

# GHANA

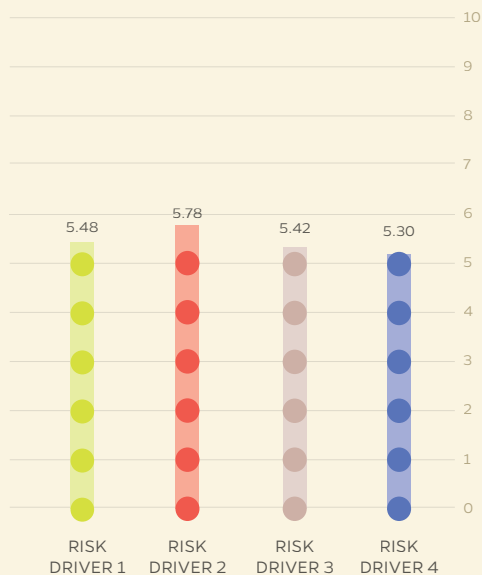
⇒ **THE PRIMARY HAZARDS**  
FACING GHANA ARE  
**DROUGHT, FLOODS**  
**EPIDEMICS** AND TO A LESSER EXTENT  
**WILDFIRES**

⇒ **EPIDEMICS**  
ACCOUNT FOR THE GREATEST  
**LOSS** OF LIFE,  
WHILE **DROUGHT**  
**AFFECTS** THE MOST  
NUMBER PEOPLE

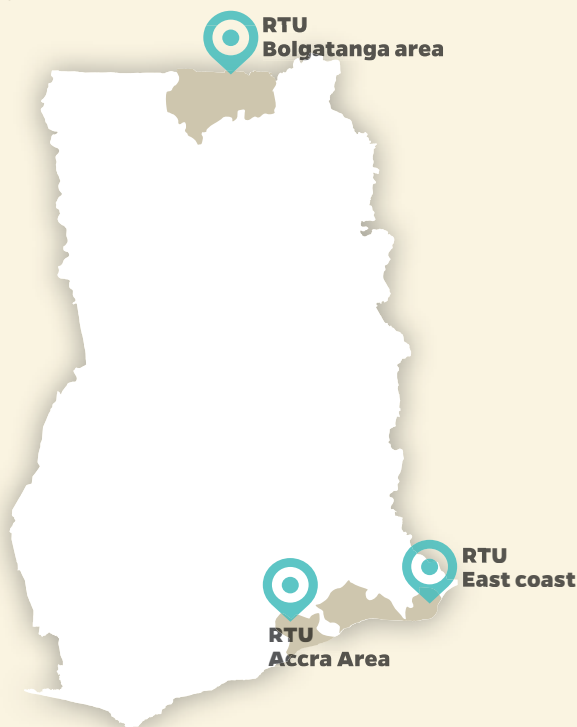
⇒ **FLOODS**  
HAVE INFLICTED THE LARGEST  
**ECONOMIC DAMAGES,**  
AND ALSO **RANK SECOND**  
IN TERMS OF BOTH **LIVES LOST**  
AND **PEOPLE AFFECTED**

⇒ **SEA LEVEL RISE,**  
**STORM SURGES**  
AND **COASTAL EROSION**  
ARE ALSO **KEY ENVIRONMENTAL**  
CONCERNS

GHANA SCORES FROM WEST AFRICA RISK MAPPING



Source: EM-DAT (CRED)



# INSTITUTIONAL Capacity for DRR

## DRR Institutional Setup AND LEADERSHIP

Ghana has undertaken relevant steps towards increasing its capacities for disaster risk reduction (DRR) and climate change adaptation (CCA) during the last decades. The establishment of the National Disaster Management Organisation (NADMO, Act 517) within the Ministry of the Interior (MoI) in 1996 has contributed considerably to the management of disasters across the country. More recently, Ghana created a National Disaster Risk Reduction Platform for DRR in 2005, for which NADMO is the focal point. NADMO developed the country's National Disaster Management Plan (NDMP) and possesses a comprehensive structure with representation at all levels of government, making it relatively well-positioned to play a key role in DRR. However, there is a lack of sufficient training and capacity building, institutional coordination and funds. NADMO receives around \$5 million annually, with less than five percent of this budget being set aside for investment and programmes, and over 85 percent allocated to personnel and administrative expenses.

The 1992 Constitution made provisions to decentralise development planning to the district level. However, decentralisation processes have progressed slowly, and vertical


connections between national sector ministries and local state bodies and assemblies are not sufficiently developed – such as links between NADMO, the Ministry of Local Government and Rural Development (MoLGRD), and the Ministry of Food and Agriculture (MOFA). Moreover, NADMO receives limited government support in terms of engaging relevant sector agencies in disaster management. Legislation in areas related to DRR exists, such as the Millennium Development Authority Act (2006), Administration of Lands Act (1962), and over 26 laws on environmental issues, including mining and construction laws. The extent to which DRR approaches and concepts have been incorporated in these laws are not within the scope of this report.

NADMO has established Technical Advisory Committees that identify, monitor and assess hazards. However, climate forecasting and monitoring is limited at all levels in Ghana – in particular at the regional and district office level, where there is also a shortage of substantive disaster risk management planning. Early warning systems (EWS) and mechanisms for preparedness and early response also need to be improved.

On a more positive note, Ghana is known for its relatively strong education system and

independent think tanks that cover a range of research areas (water resources, pest and insect infestations, epidemiology and geology), and experts from these academic institutions are members of NADMO's Technical Advisory Committees. Furthermore, NADMO has a history of engaging in public awareness and education building about hazard risks and vulnerabilities, and also social mobilisation by local volunteers.

The National Development Planning Commission (NDPC) helps in the mapping of the population's exposure to hazards and vulnerability through capacity and vulnerability assessments around the country. However, the interface between hazard exposure and vulnerability is still not fully mapped in Ghana, and more information sharing is needed.



*Climate change currently affects Ghana and will continue to do so in the coming years in the form of extreme temperatures, changes in rain cycles, and flood and droughts.*

# Strategic

## DOCUMENTS AND PLANS

The government has expressed a commitment to improving its disaster risk management, as well as integrating DRR and CCA into its own development planning. The 2003-2005 Ghana Poverty Reduction Strategy Paper (PRSP) refers specifically to the establishment of rapid response units and the development of early warning systems to prevent disasters and mitigate their impact at the regional level. The 2006-2009 Ghana Growth and Poverty Reduction Strategy (GPRS II) takes DRR and CCA into account under the reference to environment degradation and declining agricultural productivity, and its impact on poverty. The current 2010-2013 Ghana Shared Growth and Development Agenda (GSGDA) includes an analysis of different components of disaster risk such as hazards, vulnerability and climate change.

In 2012 Ghana launched its National Climate Change Adaptation Strategy (NCCAS), which aims to enhance Ghana's current and future development by strengthening its adaptive capacity to climate change impacts. Under the NCCAS, Ghana identified rising temperatures, declining and variable rainfall, sea-level rise, and a high incidence of weather extremes as the key areas of vulnerability to climate-related hazards. The sectors identified as most vulnerable along these lines were agriculture, water, natural resources, energy, health and sanitation, and infrastructure. Strategies to address these areas of vulnerability will focus on livelihoods, energy use, increased and resilient agricultural production, improved health and sanitation, and awareness- raising programmes.

