Bangladesh Red Crescent Society (IFRC) volunteers assisted affected areas with emergency relief, with a focus on water, sanitation and hygiene promotion activities, shelter, and food security. The Red Crescent distributed dry food supplies to around 25,000 people after the cyclone made landfall. IFRC released its Disaster Relief Emergency Fund (DREF) to provide food and other emergency relief items to people taking refuge in temporary shelters. After Cyclone Mora struck, Bangladesh experienced torrential rains that worsened the damage and caused landslides. The Bangladesh Red Crescent Society mobilized 60 Red Crescent youth volunteers and 7 officers for search and rescue, first aid and evacuation activities in response to the landslides.²²¹

Women volunteers in particular have a huge impact in disaster response primarily because they can bridge the cultural issues in Bangladesh. These women volunteers are able to care for, and convince evacuation to women who believe their role is to protect the household or livestock.

Disaster Management Communications

Early Warning Systems

The Bangladesh Meteorological Department (BMD), Ministry of Defence has the mission to provide effective meteorological and seismological services to protect life, property, and the environment with intent of increasing safety on land, sea, and air, increasing the quality of life, and sustainable economic growth.

An overview of BMD responsibilities involve the following:

- Monitor and issue forecasts and warnings of all meteorological events to include tropical cyclone, severe thunderstorm/ tornadoes, heavy rainfall, cold and heat waves, etc.;
- Issue short, medium, and long-range forecasts for agricultural planning;
- Provide Flood Forecasting and Warning;
- Centre with rainfall data, forecasts/ warnings, radar and satellite imaging for flood forecasting and warning system operations;
- Provide seismological information in and around the country along with Tsunami Advisories and warnings to the

- Government and public;
- Provide take-off, landing, and route forecasts for all international, domestic, and other special flights; and
- Supply and facilitate climate data application and information to the Government and private agencies for planning and performance of socioeconomic development activities.²²²

Responsible Agencies for Flood and Storm Warning

Disaster preparedness is a high priority for the Government of Bangladesh as the country is one of the world's most natural disaster prone nations. Investing in disaster preparedness such as storm, cyclone, and flood warning systems saves thousands of lives. The international community, bilateral agencies, and NGOs have been partnering with Bangladesh to strengthen the end-to-end early warning systems. The Regional Integrated Early Warning System for Africa and Asia (RIMES) as funded by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) trust fund has supported the country in the development of long-lead flood forecasting and concurrent monitoring of depressions and cyclone formation on the Bay of Bengal.

Improved weather and flood forecast products with better lead times have been a focus of the RIMES work in country. The Bangladesh Meteorological Department and Flood Forecasting and Warning Center (FFWC) have been the recipient of new technology, which has been integrated into their operations. At the national level and local levels, forecast products were shared for use in disaster risk management, planning and decision making.

Specific technical details of RIMES support include:

1. Longer-lead Flood Forecasting
 - Enhanced the 1-10 day flood forecast technology for disaster preparedness in Bangladesh;
 - Piloted the application in preparedness planning and decision making of experimental 1-10 day forecasts in pilot areas. Based on outcomes, the enhanced 1-10 day flood forecasting system has been operationalized by FFWC; and
 - Efforts to expand coverage of 1-10 day flood forecasting system from current 18 river stations to all 38 stations of FFWC.

2. 20-25 day and Seasonal Forecasting
 - Operationalizing 20-25 day and seasonal forecasting schemes; and
 - Capacity building activities to enable intermediary users and communities to use forecast products.
3. Flash Flood Early Warning
 - Enhancing flash flood early warning system in Northeast Bangladesh for longer lead time.

Collaboration with the Bangladesh Meteorological Department (BMD)

1. Weather/ extreme weather events forecasting:
 - Daily provision of weather simulation outputs for BMD weather forecasting
 - Monitoring of typhoons and other extreme events and provision of simulation products up to a day
2. Numerical Weather Prediction: Capacity building in the use of customized Weather Research Forecasting model increased lead time of weather forecasts from 24 to 72 hours. Model products are uploaded daily to the BMD website.
3. Storm Surge Modeling: Enhanced capacity in generating high-resolution storm surge and wave forecasts at coasts.
4. Concurrent Monitoring of Depressions and Cyclone Formation and Tracking: RIMES assists BMD in concurrent monitoring of depressions and cyclone formation in the Bay of Bengal using an advanced model to spot favorable conditions for cyclone formation, with a lead time of up to 7 days. The model is integrated at a greater resolution, currently at 9 km, which can be further improved to 3 km resolution.
5. Monsoon Forum: A twice a year dialogue with national and local level forecast users.
6. Pre-Impact Assessment Tool Development: Developing a RIMES Decision Support System for assessing potential hazard impact based on forecast information. Impact outlooks can guide preparation of response options/ management actions for minimizing loss of lives, livelihood, and properties.²²³

Disaster Messaging

Flood forecasting lead time has been improved from three days to five days as a result of the partnership between the Flood Forecasting and

Warning Centre (FFWC) and the Comprehensive Disaster Management Programme II (CDMP). Advanced lead time potentially saves lives, livelihoods, and assets of the population residing in the vulnerable floodplains. This warning notification improvement is significant as 80 percent of Bangladesh is comprised of fertile alluvial plains and agriculture is a key economic sector accounting for 47.5 percent of the labor force and 29 percent of the GDP. The longer flood notification lead time possibly reduces 20 percent crop loss due to severe flooding.

The CDMP collaborated with Bangladesh Teletalk Ltd, a state owned Mobile Phone Company, BMD, and the Flood Forecasting and Warning Centre (FFWC) to introduce Interactive Voice Response (IVR) into the early warning system. Over 110 million cell-phone users in country can dial 10941 for direct access to early warnings of approaching hydro-meteorological disasters.²²⁴

State-run Media

Freedom House, an independent watchdog group committed to the development of media freedom around the world ranked Bangladesh's media environment as partly free in 2013. The Bangladesh constitution allows freedom of expression, but restrictions apply. The Ministry of Information is responsible for broadcasting licensing and any issues for both commercial and community outlets. The National Broadcasting Policy was drafted and provides requirements which restricts broadcast media content and restricting programming which are critical of state priorities or anything threatening to national security or sovereignty. Journalists in Bangladesh are at times threatened and attacked by organized crime groups, party activist and Islamic groups. The main threat to journalists comes from the country's security forces which include police and military intelligence. Reasons are mainly due to journalists reporting on political protests and other sensitive events.²²⁵

Privately-owned print media provides many views but political articles remains partisan. Private broadcasting has expanded over the years with many of them being owned by people with close political or official affiliations. The state owns or influences many of the broadcast organizations. Private organizations are required to air only selected government-produced segments and political speeches. Print media in Bangladesh receives more slack than broadcasters and news media. Many private news stations

were closed by authorities for covering protests. In 2012, the government blocked sites such as YouTube and Facebook due to anti-Islam videos and blogs. Due to the increase of these social media outlets, the government monitors internet activity regularly. In March 2013, an official committee was brought together to monitor blogs and social media sites to identify individuals producing anti-Islamic content.

In Bangladesh, the most popular medium is television especially amongst the population living in the cities. Large audiences watch satellite and cable channels and Indian T.V. stations. Bangladesh Television (BTV) is the premier terrestrial state owned TV channel and fulfills an important role in reporting significant international and national events across the country. Radio Bangladesh or Bangladesh Betar is the main state owned radio station which covers almost the entire country. BTV and Radio Bangladesh disseminate pre-disaster and alert information to the people under government orders. Bangladesh Betar plays a major role in conveying information during the stages of pre-disaster, disaster, and post disaster. Major news agencies in the nation include Bangladesh Sangbad Sangstha (BSS) and United News of Bangladesh (UNB). BSS is state owned while UNB is private sector owned however each organization is considered an important news source. Public and private newspapers, radio stations, and television channels carry information in English and Bengali to the people. BBC World Service programs and Voice of America are broadcast and noted as important

services which provide regional and global coverage. The Ministry of Information is also actively involved with mass media to help encourage the population in the face of a disaster and to guide them in preparations.²²⁶

Military Role in Disaster Relief

The Standing Orders for Disaster document sets forth the major roles and responsibilities for the Armed Forces Division (AFD), in conjunction with the Army, Navy, and Air Force in disaster management. Upon directives from the Ministry of Food and Disaster Management, the AFD aids civil authorities in disaster management and overall relief operations. Army, Navy, and Air Force personnel could be deployed down to the sub-district level to engage in the relief operations.²²⁷

During a disaster, a monitoring cell will be activated to coordinate with the ministries to include the Ministry of Foreign Affairs (MOFA), Ministry of Home Affairs (MOHA), Civil Aviation, Ministry of Food and Disaster Management, Ministry of Health, and the Armed Forces.

Key Roles of the Military in National Level Committees

Military representatives support the key national level committees to assist with national level guidance and decision-making. Table 6 lists the national committees and the representatives.

National Committee	Committee Representative
National Disaster Management Committee	Chief of Staff for Bangladesh Army, Navy, Air Force (for each component)
Inter-Ministerial Disaster Management Coordination Committee	Secretary, Ministry of Defense
National Disaster Management Advisory Committee	Director, OPPs and Plans, Armed Forces Division
Earthquake Preparedness Awareness Committee	Director, OPPs and Plans, Armed Forces Division
National Disaster Response Coordination Group	Principal Staff Officer, Armed Forces Division
Committee for Focal Points Operational Coordination Group	Representative, Armed Forces Division
Disaster Management Training and Public Awareness Task Force	Representative, Armed Forces Division

Table 6: Bangladesh National Committees and Committee Representatives

The Armed Forces Division

The Armed Forces Division (AFD) of Bangladesh is comprised of three uniformed military services which include the Bangladesh Army, Bangladesh Navy, and Bangladesh Air Force. The division functions as an extension of the Prime Minister's office which develops policies, issues Government approval for Armed Forces deployment, and coordinates between the Services Headquarters. The organization is the principal government structure for operational and administrative Armed Forces coordination and has the authority to direct and control the Services as guided by the Prime Minister. The AFD actively engage as peacekeepers under the United Nations Department of Peacekeeping Operations and has been one of the largest contributors of troops for the effort.

The overall responsibilities of the AFD include providing military support by request/requisition of the MoFDM, aiding civil authorities, developing earthquake contingency plans, conduct of drills, and reporting to the various disaster management agencies.

The AFD will assist the affected population with:

- Transportation of relief goods by Air Force assets (helicopter and fixed wing aircraft) from Dhaka;
- Transportation of relief goods in impacted districts through road and river routes using Army, Navy, and civil resources;
- Augment civil health care services with the Armed Forces Medical Teams;
- Clear roads and restore road connections; and
- Assist in telecommunication restoration efforts.

The Standing Order for Disasters details the AFD responsibilities by the risk reduction, emergency response (normal and alert/warning), and disaster stages. In addition to discharging normal responsibilities, the division will take the following steps to implement its own action plans to cope up with the disasters.

Risk Reduction

- Develop a sectoral risk mitigation and preparedness strategy plan through the conduct of a detailed sectoral risk assessment of the AFD and prepare earthquake contingency plan for AFD.
- Provide a budget for the implementation of the plan.

- Establish an monitoring and evaluation system to ensure efficient resource use.
- Develop an earthquake preparedness policy and provide training to all staff and conduct staff education and awareness training on earthquakes and other natural hazard.
- Organize earthquake preparedness and emergency management drills.
- Prepare a detailed plan of action including the use of search and rescue equipment, infrastructure, relief items, and the security of the affected people.
- Initiate a mapping policy for earthquake vulnerable areas and the possible damages and loss.
- Establish a sectoral risk communication system for the division.
- Develop a sectoral contingency plan of risk reduction and management activities for the AFD.

Emergency Response-Normal Times

1. Designate a Disaster Management Focal Point and inform all concerned.
2. Establish an contact and liaison with CCDR, NDRCG, and MoFDM.
3. Ensure appropriate preparedness to include the required equipment of the three services to support security, evacuation, and rescue of the people in disaster prone areas prior to the season starting.
4. Arrange disaster management training for the task force and form a group of Armed Forces for emergency deployment for relief, rescue, and evacuation.
5. Develop a plan and allocate the necessary budget for disaster emergency operations.
6. Provide a budget for disaster preparedness and management affairs.
7. Plan with the DMB, DM&RD for the support of the AFD to aid civil authorities based on requisition and request.
8. Train the Task Force Commander in emergency response, relief, and recovery.
9. Ensure safety and security of installations, establishments, equipment, personnel and resources.
10. Prepare a contingency plan.

Emergency Response -Alert and Warning Stage

1. Operate the Control Room, Prime Minister's Monitoring and Coordination Cell 24x7.

2. Maintain connection with the EOC and the DM&RD, MoFDM.
3. Maintain readiness of appropriate units of the Army, Navy, and Air Force for conduct of rescue, evacuation and relief operations as requisitioned.
4. Ensure preparedness for Task Force deployment in event of a disaster to identified areas.

Emergency Response -Disaster Stage

1. Deploy the Armed Forces for disaster response, relief, and rehabilitation to aid civil authorities as requisitioned.
2. Collection information on the rescue, relief and rehabilitation support and report to the coordination cell of the Prime Minister's Office, IMDMCC, and DMRD MoFDM.
3. Support early recovery, relief and rehabilitation work as directed by the government.
4. Prepare a relief and rehabilitation operations report for the NDMC/DM&RD.

Bangladesh Army

There are 26 cantonment locations with Army personnel throughout the country. The risk reduction responsibilities and emergency response planning are similar for each military component in preparing their forces for hazards and disasters. Each component however has specific responsibilities during the following phases.

Risk Reduction

1. Conduct a detailed sectoral risk assessment of the Bangladesh Army and develop a sectoral risk mitigation and preparedness plan.
2. Provide a budget to implement the plan.
3. Establish a monitoring and evaluation system to ensure efficient resource use.
4. Provide staff education and awareness training on disaster management issues.
5. Establish a sectoral risk communication system.
6. Develop a sectoral contingency plan of risk reduction and management activities for the Army (incorporate earthquake issues) and regularly update the plan of disaster operations and management.

Emergency Response-Normal Times

1. Designate a Disaster Management Focal Point in Army Headquarters and Divisional Headquarters.
2. Assign light transports, trucks, rescue vessels and motor boats for emergency duty.
3. Undertake emergency response planning including:
 - Warning and alerting signals;
 - Communications systems;
 - Exercises and assessment of response preparedness;
 - Security of installations, equipment and personnel;
 - Responding to civil administration;
 - Identification of resources to assist response and relief operations; and
 - Identification of Task Force and reserve Task Force and Task Force to compose one infantry company, engineer, medical (first aid, doctors, nurses, medicines).
4. Prepare and continuously update own Action Plan for security and safety of people, materials, installations and equipment and review the status of preparedness.
5. Prepare operational plan for responding to the call of civil administration during disaster.
6. Impart training on Disaster Management, earthquake drills, fire drills to officers and junior soldiers in all training institutes and staff colleges on emergency response, relief and recovery.
7. Hold drills on disaster preparedness and response.

Emergency Response-Alert and Warning Stage

1. Establish the Control Room for disaster in the headquarters and concerned formation headquarters and convey the telephone no. to the Director of Military Operation (Office and Residence), control room and duty officers of the coordination cell of the Prime Minister's Secretariat and the control rooms of the MoFDM, Navy and Air Force.
2. Designate one Liaison Officer if necessary to the coordination cell of the Prime Minister's Secretariat and maintain liaison with the control room of the MoFDM.

3. Issue warning orders to all concerned and for the rapid mobilization of the army and assign duties to them in areas likely to be affected by disaster.
4. Organize Task Force in each formation to function as a Disaster Control Unit which is composed of one full infantry company, engineer, adequate first aid, doctors with medicine and nursing assistants.
5. Identify a Reserve Task Force if needed.
6. Move the Task Force to the convenient positions if needed.
7. Task Force Commander will coordinate with local civil authority for evacuation, rescue, relief, health care and rehabilitation activities.
8. Undertake any other preparedness activity if required.
9. Dispatch report on the situation and activities to the coordination cell of the Prime Minister's Secretariat.

Emergency Response-Disaster Stage

1. Keep the disaster Control Room at the Army and relevant formations headquarters operational 24x7.
2. Collect information regarding preparedness and other activities from the disaster prone areas and report to the Prime Minister's Secretariat coordination cell of the EOC of the MoFDM for NDMC/IMDMCC review.
3. Deploy Task Force in consultation with Prime Ministers Secretariat and MoFDM, as requested.
4. Assist local administration by providing:
 - Emergency Evacuation;
 - Collapse structure Search and Rescue operation;
 - Removal of dead bodies and debris;
 - Medical services including field hospital services, if necessary;
 - Disease prevention;
 - Temporary shelter; and
 - Damages, losses and needs assessments.
5. Regularly provide reports to the Prime Minister's Office coordination cell and the EOC of the MoFDM in order to keep the NDMC informed.
6. Take up any other activity considered indispensable from the humanitarian point of view.
7. Undertake relief operations in all affected areas and assist local administration for implementing rescue operations.

Emergency Response-Early Recovery and Rehabilitation Stage

1. Survey the affected areas and assess relief and rehabilitation requirements.
2. Assist the local administration in debris removal for the affected areas.
3. Assist with providing medical services to treat injured persons in the affected area and assist the agencies engaged in epidemic prevention.
4. Assist local administration in arrangements for pure drinking water.
5. Set up field hospitals, if required.
6. Assist local authorities in temporary shelters construction.
7. Participate in reconstruction and rehabilitation operations if requested by the civil administration.
8. Undertake any type of work from a humanitarian point of view for the benefit of affected people.
9. Provide detailed reports to the Prime Minister's coordination cell and the MoFDM EOC on relief and rehabilitation work for NDMC review.