According to Ghana's National Progress Report on the Implementation of the Hyogo Framework for Action (2009-2011), steps have been taken in the area of disaster risk reduction, but efforts are often hindered by financial constraints and a lack of institutional commitment. While the report states that DRR has been somewhat integrated

into sector strategies and plans, it has yet to be incorporated into national development plans, climate change policies and policy reduction strategies. DRR activities occur at a local level through community and volunteer groups, but these groups suffer from a lack of training. Overall, prioritisation is jeopardised by limited resources and awareness.

Progress has been made in monitoring and assessing disaster risks through the different systems in place. National and local risk assessments, including gender-disaggregated data, have been undertaken and are available to the public. However there has been close to no progress in developing research methods and tools for multi-hazard risk assessments and cost-benefit analyses. Early warning systems have been even less successful. While some exist, they are not widespread and often not located in the most vulnerable areas. The major challenge in monitoring and assessing is a lack of adequate expertise in data collection and analysis.

In order to build a culture of safety and risk reduction via enhanced knowledge and innovation, NADMO uses newsletters and its website to share information. Public information campaigns have also been developed, both in English and local languages. However, these interventions appear to be hindered by a lack of public interest and funding. Despite the government's commitment, DRR has not yet been incorporated into the national education curriculum.

Attempts to reduce underlying risk factors have been met with mixed results. Achievements include the assessment of disaster risk impacts of major development projects, environmental assessments performed by the Environmental Protection Agency (EPA) and integration of DRR measures into recovery programming. However, serious constraints prevent comprehensive progress. Notably, a lack of awareness by developers and the public, as well as a lack of institutional capacity and coordination, preclude the full integration of DRR strategies.

# International

## ENGAGEMENT AND SUPPORT

In addition to the government's commitment to address DRR and CCA, there has also been increased attention from donors, especially the World Bank (WB) and the United Nations Development Program (UNDP), whose interventions are either directed specifically at DRR, or attempt to integrate DRR and CCA into their development projects.

Ghana benefits from a National Program Framework for DRR and Climate Risk Management, supported by the WB and UNDP. It is also a priority country under the Global Facility for Disaster Risk Reduction's (GFDRR) Disaster Risk Management and Climate Adaptation. Other donors active in the country include World Vision International (Africa Community Resilience Project), the Provention Consortium (Partners for Humanitarian and Risk Education Expansion and African Urban Risk Analysis Network), and ActionAid International (DRR through Schools). The 2006-2010 United Nations Development Assistance Framework (UNDAF), extended to 2011 and 2012-2016, includes

DRR under Thematic Area 2: Sustainable Environment, Energy and Human Settlements, Outcome 3, "National systems and existing institutional arrangements for Climate Change mitigation and adaptation and for disaster risk reduction, as defined in the Hyogo Framework for Action at the district, regional and national level are functional." The UNDP also supported NADMO to undertake a country hazard mapping of Ghana in 2007, covering a broad geographical distribution of disaster-exposed areas. The outcome revealed Ghana's exposure to floods and droughts, particularly in the Northern Savanna belt, epidemics, insect infestations and wildfires, landslide risks in urban areas, coastal hazards, such as storms and storm surges in the Eastern coastline, and seismic hazards in areas around Accra, including the Akosombo hydroelectric dam. The World Food Programme (WFP) has engaged with the MOFA and the Ministry of Health (MoH) in a Food Security Monitoring System for Northern Ghana.

# UNDERLYING Risk Factors: Local Perceptions

## RTUs Selected

### AND SUPPORTING RATIONALE

The RRI in Ghana looks at three Representative Territorial Units (RTUs), each of which differ in terms of geographic locations (Accra and the East Coast lie on the coast line of Ghana, and Bolgatanga area is located in the Northeast near the border with Burkina Faso), and levels of urbanisation and economic development (Accra is the capital and urban, East Coast is a coastal, semi-urban area -urban expansion-

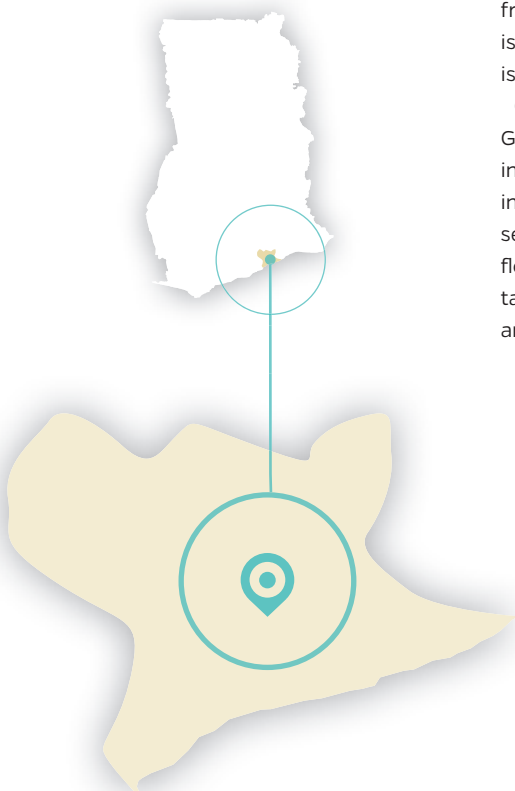
and Bolgatanga area is a rural, agricultural region -rural-). The three RTUs attempt to cover, at least partially, the different types of geography, climate-related challenges, natural hazards and risks Ghana faces. However, all three RTUs are located in savannah zones. These are more vulnerable than forest areas. The rural versus urban locations also provide a more comprehensive picture of the underlying risk factors affecting people in urban areas in Ghana (an estimated 51% of overall population) and the living conditions that make them more or less vulnerable to disasters.

# Accra area

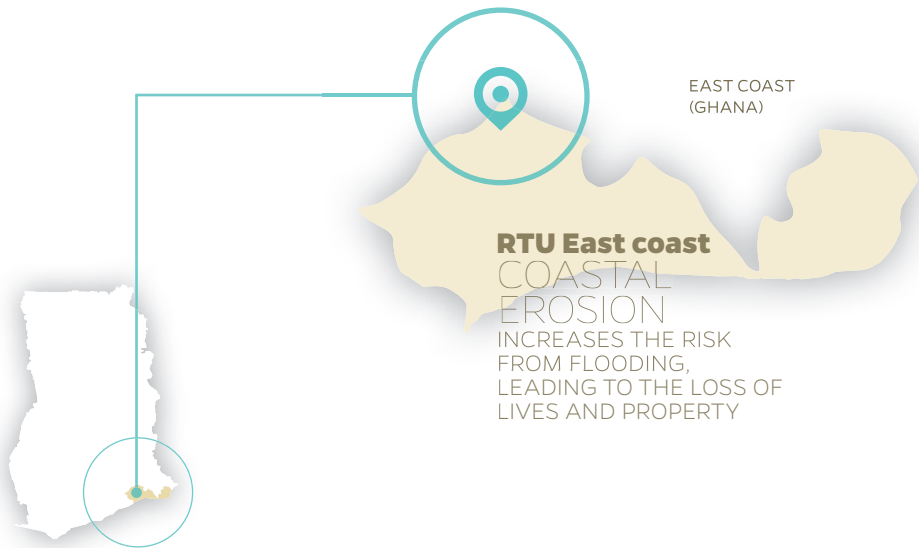
Accra is located on the southern coast of Ghana and as the capital city, attracts many people from other regions of the country. The RTU included Accra Metropolitan, Ga East and Ga West Districts. Floods are a serious natural hazard affecting the Accra area. In recent years, rainfall in the area occurs in the form of intensive and perennial storm hazard, leading to local floods. According to the Accra Metropolitan Authority (AMA) floods have become recurrent due to the catchment areas of the Odaw River, which drains the central part of Accra and its outlet into the Korle Lagoon, being built up. For the past four decades, significant flooding has been recorded in 1973, 1986, 1995, 1999, 2001, 2002, 2007, 2009, 2010 and 2011, according to Ghana Statistical Service (GSS).