Bangladesh Navy

The mission of the Navy is to defend Bangladesh from threats originating from on, above or under the sea and within the internal waters of the country, to promote and protect maritime interests, ensure maritime governance and contribute to the nation's diplomatic objectives. The responsibilities of the Navy as described in the SOD are detailed according to the disaster management phases.

Risk Reduction

1. Conduct a detailed sectoral risk assessment of the Bangladesh Navy and develop a sectoral risk mitigation and preparedness plan.
2. Provide a budget to implement the plan.
3. Establish an monitoring and evaluation system to ensure efficient resource use.
4. Provide staff education and awareness training and training on earthquake preparedness.
5. Establish a sectoral risk communication system.
6. Survey the working area and share the information with the DMB, DM&RD
7. Develop a departmental contingency plan (special emphasis on cyclones) and organize annual drills for preparedness.

Emergency Response-Normal Times

1. The Navy will designate three Disaster Management Focal Points at Naval Headquarters, Khulna and Chittagong.
2. Arrange emergency response, relief and recovery training for the Naval Force.
3. Undertake emergency response planning including:
 - Warning and alerting signals;
 - Communications systems;
 - Exercises and assessment of response preparedness;
 - Security of installations, ships, equipment and personnel;
 - Respond to civil administration; and
 - Identify resources to assist response and relief operations.
 - Identification of suitable water transports.
4. Designation of three focal points in NHQ, Khulna and Chittagong.
 - Ensure institutional arrangement for long term relief operations at short notice;
 - Operations Directorate of Naval Headquarters will keep contact with Meteorological Department/Ministry of Food and Disaster Management for receipt of warning signal;
 - Prepare a list of serviceable water transports for relief and rescue operations for use during a cyclone disaster;
 - Train staff on rescue and rehabilitation activities;
 - Test the effectiveness of Navy Action Plan adopted for Disaster Management as per Standing Orders through annual drills and take steps for its improvement.

Emergency Response-Alert and Warning Stage

1. Issue warning orders to all units.
2. Collect and exchange information with IOTWS and BMD on regular basis through Sea level Data Monitoring unit at Chittagong and during emergency will act accordingly.
3. Establish disaster control room in Naval Headquarters and provide telephone numbers of Director of Naval Operations (office and residence), control room and duty officer to the Prime Minister's coordination cell, EOC at the MoFDM, Control Room of Bangladesh Army and Air force.

4. Protect ships and installations, personnel and equipment of Bangladesh Navy likely to be affected by the disaster.
5. Designate one Liaison Officer to the Prime Minister's coordination cell of the and keep contact with the EOC at the MoFDM, and Control Room of Bangladesh Army and Air Force.

Emergency Response-Disaster Stage

1. Deploy ships, as requested to assist civil administration.
2. Assist local administration by the provision of:
 - Damages, losses and needs assessments;
 - Medical services;
 - Transport and distribution of relief goods; and
 - Restoration Communications and off shore operations.
3. Arrange requisite manpower in Control Rooms of Naval Headquarters, Chittagong and Khulna.
4. Keep all ships and stations ready for launching cyclone relief operations at short notice.
5. Naval Headquarters shall keep close liaison with the Control Room of the Prime Minister's coordination cell and EOC at the DMRD MoFDM.
6. Adopt all possible security steps in close cooperation and coordination with the concerned civil authority.
7. At the directives of Naval Headquarters the ships/stations will assist the civil authorities.
8. It will regularly send the report of the activities to the Control Rooms of Prime Minister's office coordination cell and EOC at the DMRD MoFDM.

Emergency Response -Early Recovery and Rehabilitation Stage

1. Determine relief and rehabilitation requirements after damage, losses and needs Assessment (DLNA) through the affected areas and advise AFD and DMB.
2. Assist the local administration in all possible ways for relief and rehabilitation programs in the affected areas.
3. Assist the civil authority with the distribution of relief materials among the affected people.
4. Continue assistance to the local/civil authority until the return of normalcy.

5. Prepare detailed reports on relief and rehabilitation and submit the same to the NDMC.

Bangladesh Air Force

The Air Force provided strong support during the 1988 floods and after the powerful cyclone in Chittagong in 1991. The military component supported during disasters in India, Sri Lanka, Maldives and Pakistan over the years and United Nations peacekeeping missions.

Risk Reduction

1. Conduct a detailed sectoral risk assessment of the Bangladesh Air Force and develop a sectoral risk mitigation and preparedness plan.
2. Provide a budget to implement the plan.
3. Establish an monitoring and evaluation system to ensure efficient resource use.
4. Provide staff education and awareness training and training on earthquake and disaster management.
5. Establish a sectoral risk communication system.
6. Develop and periodically update the agency contingency plan.
7. Operationalize the contingency plans by organizing annual preparedness drills and revise plans.

Emergency Response-Normal Times

1. Designate one Disaster Management Focal Point at Air Force Headquarters and stations and inform all concerned including the DMB.
2. Establish the Disaster Control Room with updated aerial maps of flood prone areas, coastal areas and offshore islands and maintain all updated particulars/data about airstrips and helipads.
3. Pre-arrange effective procedures, for the receipt of meteorological messages from Meteorological Department and other sources.
4. Prepare contingency plans for the protection of own aircraft, equipment and installations and for responding to the call of the civil authority and also formulate standing orders.
5. Undertake training on emergency response, relief and recovery.
6. Undertake emergency response planning including:
 - Warning and alerting signals;
 - Communications systems;

- Exercises and assessment of response preparedness;
- Security of installations, aircraft, equipment and personnel;
- Responding to civil administration;
- Identification of resources to assist response and relief operations;
- Identification of suitable airstrips, helipads; and
- Identification of aircraft for transport and reconnaissance.

Emergency Response-Alert and Warning Stage

1. Issue precautionary directives to all concerned.
2. Keep transport aircraft and helicopters in readiness.
3. Take precautionary steps for keeping aircraft and equipment of the Bangladesh Air Force in cyclone prone areas at a safer place.
4. Designate one Liaison Officer to the Prime Minister Coordination cell and maintain liaison with the EOC at the DMRD MoFDM and Control Room of Army and Navy.
5. Provide the telephone numbers of the Director of Air operations (Office and Residence) of control room and of duty officer to the Control Room of the Prime Minister's coordination cell, EOC at the DMRD MoFDM, and Control Room of Army and Navy.

Emergency Response-Disaster Stage

1. Keep constant watch on the cyclone/flood situation.
2. Furnish any additional meteorological information, if collected through own sources, to the concerned authority in order to supplement the information of BMD and BWDB.
3. Keep transport aircraft and helicopters ready for primary trial flight as soon as the weather becomes normal for rescue work and assessment of loss and damage on account of cyclone.
4. In case of severe floods, assist with airlifts for civil authority relief operations.
5. Ensure use of military air field for emergency search, relief, response and temporary deport of relief goods.

Emergency Response -Rehabilitation Stage

*(SOD does not note early recovery)

1. Conduct an aerial survey to assess of the nature and extent of loss and damage in cyclone/flood affected areas and send a report of findings to the NDMC and IMDMCC.
2. Evacuate seriously injured persons to nearest hospitals.
3. Supply transport aircraft and helicopters for the survey/visit of affected areas by concerned authorities.
4. Carry relief materials like food and water to the affected areas and deliver them to people by airdrop, if required.
5. Assist the civil administration, with helicopters for transportation of essential relief materials, medicines and medical teams to affected area.
6. Utilize wireless, radio, night vision technology, telephone communications of BAF as complementary to existing civil communication network for transmission of very important messages and image.
7. In the interest of overall relief operations, assume responsibility of any other activity as per directives of the government.
8. Prepare a detailed report describing all the aspects of relief operations already in hand.
9. Provide one Liaison Officer for Relief Missions (Air Force) from friendly countries.²²⁸

Bangladesh Military and International Disaster Relief Operations

Bangladesh is a founding member of the South Asia Association for Regional Cooperation (SAARC) which was established in 1985. The eight member states include Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. Bangladesh has supported SAARC partner countries for disaster relief. The military responded to the 2001 earthquake in Gujrat, India, 2004 tsunami in Sri Lanka and the Maldives and after the earthquake in Mujaffarabad, Pakistan in 2005. The Bangladesh military is recognized for their active involvement in peace keeping operations and has responded to the United Nations by serving in over 17 different war-torn countries around the world. In May 2014, H.E. Md. Nazmul Quanine became the first Ambassador of Bangladesh to assume duty at the Association of Southeast Asian Nations (ASEAN). The Ambassador was

lauded on this auspicious event for the significant role he would play in forging cooperation between ASEAN and Bangladesh within the framework of ASEAN SAARC.²²⁹

U.S. Military Support

The National Guard State Partnership Programs (SPP) is designed to foster relationships between the U.S. States and their partnered nations to exchange best practices and expertise. The Oregon National Guard SPP established a formal partnership with Bangladesh in 2008. The Oregon guardsmen built a civil military relationship and assisted with disaster-relief operations with the Bangladesh government.²³⁰ The Oregon Guard has maintained the relationship and participated with Bangladesh in exercises such as the Shanti-Doot and U.S. Army Pacific (USARPAC) Pacific Resilience (PR) Disaster Response Exchange and Exercise (DREE). Exercise Shanti-Doot was hosted by the Bangladesh Armed Forces and is a U.S. Pacific Command (USPACOM) Global Peace Operations Initiative (GPOI). The joint multinational exercise provided operations, logistics, planning, and tactical peace-keeping training to participants from 13 different countries. The Oregon National Guard provided medic staff as subject matter experts in basic self-aid and lifesaving techniques.²³¹ In 2013, the guard supported the PR DREE which provides a disaster management and response forum for experts from USARPAC, Bangladesh Armed Forces, and Bangladeshi Governmental and Civil authorities. Oregon guard members with expertise in medical first-response, search and extraction, structural engineering, logistics, and command and control exchanged ideas and information with their counterparts.²³²

Foreign Assistance and International Partners

As a natural disaster prone country, the Government of Bangladesh has been a recipient of foreign humanitarian assistance from partner nations. Islamic Relief has offices established in country and was one of the first aid agencies to respond to the crisis caused by Cyclone Sidr. The agency issued early warnings to the communities and assisted the evacuations to cyclone shelters prior to the impact of the cyclone. After the cyclone impact, Islamic Relief workers conducted damage assessments and emergency aid to victims. Emergency aid assistance involved 1)

distribution of precooked rice, molasses, candles, matches, and salt to over 60,200 families, 2) administration of medical assistance to 2,700+ people, and 3) provided long-term assistance such as shelter construction, livelihood recovery, child welfare and orphan sponsorships, psychosocial support, reforestation, water and sanitation, educational institutions, and integration of disaster risk reduction with community capacity building for thousands of people.²³³

The Ministry of Foreign Affairs is the conduit to maintain relationships and contact between the Government of Bangladesh and the foreign governments. MoFA provides technical advice and support to the national level committees and ministries on the procedures for relief and recovery support from foreign governments and agencies. The ministry keeps the Bangladesh Missions in Geneva, Brussels, and New York apprised of disaster situations and the missions connect with the International Federation of Red Cross and Red Crescent Societies. During a disaster requests for international assistance are submitted by MoFA to foreign governments/agencies as directed by Government. The ministry also coordinates with the Ministry of Home Affairs and other departments on expediting the issuance of visas for people arriving in country to support relief work.²³⁴

U.S. Assistance

The U.S. Department of State reported Bangladesh as the largest recipient in Asia (outside of Afghanistan and Pakistan) of U.S. assistance. The U.S. support cultivates engagements with the country and supplements other donor aid in areas which help to strengthen democratic governance, economic growth, and reduce vulnerability to extremism in Bangladesh. The United States continues efforts to reduce poverty, enhance food security, improve health and education, mitigate the impact of climate change and natural disasters and build better governance for equitable and sustainable growth.²³⁵

Humanitarian Transportation

The Civil Aviation Authority, Bangladesh (CAAB) is the regulatory body for all aviation related activities in the country. As the aeronautical service provider, the organization is responsible for enforcing safe and efficient air traffic operations within the Flight Information Region (FIR) confined by the international

geographic boundaries of Bangladesh. The CAAB oversees all airfields and allied facilities which include the air navigation facilities. Aviation activities are conducted from 3 international and 12 domestic airports which involve 38 operating airlines and bilateral agreements signed with 43 States. On December 22, 1972, Bangladesh agreed to the terms in the Convention on International Civil Aviation (1944). Of interest is the process used for the operation of military aircraft in Bangladesh.²³⁶

Coordination Mechanisms between Government and Development Partners

The government of Bangladesh has a 'Draft National Policy on Development Cooperation' (NPDC) in order to provide a consolidated framework for mobilizing and managing development cooperation in the country. The goal of the NPDC is to ensure that foreign assistance follows national development priorities as determined by national development plans and strategies and supports the country's development efforts to bring benefits to the lives of the people. Foreign assistance in NPDC include ODA (grants and concessional loans), vertical funds and funds from international foundations, climate-funds, aid for trade, non-concessional loans, commercial borrowings for public undertakings, and other sources of cooperation such as south-south and triangular cooperation and any form of cooperation commensurate with qualifications of foreign assistance. Remittances and FDI though elements of development cooperation in broader sense, shall remain out of the purview of the NPDC. IMF credits, special borrowings by the Ministry of Food, Bangladesh Shipping Corporation, Bangladesh Biman, Bangladesh Petroleum Corporation, assistance for defense and special assistance during disaster shall remain beyond the scope of this policy. The Economic Relations Division (ERD) of the Ministry of Finance shall be the main agency to ensure the implementation of this policy. ERD shall also be the principal administrative Division for proposing any amendment, alteration or revision in the policy in future for approval by the Government. The primary role of development partnership management and communication and liaising with development partners for financial and technical assistance on behalf of the Government

shall be vested in ERD in accordance with its role mandated in the Allocation of Business. All proposal seeking foreign assistance for public sector, irrespective of volume, modality and form, shall be communicated to development partners through the ERD.²³⁷

The Asian Development Bank (ADB) has been coordinating development partner interactions and helped bilateral and multilateral agencies to channel their assistance, minimizing the potential for overlaps and conflicting policy advice. As a result, development partners, including ADB, have delivered assistance through policy dialogue, structured lending, and non-lending programs. Bangladesh has many multilateral development partners in the energy sector. They include ADB, the Islamic Development Bank, and the World Bank. In addition, bilateral aid comes from France, Germany, Japan, Kuwait, Norway, the Russian Federation, the United Kingdom, and the U.S. Subsectors receiving support include power generation, transmission and distribution upgrading, energy sector reforms and sector planning, energy efficiency, rural electrification, generation plant upgrades, and capacity building. The ERD of Bangladesh's Ministry of Finance coordinates all assistance by the major development partners, and the Ministry of Power, Energy, and Mineral Resources is responsible for energy sector coordination. There is coordination and information exchange between the development partners for core areas of assistance. ADB, as the leading development partner for the energy sector, chairs the energy committee.²³⁸

The Governments of Australia, Sweden, the United Kingdom and the U.S. joined a Multi-Donor Trust Fund Grant Agreement for the Bangladesh Health Sector Development Program (HSDP). The agreement, signed between the Government of Bangladesh and the World Bank, channeled US\$ 280 million of development partner grant funds to support the Government's health sector wide program from 2012-2017. The Government's health sector program builds on Bangladesh's achievements in the sector and is designed to improve health services and strengthen health systems. The program assists in health sector planning and resource management, human resources development, management of pharmaceuticals, health information systems and maintenance of health care facilities. It targets resources to the poor to create a health care system that caters to the needs of the people.²³⁹



BANGLADESH

Infrastructure

Disaster Management Reference Handbook | June 2017

Infrastructure

Bangladesh utilizes three major modes of transportation; roadways, commuter and transport railways and waterways consisting of the Bay of Bengal and a massive inner-connected river and tributary network. However, the climate in Bangladesh and the dense population in urban areas combined with poor infrastructure limit the connectivity and land use within the country. Bangladesh lacks an efficient transportation system; roadways are congested and highly dangerous, waterways have excessive flooding during the monsoon season which makes them less accessible, and the rail system is inadequate and does not provide access to many rural regions of the county. An improved transportation system is required to assist economic growth in the country. In recent years the road networks have been slightly improved, however adequate resources to maintain the new roads are not available. The Government of Bangladesh is developed the Integrated Multi Modal Transport Policy (IMMTP) which with the intention to build a safe, reliable, and continual transport network, focusing on issues linked to roads, railways, inland water transportation;, including accessibility to ports and airports. The policy aims to assist the Government of Bangladesh in attaining balanced investments across the diverse transportation modes within the country.²⁴⁰

Airports

The Civil Aviation Authority of Bangladesh (CAAB) is responsible for overseeing the safety and efficiency of air traffic from the three international airports and twelve domestic airports. Presently, there are 38 airlines operating in and out of the country, and 43 states have signed bilateral agreements with Bangladesh.²⁴¹

The Hazrat Shahjalal International Airport (HSIA) is located slightly north of Dhaka, the capital city, and is the largest major international airport in Bangladesh. Nearly all international travel in and out of Bangladesh is through HSIA. The CAAB has proposals to further develop HSIA with the addition of a second runway and a third international terminal. The Shah Amanat International Airport (SAIA), located in the port city of Chittagong is the second largest airport in Bangladesh and serves as an alternate

for HSIA, though its traffic is far less. The third international airport is the Osmani International Airport; it is located 5 miles northeast of Sylhet. Osmani International Airport serves a majority of expatriate Bangladeshis and their descendants from Sylhet who currently reside in the United Kingdom.²⁴²

Seaports

Bangladesh fosters a vast inner-connected system of rivers and tributaries. Because of the extensive waterway network in the country, water transport for both the population and resources plays a vital role in the transport sector. Accessibility and efficient utilization of the waterway system has significant impacts on the social and economic development of the country. The Ministry of Shipping's (MoS) task is to expand and improve seaports, land ports and river ports, and to ensure the safe and transportation of water vessels by maintaining waterways. Major function of the MoS:

- Ensure safe and uninterrupted inland water transportation through conservation of navigability of inland waterways, maintenance of physical facilities, and development and expansion of physical infrastructural facilities;
- Manage ports, light houses, inland waterways and river trade and its institutional development;
- Manage mechanized water vessels, navigation and enactment of relevant legislation;
- Provide appropriate education and training in relation to movement of sea going vessels, navigation and marine mercantile;
- Manage and maintain inland, island and inter island ferry-boat and shipping services;
- Ensure safe movement of Bangladeshi marine vessels and the protection of mercantile interest of Bangladesh; and
- Creating efficient manpower for the maritime sector.²⁴³

Bangladesh has two major ports: Chittagong and Mongla. The Port of Chittagong is the largest seaport in Bangladesh. The Port of Chittagong is the main port for trade and manufactured products. The majority of the country's exports and imports take place at this port.²⁴⁴ The primary seaport in the southwestern region of

Bangladesh is the Port of Mongla. The Mongla Port Authority is responsible for the management of the port. The port is open 24 hours and can handle ships up to 225 meters (738 feet) long. The main exports for the port include: jute, leather, tobacco, and fish. The main imports include: grain, cement, fertilizer, coal and wood pulp.

Bangladesh has over 700 rivers and tributaries flowing throughout the country this make it one of the largest waterway networks in the world. The Bangladesh Inland Water Transport Authority is responsible for the preservation of accessible navigation of all ports and channels. Inland ports account for approximately 40 percent of the nation's foreign trade imports and exports. The river network connects to majority of the country's major cities and towns. However, during the dry season these access and utilization of the networks significantly decreases. Inland water transport is the prominent means of transportation of resources which serve the poor.²⁴⁵

Land Routes

As the capital city of Dhaka continues to grow, so will the urban population and commuter traffic concerns. Traffic congestion in the urban areas make travel very difficult and unpleasant. The government has carried out three studies: the Dhaka Integrated Transport Study 1994, Dhaka Urban Transport Project 1999-2005, and the Strategic Transport Plan (STP) 2005. The STP was approved in 2008 and serves as the current foundation for urban transport planning in Dhaka. The main focus of the STP is formulating strategies for the growth of urban transport

infrastructure through 2030. The plan stresses the need for transport investments in Dhaka and recommends a program which includes three bus rapid transit routes, three metro rail systems, 50 highway projects, and the construction of a 29 kilometer elevated expressway.²⁴⁶

The National Land Transport Policy was passed in 2004 to ensure the proper physical and institutional infrastructure transport in order to achieve national development. The policy was created to establish a transport system which is safe, cheap, modern, technologically dependable, and environmentally friendly.²⁴⁷

Roads

Roads in Bangladesh account for more than 80 percent of the national passenger traffic making it the backbone of the transportation sector.²⁴⁸ Urban transportation is mainly road-based with a large portion of that being occupied by cycle rickshaws. The road space in Dhaka is limited with not many alternative connector roads which make them unsuitable for buses. In addition, many traffic signals are controlled manually by traffic police.²⁴⁹ The Roads and Highway Department (RHD) under the Ministry of Road Transport and Bridges is responsible for the construction and the maintenance of the major road and bridge networks of Bangladesh.²⁵⁰ The Bangladesh Road Transport Authority (BRTA) is a regulatory body which controls, manages, and ensures discipline in the road transport sector and road safety areas in Bangladesh. The BRTA falls under the Ministry of Communication.²⁵¹ Photo 10 depicts some of the many rickshaws utilized for road transportation in Dhaka, Bangladesh.²⁵²



Photo 10: Cycle Rickshaws Used for Transportation

Buses and minibuses are the least expensive modes of transportation and the only public transport system, but they cannot keep up with the demand due to service shortages. Long waiting times, overloading, and long walking distances to bus stops are a few challenges faced by passengers. The Bangladesh Road Transport Corporation (BRTC) is the state owned company which operated these local and long-distance buses. There are also private bus operators which provide local and nonstop service from downtown Dhaka to residential areas.²⁵³

Road safety is one of Bangladesh's main priorities. The Dhaka-Sylhet Highway (N2) in Bangladesh is part of the AH1 and AH2 Asian Highway Network. This stretch of road is also considered one of the world's deadliest highways. The highway doesn't have any winding roads and is just a flat road connecting the capital to the city of Sylhet. Around 2005, roughly 170 million was spent to makeover this road to become one of the country's newest and fastest transport routes. However, this stretch is road is filled with vehicle accidents and the smashed remains are scattered along the side of the road. Over 60 percent of people who die on this highway are pedestrians who cannot afford to travel by car or bus. The World Health Organization reports that more than 20,000 people are killed on roads of Bangladesh each year. Reckless driving on

crowded roadways is one of the main causes of deadly accidents.²⁵⁴

Railways

Rail transport is an important method of transport in the country as many districts are inner-connected this way. Railways cover over 30 percent of the land in the country. The Bangladesh Railway (BR) has not played a large role in the economy because of insufficient infrastructure and the poor condition of physical assets. Governance challenges and poor resource allocations in the railway sector are the main reasons for these continuing issues. The Bangladesh Railway is the state-owned rail transport agency which operates and maintains the entire railway network for the country. It handles around 7 percent of national passenger and freight traffic.²⁵⁵ BR is controlled by a Directorate General under the Ministry of Railways along with the Bangladesh Railway Authority (BRA) and is responsible for the policy guidance of BR. BR operates international, inter-city and suburban rail systems on its multi-gauge network. Key features of the railway are the coexistence of several gauges, broad gauge, meter gauge, and dual gauge.²⁵⁶ Photo 11 depicts a train near the Srimongal Railway Station, Bangladesh.²⁵⁷ Table 7 lists the operational information of the Bangladesh railway system.²⁵⁸



Photo 11: Bangladesh Railway

Operational Information of Bangladesh Railway	
East Zone	1308.27 km (812.92 miles)
West Zone	1568.83 km (974.83 miles)
Operational Divisions : 4 Divisions	Dhaka, Chittagong, Paksey and Lalmonirhat
Total Route Kilometers (miles):	2877.10 km (1787.75 miles)

Table 7: Bangladesh Railway System

Waterways

Bangladesh has over 24,000 km (14,913 miles) of inner-connected waterways and boasts a navigable waterway network varying from 5968 km (3708 miles) during the monsoon when seasonal flooding occurs and rivers are high to 3865 km (2402 miles) during the dry season when the rivers dry out in some regions of the nation. The Inland Water Transport (IWT) is important for the transport and inland movement of freight and passengers, and also for the primary means of transportation imported and exported goods through the ports of Chittagong and Mongla. The waterways accessibility and effective use help to boost the local economy and further reach least populated regions of the country with necessary goods. The IWT serves as a mode of transport that has the least associated cost, is environment conscious, is the least accident-prone means of transport, and carries low upkeep cost.²⁵⁹ Photo 12 depicts a

heavily loaded passenger boat crossing the Rupsa River at Khulna, Bangladesh in February 2016.²⁶⁰

The Bangladesh Inland Water Transport Authority (BIWTA) regulates the passage of approximately 2000 passenger launches and maintains 21 inland ports and terminals. BIWTC facilitates passenger and cargo movement in the inland waterways and also offshore islands in the public sector. Chittagong Port, Mongla Port and Bangladesh Shipping Corporation have an important role in the export-import activities throughout Bangladesh. Chittagong Port is now considered as the main center of Bangladesh's economy. The Department of Shipping oversees the safety and environmental issues with navigable waterways and the regulatory aspects of all maritime shipping.²⁶¹

Photo 13 depicts a small wooden boat crossing the Burganga River in Dhaka, Bangladesh in 2016.²⁶²



Photo 12: Passenger Boat



Photo 13: Burganga River-Dhaka

Schools

Over the last twenty years, Bangladesh has made improvements by ensuring access to education, especially at the primary level, and for girls. The country's net enrollment rate at the primary school level increased from 80 percent in 2000 to 98 percent in 2015, and secondary school net enrollment increased to 54 percent, up from 45 percent in 2000. In addition, the percentage of children completing primary school is close to 80 percent.²⁶³

Despite this improvement, Bangladesh still faces many challenges with education. Bangladesh's workforce of 87 million is largely undereducated (only 4 percent of workers have higher than secondary education). National learning assessments conducted by the Government of Bangladesh show poor literacy and numeracy skills among students – only 25 percent to 44 percent of the students in grades 5 through 8 have mastery over Bangla, English and math. Furthermore, the performance on these measures is especially low among poor students. In general, students have weak reading skills, and curricula, teaching approaches, and examination systems at all levels focus more on rote learning than on competencies, critical thinking, and analytical skills.²⁶⁴

Bangladesh's Ministry of Primary and Mass Education (MoPME) is responsible for primary education (grades 1 to 5), and the Ministry of Education (MoE) oversees secondary and post-secondary education. Government spending on education as a share of the gross domestic product is the second lowest in South Asia (2 percent) and lower than in most other countries at similar levels of development.²⁶⁵

The educational system in Bangladesh is three-tiered (General, Madrasah, and Technical Vocational), and highly subsidized. Other systems include a Professional Education System. The government of Bangladesh operates many schools in the primary, secondary, and higher secondary levels. It also subsidizes parts of the funding for many private schools. In the tertiary education sector, the government also funds more than 15 state universities through the University Grants Commission.²⁶⁶

Each of the three main systems is divided into five levels:²⁶⁷

- Primary Level (years 1 to 4);
- Junior Level (years 5 to 8);
- Secondary Level (years 9 to 10);
- Higher Secondary Level (years 11 and 12); and
- Tertiary Level.

Communications

Cell Phones

The mobile network covers 98 percent of the population. However, there are some mobile holes in the sparsely populated Chittagong Hill Tracts in the southeast, the mangrove swamps of the Southern Sundarbans in the southwest, and in the extreme northwest.²⁶⁸ There are six cell phone companies in Bangladesh. The top three that share 90 percent of the market are Grameenphone, Robi, and Banglalink.²⁶⁹

Land-line

Approximately 80 percent of the country's fixed-lines are located in four main cities and over 95 percent of homes lack a fixed-line phone. The number of fixed-lines has doubled in five years from 0.83 million in 2004 to 1.66 million by the end of 2009. In May 2010, fixed-line subscribers dropped to 1.03 million, equivalent to a penetration of 0.6 lines per 100 people, fixed-line infrastructure remains inadequate, especially when compared with the mobile sector's increasing growth.²⁷⁰

Internet

The first connectivity of internet in Bangladesh was in 1996. Internet development and usage has been hampered by a lack of literacy, low computer penetration, and low fixed-line teledensity.²⁷¹ As of September 2014, there were approximately 44 million users with access to the internet. ISP's are regulated by the Bangladesh telecommunication regulatory commission (BTRC).²⁷²

Television

Television is the biggest medium for news in Bangladesh. There are more than 100 TV Channels in Bangladesh.²⁷³ TV is the most popular medium, especially in cities. Bangladesh Television (BTV) is the only broadcast network. Popular satellite and cable channels and Indian TV stations have large audiences.²⁷⁴

Radio

State-run radio covers almost the entire country. BBC World Service in English and Bengali can be heard on 100 MHz FM in Dhaka.²⁷⁵

Newspapers

Newspapers are diverse, outspoken and privately-owned. English-language titles appeal mainly to an educated urban readership.²⁷⁶

Utilities

Power

Today 78 percent of the people in Bangladesh have access to electricity which is an improvement from a decade ago, of less than 50 percent. The Government of Bangladesh aims to provide all citizens access to electricity by 2021.

Electricity in Bangladesh has its challenges. Power outages are still common in Bangladesh leading to losses of about two to three percent of the country's Gross Domestic Product (GDP). Inefficient technology, poor operational practices, and inadequate maintenance limit the supply of energy, as does a shortage of natural gas, which fuels about 70 percent of Bangladesh's power.

Transmission capacity in Bangladesh is not growing fast enough to keep up with power generation, resulting in supply bottlenecks in important commercial corridors (such as Chittagong and Comilla). Periodic outages such as the country-wide blackout in November 2014 create concerns about the security and stability of the country's power grid.²⁷⁷

To combat the challenges in Bangladesh's energy sector, the World Bank has focused its assistance on the following:²⁷⁸

- New and upgraded transmission capacity, especially in anticipation of greater regional power trade, and improvements in grid stability and dispatch efficiency;
- Repowering existing generators to enhance efficiency of operation;
- Strengthening demand side energy conservation by industry, bringing in private financing where possible;
- Improvements to the rural distribution infrastructure;
- The growth of grid-tied solar power; and
- The development of a Gas Sector Master Plan.

Water and Sanitation

Increasing urbanization and industrialization are negatively affecting water quality, and India's increasing use of Ganges (known as Padma in Bangladesh) water for irrigation purposes has seriously reduced water availability in Bangladesh.²⁷⁹

Before the 1970s in India, surface water from tanks, ponds and open wells was used for drinking. Since then, millions of tube wells were installed in the Ganges delta to prevent gastrointestinal diseases such as diarrhea from surface water (according to the International Agency for Research on Cancer). People soon became dependent on groundwater. Unfortunately the overuse of groundwater for irrigation and drinking has caused an increase in arsenic concentration and caused changes in the chemistry of the aquifer. Previously arsenic occurred in a relatively harmless insoluble conjugate with iron called arsenopyrite. As a result of overuse, it split causing contamination of the groundwater with a soluble ionic form of arsenic that has since been consumed by millions of people for decades. The arsenic is highly toxic and carcinogenic and is described as a slow poison. Chronic arsenic poisoning can lead to cancer, depending on factors such as the dose, how long it is consumed, a person's nutrition levels and any genetic predisposition. Arsenic has been linked to various forms of cancer.²⁸⁰

According to the Joint Monitoring Programme (JMP) of WHO and the United Nations Children's Fund (UNICEF), 83 percent of the population have access to safe water for drinking. The population at risk of consuming arsenic-contaminated drinking water is estimated at 20 million. Basic sanitation coverage is 55 percent against the target of 70 percent.²⁸¹

Although more than 90 million people in Bangladesh shifted to fixed-point defecation in the last five years, diarrheal diseases remain a leading cause of child and infant morbidity. A research study shows that only 1 percent of the population wash their hands with soap and water before having a meal, 0.7 percent before feeding children, and 30 percent after defecation. Hygiene promotion is a priority to achieve the health benefit of sanitation coverage. Sanitation coverage also includes the environmental sanitation issues associated with the safe management of solid waste, household wastewater and storm water.²⁸²



BANGLADESH

Health

Health

Health Overview

Bangladesh faces myriad of health challenges. These include the prevalence of emerging and re-emerging communicable diseases, rising trend of non-communicable diseases (NCDs), and the further reduction in maternal and neonatal mortality and morbidity. NCDs are considered to be a major health threat. Many of their root causes are beyond the direct control of the health sector. Child health, in general, has been improving, as witnessed by a declining mortality trend. While childhood under-nutrition in Bangladesh has declined over the last decade, the rate could have been better. The Government is putting greater emphasis on changing lifestyles and on the control of NCDs using a multisector approach. The Bangladesh Ministry of Health and Family Welfare (MoHFW) has gone through a reform process and many new structural changes and innovative interventions have been introduced. For example, the Health, Population and Nutrition Sector Development Programme (HPNSDP) 2011–2016 of the Government of Bangladesh has been developed with the aim to make health care accessible to all and improve health services at through the community clinics and rural health centers. The HPNSDP has two major components: providing equitable quality health services and strengthening the health system.²⁸³

Health Care System (Structure)

The health system of Bangladesh is hierarchically structured. The structure follows a five-layer pyramid. At the base of the pyramid is the village-level health facility, which includes community clinics responsible for the delivery of primary health care services. Each clinic serves approximately 6000 people. The next level is the Union Health and Family Welfare Centre, which is the first referral center. This Centre provides maternal and child health care as well as limited health care for conditions that are curable. The third level is the Upazila Health Complex, which is a 30–50 bed hospital. The fourth level is the district hospital. While the district hospital is conventionally the delivery layer with theatre facilities, some of the Upazila Health Complexes have been upgraded to offer emergency

obstetric care. At the top of the health services pyramid, the medical colleges and post-graduate institutes offer a wide range of specialty services. The Health Population and Nutrition Sector Development Program (HPNSDP) considers the delivery of primary health care in community clinics to be cost-effective and appropriate for achieving the objectives of the MDGs and the Sixth Five Year Plan.²⁸⁴

The public health care network of Bangladesh is comprised of public health departments, NGOs, and private institutions. Responsibilities and functions include policy planning, regulation, implementation, health care delivery, and medical education. The Ministry of Health and Family Welfare (MOHFW) is the lead agency responsible for formulating national-level policy, planning, and decision making in the provision of health care and education. The national-level policies, plans, and decisions are translated into actions by various implementing authorities and health care delivery systems across the country from national to the community level. The MOHFW and its relevant regulatory bodies also have indirect control over the health care system of the NGOs and the private sector.²⁸⁵

Challenges in the Health Care System

There is a need for community-based public health interventions to be strengthened and scaled up. In addition, a major threat to public health is unsafe food. Food contaminated by microbial pathogens, chemical substances and toxins affect people in Bangladesh. Improved laws to control marketing food and drink that is unhygienic and contaminated are needed. Improving women's access to quality health services and addressing the underlying sociocultural factors that prevent it are major challenges in Bangladesh. One sociocultural factor is violence against women. This violence is grossly underreported and can cause mental stress, physical suffering and even death, and is believed to be grossly underreported.