Accra is the largest city in Ghana, with a population of 1.8 million people. The latest 2010 census of population estimated 16.3 percent of the entire population in Ghana resides in Accra, with an annual growth rate of 3.1 percent. This urban growth pattern is influenced by longstanding migration patterns from other parts of Ghana and has consequently led to the increased threat of flooding of streams in the city, as Accra has grown rapidly with houses and slums built in waterways. Most of the local population and the migrants live in crowded and unplanned areas near the areas of lower elevation and higher flood risk zones. Moreover, a relevant number of Ghana's manufacturing industry is located within the area. Currently, flood impacts on loss of human life and properties are on the increase. Also, widespread pollution from solid waste, industrial waste, and sewage is an important health and environmental issue, particularly in poor areas.

Over the last decade, the Government of Ghana has engaged in substantive investments in construction of proper drainage systems in flood-prone zones of Accra, relocating settlements and economic activities to non-flood prone areas. Ecological restoration is also taking place along the estuary of the Odaw River and its banks to reduce the impacts of flooding.



**RTU Accra area**  
 POOR DRAINAGE /  
 WATER DISPOSAL  
 SYSTEMS  
 CONTRIBUTE TO THE  
 OUTBREAK OF WATERBORNE  
 DISEASES AND EPIDEMICS



## East Coast

The East Coast RTU is located along the eastern part of Ghana's Atlantic coast. Its 149 km coastline covers the delta of the Volta River from Prampram to the international border with the Republic of Togo. The East Coast is threatened with periodic floods and storm surge hazards, and highly vulnerable to the impacts of climate change, particularly sea level rise and coastal erosion. According to Ghana's Communication to the United Nations Framework Convention on Climate Change (UNFCCC), sea-level rise is predicted to increase flood frequency probabilities, flood low-lying coastal areas, cause shoreline recession on sandy shores, increase the salinity of estuaries and aquifers and raise coastal water tables of the area. According to the 2010 census, more than 2 million people in Ghana live along the coast, which represents 10.7 percent of the population in Ghana and an annual growth rate of 2.1 percent. The livelihoods of these people depend largely on climate-sensitive occupations such as farming, fishing and fish processing. Floods, degradation of the

coastal ecosystem and human habitats in turn impact the health, productivity and general wellbeing of the population. According to the National Commission on Civic Education (NCCE), each year most communities of the East Coast are subjected to coastal erosion and storm surges. For instance, the Keta area has experienced erosion at a rate of up to 14 metres a year, and hundreds of metres of land have been lost including houses, churches, and even the chief's palace.

The government of Ghana has completed a sea defence wall of 8.4 km at Keta and plans to protect the entire East Coast. In emergency response, NADMO collaborates with most security agencies in the country, and also has high community engagement with organised government officials and trained volunteers in all districts of the East Coast.



# Bolgatanga area

The Bolgatanga area, located in the Upper East Region at the extreme northeast of Ghana, included Bolgatanga Municipal, Bongo, Navrongo and Kasina Nankana Districts. It is an area exposed to extreme natural hazards such as floods, droughts and windstorms, and has a high risk of desertification.

Characterised by a long dry season, which spans from October to April, the vegetation is basically Sudanian savannah woodland, consisting of short deciduous trees widely spaced and ground flora, prone to be burnt by fire or scorched by the sun during the long dry season. The inadequate vegetation cover, drought, floods and soil erosion are severe, resulting in declining soil fertility, land degradation and desertification. The latest 2010 census established the population of the area at 4.2 percent of the national population with an annual growth rate of 1.2 percent. Over 80% of the people are engaged in small-scale agriculture, which is susceptible to climate variability and disaster risk. Between 1991 and 2012 the area experienced major floods.

In 2007, floods followed immediately after a period of drought that damaged the initial maize harvest, indicating high variability in climate and hydrological flows in the area. In addition to these, increased incidence of meningitis, spillage of excess water from the Bagre dam and influx of Fulani herdsmen from neighbouring Burkina Faso, over the years adversely affect productivity and output as well as household incomes, all having a direct impact on the standard of living of the vast majority of the people in the Bolgatanga area.

The severity and depth of poverty and food insecurity is highest in the three Northern regions (Northern, Upper West and Upper East) of Ghana. Especially in the Upper East Region, where the Bolgatanga area is located, the majority of rural households often lack access to markets and infrastructure necessary to improve farming practices, diversify livelihoods, and build up their assets and coping capacity. The high level of unemployment in the area leads many households to engage in income generation from activities other than farming, such as burning of charcoal which contributes to drought, deforestation, soil erosion and desertification. Urban migration (temporary or permanent), and dependence on formal or informal safety nets through family or neighbours are other employment options in the Bolgatanga area.



BOLGATANGA AREA  
(GHANA)