There is a challenge to ensure access to safe water for 100 percent of the population of Bangladesh. The population is at risk of consuming arsenic contaminated drinking water, which causes health problems including cancer. Water and sanitation information was provided in the previous section of this handbook. Bangladesh achieved maternal and neonatal tetanus elimination status in 2008. However, neonatal tetanus surveillance needs to be strengthened to identify pockets of low coverage to sustain this elimination status.²⁸⁶

Health Assistance

The development community in Bangladesh has many partnerships that support the Government in its health programs focused on achieving goals such as the health-related Millennium Developmental Goals (MDGs). Various joint task groups and technical committees operate under the sector program including the World Health Organization (WHO). The Local Consultative Group (LCG) is the focal point for coordination between the Government and development partners. It covers all areas of the country's development priorities, including public health issues. It also provides technical support and guidance for policy-making through presentation of data and evidence. The LCG Working Group on Health, Population, and Nutrition (otherwise known as the HNP Consortium) is a subgroup of the LCG. It consists of 21 development partners and it is a platform for coordinating support to the Bangladesh health sector.

As a Government-led mechanism, the Health, Nutrition and Population Forum is chaired by the Secretary of the Bangladesh Ministry of Health and Family Welfare (MoHFW) and comprises representatives of other relevant ministries, MoHFW officials, civil society organizations, and development partners.

Disaster Management Humanitarian Assistance

As part of the WHO's divisional preparedness plan that was developed in 2016, emergency health kits with medicines and medical devices along with other medical supplies are prepositioned for disasters. For instance, cyclonic storm Mora (a category 10) crossed Cox's Bazar and Chittagong coastal areas with winds of up to 117 km/h (73mph) in May 2017. Mora caused six deaths, 136 injuries, heavy flooding, and destroyed houses. The WHO prepositioned medical supplies in the Chittagong division for easy distribution. Approximately 1400 medical teams have been activated in Chittagong, Barisal and Khulna divisions in order to respond to post cyclonic health emergencies.²⁸⁷ Photo 14 depicts the damages left behind from Cyclonic Storm Mora.²⁸⁸



Photo 14: Destruction from Cyclonic Storm Mora

Communicable Diseases

The disease burden in Bangladesh includes communicable diseases. Bangladesh has been recognized worldwide for its immunization coverage for vaccine-preventable diseases. This has resulted in the reduction in childhood morbidity and mortality. However, only about 81 percent of infants are fully vaccinated.

Bangladesh has reduced the incidence of measles by conducting a measles catch-up campaign in 2006; introducing measles case-based surveillance in 2008; organizing a measles follow-up campaign in 2010; and incorporating the second dose of measles in routine immunization in 2012. Bangladesh is one of the 22 high tuberculosis-burden countries although TB services are part of the primary health care system. Bangladesh does implement TB control in partnership with public and private sectors, and with NGOs.

Malaria is a major public health problem and is highly endemic in 13 of the country's 64 districts of Bangladesh. The three Hill Tract Districts (Bandarban, Khagrachari and Rangamati) and Cox's Bazar district report more than 80 percent of the Bangladesh malaria cases and deaths every year.

Bangladesh has a low prevalence of HIV/AIDS which affects less than one percent of the population. The country also has a gradually declining prevalence rate of Leprosy, which was 0.24/10,000 population in 2012. However, although the Bangladesh Government and NGOs are implementing leprosy control activities, the stagnancy in case detection rate, variability in multi-bacillary and child cases, and disability rates among new cases indicate the need to strengthen the strategies and services.

Kala-azar has been reported in 34 districts of the country. In recent years, the disease burden seems to have been reduced from 3806 cases in 2010 to 1902 cases in 2012. Lymphatic filariasis affects 34 districts and affects 70 million. The MDA was scaled up to 19 districts and 15 of them have achieved elimination status.

Dengue outbreaks occur every year. Although the number of cases is sometimes high, the case-fatality rate remains low due to improved clinical management in hospitals. In 2012, only 474 cases were reported with no deaths. Bangladesh practices Dengue control strategies. The first outbreak of dengue occurred in 2000 affecting three major cities (Dhaka, Chittagong and Khulna) where a total of 5551 cases and 93 deaths were reported.²⁸⁹

Non-Communicable Diseases

Non-communicable diseases remain a problem in Bangladesh. The population suffers from cardiovascular diseases, diabetes, cancer, and chronic respiratory diseases.²⁹⁰ Figure 8 depicts the non-communicable diseases which are prevalent in Bangladesh and the mortality rates associated with each disease.²⁹¹ The figure further depicts age-standardized death rates.

Training for Health Professionals

In May 2017, the Centre for Medical Education (CME), Dhaka, in collaboration with World Health Organization (WHO), Country Office for Bangladesh, organized a consultation

on the draft “Bangladesh Medical Accreditation Act - 2015.” The event, hosted by the Institute of Public Health, Mohakhali, Dhaka, gathered health specialists including academicians, health managers, policy makers and health care professionals.

The purpose of the event was to further the adoption of a national accreditation system for health training institutions. The system introduces sets of requirements for accreditation in education quality and increased efficiency in health service delivery.

This action is in line with WHO’s “Global Human Resources for Health Strategy: Workforce 2030”, adopted in the 69th World Health Assembly, specifically with the provision that all countries have established accreditation mechanisms for health training institutions by 2020.²⁹²

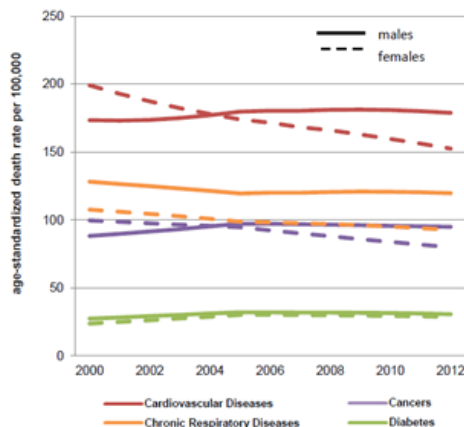
Emergency health response is vital to saving lives because of Bangladesh’s vulnerability to both natural and man-made disasters. However, training for health professionals in Bangladesh varies based on level of care provided and location. Doctors receive training through a medical college. After graduation, they must pass essay based tests to become certified to practice medicine and undergo a residency period. Nurses also receive training through medical colleges. A large majority of health professionals in Bangladesh are community health workers. Training for community health workers is uneven and driven by the NGOs that provide courses and certification. Emergency preparedness is listed an area for improvement across several Bangladesh’s assessments of the health sector.²⁹³

Bangladesh

Total population: 155 000 000
Income Group: Low

Percentage of population living in urban areas: 28.4%
Population proportion between ages 30 and 70 years: 37.3%

Age-standardized death rates*



Proportional mortality (% of total deaths, all ages, both sexes)*

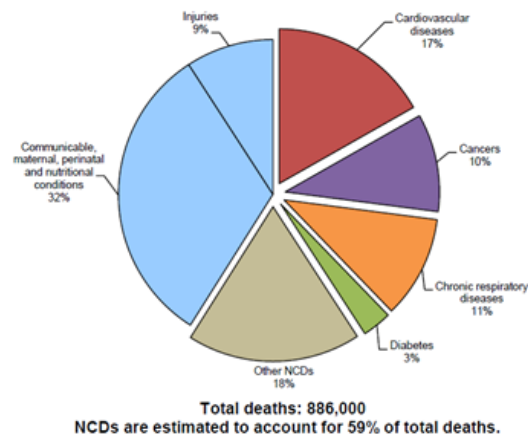


Figure 8: Who Non-Communicable Disease Country Profile, 2014



BANGLADESH

Women, Peace, and Security

Disaster Management Reference Handbook | June 2017

Women, Peace, and Security

Women are frequently among the most affected in crises, especially when they are poor.²⁹⁴ Gender discrimination is present in Bangladesh. As a result, girls and women face many obstacles. Girls are considered to be financial burdens on their family, and from the time of birth, they receive less investment in their health, care and education. Bangladesh's rates of child marriage and adolescent motherhood are among the highest in the world. Child marriage has decreased in Bangladesh over the last 30 years; however, it remains common in rural areas and urban slums, especially among the poor. Early marriage can relieve families of caring for their daughters, because they reside with their husband's family once married. However, early marriage threatens girls' education, mobility, health and safety.²⁹⁵ Women's mobility is greatly limited and their decision-making power is often restricted. About 48 percent of Bangladeshi women say that their husbands alone make decisions about their health, while 35 percent say that their husbands alone make decisions regarding visits to family and friends.²⁹⁶

Education is an important tool to reduce discrimination and violence against girls and women. Bangladesh has made great progress in this area, already achieving gender parity in primary and secondary education. However, Bangladeshi women's employment rates remain low despite progress, and their wages are approximately 60 percent of male wages.²⁹⁷

Bangladesh's maternal mortality ratio is one of the highest in the region. Poor maternal health is the result of early marriage, women's malnutrition, a lack of access to and use of medical services and a lack of knowledge and information. Maternal health and mortality is linked with women's low status in the household and their restricted mobility. Many women are denied freedom to seek help at a hospital or health center because their husbands or husband's family make the decisions about their health care.²⁹⁸

Domestic violence is a problem in Bangladesh and presents a huge threat to the security of girls and women. More than half of ever-married women aged 15-49 reported that they had experienced some form of physical and/or sexual

violence from their husbands, and one quarter had experienced it in the past year. Violence against women takes the form of acid attacks. Although legislation exists to prevent acid attacks, enforcement remains weak.²⁹⁹

In October 2000, the United Nations Security Council passed Resolution 1325 (UNSCR 1325).³⁰⁰ The blueprint for Women Peace and Security (WPS) is rooted in UNSCR 1325. This international legal framework can be used to provide the basis of why and how women's participation could lead to more secure peace-building during humanitarian crises including natural disasters.³⁰¹ The progression of gender equality in the political environment has provided significant advances, which have modified the traditional and cultural views of family structure, and how females contribute to the family's livelihood.³⁰² In 1997, the Government of Bangladesh established the National Policy for Advancement of Women. Bangladesh ratified the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in November 1984.³⁰³ In 2000, Bangladesh adopted the landmark UN resolution 1325 on women, peace and security.³⁰⁴

The International Foundation for Electoral Systems formed the 'Women against Violence in Elections' (WAVE) group is working to safeguard women's rights amidst political upheaval. This group brings together Bangladeshi women from around the country to work on peace initiatives.³⁰⁵ In addition, female participation has been increased in various committees at local and national levels; the DMCs and other standing committees for response and DRR now include representation from women.³⁰⁶

There has been solid progress of women in the social and political atmosphere in the country. Bangladesh represents the eighth lowest gender gap with regard to political empowerment globally. This significant accomplishment may be attributed to the fact that the Bangladesh Government has retained a female head of state longer than all other countries globally. Additionally, the percentage of seats occupied by females in the national parliament demonstrated an increase from 10 percent in 1990 to 20 percent in 2011.³⁰⁷ A gender sensitive DRR approach has been developed by the MoDMR. The DM Act 2012 declared women as the most vulnerable group during disasters, along with children, older persons, and persons with disabilities. A multi-country pilot project on inclusive DRR was developed and piloted in Bangladesh in 2013 and 2014.³⁰⁸



BANGLADESH

Conclusion

Conclusion

Despite the vulnerability of Bangladesh to natural disasters such as cyclones, earthquakes, drought, storm-surge and flooding, the country has made progress in improving its disaster preparedness.³⁰⁹ The Government of Bangladesh has made significant strides in managing disasters, since the loss of over 300,000 citizens during Cyclone Bhola in 1971.³¹⁰

The government has made progress in preparing for much of these disasters through plans and policies by gradually changing their disaster management approach to a risk reduction methodology based on common disaster experiences, lessons learned, and the need to reduce future disaster impacts. The country has a well-established community preparedness capability due to the implementation of education and training programs by government agencies and NGOs.³¹¹

The national disaster framework provides a foundation for understanding responsibilities of the various DM related organizations, however there is no clear mechanism for generating the required interaction between the authorities and strengthen the relationships among the ministries, military, and other relevant organizations. The disaster response structure relies on a committee-style decision making system, whereby committees are convened to determine the direction and approve the actions necessary to prepare for, and respond to a disaster. This committee-style system has proven successful in responding to slow-moving disasters, but may be problematic if used during a sudden onset catastrophic disaster without a detailed contingency response plan in place.³¹²

Bangladesh DM framework includes the “Disaster Management Act of 2012,” the 2010 “Standing Orders on Disaster,” and the “Bangladesh National Plan for Disaster Management 2010-2015.” The “Disaster Management Act of 2012” defines the roles, and responsibilities of various Bangladesh ministries, agencies and departments, national disaster protection services, and nongovernmental organizations in disaster prevention, disaster risk reduction (DRR), rescue, response and recovery measures, as well as implementation of related legislation.³¹³ The “Standing Orders on Disaster” defines duties and responsibilities regarding disaster management at all levels.³¹⁴

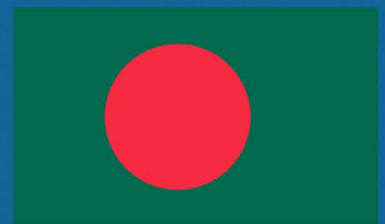
The “Bangladesh National Plan for Disaster Management 2010-2015” acts as a basic guideline for all relevant agencies for cooperation in risk reduction, capacity building, climate change adaptation, livelihood security, gender mainstreaming, community empowerment, and response and recovery management.³¹⁵

Bangladesh has strengthened DRR approaches in the design and implementation of recovery and reconstruction programs in affected communities. However, replication and scaling up of DRR and Climate Change Adaptation (CCA) approaches at the local level still remain a key challenge. More emphasis is needed to raise awareness of DRR and CCA issues among planners and implementers of infrastructural schemes and interventions to ensure the systematic incorporation of DRR. There is also a need for the adequate allocation of financial resources to promote and incorporate DRR and CCA at all levels.³¹⁶

Bangladesh has many challenges that affect disaster management capabilities and capacities. Dhaka City is vulnerable to a large-scale urban-based disasters, unplanned and unregulated urbanization, sub-standard and non-building code compliant construction of buildings, population growth and migration, and development of major economic zones. The Government of Bangladesh lacks a detailed catastrophic disaster response plan that is integrated, and aligned with the national government, the Dhaka North and South City Corporations, and the international and national humanitarian organizations.³¹⁷

Women are not sufficiently involved in disaster planning and lack culturally appropriate, gender-specific programming, such as separate spaces for evacuations or potential Internally Displaced Person (IDP) camps.³¹⁸ Although in general women’s participation and leadership in local and central government institutions have increased, in the DRR field this requires further improvement. Women’s roles and participation in the DMCs and other committees at various levels need to be up-scaled. Various DRR/DRM training modules of the Government of Bangladesh and NGOs need to incorporate gender and DRR issues.³¹⁹

It is recommended that Bangladesh enhance disaster-centric crisis planning and assessment systems by supporting the development of a detailed Concept of Operations for a sudden onset urban-based catastrophic disaster in Dhaka and other major urban centers.³²⁰



BANGLADESH

Appendices

Appendices

DMHA Engagements in the Past Five Years (FY 2012 - 2017)

USACE Multipurpose Cyclone Shelter and School Program, 2014-2017

U.S. Army Corps of Engineers helps build capacity in developing countries including Bangladesh. Cyclone Sidr struck the southwest coast of Bangladesh in November 2007. The storm caused widespread damage to about half of the country's 64 districts, resulting in thousands of deaths and left the country with a glaring need to prepare for future natural disasters. Nine years later, 88 new structures across Bangladesh are providing local school children a place to learn and surrounding communities with a shelter during emergencies. Managed by the U.S. Army Corps of Engineers (USACE) (Alaska District's Asia Office), final construction operations are wrapping up the three-year (2014-2017) Multipurpose Cyclone Shelter and School Program with the financial assistance from USAID. Each school has about 200 students and has the capacity to accommodate 1,800 people for shelter during an emergency. In 2011, USAID sought the Alaska District's expertise to execute its shelter program based off of its experience with PACOM.³²¹

Disaster Management Analysis, March-April 2016

CFE-DM sponsored and executed a Bangladesh Disaster Management Analysis in coordination with the U.S. Embassy Dhaka and the Government of the People's Republic of Bangladesh. The purpose was to provide the U.S. Pacific Command and supporting commands, the U.S. Government, and the U.S. Embassy detailed information about Bangladesh's disaster management capacity and capabilities. The analysis team consisted of research personnel from CFE-DM, one SME from the Daniel K. Inouye Asia-Pacific Center for Security Studies (APCSS), one SME from the PDC, and one field grade officer from the Oregon National Guard, with support from individuals representing the DOD, U.S. Embassy Dhaka Country Team, USAID/OFDA, and the United Nations regional organizations. The Government of Bangladesh provided open access to those ministries,

departments, and agencies responsible for disaster management at the national and local levels. The two objectives for the analysis were to (1) assist U.S. Government security cooperation actors in planning and conducting activities along the disaster management line of effort and (2) determine a starting point for building partner capacity in disaster management in coordination with regional agencies, international organizations, and nongovernmental organizations. This analysis addressed two disaster scenarios: (1) The Most Likely - the regularly recurring rural annual disasters (cyclones, floods, river bank erosion, seasonal storms, tornados, and droughts) and, (2) the Most Dangerous - a sudden onset, urban-based catastrophic disaster (earthquake, gas explosions, multi-block fires) in Dhaka City where the social, economic, political, and structural impact of a disaster of such magnitude would severely test the capability and capacity of the Government of Bangladesh to respond.³²²

Pacific Resilience Disaster Response Exercise & Exchange (PR DREE), October 2016

The seventh annual Pacific Resilience Disaster Response Exercise and Exchange (PR DREE) was co-hosted by the Bangladesh Armed Forces Division (AFD) and U.S. Army Pacific (USARPAC) in October 2016. More than 250 participants from China, Maldives, Myanmar, Nepal, Sri Lanka, the United Kingdom, the United Nations and the U.S., as well as dozens of governmental and non-governmental and international organizations participated. Personnel worked together either through a phased tabletop exercise (TTX) or a field training exercise (FTX), though U.S. personnel were limited to the TTX. It enhanced the knowledge and practices of the National Disaster Response Coordination Center, and strengthened partnerships and communication between multiple agencies and nations in the event of a catastrophic disaster in Bangladesh. Groups deliberated over medical emergency scenarios, which included search and rescue; identified logistical obstacles; discussed shelter/relief plans and procedures that are currently in place; and increased coordination between international and domestic organizations and agencies.³²³

USACE in Support of USPACOM, Develop a Bangladesh Post-Disaster Plan, 2013- 2016

The U.S. Army Corps of Engineers (USACE), in support of the U.S. Pacific Command (USPACOM) worked with officials from the

Bangladesh Ministry of Disaster Management and Relief and the Department of Disaster Management to develop a debris management plan for Dhaka City. The plan was under development from 2013 and completed in January 2016. During the development of the plan, USACE worked closely with the U.S. Embassy's Office of Defense Cooperation and the U.S. Agency for International Development. The team gathered information on traditional debris practices in Dhaka City, and debris planning from previous earthquakes around the world. The plan incorporates lessons-learned from around the world, including debris clearance experience from the April 25, 2015 earthquake in Nepal. The team met with Government of Bangladesh stakeholders, the Bangladesh military, international organizations and non-government organizations to understand context, challenges, and previous debris planning efforts. The plan was reviewed and edited by the Government of Bangladesh. As the plan moves forward, it will be used to support Bangladesh's existing Standing Order on Disasters and Disaster Management Plan. The debris plan, which was funded by USPACOM, is one of many USACE efforts in the Indo-Asia-Pacific region to build partner capacity.³²⁴

Lightning Academy Training for Bangladesh Officers, October 2015

Female Bangladesh officers received hands on training at Lightning Academy at Schofield Barracks, Hawaii on October 22, 2015. Five soldiers from Bangladesh visited the academy to learn about training opportunities for their female counterparts. The purpose of the visit was to build confidence in Bangladesh female officer corps, and for them to obtain a better understanding of 25ID training and female Soldiers success and capabilities. Currently there are approximately 1,000 female Soldiers in the Bangladesh Army, and approximately 150 of them are non-medical branches. They also took part in a panel discussion about women in the armed forces with female company grade officers of the 25th Infantry Division. In 2000, Bangladesh adopted the landmark UN resolution 1325 on women, peace and security. Women's participation has been vague in Bangladesh but this training was an important step.³²⁵

PR DREE, August-September 2015

The PR DREE between USARPAC and the AFD took place in Dhaka, Bangladesh in

August 2015. The DREE increased familiarity with the Dhaka City earthquake response plans. It also enabled participants to practice logistical and medical emergency scenarios, identify gaps in plans and procedures, increase coordination between emergency management and stakeholders, and use media in response planning. It was also a venue to evaluate Foreign Humanitarian Assistance procedures in Bangladesh. The DREE scenario involved a 7.5-magnitude earthquake striking the central and eastern part of Bangladesh leaving more than 50,000 killed and 100,000 displaced and injured.³²⁶

ASEAN Regional Forum Disaster Response Workshop, April 2015

Humanitarian assistance and Disaster response was the focus as Association of Southeast Asian Nations (ASEAN) Regional Forum (ARF) members met in Kuala Lumpur, Malaysia in April 2015. U.S Pacific Command (USPACOM) representatives were among the U.S. delegates and those of other ARF member nations including Bangladesh. The workshop discussed how to enhance collaboration and efficiencies in disaster response exercises; how to best make use of available resources and improve the quality of the efforts of all nations by way of a coordinated effort and strategy; and identify existing capacities and gaps.³²⁷

COPE SOUTH 15, February 2015

COPE SOUTH is a U.S. Pacific Air Forces-sponsored, bilateral tactical airlift exercise conducted in Bangladesh, with subject-matter expert exchanges in the fields of operations, maintenance and rigging disciplines. COPE SOUTH participants placed emphasis on developing USAF-BAF relationships and continuing to seek additional engagement opportunities, particularly in areas of humanitarian assistance and disaster relief, aviation safety, airlift and aviation maintenance and logistics. This exercise demonstrates how combined forces can rapidly respond and integrate with each other to execute airlift operations across the Pacific AOR during contingencies and crises.³²⁸

PR DREE, August, 2014

The 2014 PR DREE exercised plans, equipment and personnel between the two countries to increase readiness for earthquake response and recovery in Dhaka City. The

DREE focused on logistics, emergency public communication, and media affairs. Logistical topics addressed foreign humanitarian assistance considerations; the reception and dissemination of aid, first responders and injured citizens; prioritization of land, air and sea space; and management of logistical supplies. Civil-military interoperability; alerting and informing the public; joint information management; media partnerships; engineering; medical; Urban Search & Rescue (USAR) and disaster coordination; were also included in the exercise.³²⁹

PR DREE, August 2013

The 2013 DREE explored and discussed best practices, earthquake vulnerability in Bangladesh, U.S. disaster management response, the Standing Order on Disasters and the National Disaster Management Act, the Dhaka City earthquake contingency response plan, and international disaster response. The FTX involved four major areas: command and control, search and rescue, engineering, and debris management. It featured a rubble pile built by the Bangladesh AFD to simulate a collapsed building, providing realistic search and rescue training opportunities for civil organizations and rescue volunteers.³³⁰

Tempest Express 22, May 2013

USPACOM and the Bangladesh AFD hosted a multinational, interagency disaster response planning workshop in Dhaka in May 2013. Participants from various Ministries, Armed Forces and humanitarian organizations from Bangladesh and international partners took part in this workshop titled “Multinational Planning Augmentation Team Tempest Express 22 (MPAT TE-22) Shetubandhan or “Bridging the Ties of Friendship.” This was the 22nd year of the Tempest Exercise. The workshop had three phases; (1) subject matter experts delivered presentations on disaster management (specifically earthquakes); (2) A Table Top Exercise simulated a post-earthquake situation, in which rescue operations, coordination and other relief for Dhaka took place; and (3) participants reviewed contingency plans and standing operating procedures of all stakeholders.³³¹

PR DREE, September 2012

The PR DREE in DHAKA, Bangladesh focused on supporting civilian authorities and the Government of Bangladesh in a

disaster response scenario. In Bushandhara a field hospital was set up; three local hospitals participated in the exercise testing their capabilities to respond to a mass casualty situation. Patients were evacuated to Mitford Hospital, Combined Military Hospital and Apollo Hospital where various injuries were evaluated. Soldiers and airmen from Tripler Army Medical Center, 18th Medical Command and the Oregon National Guard were on hand to observe, assist and evaluate Bangladesh medical personnel and first responders both in the field and at the medical centers.³³²

Force Protection/Pre-Deployment Information

The following information is provided for pre-deployment planning and preparations. Visit www.travel.state.gov prior to deployments for further up-to-date information.³³³

Passport/Visa

You must have a passport valid for at least six months beyond the date of your intended arrival in Bangladesh. Visitors from the U.S. are eligible for visitor (tourist) visas on arrival. All regular American Citizen Services (ACS) are by appointment only. Once you have completed the online application at <https://bd.usembassy.gov/u-s-citizen-services/passports/first-time-passport-applications/> please click on Online Appointments to make your ACS appointment online. Please read the requirements before you make an appointment for passport services.³³⁴

Emergency Contact Information

The American Citizen Services Unit does not require appointments for emergencies. Emergencies may include, but are not limited to, denial of freedom to travel, forced marriage, death of a U.S. Citizen, medical or financial emergencies. If you are a U.S. citizen with an emergency, please contact the U.S. Embassy in Dhaka:

Madani Avenue
Baridhara. Dhaka-1212
Bangladesh
Phone: (880) (2) 5566-2000 during business hours Sunday through Thursday from 8:00 a.m. to 4:30 p.m.

For emergency assistance outside of business hours you may call (880) (2) 5566-2000, press “0”, and ask to speak with the duty officer. The email for American Citizen Services Unit is DhakaACS@state.gov.³³⁵

Currency Information

The currency for Bangladesh is the Bangladeshi Taka (BDT). The symbols used for the Taka are Tk. The Taka is divided into smaller denominations of 100 poisha. The word Taka is commonly used by the locals as any money currency.³³⁶

Travel Health Information

Medical Care

Bangladesh medical care is limited and well below U.S. standards. U.S. citizens often travel outside of Bangladesh for medical treatment, including many routine procedures. Make sure your health insurance plan covers you when you are outside of the U.S. It is also recommended that you obtain supplemental insurance to cover medical evacuation since medical transport out of Bangladesh can be expensive. The U.S. Embassy can help you find appropriate medical care.³³⁷

Prescriptions

Bring current medication supply for the duration of your stay. There have been reports of counterfeit medications within the country, but medication from major pharmacies and hospitals is generally reliable. Carry prescription medication in original packaging, along with your doctor’s prescription. Talk with your doctor about taking prescription or over-the-counter drugs with you on your trip in case you get sick.³³⁸

Vaccinations

Before visiting Bangladesh, the U.S. CDC advises ALL travelers to get the following vaccines:³³⁹

- Measles-mumps-rubella (MMR) vaccine, diphtheria-tetanus-pertussis vaccine, varicella (chickenpox) vaccine, polio vaccine, and your yearly flu shot.
- The CDC advises MOST travelers to get the following vaccines:
- Hepatitis A: The CDC recommends this vaccine because you can get hepatitis A through contaminated food or water in

Bangladesh, regardless of where you are eating or staying.

- Typhoid: You can get typhoid through contaminated food or water in Bangladesh. CDC recommends this vaccine for most travelers, especially if you are staying with friends or relatives, visiting smaller cities or rural areas, or if you are an adventurous eater.

The CDC advises SOME travelers (depending on where they will be going, their length of stay, what they will be doing, and if you are traveling from a country other than the US.) to get the following vaccines:

- Cholera: Cholera is a risk in parts of Bangladesh. CDC recommends this vaccine for adults who are traveling to an area of active cholera transmission. Most people do not travel to areas of active cholera transmission. Avoiding unsafe food and water can also prevent many cholera infections. Cholera is rare in travelers but can be severe. Certain factors may increase the risk of getting cholera or having severe disease.
- Hepatitis B: You can get hepatitis B through sexual contact, contaminated needles, and blood products, so CDC recommends this vaccine if you might have sex with a new partner, get a tattoo or piercing, or have any medical procedures.
- Japanese Encephalitis: You may need this vaccine if your trip will last more than a month, depending on where you are going in Bangladesh and what time of year you are traveling. You should also consider this vaccine if you plan to visit rural areas in Bangladesh or will be spending a lot of time outdoors, even for trips shorter than a month. Your doctor can help you decide if this vaccine is right for you based on your travel plans.
- Malaria: When traveling in Bangladesh, you should avoid mosquito bites to prevent malaria. You may need to take prescription medicine before, during, and after your trip to prevent malaria, depending on your travel plans, such as where you are going, when you are traveling, and if you are spending a lot of time outdoors or sleeping outside. Talk to your doctor about how you can prevent malaria while traveling.

- Rabies: Rabies is present in bats in Bangladesh. However, it is not a major risk to most travelers. CDC recommends rabies vaccine for the following groups: 1.) Travelers involved in outdoor and other activities that put them at risk for animal bites. 2.) People who will be working with or around animals 3.) People who are taking long trips or moving to Bangladesh. 4.) Children, because they tend to play with animals, might not report bites, and are more likely to have animal bites on their head and neck.

Note: There is no risk of yellow fever in Bangladesh. The government of Bangladesh requires proof of yellow fever vaccination only if you are arriving from a country with risk of yellow fever.

Eat and Drink Safely

Unsafe food remains a major threat to public health. Each year, citizens suffer from the acute effects of food contaminated by microbial pathogens, chemical substances and toxins. Unclean food and water can cause travelers' diarrhea and other diseases. Reduce your risk by sticking to safe food and water habits.³⁴⁰

Eat

- Food that is cooked and served hot;
- Hard-cooked eggs;
- Fruits and vegetables you have washed in clean water or peeled yourself; and
- Pasteurized dairy products.

Don't Eat

- Food served at room temperature;
- Food from street vendors;
- Raw or soft-cooked (runny) eggs ;
- Raw or undercooked (rare) meat or fish;
- Unwashed or unpeeled raw fruits and vegetables;
- Unpasteurized dairy products; and
- "Bushmeat" (monkeys, bats, or other wild game).

Drink

- Bottled water that is sealed;
- Water that has been disinfected;
- Ice made with bottled or disinfected water;
- Carbonated drinks;
- Hot coffee or tea; and
- Pasteurized milk.

Don't Drink

- Tap or well water;
- Ice made with tap or well water;
- Drinks made with tap or well water (such as reconstituted juice); and
- Unpasteurized milk.

Prevent Bug Bites

Bugs (like mosquitoes, ticks, and fleas) can spread a number of diseases in Bangladesh. Many of these diseases cannot be prevented with a vaccine or medicine. You can reduce your risk by taking steps to prevent bug bites.³⁴¹

To prevent bug bites:

- Cover exposed skin by wearing long-sleeved shirts, long pants, and hats;
- Use an appropriate insect repellent (see below);
- Use permethrin-treated clothing and gear (such as boots, pants, socks, and tents). Do not use permethrin directly on skin;
- Stay and sleep in air-conditioned or screened rooms; and
- Use a bed net if the area where you are sleeping is exposed to the outdoors.

For protection against ticks and mosquitoes: Use a repellent that contains 20 percent or more DEET for protection that lasts up to several hours.

For protection against mosquitoes only: Products with one of the following active ingredients can also help prevent mosquito bites. Higher percentages of active ingredient provide longer protection. Always use insect repellent as directed.

- DEET
- Picaridin (also known as KBR 3023, Bayrepel, and icaridin)
- Oil of lemon eucalyptus (OLE) or PMD
- IR3535

Zika virus is a risk in Bangladesh. Because Zika infection in a pregnant woman can cause serious birth defects, women who are pregnant should not travel to Bangladesh. All travelers should strictly follow steps to prevent mosquito bites and sexual exposure to Zika virus during and after the trip.³⁴²

Safety and Security

The Government of Bangladesh has taken steps to pursue extremists and strengthen security. Nevertheless, U.S. citizens in Bangladesh should take precautions, remain vigilant, and be alert to local security developments. The U.S. government assesses that the terrorist threat remains real and credible and that further terrorist attacks could occur against foreigners in Bangladesh.³⁴³

The following groups, including ones on the U.S. government's list of designated Foreign Terrorist Organizations, pose a high risk to U.S. citizens in the South Asian region:

- Al-Qaeda in the Indian Subcontinent (AQIS);
- Islamic State in Iraq and the Levant (ISIL) affiliates;
- Lashkar-e-Tayyiba; and
- Indigenous sectarian groups.

Several anti-Western terrorist groups are active in Bangladesh:

- Ansar-al-Islam (the Bangladesh branch of AQIS);
- ISIL; and
- Jamaat-ul-Mujahideen Bangladesh.

U.S. government officials and their families are following these security and travel restrictions:

- They may not travel on foot, motorcycle, bicycle, rickshaw, compressed natural gas autorickshaw (CNG), or other uncovered means; and
- Their attendance at large gatherings, including events at international hotels, is restricted and evaluated on a case-by-case basis.

Areas to avoid:

- Avoid Road 86 in the Gulshan-2 area of Dhaka during demonstrations, national strikes, or elections. Take particular precaution against exposed movement during hours of darkness in the vicinity of Gulshan-2 Circle (DIT-2).
- Avoid Naya Paltan area in Dhaka, Baitul Mukarram Mosque (National Mosque), Mukhtangan (bordered by Baitul Mukarram Mosque to the east, the General Post Office (GPO) to the south, the Secretariat to the West, and Topkhana Road to the North), and Topkhana-Motijheel Road because political rallies can occur at these locations.

- U.S. citizens are advised against traveling to the Khagrachari, Rangamati, and Bandarban Hill Tracts districts (collectively known as the Chittagong Hill Tracts) due to kidnappings and other security incidents. If you travel in the Chittagong Hill Tracts, you must register with local authorities and you should exercise extreme caution.

Sendai Framework

The Sendai Framework is the global blueprint and fifteen year plan to build the world's resilience to natural disasters.³⁴⁴ The Sendai Framework for Disaster Risk Reduction 2015-2030 outlines seven clear targets and four priorities for action to prevent new and reduce existing disaster risks:

- Understanding disaster risk;
- Strengthening disaster risk governance to manage disaster risk;
- Investing in disaster reduction for resilience and;
- Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction.

It aims to achieve the substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries over the next 15 years. It was adopted at the Third United Nations World Conference on Disaster Risk Reduction in Sendai, Japan in 2015. Figure 9 shows the Sendai DDR Framework.³⁴⁵

Chart of the Sendai Framework for Disaster Risk Reduction 2015-2030

Scope and purpose

The present framework will apply to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or manmade hazards as well as related environmental, technological and biological hazards and risks. It aims to guide the multi-hazard management of disaster risk in development at all levels as well as within and across all sectors

Expected outcome

The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries

Goal

Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience

Targets

Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015

Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared to 2005-2015

Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030

Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030

Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020

Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this framework by 2030

Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessment to people by 2030

Priorities for Action

There is a need for focused action within and across sectors by States at local, national, regional and global levels in the following four priority areas.