**RTU Bolgatanga area**  
DEFORESTATION  
FACILITATES THE PROCESS OF  
DESERTIFICATION, REDUCING  
SOIL PRODUCTIVITY

SOIL EROSION  
NEGATIVELY AFFECTS  
AGRICULTURAL PRODUCTION,  
WITH REPERCUSSIONS FOR  
ECONOMIC LIVELIHOODS



NATURAL HAZARDS AND UNDERLYING RISK FACTORS OF SELECTED RTUS

	ACCRA (URBAN)	EAST COAST (URBAN EXPANSION)	BOLGATANGA (RURAL)
NATURAL HAZARDS	WIND/RAIN STORMS, FLOODS, EPIDEMIC	WIND/RAIN STORMS, FLOODS	FLOODS, WIND/RAIN STORMS, DROUGHTS, WILDFIRES, EPIDEMIC, INSECT INFESTATION
RISK DRIVER 1	<div>1</div> <ul style="list-style-type: none"><li>• Soil erosion</li><li>• Water contamination</li><li>• Coastal erosion</li><li>• Water scarcity</li><li>• Deforestation</li></ul>	<ul style="list-style-type: none"><li>• Soil erosion</li><li>• Coastal erosion</li></ul>	<ul style="list-style-type: none"><li>• Soil erosion</li><li>• Water scarcity</li><li>• Deforestation</li><li>• Desertification</li></ul>
RISK DRIVER 2	<div>2</div> <ul style="list-style-type: none"><li>• In-migration</li><li>• Limited access to land</li><li>• Low levels of literacy</li><li>• Poverty</li><li>• Prevalence of infectious diseases</li><li>• Unemployment</li></ul>	<ul style="list-style-type: none"><li>• Out-migration</li><li>• Low levels of literacy</li><li>• Poverty</li><li>• Unemployment</li></ul>	<ul style="list-style-type: none"><li>• In-migration</li><li>• Out-migration</li><li>• Low levels of literacy</li><li>• Poverty</li><li>• Prevalence of infectious diseases</li><li>• Prevalence of HIV/AIDS</li><li>• Unemployment</li><li>• Food insecurity</li></ul>
RISK DRIVER 3	<div>3</div> <ul style="list-style-type: none"><li>• Housing in dangerous locations</li><li>• Limited access to water</li><li>• Overcrowded conditions</li><li>• Poor drainage/water disposal</li><li>• Poorly built housing</li></ul>	<ul style="list-style-type: none"><li>• Poor drainage/water disposal</li></ul>	<ul style="list-style-type: none"><li>• Limited access to water</li><li>• Poor drainage/water disposal</li><li>• Poorly built housing</li></ul>
RISK DRIVER 4	<div>4</div> <ul style="list-style-type: none"><li>• Corruption</li><li>• Inefficient bureaucracy</li><li>• Limited financial capacity</li><li>• Lack of human capacity</li></ul>	<ul style="list-style-type: none"><li>• Limited financial capacity</li></ul>	<ul style="list-style-type: none"><li>• Limited financial capacity</li></ul>



# Findings

## AND KEY ISSUES BY RISK DRIVER

Wind/rain storms and floods are considered relevant natural hazards in the three RTUs. Drought, wildfire, epidemic and insect infestation are perceived as serious hazards only in the Bolgatanga area. It is interesting to note that although seismic and landslide hazards exist in the Accra area, they have not been perceived to pose a serious risk.



# Local Perceptions on Risk Driver 1

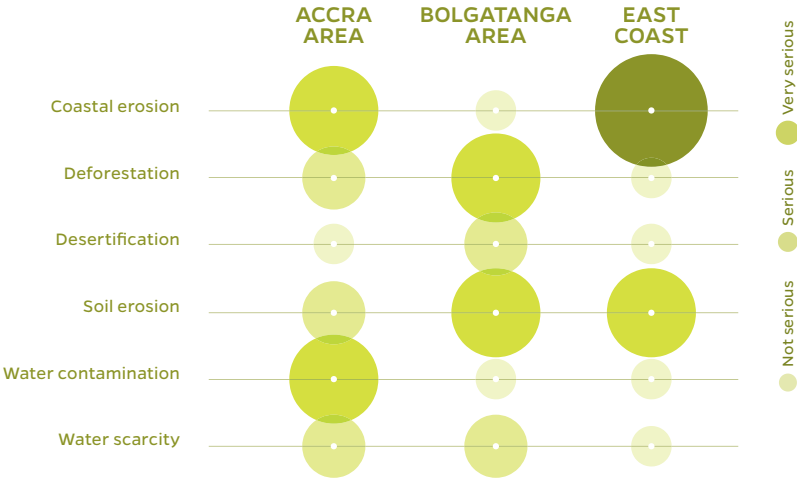
The RTUs of Accra and the East Coast are in coastal savannah, while Bolgatanga

stretches across the Sudanian Savanna zones in Ghana, with environmental resources differing between locations, and certainly posing different challenges. Local perceptions in these RTUs alluded to the commonality of the risks across the RTUs as well as the differences.

Soil erosion and deforestation were identified as environmental challenges across all RTUs, while the East Coast scored higher in soil erosion and Bolgatanga in deforestation. As coastal areas, coastal erosion is perceived as a serious challenge in the East Coast and Accra areas, while in the East Coast it was ranked with the highest score. Water scarcity is a challenge in the

## Environmental and Natural Resources

ENVIRONMENTAL CHALLENGES IN ACCRA, BOLGATANGA AND EAST COAST



Accra and Bolgatanga areas, with slightly higher scores for Accra. Desertification was identified as a serious environmental condition only in Bolgatanga and water contamination only in Accra.

### COASTAL EROSION

Perceptions from Accra respondents affirm that coastal erosion is increasing salt-water intrusion into land and threatening households, making their relocation necessary. In the case of the East Coast, respondents confirm the devastating effects along their shore with constant strong waves eroding their coastline. With a rise in sea-level, the area is more prone to frequent flooding in the communities, leading to lives and property loss in some cases. Consequently, coastal erosion ranked highest in the East Coast.

In Accra and the East Coast, there are perceptions that the situation is being

addressed, and among other interventions mentioned we can highlight the building of sea defence walls, tree planting, land reclamation and education and sensitisation activities around relevant laws, as measures to mitigate the impacts. The metropolitan, municipal and district assemblies have been identified as playing a primary role in this regard. The national government and international organisations are also providing funds. In spite of this, there is a general perception in the Accra area that the interventions implemented by the national government are minimally effective as a result of insufficient funding

and the inability to enforce laws. On the other hand, the opinion of those in the East Coast was rather positive, as respondents considered the national government's interventions as effective, acknowledging the financial and technical support from donors as contributing to the success.

## 2 DEFORESTATION

Deforestation is perceived seriously in Accra and Bolgatanga, while Bolgatanga was ranked with the highest score. In Accra, perceptions point to the increase in floods and drought, wind speed and windstorms as a result of deforestation or the disappearance of the urban greenery. Deforestation has implications for soil erosion and the availability of food, possibly threatening food security in the Accra area, whereas in Bolgatanga, deforestation facilitates the process of desertification in addition to contributing to a higher incidence of wildfires, soil erosion, and reduction of medicinal plants.

Respondents in Accra indicate that education on tree felling, tree planting, enforcement of policies and afforestation are the interventions in place, and the role of community organisations, local and national governments is key to fund and address this environmental challenge. Respondents in Bolgatanga also mention the provision of seedlings by the Forestry Commission, formation of school environment clubs, formulation of bylaws, establishment of woodlot, sanctions for tree fellers and awards for communities without bushfires. The interventions of both community organisations and the national government have been assessed as effective, nevertheless they envisioned long term sustainability being achieved if there is support from volunteers, and community commitment, but will be jeopardised if the lack of monitoring activities persists. International organisations are also found to be involved in this regard in Bolgatanga.

## 3 DESERTIFICATION

By its location in the Sudanian Savanna zone of the country, it is not surprising that desertification is perceived seriously only in Bolgatanga. Although the response is not unanimous, desertification is associated with food insecurity, low yields, loss of trees, reduced soil moisture, and increase in floods, drought, windstorms and climate-related disasters. Respondents indicate that afforestation, awareness-creation and encouraging the community to be involved in tree planting are the main interventions addressed through the support of national government, community and international organisations and the district assemblies. Although these interventions were assessed as effective and very effective, in the case of afforestation, respondents denounced a lack of maintenance. There were some inconsistencies when internationally led programs with national policies interfered with the expected outcomes of some interventions. Nevertheless, community participation and commitment were highlighted as essential factors for the success of these interventions.

## 4 SOIL EROSION

In Accra, the East Coast and Bolgatanga area, soil erosion was perceived as a serious risk due to the ramifications for agricultural development, which is the backbone of the country's economy, and its implications in soil fertility, food security, flooding and building collapse. In the Bolgatanga area, respondents also referred to the resulting limited land for farming and the deterioration of roads that impede vehicle movement, increasing the area's economic isolation. Respondents in the East Coast and Bolgatanga were more concerned with the effects of soil erosion than those in Accra, as their economic activities are more closely linked to agriculture.