Priority 1
Understanding disaster risk

Priority 2
Strengthening disaster risk governance to manage disaster risk

Priority 3
Investing in disaster risk reduction for resilience

Priority 4
Enhancing disaster preparedness for effective response, and to «Build Back Better» in recovery, rehabilitation and reconstruction

Figure 9: UN Sendai Framework for Disaster Risk Reduction 2015-2030

Hyogo Framework for Action Country Progress Report

The Hyogo framework for Action (HFA) was adopted as a guideline to reduce vulnerabilities to natural hazards. The HFA assists participating countries to become more resilient and to better manage the hazards that threaten their development. The levels of progress of the 2013-2015 results of the Interim HFA for Bangladesh are represented in Figure 10 and Table 8. Table 9 provides an overview of the overall challenges and the future outlook statement from the HFA report.³⁴⁶

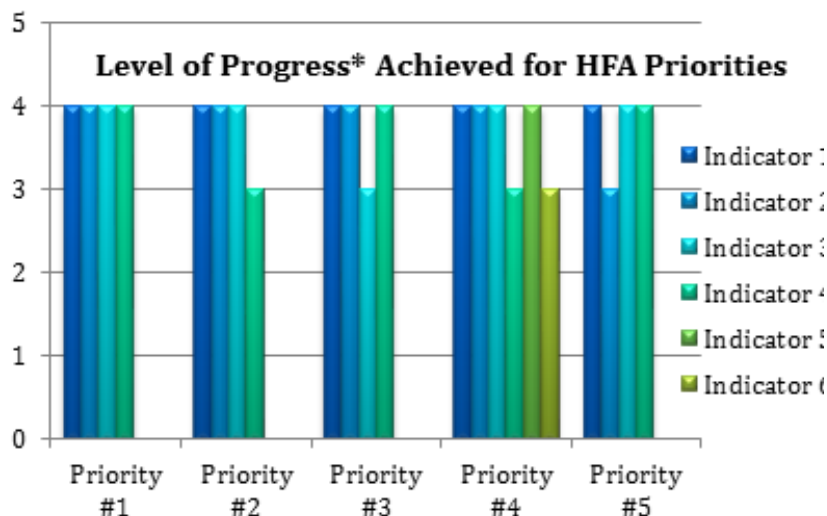


Figure 10: HFA Level of Progress Achieved

Priority for Action #1: Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.		
Core Indicator*	Indicator Description	Level of Progress Achieved
1	National policy and legal framework for disaster risk reduction exists with decentralized responsibilities and capacities at all levels.	4
2	Dedicated and adequate resources are available to implement disaster risk reduction plans and activities at all administrative levels.	4
3	Community Participation and decentralization is ensured through the delegation of authority and resources to local levels.	4
4	A national multi sectoral platform for disaster risk reduction is functioning.	4

Priority #2: Identify, assess and monitor disaster risks and enhance early warning		
Core Indicator*	Indicator Description	Level of Progress Achieved
1	National and local risk assessments based on hazard data and vulnerability information are available and include risk assessments for key sectors.	4
2	Systems are in place to monitor, archive and disseminate data on key hazards and vulnerabilities.	4
3	Early warning systems are in place for all major hazards, with outreach to communities.	4
4	National and local risk assessments take account of regional / trans-boundary risks, with a view to regional cooperation on risk reduction.	3

Table 8: Bangladesh National Progress Report on the Implementation of the HFA 2013-2015

Priority #3: Use knowledge, innovation and education to build a culture of safety and resilience at all levels

Core Indicator*	Indicator Description	Level of Progress Achieved
1	Relevant information on disasters is available and accessible at all levels, to all stakeholders (through networks, development of information sharing systems, etc.).	4
2	School curricula, education material and relevant trainings include disaster risk reduction and recovery concepts and practices.	4
3	Research methods and tools for multi-risk assessments and cost benefit analysis are developed and strengthened.	3
4	Countrywide public awareness strategy exists to stimulate a culture of disaster resilience, with outreach to urban and rural communities.	4

Priority #4: Reduce the underlying risk factors

Core Indicator*	Indicator Description	Level of Progress Achieved
1	Disaster risk reduction is an integral objective of environment related policies and plans, including for land use natural resource management and adaptation to climate change.	4
2	Social development policies and plans are being implemented to reduce the vulnerability of populations most at risk.	4
3	Economic and productive sectorial policies and plans have been implemented to reduce the vulnerability of economic activities.	4
4	Planning and management of human settlements incorporate disaster risk reduction elements, including enforcement of building codes.	3
5	Disaster risk reduction measures are integrated into post disaster recovery and rehabilitation processes.	4
6	Procedures are in place to assess the disaster risk impacts of major development projects, especially infrastructure.	3

Priority #5: Strengthen disaster preparedness for effective response at all levels

Core Indicator*	Indicator Description	Level of Progress Achieved
1	Strong policy, technical and institutional capacities and mechanisms for disaster risk management, with a disaster risk reduction perspective are in place.	4
2	Disaster preparedness plans and contingency plans are in place at all administrative levels, and regular training drills and rehearsals are held to test and develop disaster response programs.	3
3	Financial reserves and contingency mechanisms are in place to support effective response and recovery when required.	4
4	Procedures are in place to exchange relevant information during hazard events and disasters, and to undertake post-event reviews.	4

Table Notes:

*Level of Progress:

1 – Minor progress with few signs of forward action in plans or policy

2 – Some progress, but without systematic policy and/ or institutional commitment

3 – Institutional commitment attained, but achievements are neither comprehensive nor substantial

4 – Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

5 – Comprehensive achievement with sustained commitment and capacities at all levels

Table 8: Bangladesh National Progress Report on the Implementation of the HFA 2013-2015 (cont.)

Future Outlook Area 1: The more effective integration of disaster risk considerations into sustainable development policies, planning and programming at all levels, with a special emphasis on disaster prevention, mitigation, preparedness and vulnerability reduction.

<p>Challenges:</p>	<p>Limited national resources, both financial and non-financial, are a key constraint for integrating DRR into the sustainable development process. Considering the exposure to various types of disaster risks and the regularity of their occurrence, especially for urban areas, Bangladesh requires substantial financial resources to protect the lives and livelihoods of the most vulnerable populations through both structural and nonstructural mitigation. At the same time, participation of vulnerable groups in the decision-making processes related to DRR planning and programs are essential. Attention needs to be given to structural mitigation of the risks in urban and rural areas to increase human security of the poor people. Other challenges are:</p> <ul style="list-style-type: none"> - Inadequate coordination and management; - Inadequate participation from all groups and their inclusion; - Requirement for more mitigation and adaption measures to ensure community resilience; - Relief orientated mindset at local government and community levels; and - Lack of area-specific information as well as a gap in technical support.
<p>Future Outlook Priorities:</p>	<ul style="list-style-type: none"> - Ensure investment in structural DRR measures in the most vulnerable areas; - Ensure more investment in community-based DRR initiatives to prevent and mitigate disaster risks at the local level; - Increase the capacity of vulnerable communities to ensure better preparedness at community and household levels through sustainable access to financial and natural resources. - Strengthen monitoring mechanisms of the DRR implementation; - Strengthen the mechanisms for the participation of vulnerable groups in the formulation, implementation, and monitoring processes of local DM plans; - Increase the involvement of local governments in the formulation of DM policies, plans, and implementations; - Apply an equity and justice-based approach in DRR and CCA; - Strengthen enforcement of policies and planning guidelines related to disaster prevention, mitigation, and vulnerability reduction; - Introduce inclusive DRR policies and planning at the local and national level; - Conduct capacity building of human resources and development of sector specific technical expertise; and - Develop local resilience action plans incorporating additional disasters such as salinity, water logging, and human-induced hazards.

Table 9: HFA Country Progress Report Future Outlook Areas, Bangladesh

Future Outlook Area 2: The development and strengthening of institutions, mechanisms and capacities at all levels, in particular at the community level, that can systematically contribute to building resilience to hazards.

Challenges:	<p>Sustaining community efforts on DRR is a key challenge. Communities have been coping with disaster risks for a long time and they have built their own coping strategies. However, the absence of a systematic approach to capturing communities' grassroots DRR best practices poses a significant challenge. Other challenges are:</p> <ul style="list-style-type: none"> - Limited technical capacity; - Lack of coordinated planning; - Lack of modern search and rescue equipment, logistics, and technology; - Lack of grassroots level human resources for DRR; and - Lack of capacity and awareness in the implementation of building code.
Future Outlook Priorities:	<p>Increase systematic approaches to research on DRR effectiveness for sustainable development and document communities' best practices for DRR. This is important for replicating and scaling up these practices across the country and for sharing the most up-to-date information on disaster scenarios and predictions of future disasters related to climate change.</p> <ul style="list-style-type: none"> - Engagement and partnership with private sector, CSO, and community groups for strengthening community-based DRR approaches; - Effective use of plans and policies; - Technical and equipment support for search and rescue operation; - Build capacity and adaptive institutional research; and - More research is needed to replicate and scale up best practices.

Future Outlook Area 3: The systematic incorporation of risk reduction approaches into the design and implementation of emergency preparedness, response and recovery programs in the reconstruction of affected communities.

Challenges:	<p>Bangladesh has already strengthened DRR approaches in the design and implementation of recovery and reconstruction programs in affected communities. However, replication and scaling up of DRR and CCA approaches at the local level still remain a key challenge. More emphasis is needed to raise awareness of DRR and CCA issues among planners and implementers of infrastructural schemes and interventions to ensure the systematic incorporation of DRR. There is also a need for the adequate allocation of financial resources to promote the systematic incorporation of DRR and CCA at all levels. Existing communication and networking systems are still not functioning effectively. Other challenges are:</p> <ul style="list-style-type: none"> - Replication and scaling up of best practices; - Loss of institutional knowledge due to poor documentation and knowledge management systems; and - Resource limitation for strengthening structural DRR work.
Future Outlook Priorities:	<ul style="list-style-type: none"> - All departments will increase the integration of DRR in partnership with development partners to ensure protection against flood, cyclone, tidal surge, and tsunami threats in the most vulnerable areas of Bangladesh; - Communal infrastructures such as government office buildings and educational institutions in the locations vulnerable to disaster should be constructed following universal design specifications that incorporate hazard specific components and the needs of both genders and persons with disabilities; - A community-based disaster resilient habitat program will be developed incorporating DRR and livelihood protection issues for disaster affected areas; - DRR approach is effectively introduced at all levels; - Resources should be made available after effective communion with donor Communities; - There should be a focus on mass awareness-raising among the community people; and - Coordinating among NGOs and the government line departments should be emphasized.

Table 9: HFA Country Progress Report Future Outlook Areas, Bangladesh (cont.)

Country Profile

The information in the Country Profile section is sourced directly from the CIA World Fact book.³⁴⁷

Background:

Muslim conversions and settlement in the region now referred to as Bangladesh began in the 10th century, primarily from Arab and Persian traders and preachers. Europeans established trading posts in the area in the 16th century. Eventually the area known as Bengal, primarily Hindu in the western section and mostly Muslim in the eastern half became part of British India. Partition in 1947 resulted in an eastern wing of Pakistan in the Muslim-majority area, which became East Pakistan. Calls for greater autonomy and animosity between the eastern and western wings of Pakistan led to a Bengali independence movement. That movement, led by the Awami League (AL) and supported by India, won the independence war for Bangladesh in 1971. The post-independence AL government faced daunting challenges and in 1975 was overthrown by the military, triggering a series of military coups that resulted in a military-backed government and subsequent creation of the Bangladesh Nationalist Party (BNP) in 1978. That government also ended in a coup in 1981, followed by military-backed rule until democratic elections occurred in 1991. The BNP and AL alternated in power between 1991 and 2013, with the exception of a military-backed, emergency caretaker regime that suspended parliamentary elections planned for January 2007 in an effort to reform the political system and root out corruption. That government returned the country to fully democratic rule in December 2008 with the election of the AL and Prime Minister Sheikh Hasina. In January 2014, the incumbent AL won the national election by an overwhelming majority after the BNP boycotted, extending Hasina's term as prime minister. With the help of international development assistance, Bangladesh has reduced the poverty rate from over half of the population to less than a third, achieved Millennium Development Goals for maternal and child health, and made great progress in food security since independence. The economy has grown at an annual average of about 6 percent over the last two decades and the country reached World Bank lower-middle income status in 2015.

Location:

Southern Asia, bordering the Bay of Bengal, between Myanmar and India

Geographic Coordinates:

24 00 N, 90 00 E

Area:

Total: 148,460 sq km

Land: 130,170 sq km

Water: 18,290 sq km

Country comparison to the world: 95

Area – Comparative:

Slightly smaller than Iowa

Land Boundaries:

Total: 4,413 km

Border countries (2): Myanmar (Burma) 271 km, India 4,142 km

Coastline: 580 km

Maritime Claims:

Territorial sea: 12 nm

Contiguous zone: 18 nm

Exclusive economic zone: 200 nm

Continental shelf: to the outer limits of the continental margin

Climate:

Tropical; mild winter (October to March); hot, humid summer (March to June); humid, warm rainy monsoon (June to October)

Terrain:

Mostly flat alluvial plain; hilly in southeast

Elevation:

Mean elevation: 85 m

Elevation extremes: lowest point: Indian Ocean
0 m

Highest point: Keokradong 1,230 m

Natural Resources:

Natural gas, arable land, timber, coal

Land Use:

Agricultural land: 70.1 percent

Arable land 59 percent; permanent crops 6.5 percent; permanent pasture 4.6 percent

Forest: 11.1 percent

Other: 18.8 percent (2011 est.)

Irrigated Land:

53,000 sq km (2012)

Natural Hazards:

Droughts; cyclones; much of the country routinely inundated during the summer monsoon season

Environment - Current Issues:

Many people are landless and forced to live on and cultivate flood-prone land; waterborne diseases prevalent in surface water; water pollution, especially of fishing areas, results from the use of commercial pesticides; ground water contaminated by naturally occurring arsenic; intermittent water shortages because of falling water tables in the northern and central parts of the country; soil degradation and erosion; deforestation; severe overpopulation

Environment - International Agreements:

Party to: Biodiversity, Climate Change, Climate Change-Kyoto Protocol, Desertification, Endangered Species, Environmental Modification, Hazardous Wastes, Law of the Sea, Ozone Layer Protection, Ship Pollution, Wetlands

Geography - Note:

Most of the country is situated on deltas of large rivers flowing from the Himalayas: the Ganges unites with the Jamuna (main channel of the Brahmaputra) and later joins the Meghna to eventually empty into the Bay of Bengal

Population:

156,186,882 (July 2016 est.)

Country comparison to the world: 9

Nationality:

Noun: Bangladeshi(s)

Adjective: Bangladeshi

Ethnic Groups:

Bengali at least 98 percent, ethnic groups 1.1 percent

Bangladesh's government recognizes 27 ethnic groups under the 2010 Cultural Institution for Small Anthropological Groups Act; other sources estimate there are about 75 ethnic groups; critics of the 2011 census claim that it underestimates the size of Bangladesh's ethnic population (2011 est.)

Languages:

Bangla 98.8 percent (official, also known as Bengali), other 1.2 percent (2011 est.)

Religions:

Muslim 89.1 percent, Hindu 10 percent, other 0.9 percent (includes Buddhist, Christian) (2013 est.)

Age Structure:

0-14 years: 28.27 percent (male 22,456,564/
female 21,695,491)

15-24 years: 19.53 percent (male 15,261,363/
female 15,247,635)

25-54 years: 39.39 percent (male 29,565,250/
female 31,951,537)

55-64 years: 6.77 percent (male 5,232,828/
female 5,342,822)

65 years and over: 6.04 percent (male 4,493,557/
female 4,939,835) (2016 est.)

Dependency Ratios:

Total dependency ratio: 52.5

Youth dependency ratio: 44.9

Elderly dependency ratio: 7.6

Potential support ratio: 13.2 (2015 est.)

Median Age:

Total: 26.3 years

Male: 25.6 years

Female: 26.9 years (2016 est.)

Country comparison to the world: 147

Population Growth Rate:

1.05 percent (2016 est.)

Country comparison to the world: 112

Birth Rate:

19 births/1,000 population (2016 est.)

Country comparison to the world: 89

Death Rate:

5.3 deaths/1,000 population (2016 est.)

Country comparison to the world: 180

Net Migration Rate:

-3.1 migrant(s)/1,000 population (2016 est.)

Country comparison to the world: 180

Urbanization:

Urban population: 34.3 percent of total population (2015)

Rate of urbanization: 3.55 percent annual rate of change (2010-15 est.)

Major Urban Areas - Population:

Dhaka (capital) 17.598 million; Chittagong 4.539 million; Khulna 1.022 million; Rajshahi 844,000 (2015)

Sex Ratio:

At birth: 1.04 male(s)/female

0-14 years: 1.04 male(s)/female

15-24 years: 1 male(s)/female

25-54 years: .93 male(s)/female

55-64 years: 0.98 male(s)/female

65 years and over: 0.97 male(s)/female

Total population: 0.97 male(s)/female (2016 est.)

Mother's mean age at first birth:

18.5 years

Note: Median age at first birth among women 25-29 (2014 est.)

Maternal Mortality Rate:

176 deaths/100,000 live births (2015 est.)

Country comparison to the world: 49

Infant Mortality Rate:

Total: 32.9 deaths/1,000 live births

Male: 35.2 deaths/1,000 live births

Female: 30.4 deaths/1,000 live births (2016 est.)

Country comparison to the world: 61

Life Expectancy at Birth:

Total population: 73.2 years

Male: 71 years

Female: 75.4 years (2016 est.)

Country comparison to the world: 133

Total Fertility Rate:

2.19 children born/woman (2016 est.)

Country comparison to the world: 98

Contraceptive Prevalence Rate:

62.3 percent (2014)

Note: Percent of women aged 15-44 (2006)

Health Expenditures:

2.8 percent of GDP (2014)

Country comparison to the world: 169

Physicians Density:

0.39 physicians/1,000 population (2012)

Hospital bed density:

0.6 beds/1,000 population (2011)

Drinking Water Source:

Improved:

Urban: 86.5 percent of population

Rural: 87 percent of population

Total: 86.9 percent of population

Unimproved:

Urban: 13.5 percent of population

Rural: 13 percent of population

Total: 13.1 percent of population (2015 est.)

Sanitation Facility Access:

Improved:

Urban: 57.7 percent of population

Rural: 62.1 percent of population

Total: 60.6 percent of population

Unimproved:

Urban: 42.3 percent of population

Rural: 37.9 percent of population

Total: 39.4 percent of population (2015 est.)

HIV/AIDS - Adult Prevalence Rate:

0.01 percent (2015 est.)