# Local Perceptions on Risk Driver 1

## Environmental and Natural Resources

In dealing with this issue, respondents perceived that reforestation and the construction of deep concrete drains and steep gullies help with the flow of water. In the East Coast, they indicated that mangrove conservation and afforestation were interventions in place. In Bolgatanga, however, a lot of resources went into the education and training of farmers and community members on soil conservation, sustainable land management practices and the promotion of stone bonding. Respondents indicated that local and national governments, as well as international and community organisations, have facilitated and sponsored these interventions, which have been valued as very effective in most cases, however, respondents are concerned about the lack of sustained funding as the main threat for effective implementation.

### 5 WATER CONTAMINATION

In the Accra area, water contamination leads to an increase in waterborne diseases and reduces water availability for household use. This situation is exacerbated by the pollution of polythene bags, fertiliser and pesticide residue. Regarding efforts to control this situation, respondents mention awareness-creation, education and sensitisation, the imposing of sanctions on those who dump waste into bodies of water, and the carrying out of water and sanitation projects and water monitoring activities. In terms of policy and the institutional framework, they mention that water policies and bylaws have been put in place, in addition to the establishment of the Ministry of Agriculture, Animal Industry and Fisheries and the Water Resources Commission. In this regard, the role of international organisations, community organisations as well as national

and local governments are acknowledged as important to achieving success. These are valued as effective and very effective, as these partnerships between government and international institutions are considered proof of their commitment to improve water and sanitation conditions throughout the country.

### 6 WATER SCARCITY

Both Accra and Bolgatanga have identified water scarcity as a main issue, however, in Accra it is perceived to be more serious than in Bolgatanga. Respondents in Accra acknowledged that water scarcity leads to an increase in diseases such as malaria and cholera, while in Bolgatanga, they expressed that water scarcity has made them more vulnerable to diseases and the possibility of an epidemic from drinking non-potable water or sharing the same water sources with their farm animals. The fear of their animals also contracting anthrax is linked to the water scarcity in their area.

Interventions put in place in the urban setting of the Accra area, according to the respondents, include the building of reservoirs and more dams, water treatment, the extension of water pipelines to affected areas/metropolis and the education of residents on water utilisation and management, which are rated as effective. Also in Bolgatanga, the expansion of water facilities, rainwater harvesting and the provision of boreholes are the interventions highlighted and considered very effective. Those in Bolgatanga cited the contribution of international organisations, although equally important are the contributions from the local and national governments and community organisations in both Accra and Bolgatanga.

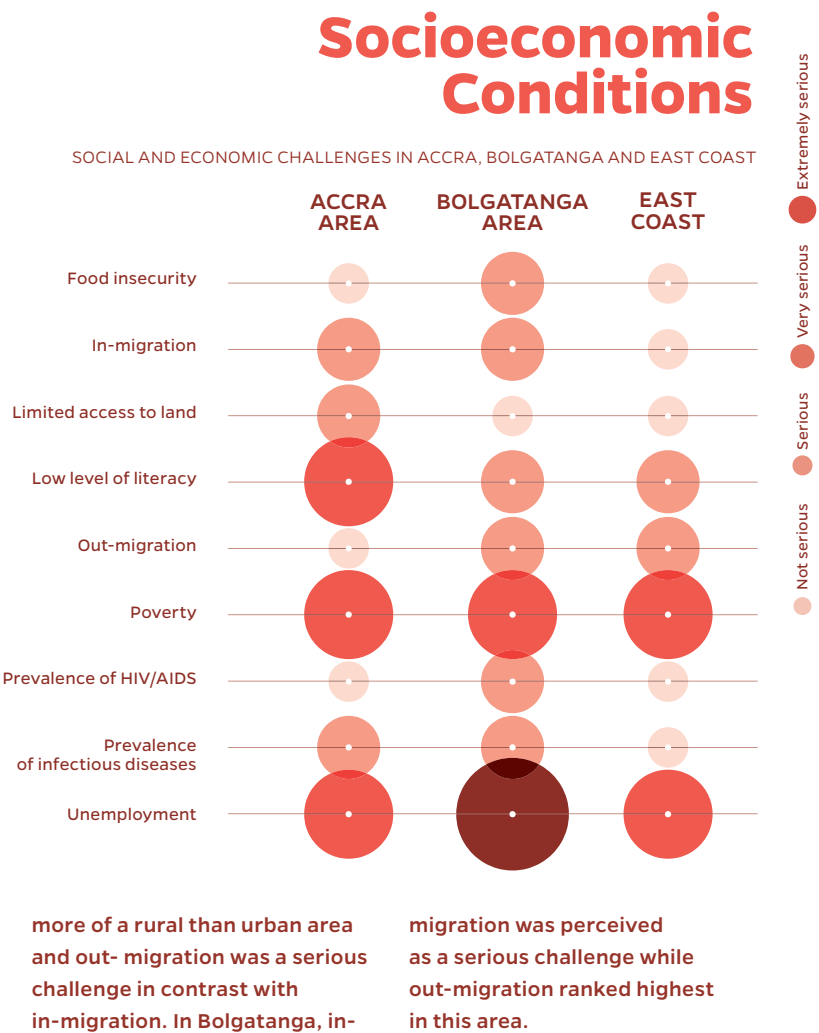




# Local Perceptions on Risk Driver 2

There is a wide range of social and economic conditions with commonalities as well as differences in Accra, the East Coast and Bolgatanga area. These conditions ranged from low levels of literacy, poverty and unemployment, which were common to all the RTUs, the prevalence of infectious diseases and in-migration which were identified in Accra and Bolgatanga, to out-migration in the East Coast as well as Bolgatanga. Others such as limited access to land, prevalence of HIV/AIDS and food insecurity were specific to only one RTU.

Specifically in the Accra area, unemployment, poverty, low levels of literacy, limited access to land, in-migration and prevalence of infectious diseases, were identified as serious socioeconomic conditions in order of declining importance. Many of these conditions have to do with its urban status. In the case of the East Coast, it was perceived as



## 1 FOOD INSECURITY

Bolgatanga was the only RTU concerned with food insecurity and it was perceived as one of the most serious socioeconomic conditions in the area. Respondents indicated that this challenge was related to the decline in soil fertility. Interventions cited were the creation of water storage dams for irrigation and to encourage dry season farming,

food distribution, provision of subsidised fertilisers, block farming and the promotion of land conservation education. International organisations were highly commended, based on the fact that a significant number of international organisations operate in the area. Local and national government, as well as community organisations, also facilitated these interventions. Community organisations were

key to the effectiveness of these interventions as they are instrumental in organising people for construction/farming projects, as well as in disseminating new farming techniques, technologies and organisational farming structures like block farming.

## 2 IN-MIGRATION\*

Linked to the capital city status, respondents perceive Accra as the receiving end of the majority of movements from the northern and other parts of the country. According to them, in-migration is linked to urbanisation and includes slum development, increase in prostitution and armed robbery, and pressure on land and existing social amenities. They also mention skills training for the youth and street mothers and public education, which are being carried out by government (local and national), and international and community organisations.

In Bolgatanga, respondents referred to in-migration as increasing their vulnerability to nomadic herdsmen who cut trees and burn savannah, which contribute to drought and land degradation. They also mention various interventions in place to manage in-migration challenges: the authority given to community volunteers to arrest culprits, education on migration, employment and empowerment, youth programmes, and the dialogue with nomadic herdsmen. The support of community organisations, national government, international organisations and local government is instrumental to these interventions. The majority of respondents evaluated the dialogues with herdsmen as minimally effective. However, the rest of the initiatives, such as those related to training, were assessed as somewhat effective, but criticised for their deficits in skills training and capacity building.

## 3 LIMITED ACCESS TO LAND

As an urban area with its associated challenges due to in-migration, it is not surprising that access to land is a serious condition only in Accra. Respondents alluded to the resultant increase in the cost of plots of land and accommodation, and access difficulties as responsible for overcrowding and the building of houses in dangerous places (e.g. waterways). Only a few of the respondents were aware of efforts aimed at addressing this issue through land administration reforms, a return of government-acquired lands to indigenous communities, the demolition of slums and reclamation of all government lands by the local and national governments. Those who were informed about national government interventions valued them as effective.

## 4 LOW LEVELS OF LITERACY

Low levels of literacy are considered a serious condition in Accra, the East Coast and Bolgatanga area, with the highest score in Accra. This condition exacerbates the inability of people to adequately interpret disaster prevention measures, understand climate change issues, adapt to adverse climatic conditions, and their ignorance of environmental protection measures (for example, indiscriminate disposal of waste which potentially could cause an epidemic).

Interventions to address this issue include adult literacy educational programmes, non-formal educational programmes, community education through National Commission of Civic Education (NCCE), implementation of the Free Compulsory Universal Basic Education (FCUBE), and free school uniforms and exercise books, as well as the Ghana School Feeding Programme which provides hot meals to children in school. The national and local governments are the sole agencies identified as facilitating these interventions, and international organisations have provided part of the funding. These above

# Local Perceptions on Risk Driver 2

## Socioeconomic Conditions

mentioned interventions have been identified as effective and very effective, as people have considered the government to be sufficiently committed to the outcomes. Additionally, concerns are increasing regarding illiteracy and its consequences on economic growth and development.

### 5 OUT-MIGRATION

Respondents from the East Coast and Bolgatanga, which are largely perceived as rural locations, identified out-migration as a serious socioeconomic challenge that increases their vulnerability. Respondents in these two RTUs mentioned a decline in human capacity and productivity, increased dependency and high prevalence of HIV/AIDS. Efforts at curbing out-migration include developing rural areas to retain youth, educating people on the negative effects of migration, training to provide alternative livelihoods during the dry season, making subsidies available for fishing equipment, as well as microfinance for market women. The international organisations are highly commended for their effectiveness, as well as the local and national governments and community organisations. Nevertheless, in some cases respondents claim that there is a portion of employment programmes that are not fully implemented due to the lack of sustained funding.

### 6 POVERTY

Poverty is a serious condition in all the RTUs, proving that poverty is not only a rural challenge but also an urban one. In Accra it is clearly related to in-migration, which draws

people of all socioeconomic backgrounds to the city in search of non-existent jobs. Their poor status undermines their purchasing power and access to basic needs and decent housing. While poverty is a concern in all of the RTUs, it is ranked the highest in the East Coast, where it is perceived as decreasing capacity of residents to afford basic services, causing high dependence on natural resources, which is further compounded by the inability to relocate due to low income levels. In the case of Bolgatanga, respondents established the connection between poverty and livelihoods opportunities, its effect on the environment, human and agricultural productivity as well as security in the communities.

In the East Coast, Accra and Bolgatanga, the main interventions to address poverty and related issues include skills training, poverty reduction strategies, such as the Livelihood Empowerment Against Poverty (LEAP), youth employment schemes and the provision of micro and small-scale loans, such as Microfinance and Small Loans Centre (MASLOC) by community organisations, local and national governments, as well as international organisations. Community organisations, national government and international institutions' interventions have been evaluated as effective and very effective, as they are connected to adequate funding, which has led, in the case of international organisations, to take over some programs. Only in the Bolgatanga area, respondents cited that subsidies for school fees are available, making schooling practically free.

## 7 PREVALENCE OF INFECTIOUS DISEASES AND HIV/AIDS

Respondents in Accra and Bolgatanga perceived the prevalence of infectious diseases as a serious challenge related to their urban status and geographic location. Respondents in Accra attribute this issue to poor sanitation, unsustainable environmental practices, and frequent floods in the city generating higher pressure on the health facilities and increasing morbidity and mortality rates. In Bolgatanga, the prevalence of infectious diseases ranked higher than in Accra. By type of intervention, the majority of respondents in both Accra and Bolgatanga areas mentioned the distribution of insecticide-treated mosquito nets, malaria testing and vaccination for pregnant women and public education. In Bolgatanga, meningitis vaccination is also very important in the fight against cerebrospinal meningitis, which is common in the area. In this area, international organisations are considered to be playing a major role with their interventions, as well as the national and local governments. Respondents expressed their satisfaction with these interventions and considered them to be effective and with sufficient funding allocated.

The prevalence of HIV/AIDS is only noted in the Bolgatanga area. Vulnerability increases with the low level of education and sensitisation and the high poverty level. Interventions in this regard include the promotion of the education of HIV/AIDS and the provision and subsidisation of anti-retroviral drugs. The national government, international and community organisations are instrumental for this purpose, but respondents said monitoring activities and further funding are needed for achieving long-term improvement.

poor, and unsanitary practices. In the case of Bolgatanga, unemployment is the foremost socioeconomic condition of concern and it is related to the burning of charcoal as a livelihood option, with the accompanying incidences of bushfires, tree felling and a high poverty rate. In the East Coast, people's vulnerability is increased with the absence of income, the effect of relocation and inevitable migration.

According to the majority of respondents in Accra, the East Coast and Bolgatanga, this challenge is being addressed through the National Youth Employment Programme (NYEP), which is fostering an environment for foreign business investment and poverty reduction programmes. For the Bolgatanga area, the initiation of youth groups to farming is also in place and the role of international organisations in the area is significant. For the East Coast, the setting up of the eco-brigade for the unemployed youth, youth in road maintenance and agriculture programmes are currently underway. The role of government, both local and national, and community organisations has been highlighted by respondents from Accra and the East Coast. In all three RTUs, the interventions developed by the national government were globally assessed as effective, notwithstanding some concerns regarding the Youth Employment Program, which was criticised by several respondents for its lack of funds and delayed implementation, which was seen as a short-term solution with questionable sustainability.