Country comparison to the world: 130

HIV/AIDS - People Living with HIV/AIDS:

9,600 (2015 est.)

Country comparison to the world: 96

HIV/AIDS - Deaths:

900 (2015 est.)

Country comparison to the world: 75

Major infectious diseases:

Degree of risk: high

Food or waterborne diseases: Bacterial and protozoal diarrhea, Hepatitis A and E, and Typhoid Fever

Vector borne diseases: Dengue fever and Malaria are high risks in some locations

Water contact disease: Leptospirosis

Animal contact disease: Rabies (2016)

Obesity - adult prevalence rate:

3.3 percent (2014)

Country comparison to the world: 190

Children Under the Age of 5 Years Underweight: 32.6 percent (2014)

Country comparison to the world: 5

Education Expenditures:

2.2 percent of GDP (2015)

Country comparison to the world: 161

Literacy:

Definition: age 15 and over can read and write

Total population: 61.5 percent

Male: 64.6 percent

Female: 58.5 percent (2015 est.)

School Life Expectancy (Primary to Tertiary Education):

Total: 10 years

Male: 10 years

Female: 10 years (2011)

Child Labor - Children Ages 5-14:

Total number: 4,485,497

Percentage: 13 percent (2006 est.)

Unemployment, Youth Ages 15-24:

Total: 8.7 percent

Male: 8.3 percent

Female: 9.2 percent (2010 est.)

Country comparison to the world: 105

Country Name:

Conventional long form: People's Republic of Bangladesh

Conventional short form: Bangladesh

Local long form: Gana Prajatantri Bangladesh

Local short form: Bangladesh

Former: East Bengal, East Pakistan

Etymology: The name - a compound of the Bengali words "Bangla" (Bengal) and "desh" (country) - means "Country of Bengal"

Government type: Parliamentary republic

Capital: Dhaka

Geographic Coordinates: 23 43 N, 90 24 E

Time Difference: UTC+6 (11 hours ahead of Washington, DC, during Standard Time)

Administrative División:

8 divisions; Barisal, Chittagong, Dhaka, Khulna, Mymensingh, Rajshahi, Rangpur, Sylhet

Independence:

16 December 1971 (from West Pakistan)

National holiday:

Independence Day, 26 March (1971); Victory Day, 16 December (1971); note - 26 March 1971 is the date of the Awami League's declaration of an independent Bangladesh, and 16 December, known as Victory Day, memorializes the military victory over Pakistan and the official creation of the state of Bangladesh

Constitution:

History: previous 1935, 1956, 1962 (pre-independence); latest enacted 4 November 1972, effective 16 December 1972, suspended March 1982, restored November 1986

Amendments: Proposed by the House of the Nation; approval requires at least a two-thirds majority vote by the House membership, assented to by the president of the republic, and approved in a referendum by a majority of voters; amended many times, last in 2014 (2017)

Legal System:

Mixed legal system of mostly English common law and Islamic law

International Law Organization Participation:

Has not submitted an ICJ jurisdiction declaration; accepts ICCT jurisdiction

Citizenship:

Citizenship by birth: No

Citizenship by descent: At least one parent must be a citizen of Bangladesh

Dual citizenship recognized: Yes, but limited in select countries

Residency requirement for naturalization: 5 years

Suffrage: 18 years of age; universal

Executive Branch:

Chief of State: President Abdul Hamid (since 24 April 2013); note - Abdul Hamid served as acting president following the death of Zillur Rahman in March 2013; Hamid was subsequently indirectly elected by the National Parliament and sworn in 24 April 2013

Head of government: Prime Minister Sheikh Hasina (since 6 January 2009)

Cabinet: Cabinet selected by the prime minister, appointed by the president

Elections/appointments: President indirectly elected by the National Parliament for a 5-year term (eligible for a second term); election last held on 22 April 2013 (next to be held by 2018); the president appoints as prime minister the majority party leader in the National Parliament

Election results: President Abdul Hamid (AL) elected by the National Parliament unopposed; Sheikh Hasina reappointed prime minister as leader of the majority AL party

Legislative Branch:

Description: Unicameral House of the Nation or Jatiya Sangsad (350 seats; 300 members in single-seat territorial constituencies directly elected by simple majority popular vote; 50 members - reserved for women only - indirectly elected by the elected members by proportional representation vote using the single transferable vote method; all members serve 5-year terms) Elections: Last held on 5 January 2014 (next to be held by January 2019); note - the 5 January 2014 poll was marred by widespread violence, boycotts, general strikes, and low voter turnout

election results: percent of vote by party - AL-led Alliance 79 percent, JP (Ershad) 11.3 percent, WP 2.1 percent, JSD 1.8 percent, other parties 1.0 percent, independent 4.8 percent; seats by party - AL 234, JP 34, WP 6, JSD 5, other 5, independent 15; 1 seat repolled.

Judicial Branch:

Highest Court(s): Supreme Court of Bangladesh (organized into the Appellate Division with 7 justices and the High Court Division with 99 justices)

Judge Selection and Term of Office: Chief justice and justices appointed by the president; justices serve until retirement at age 67

Subordinate Courts: Subordinate courts: civil courts include: Assistant Judge's Court; Joint District Judge's Court; Additional District Judge's Court; District Judge's Court; criminal courts include: Court of Sessions; Court of Metropolitan Sessions; Metropolitan Magistrate Courts; Magistrate Court; special courts/tribunals

Political Parties and Leaders:

Awami League or AL [Sheikh Hasina]

Bangladesh Nationalist Front or BNF [Abdul Kalam Azadi]

Bangladesh Nationalist Party or BNP [Khaleda Zia]

Bangladesh Tariqat Federation or BTF [Syed Nozibul Bashar Maizbhandari]

Jatiya Party or JP (Ershad faction) [Hussain Mohammad Ershad]

Jatiya Party or JP (Manju faction) [Anwar Hossain Manju]

Liberal Democratic Party or LDP [Oli Ahmed]

National Socialist Party or JSD [Khalequzzaman]

Workers Party or WP [Rashed Khan Menon]

Political Pressure Groups and Leaders:

Ain o Salish Kendro (Centre for Law and Mediation) or ASK (legal aid and civil rights)

Bangladesh Center for Worker Solidarity

Bangladesh Rural Advancement Committee or BRAC

Federation of Bangladesh Chambers of Commerce and Industry

Ministry of Women's and Children's Affairs or MoWCA (advocacy group to end gender-based violence)

Odikhar (human rights group)

Other: Associations of madrasa teachers; business associations, including those intended to promote international trade; development and advocacy NGOs associated with the Grameen Bank; environmentalists; Islamist groups; labor rights advocacy groups; NGOs focused on poverty alleviation, and international trade; religious leaders; tribal groups and advocacy organizations; union leaders

International Organization Participation:

ADB, AIF, BIMSTEC, C, CD, CICA (observer), CP, D-8, FAO, G-77, IAEA, IBRD, ICAO, ICC (national committees), ICRM, IDA, IDB, IFAD, IFC, IFRC, IHO, ILO, IMF, IMO, IMSO, Interpol, IOC, IOM, IPU, ISO, ITSO, ITU, ITUC (NGOs), MIGA, MINURSO, MINUSMA, MONUSCO, NAM, OIC, OPCW, PCA, SAARC, SACEP, UN, UNAMID, UNCTAD, UNESCO, UNHCR, UNIDO, UNIFIL, UNMIL, UNMISS, UNOCI, UNWTO, UPU, WCO, WFTU (NGOs), WHO, WIPO, WMO, WTO

Diplomatic Representation in the U.S.:

Chief of mission: Ambassador Mohammad Ziauddin (since 18 September 2014)

Chancery: 3510 International Drive NW, Washington, DC 20008

Telephone: [1] (202) 244-0183

FAX: [1] (202) 244-2771

Consulate(s) general: Los Angeles, New York

Diplomatic representation from the US:

Chief of mission: Ambassador Marcia Bernicat (since 12 January 2015)

Embassy: Madani Avenue, Baridhara, Dhaka 1212

Mailing address: G. P. O. Box 323, Dhaka 1000

Telephone: [880] (2) 5566-2000

FAX: [880] (2) 5566-2915

Flag Description:

Green field with a large red disk shifted slightly to the hoist side of center; the red disk represents the rising sun and the sacrifice to achieve independence; the green field symbolizes the lush vegetation of Bangladesh

National symbol(s):

Bengal tiger, water lily; national colors: green, red

National Anthem:

Name: "Amar Shonar Bangla" (My Golden Bengal)

Lyrics/music: Rabindranath TAGORE

Note: adopted 1971; Rabindranath TAGORE, a Nobel laureate, also wrote India's national anthem

Economy Overview:

Bangladesh's economy has grown roughly 6 percent per year since 1996 despite political instability, poor infrastructure, corruption, insufficient power supplies, slow implementation of economic reforms, and the 2008-09 global financial crisis and recession. Although more than half of GDP is generated through the services sector, almost half of Bangladeshis are employed in the agriculture sector, with rice as the single-most-important product.

Garment exports, the backbone of Bangladesh's industrial sector, accounted for more than 80 percent of total exports and surpassed \$25 billion in 2016. The sector continues to grow, despite a series of factory accidents that have killed more than 1,000 workers, and crippling strikes, including a nationwide transportation blockade

implemented by the political opposition during the first several months of 2015. Steady garment export growth combined with remittances from overseas Bangladeshis - which totaled about \$15 billion and 8 percent of GDP in 2015 - are the largest contributors to Bangladesh's sustained economic growth and rising foreign exchange reserves.

GDP (Purchasing Power Parity):

\$628.4 billion (2016 est.)

\$587.7 billion (2015 est.)

\$550.2 billion (2014 est.)

Note: Data are in 2016 dollars

Country comparison to the world: 34

GDP (official exchange rate):

\$226.8 billion (2016 est.)

GDP - real growth rate:

6.9 percent (2016 est.)

6.8 percent (2015 est.)

6.3 percent (2014 est.)

Country comparison to the world: 11

GDP - per capita (PPP):

\$3,900 (2016 est.)

\$3,700 (2015 est.)

\$3,500 (2014 est.)

Note: Data are in 2016 dollars

Country comparison to the world: 177

Gross national saving:

28.6 percent of GDP (2016 est.)

29.7 percent of GDP (2015 est.)

29.1 percent of GDP (2014 est.)

Country comparison to the world: 31

GDP - composition, by end use:

Household consumption: 70.3 percent

Government consumption: 5.2 percent

Investment in fixed capital: 28.2 percent

Investment in inventories: 3 percent

Exports of goods and services: 16.5 percent

Imports of goods and services: -23.2 percent (2016 est.)

GDP - composition, by sector of origin:

Agriculture: 15.1 percent

Industry: 28.6 percent

Services: 56.3 percent (2016 est.)

Agriculture - Products:

Rice, jute, tea, wheat, sugarcane, potatoes, tobacco, pulses, oilseeds, spices, fruit; beef, milk, poultry

Industries:

Jute, cotton, garments, paper, leather, fertilizer, iron and steel, cement, petroleum products, tobacco, pharmaceuticals, ceramics, tea, salt, sugar, edible oils, soap and detergent, fabricated metal products, electricity, natural gas

Industrial production growth rate:

8.4 percent (2016 est.)

Country comparison to the world: 9

Labor force:

83.59 million

Note: Extensive export of labor to Saudi Arabia, Kuwait, UAE, Oman, Qatar, and Malaysia; workers' remittances were \$15 billion in 2015, 8 percent of GDP (2016 est.)

Country comparison to the world: 7

Labor force - by occupation:

Agriculture: 47 percent

Industry: 13 percent

Services: 40 percent (2010 est.)

Unemployment rate:

4.9 percent (2016 est.)

4.9 percent (2015 est.)

Note: About 40 percent of the population is underemployed; many persons counted as employed work only a few hours a week and at low wages

Country comparison to the world: 52

Population below poverty line:

31.5 percent (2010 est.)

Household income or consumption by percentage share:

Lowest 10 percent: 4 percent

Highest 10 percent: 27 percent (2010 est.)

Distribution of family income - Gini index:

32.1 (2010)

33.6 (1996)

Country comparison to the world: 110

Budget:

Revenues: \$23.78 billion

Expenditures: \$35.32 billion (2016 est.)

Taxes and other revenues:

10.5 percent of GDP (2016 est.)

Country comparison to the world: 210

Budget surplus (+) or deficit (-):
-5.1 percent of GDP (2016 est.)

Country comparison to the world: 162

Public debt:

25.9 percent of GDP (2016 est.)

26.6 percent of GDP (2015 est.)

Country comparison to the world: 154

Fiscal year:

1 July - 30 June

Inflation rate (consumer prices):

5.6 percent (2016 est.)

6.2 percent (2015 est.)

Country comparison to the world: 177

Central bank discount rate:

5 percent (31 December 2010)

5 percent (31 December 2009)

Country comparison to the world: 78

Commercial bank prime lending rate:

10.7 percent (31 December 2016 est.)

11.71 percent (31 December 2015 est.)

Country comparison to the world: 75

Stock of narrow money:

\$25.28 billion (31 December 2016 est.)

\$21.44 billion (31 December 2015 est.)

Country comparison to the world: 63

Stock of broad money:

\$121.5 billion (31 December 2016 est.)

\$106.8 billion (31 December 2015 est.)

Country comparison to the world: 53

Stock of domestic credit:

\$128.9 billion (31 December 2016 est.)

\$113 billion (31 December 2015 est.)

Country comparison to the world: 51

Market value of publicly traded shares:

\$50.98 billion (31 December 2015 est.)

\$41.73 billion (31 December 2014 est.)

\$23.55 billion (31 December 2011 est.)

Country comparison to the world: 52

Current account balance:

-\$131 million (2016 est.)

\$1.507 billion (2015 est.)

Country comparison to the world: 75

Exports:

\$33.32 billion (2016 est.)

\$31.74 billion (2015 est.)

Country comparison to the world: 56

Exports - commodities:

Garments, knitwear, agricultural products, frozen food (fish and seafood), jute and jute goods, leather

Exports - partners:

US 13.9 percent, Germany 12.9 percent, UK 8.9 percent, France 5 percent, Spain 4.7 percent (2015)

Imports:

\$39.17 billion (2016 est.)

\$37.63 billion (2015 est.)

Country comparison to the world: 54

Imports - commodities:

Cotton, machinery and equipment, chemicals, iron and steel, foodstuffs

Imports - partners:

China 22.4 percent, India 14.1 percent, Singapore 5.2 percent (2015)

Reserves of foreign exchange and gold:

\$29.77 billion (31 December 2016 est.)

\$27.49 billion (31 December 2015 est.)

Country comparison to the world: 50

Debt - external:

\$37.26 billion (31 December 2016 est.)

\$35.49 billion (31 December 2015 est.)

Country comparison to the world: 73

Stock of direct foreign investment - At home:

\$13.24 billion (31 December 2016 est.)

\$12.91 billion (31 December 2015 est.)

Country comparison to the world: 90

Stock of direct foreign investment - Abroad:

\$343 million (31 December 2016 est.)

\$188 million (31 December 2015 est.)

Country comparison to the world: 90

Exchange rates:

Taka (BDT) per US dollar -

78.5 (2016 est.)

77.947 (2015 est.)

77.947 (2014 est.)

77.614 (2013 est.)

81.86 (2012 est.)

Electricity access:

Population without electricity: 60,300,000

Electrification - total population: 60 percent

Electrification - urban areas: 90 percent

Electrification - rural areas: 49 percent (2013)

Electricity - production:

53 billion kWh (2014 est.)

Country comparison to the world: 51

Electricity - consumption:

46 billion kWh (2014 est.)

Country comparison to the world: 53

Electricity - exports:

0 kWh (2013 est.)

Country comparison to the world: 206

Electricity - imports:

0 kWh (2013 est.)

Country comparison to the world: 209

Electricity - installed generating capacity:

8.6 million kW (2014 est.)

Country comparison to the world: 67

Electricity - from fossil fuels:

97.7 percent of total installed capacity (2013 est.)

Country comparison to the world: 57

Electricity - from nuclear fuels:

0 percent of total installed capacity (2013 est.)

Country comparison to the world: 197

Electricity - from hydroelectric plants:

2.3 percent of total installed capacity (2013 est.)

Country comparison to the world: 136

Electricity - from other renewable sources:

0 percent of total installed capacity (2013 est.)

Country comparison to the world: 139

Crude oil - production:

4,000 bbl/day (2015 est.)

Country comparison to the world: 85

Crude oil - exports:

313 bbl/day (2013 est.)

Country comparison to the world: 86

Crude oil - imports:

23,660 bbl/day (2013 est.)

Country comparison to the world: 65

Crude oil - proved reserves:

28 million bbl (1 January 2016 es)

Country comparison to the world: 83

Refined petroleum products - production:

27,930 bbl/day (2013 est.)

Country comparison to the world: 88

Refined petroleum products - consumption:

109,000 bbl/day (2014 est.)

Country comparison to the world: 78

Refined petroleum products - exports:

2,567 bbl/day (2013 est.)

Country comparison to the world: 107

Refined petroleum products - imports:

77,730 bbl/day (2013 est.)

Country comparison to the world: 61

Natural gas - production:

23.9 billion cu m (2014 est.)

Country comparison to the world: 28

Natural gas - consumption:

23.9 billion cu m (2014 est.)

Country comparison to the world: 34

Natural gas - exports:

0 cu m (2013 est.)

Country comparison to the world: 204

Natural gas - imports:

0 cu m (2013 est.)

Country comparison to the world: 147

Natural gas - proved reserves:

233 billion cu m (1 January 2016 es)

Country comparison to the world: 42

Carbon dioxide emissions from consumption of energy:

66 million Mt (2013 est.)

Country comparison to the world: 53

Communications:

Telephones-fixed lines:

Total subscriptions: 830,800

Subscriptions per 100 inhabitants: less than 1 (July 2015 est.)

Country comparison to the world: 74

Telephones - mobile cellular:

Total: 133.72 million

Subscriptions per 100 inhabitants: 79 (July 2015 est.)