## 8 UNEMPLOYMENT

Respondents in Accra pointed out unemployment and its ramifications of increased incidence of crime and robbery, poor housing and slum development especially for the

*\* The views expressed here are those of local members of the community in the Bolgatanga region. DARA recognises that the reality of the situation of nomadic herdsman, and their relationship with agricultural communities, is complex and not fully accounted for here.*

# Local Perceptions on Risk Driver 3

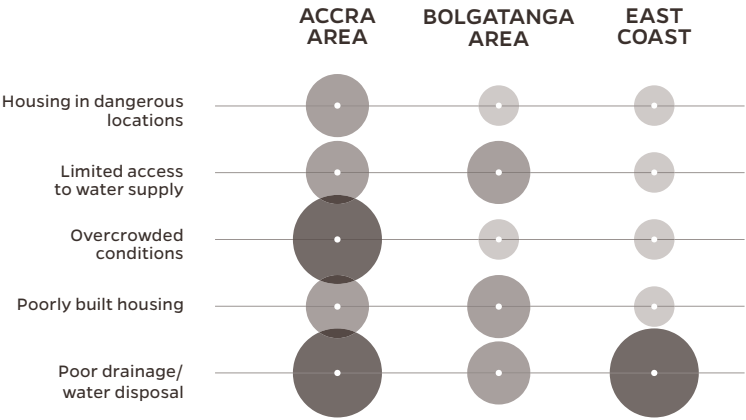
Conditions identified as serious under land use and built environment included poor

drainage/water disposal in all the RTUs, and poorly built housing and limited access to water supply in Accra and Bolgatanga. Overcrowded conditions and houses in dangerous locations were only perceived in Accra.

As an urban location, Accra is more prone to challenges linked to urbanisation such as pressure on existing facilities, overcrowding, living conditions deterioration and limited access to basic services. Poor drainage/water disposal was a foremost concern in the Accra area, followed by overcrowded conditions, limited access to water supply, poorly built housing and housing in dangerous locations. In the Bolgatanga area, considering

## Land Use and Built Environment

LAND USE CHALLENGES IN ACCRA, BOLGATANGA AND EAST COAST



its rural condition and climate, limited access to water supply was identified as the most important issue of concern followed by poorly

built housing and poor drainage/water disposal, which is the only challenge identified in the East Coast.

### 1 HOUSING IN DANGEROUS LOCATIONS

In Accra, respondents identified housing in dangerous locations as a serious challenge exacerbated by floods that further causes people to become homeless. The lack of decent accommodation, land space and the high cost of both land and rent has led to the use of any available space, which in some cause includes waterways. They mention that there is some level of impunity, and identify some efforts such as demolition, evacuation, rehabilitation, enforcement of development control, and task force operations, among others. These efforts are credited to the community organisations, local and national governments and international organisations. Regardless of

the interventions' effectiveness, respondents request further political will and increased financial support in order to adequately implement land management policies.

### 2 LIMITED ACCESS TO WATER SUPPLY

In Accra, the limited access to water supply is related to the rationing of water in the city, which could lead to people drinking from sources that are not potable. Respondents indicated interventions such as the expansion of the existing water infrastructure, the drilling of boreholes and the involvement of the private sector in the water management and distribution chain. Respondents affirmed that

Extremely serious  
Very serious  
Serious  
Not serious



DARA / Ana Rodríguez

international organisations as well as national government, community organisations and local government, are addressing this challenge effectively.

In Bolgatanga, respondents highlighted that the unavailability of dams in vulnerable communities increases infections and exposure to epidemics and further deprivation. They stated that residents walk long distances to fetch water that in most cases is from a shared source with animals. They also mentioned that drainage and drilling of boreholes have improved water accessibility, and the implementation of water and sanitation projects (WASH) in the rural areas are put in place mostly by international organisations, followed by local government and, to a lesser extent, community organisations. Although limited funding and technical capacity is available, these interventions were assessed as effective and very effective, although some respondents claimed long-term funding is needed to maintain the created infrastructures.

### 3 OVERCROWDED CONDITIONS

In Accra, overcrowded conditions, generated by population flows coming from rural areas in search of work, are perceived as a consequence of the inability to afford decent accommodation, with further implications in health, productivity and risk exposure. Some interventions to solve this challenge include the provision of affordable housing, public health education, slum upgrading and development and land management policies. Respondents mentioned that international organisations, local and national governments are addressing these interventions. Regarding the central government's intervention on public housing provision, there was certain disagreement on its effectiveness, as for some respondents it was a very effective measure to solve the problem, whilst others cited the low funding and the inability to reach all affected households. Demolition interventions are valued as very effective, but if not accompanied by the right associated measures, they cause slum dwellers to return to exposed areas.

# Local Perceptions on Risk Driver 3

## Land Use and Built Environment

### 4 POOR DRAINAGE / WATER DISPOSAL SYSTEMS

In the Accra area the poor drainage/water disposal situation is exacerbated by the lack of drainage systems resulting in floods, water pollution, bad sanitation practices and indiscriminate disposal of refuse and concomitant outbreak of waterborne diseases and epidemics. In dealing with this situation, water management policies are in place and drains have also been constructed with the support of national government, followed by local government and, to a lesser extent, community organisations.

In the East Coast, respondents attribute the situation to the devastating effect of flooding in the areas and the lack of concrete drains. Respondents explained that they are vulnerable to even the least amount of rainfall. The result is the loss of lives and property during periods of rainfall. However, few respondents linked the effect of flooding with the need for construction of drains, public education, public sector engagement and sanctioning of contractors that compromise quality work. The local government was the main funding agency in this regard.

The majority of interventions have been evaluated as effective, especially when managed by private actors. Respondents requested further support from development partners for infrastructure construction and extra commitment from the side of the communities and households in order to keep the drains clean and to collaborate with District Assemblies. Respondents affirm that the central government is providing sufficient technical and financial support, but there is a need to put an additional effort on law enforcement.

### 5 POORLY BUILT HOUSING

Significantly, respondents in Accra think that this challenge is further worsened by wind or rain storms and that they become particularly vulnerable in flooding events. The lack of resources, building materials and appropriate technical assistance for construction projects has led to the use of any material available, which in most of the cases, comes from solid waste. In the event of particular natural hazards, houses are prone to collapse or flood, causing household displacement or even life threatening situations.

According to respondents, some of the interventions were the enforcement of building regulations, awareness-raising activities on appropriate building materials, and inspection and demolition of illegal buildings. This role is one of the few that the local government is credited for more than the national government, as in terms of allocated funding, respondents link their effectiveness to the fact that decentralisation has taken place.





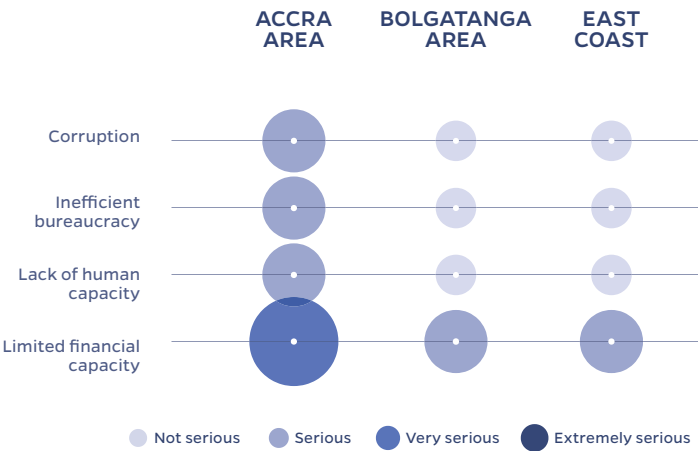


# Local Perceptions on Risk Driver 4

## Governance

imited financial capacity is perceived in all RTUs as a serious challenge. It has been mentioned as a main pitfall among the other Risk Drivers, and it is the only one identified in Bolgatanga and the East Coast. Corruption, inefficient bureaucracy and lack of human capacity are issues of concern only for Accra. In the capital city, limited financial capacity is the challenge that was ranked with the highest score, followed by corruption, inefficient bureaucracy, and lack of human capacity. In Bolgatanga, although limited financial capacity was perceived as a serious concern, it scored lower than in Accra and the East Coast.

GOVERNANCE CHALLENGES IN ACCRA, BOLGATANGA AND EAST COAST



### CORRUPTION AND INEFFICIENT BUREAUCRACY

Respondents in Accra identified the systemic nature of bureaucracy, the tendency of not tracking funds released for projects, and the liberty of project officers to use funds for personal use. They also indicated that efforts towards dealing with corruption include capacity building, women’s empowerment programmes, the adoption of a multi-stakeholder approach, the demand for accountability by civil society organisations and the institution of parliament with an anti-corruption committee. The role of community organisations, national and local governments is mentioned as being instrumental in the fight against corruption. Local government institutions are being progressively strengthened through available funding and the public sector reform

(decentralisation), but respondents expressed there is a gap in the technical capacity needed, which hinders some programmes from being fully implemented. Social accountability mechanisms have been reported to be gradually implemented but, as respondents state, further funding is needed to expand the program and its impact. At the national level, internal and external auditing mechanisms are being implemented but respondents acknowledge that in order for them to be more effective, it is necessary to put monitoring systems in place so that the program is fully implemented and helps the civil service to undergo necessary changes in the future. The public accounts committee in the parliament has been established with strong support from the government and development partners, and respondents affirm this could be an essential tool for the correct enforcement of anticorruption laws.



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## 2 LACK OF HUMAN CAPACITY

The lack of human capacity in Accra is an issue that is further compounded by the low capacity to implement disaster management and the inadequate skills set. Efforts at addressing these include capacity building programmes at the institutional level, workshops and seminars and scholarships for studies. These efforts, valued as effective and very effective by respondents, are spearheaded by international organisations which have provided funding for many of the interventions, followed by national government and local government.

## 3 LIMITED FINANCIAL CAPACITY

Respondents in all RTUs considered limited financial capacity as a challenge since it is tied to inadequate financial resources to implement programmes. Regarding interventions in addressing this challenge, they mentioned fiscal decentralisation

and mobilisation strategies, the efforts of foreign donors through grants and loans, and international banks increasing their borrowing portfolios. International organisations and national government play a key role in these interventions. In this regard, decentralisation of national competencies to local institutions has been facilitated with the payment to District Assemblies (D.A.) from common funds. However, respondents noticed that there is a need to also transform the civil service and build its capacities. Several respondents recognised that the local institutions are progressively playing a more active role, particularly in revenue generation through the Internally Generated Fund (I.G.F.), where the D.A.s are working towards their self-sustainability. The I.G.F. has been supported by the national government but, although having improved throughout the years, respondents state that it remains insufficient to cover the financial needs of local institutions.

# Recommendations from

## ACCRA

1

### INCREASING KNOWLEDGE AND AWARENESS ON ENVIRONMENT AND NATURAL RESOURCES

- Implement **PUBLIC EDUCATION CAMPAIGNS**, improve **ENFORCEMENT, PLANT TREES** and improve **WASTE TREATMENT AND REMOVAL**
- Construct **SEA WALLS** and use stone banding and sand bags

2

### BUILDING SOCIOECONOMIC RESILIENCE

- Improve **INVESTMENT ENVIRONMENT IN EDUCATION**
- **EDUCATE RESIDENTS ON FAMILY PLANNING** and effective **DESCENTRALISED POWER OF LOCAL GOVERNMENT**
- Implement **HEALTH EDUCATION**, improve **UNPLANNED SETTLEMENTS** and **ENFORCE HEALTH LAWS**
- Strengthen **PROVISION OF SOCIAL AMENITIES** and enhance **ADVOCACY**

3

### IMPROVING LAND USE AND THE BUILT ENVIRONMENT

- Establish a more comprehensive **ENFORCEMENT SYSTEM**, enforce codes and regulations more widely
- Increase **GOVERNMENT ENGAGEMENT WITH PRIVATE PARTNERS** in order to improve **WATER AND WASTE MANAGEMENT SYSTEMS**

4

### IMPROVING GOVERNANCE

- **IMPROVE INFORMATION SHARING AND OPENNESS**, facilitated by a **RIGHT TO INFORMATION BILL** and **ESTABLISH ANTICORRUPTION LEGISLATION**
- Improve **TAX MANAGEMENT, COLLECTION** and **ENFORCEMENT SYSTEM**

# the RTUs

## EAST COAST

- Implement **COASTAL RESTORATION, TREE PLANTING AND EDUCATION**

- Strengthen **ENFORCEMENT OF COMPULSORY EDUCATION**
- Implement **VOCATIONAL TRAINING PROGRAMS**

- Strengthen law **ENFORCEMENT** and **IMPROVE DRAINAGE SYSTEMS**

- **COLLABORATION BETWEEN VARIOUS AGENCIES** is needed to ensure a holistic approach to projects and programming

## BOLGATANGA

- Increase **COMMUNITY KNOWLEDGE OF GOOD FARMING PRACTICES** and of the hazard of deforestation
- Increase **TREE PLANTING** and **ENFORCE ENVIRONMENTAL BYLAWS**
- Implement **WATER HARVESTING**
- Improve **FOOD STORAGE CAPABILITIES** and **LOANS AND SUBSIDIES TO FARMERS**

- Implement **VOCATIONAL TRAINING** and **INFRASTRUCTURE** development such as construction of dams
- Strengthen **IMMIGRATION LAWS** and their **ENFORCEMENT**
- Improve **SEXUAL HEALTH EDUCATION**

- Establish small town **WATER SYSTEMS** and where possible, **DRILL MORE BOREHOLES**
- Improve **ENFORCEMENT OF BUILDING PERMITS**

- Improve **LAW ENFORCEMENT** capabilities, together with strengthened **POLITICAL WILL AND LEADERSHIP**

# Key

## CHALLENGES

While the surveyed regions varied according to environments and risks, and indeed the focus of the RRI is on obtaining local-level analysis of risk and vulnerability, trends in the data can be identified, namely:

- The natural hazards of greatest concern in Accra, Bolgatanga and East Coast are flooding and wind and rain storms.
- As the risk driver with the most identified issues, socioeconomic risks should be continually addressed by local, national and international actors.
- Many recommendations involve comprehensive infrastructure improvements, which may impose financial burdens on the government. For that reason, it is essential that governance issues identified in the surveys and workshops are addressed, especially with regard to corruption and limited financial capacity.
- As an urban area, Accra experiences unique issues, including water scarcity, water contamination, limited access to land, overcrowding and dangerous housing locations. These issues will require interventions tailored to the urban environment.

Climate change currently affects Ghana and will continue to do so in the coming years in the form of extreme temperatures, changes in rain cycles, and flood and droughts. While Ghana still faces challenges in the area of disaster risk reduction, it is clear that some progress has been made. Interestingly, many of the recommendations that emerged from the three RTU workshops reflected interventions that government or NGO actors had already undertaken. This demonstrates public support for the initiatives and the will to see them continue.