Country comparison to the world: 12

Telephone system:

General assessment: Inadequate for a modern country; introducing digital systems; trunk systems include VHF and UHF microwave radio relay links, and some fiber-optic cable in cities

Domestic: Fixed-line teledensity remains only about 1 per 100 persons; mobile-cellular telephone subscribership has been increasing rapidly and now approaches 80 telephones per 100 persons

International: Country code - 880; landing point for the SEA-ME-WE-4 fiber-optic submarine cable system that provides links to Europe, the Middle East, and Asia; satellite earth stations - 6; international radiotelephone communications and landline service to neighboring countries (2015)

Broadcast media:

State-owned Bangladesh Television (BTV) operates 1 terrestrial TV station, 3 radio networks, and about 10 local stations; 8 private satellite TV stations and 3 private radio stations also broadcasting; foreign satellite TV stations are gaining audience share in the large cities; several international radio broadcasters are available (2007)

Internet country code: .bd

Internet users:

Total: 24.33 million

Percent of population: 14.4 percent (July 2015 est.)

Country comparison to the world: 42

Transportation:**National air transport system:**

Number of registered air carriers: 6

Inventory of registered aircraft operated by air carriers: 30

Annual passenger traffic on registered air carriers: 2,906,799

Annual freight traffic on registered air carriers: 182,692,553 mt-km (2015)

Civil aircraft registration country code prefix:

S2 (2016)

Airports:

18 (2013)

Country comparison to the world: 139

Airports - with paved runways:

Total: 16

Over 3,047 m: 2

2,438 to 3,047 m: 2

1,524 to 2,437 m: 6

914 to 1,523 m: 1

Under 914 m: 5 (2013)

Airports - with unpaved runways:

Total: 2

1,524 to 2,437 m: 1

Under 914 m: 1 (2013)

Heliports:

3 (2013)

Pipelines:

Gas 2,950 km (2013)

Railways:

Total: 2,460 km

Broad gauge: 659 km 1.676-m gauge

Narrow gauge: 1,801 km 1.000-m gauge (2014)

Country comparison to the world: 66

Roadways:

Total: 21,269 km

Paved: 2,021 km

Unpaved: 19,248 km (2010)

Country comparison to the world: 106

Waterways:

8,370 km (includes up to 3,060 km of main cargo routes; network reduced to 5,200 km in the dry season) (2011)

Country comparison to the world: 16

Merchant marine:

Total: 62

By type: Bulk carrier 25, cargo 28, chemical tanker 1, container 5, petroleum tanker 3

Foreign-owned: 8 (China 1, Singapore 7)

Registered in other countries: 10 (Comoros 1, Hong Kong 1, Panama 5, Saint Vincent and the Grenadines 1, Sierra Leone 1, Singapore 1) (2010)

Country comparison to the world: 64

Ports and terminals:

Major seaport(s): Chittagong

River port(s): Mongla Port (Sela River)

Container port: Chittagong (1,392,104) (2011)

Transportation - note:

The International Maritime Bureau reports the territorial waters of Bangladesh remain a risk for armed robbery against ships; in 2014, attacks against commercial vessels increased to 21 over 12 such incidents in 2013

Military and Security:

Military expenditures:

1.09 percent of GDP (2014)

1.15 percent of GDP (2013)

1.35 percent of GDP (2012)

1.44 percent of GDP (2011)

1.35 percent of GDP (2010)

Country comparison to the world: 86

Military branches:

Bangladesh Defense Force: Bangladesh Army (Sena Bahini), Bangladesh Navy (Noh Bahini, BN), Bangladesh Air Force (Biman Bahini, BAF) (2013)

Military service age and obligation: 16-19 years of age for voluntary military service; Bangladeshi birth and 10th grade education required; initial obligation 15 years (2012)

Transnational Issues:

Disputes - International:
 Bangladesh referred its maritime boundary claims with Myanmar and India to the International Tribunal on the Law of the Sea; Indian Prime Minister Singh's September 2011 visit to Bangladesh resulted in the signing of a Protocol to the 1974 Land Boundary Agreement between India and Bangladesh, which had called for the settlement of longstanding boundary disputes over un-demarcated areas and the exchange of territorial enclaves, but which had never been implemented; Bangladesh struggles to accommodate 32,000 Rohingya, Burmese Muslim minority from Arakan State, living as refugees in Cox's Bazar; Burmese border authorities are constructing a 200 km (124 mi) wire fence designed to deter illegal cross-border transit and tensions from the military build-up

along border

Refugees and internally displaced persons:

Refugees (country of origin): 231,948 (Myanmar) (2015)

IDPs: 426,000 (violence, human rights violations, religious persecution, natural disasters) (2015)

Illicit drugs:

Transit country for illegal drugs produced in neighboring countries

Highlights of the Bangladesh Disaster Management Analysis Report (2016)

In coordination with U.S. Embassy Dhaka and the Government of the People's Republic of Bangladesh (GoB), the Center for Excellence in Disaster Management & Humanitarian Assistance (CFE-DM) conducted a Disaster Management Analysis to provide the U.S. Pacific Command and supporting commands, the U.S. Government, and the U.S. Embassy detailed information about Bangladesh's disaster management capacity and capabilities.³⁴⁸

The GoB has made significant strides in managing disasters during the past 45 years, since the loss of over 300,000 citizens during Cyclone Bhola in 1971. The national disaster framework provides a strong foundation for understanding responsibilities of different organizations, however there is no clear mechanism for generating the required interaction to build and validate the authorities and relationships among the ministries, military, and other relevant organizations. Additionally, the GoB disaster response structure relies on a committee-style decision making system, whereby committees are convened to determine the direction and approve the actions necessary to prepare for, and respond to a disaster. Although this system of decision-making has proven successful in responding to slow-moving disasters, it is somewhat problematic if used during a sudden onset catastrophic disaster without a detailed contingency response plan in place. Compounding the shortfalls of a committee based system of managing a sudden onset disaster is the culturally-based hierarchical responsibility to authorities, whereby the implementation, and subsequent exercising, of a plan for Continuity of Operations may be problematic.

The GoB has many years of experience working with non-governmental organizations, particularly in cyclone preparedness, disaster risk reduction, and development programs. Since 1979 there have been approximately 43 internationally-sponsored, earthquake-related projects, studies, and activities in Bangladesh.¹⁸ These internationally based and supported disaster preparedness initiatives have, and continue to have, an influence on the GoB disaster management system. These initiatives include Strengthening Local Level Disaster Management Committees, Strengthening

Earthquake Resilience in Bangladesh (SERB), Construction of Multipurpose Cyclone Shelters (MPCS) project, Program for the Enhancement of Emergency Response (PEER), and the CDMP Phase II.

Key Strategic Observations

The following key strategic-level observations identify the successful progression within the GoB's disaster management capability and capacity:

- The GoB has made significant strides in developing a comprehensive disaster management system institutionalized by law and policy, focused on their successes in preparing and responding to recurring disasters (e.g. cyclones, floods) over the past 45 years.
- The Comprehensive Disaster Management Program (CDMP) Phase I (2004-2009) and II (2010-2015) have provided the GoB with outstanding benchmark contingency plans for an urban-based earthquake, providing separate ministries, departments, and divisions with detailed blueprints describing the operations, actions, and activities required in supporting an earthquake response.
- The recruitment, training, and integration of volunteers for first responder and disaster preparation support into the GoB disaster management structure is impressive, and is a critical aspect of the preparation for, and response to, a disaster.
- Improvements have been made to involve more women in disaster preparedness [e.g. disaster management committee representation at all levels of government and one-third membership in volunteer teams for Cyclone Preparation Program (CPP) and Fire Service and Civil Defense (FSCD)] and to enhance protection of the female population during crises (e.g. women victims outnumbered men 14:1 in 1970 Bhola Cyclone and the ratio dropped to 5:1 for 2007 Cyclone Sidr).

The following challenges can serve as a starting point to orient the GoB and international efforts in enhancing the GoB's disaster management capabilities and capacities:

- The rapid increase in the vulnerability of Dhaka City to a large-scale urban-based disaster is evident from the unplanned and unregulated urbanization,

sub-standard and non-building code compliant construction of buildings, population growth and migration, and development of major economic zones in and around Dhaka, which compound the complexity of disaster preparation and response capabilities and further stress the capacities of the GoB and city corporations.

- The GoB lacks a detailed urban-based catastrophic disaster response plan that is integrated, synchronized, and aligned not only within the national government, the Dhaka North and South City Corporations, and other major urban areas, but also with the international and national humanitarian organizations.
- The ‘committee-style decision making system’ central to the GoB’s disaster response structure, successfully demonstrated in the GoB’s preparation and response to recurring disasters, and anchored in hierarchical traditions, is not conducive to the rapid decisions required during a sudden onset disaster without a detailed response plan to guide the committee discussions.
- Knowledge of the disaster management structure, organizations, processes, and lines of authorities dissipate precipitously from the national level to the district and union level. This is primarily due to the lack of recurring disaster-related training and exercises that simultaneously test the entire nation’s disaster response structure and mechanisms
- Civil-military coordination and cooperation is problematic, with the authorities, responsibilities, and relationships between civil and military responding organizations requiring further attention. The Armed Forces Division (AFD) fully understands and desires its supporting role to the Ministry of Disaster Management & Relief (MoDMR). However, the AFD is the default on-site disaster manager, as evidenced by the GoB response to the Rana Plaza building collapse, which was recognized by the GoB as a national disaster, and where the AFD was directed to assume on-site management and direction of the recovery operations.
- Women are still not sufficiently involved in disaster planning and lack culturally

appropriate, gender-specific programming, such as separate spaces for evacuations or potential Internally Displaced Person (IDP) camps. Women typically shelter in-place with their children and continue to suffer the majority of disaster fatalities.

Acronyms and Abbreviations

Acronym	Definition
ACC	Anti-Corruption Commission
ACS	American Citizen Services
ADB	Asian Development Bank
ADPC	Asian Disaster Preparedness Centre
ADRA	Adventist Development and Relief Agency
AFD	Armed Forces Division
AIT	Japan, and Asian Institute of Technology
ARF	ASEAN Regional Forum
ASEAN	Association of Southeast Asian Nations
AusAID	Australian Aid
BCCSAP	Bangladesh Climate Change Strategy and Action Plan
BCKN	Bangladesh Disaster Knowledge Network
BDPC	Bangladesh Disaster Preparedness Center
BGB	Border Guard Bangladesh
BIMSTEC	Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation
BIWTA	Bangladesh Inland Water Transport Authority
BMD	Bangladesh Meteorological Department
BNBC	Bangladesh National Building Code
BPATC	Bangladesh Public Administration Training Centre
BR	Bangladesh Railway
BRA	Bangladesh Railway Authority
BRTA	Bangladesh Road Transport Authority
BRTC	Bangladesh Road Transport Corporation
BSS	Bangladesh Sangbad Sangstha
BTRC	Bangladesh Telecommunication Regulatory Commission
BTV	Bangladesh Television
CAAB	Civil Aviation Authority Bangladesh
CCA	Climate Change Adaption
CCDMC	City Corporation Disaster Management Committee
CD	Community of Democrats
CDMP	Comprehensive Disaster Management Programme
CDRR	Climate and Disaster Risk Reduction Community
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
CFE-DM	Center for Excellence in Disaster Management and Humanitarian Assistance
CIA	Central Intelligence Agency
CME	Center for Medical Education
CPI	Corruption Perception Index
CPP	Cyclone Preparedness Programme Policy Committee
CPPIB	Cyclone Preparedness Programme Implementation Board
CSDDWS	Committee for Speedy Dissemination of Disaster Related Warning/Signals
D-8	Organization for Economic Cooperation

Acronym	Definition
DDM	Department of Disaster Management
DDMC	District Disaster Management Committee
DF	Disaster Forum
DFAT	Department of Foreign Affairs and Trade
DM&RD	Disaster Management and Relief Division
DMA	Disaster Management Act
DMB	Disaster Management Bureau
DMCs	Disaster Management Committees
DMIC	Disaster Management Information Centre
DMRD	Disaster Management and Relief Division
DMTATF	Disaster Management Training and Public Awareness Task Force
DOD	Department of Defense
DOS	U.S. Department of State
DRR	Disaster Risk Reduction
DSCA	Defense Security Cooperation Agency
EOC	Emergency Operations Center
EPAC	Earthquake Preparedness and Awareness Committee
ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
FAO	Food and Agriculture Organization
FFWC	Flood Forecasting and Warning Center
FIR	Flight Information Region
FPOCG	Focal Point Operations Coordination Group Disaster Management
FTX	Field Training Exercise
G-77	Group of 77
GDP	Gross Domestic Product
GIZ	German Development Cooperation
GoB	Government of Bangladesh
GPOI	Global Peace Operations Initiative
HDR	Humanitarian Daily Rations
HFA	Hyogo Framework for Action
HPNSDP	Health, Population and Nutrition Sector Development Program
HSIA	Hazrat Shahjalal International Airport
IAEA	International Atomic Energy Agency
IBRD	International Bank for Reconstruction and Development
ICAO	International Civil Aviation Organization
ICC	International Chamber of Commerce
ICRC	International Committee of the Red Cross
IDA	International Development Association
IDB	Inter-American Development Bank
IDP	Internally Displaced Person
IFC	International Finance Corporation
IFRCS	International Federation of Red Cross and Red Crescent Societies
IHO	International Hydrographic Organization
ILO	International Labour Organization

Acronym	Definition
IMDMCCs	Inter-Ministerial Disaster Management Coordination Committees
IMF	International Monetary Fund
IMF	International Monetary Fund
IMMTP	Integrated Multi Modal Transport Policy
IMSO	International Mobile Satellite Organization
Interpol	International Criminal Police Organization
IOC	International Olympic Committee
IOM	International Organization for Migration
IPU	Inter-Parliamentary Union
ISO	International Organization for Standardization
ITSO	International Telecommunications Satellite Organization
ITU	International Telecommunication Union
ITUC	International Trade Union Confederation
IVR	Interactive Voice Response
IWT	Inland Water Transport
JE	Japanese Encephalitis
JICA	Japan International Cooperation Agency
JMP	Joint Monitoring Programme
KOICA	Korea International Cooperation Agency
LCG	Local Consultative Group
LDRCG	Local Disaster Response Coordination Group
MDGs	Millennium Developmental Goals
MIGA	Multilateral Investment Guarantee Agency
MINURSO	UN Mission for the Referendum in Western Sahara
MINUSMA	United Nations Multidimensional Integrated Stabilization Mission in Mali
MoDMR	Ministry of Disaster Management and Relief
MoFDM	Ministry of Food and Disaster Management
MoHFW	Ministry of Health and Family Welfare
MONUSCO	United Nations Organization Stabilization Mission in the Democratic Republic of the Congo
MoS	Ministry of Shipping's
MPAT TE-22	Team Tempest Express 22
NAM	Non-Aligned Movement
NAPA	National Adaptation Programme of Action
NARRI	National Alliance for Risk Reduction and Response Initiative
NCDs	Non-Communicable Diseases
NDMAC	National Disaster Management Advisory Committee
NDMC	National Disaster Management Council
NDRCG	National Disaster Response Coordination Group
NGO	Non-Governmental Organization
NGOCC	NGO Coordination Committee on Disaster Management
NILG	National Institute of Local Government
NPDM	National Plan for Disaster Management
NPDRR	National Platform for Disaster Risk Reduction
NSET	National Society for Earthquake Technology-Nepal

Acronym	Definition
NTDs	Neglected Tropical Diseases
OFDA	Office of Foreign Disaster Assistance
OHDACA	Overseas Humanitarian, Disaster, and Civic Aid
OIC	Organization of Islamic Cooperation
OIC	Oyo International Corporation
OPCW	Organization for the Prohibition of Chemical Weapons
PCA	Permanent Court of Arbitration
PDMC	Pourashava Disaster Management Committee
PDW	Public Works Department
PR	Pacific Resilience
PR DREE	Pacific Resilience Disaster Response Exercise & Exchange
RHD	Roads and Highway Department
RIMES	Regional Integrated Early Warning System for Africa and Asia
RRAP	Risk Reduction Action Plan
SAARC	South Asian Association for Regional Cooperation
SACEP	South Asia Co-operative Environment Programme
SDMC	SAARC Disaster Management Centre
SFA	SAARC Framework for Action
SOD	Standing Orders on Disaster
SPARRSO	Bangladesh Space Research and Remote Sensing Organization
SPP	National Guard State Partnership Programs
STH's	Soil-Transmitted Helminthes
STP	Strategic Transport Plan
TB	Tuberculosis
TTX	Table Top Exercise
U.S.	United States
UDMC	Union Disaster Management Committee
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNAMID	African Union/United Nations Hybrid operation in Darfur
UNB	United News of Bangladesh
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific, Cultural Organization
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
UNIFIL	United Nations Interim Force in Lebanon
UNISDR	United Nations Office for Disaster Risk Reduction
UNMIL	United Nations Mission in Liberia
UNMISS	United Nations Mission in South Sudan
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
UNOCI	United Nations Operation in Côte d'Ivoire

Acronym	Definition
UNSCR 1325	United Nations Security Council passed Resolution 1325
UNU-EHS	United Nations University, Institute for Environment and Human Security
UNWTO	World Tourism Organization
UPU	Universal Postal Union
USACE	U.S. Army Corps of Engineers
USAID	United States Agency for International Development
USAR	Urban Search & Rescue
USARPAC	U.S. Army Pacific
USPACOM	U.S. Pacific Command
UzDMC	Upazila Disaster Management Committee
WAVE	Women Against Violence in Elections
WB	World Bank
WCO	World Customs Organization
WFP	World Food Program
WFTU	World Federation of Trade Unions
WHO	World Health Organization
WIPO	World Intellectual Property Organization
WMO	World Meteorological Organization
WPS	Women Peace and Security
WTO	World Trade Organization

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