Determination of Optimal Institutional Coordination Mechanism for the Management of Climate Change Related Health Risks
Determination of optimal institutional coordination mechanism for the management of climate change related health risks
Background

ABOUT THE PROJECT

Climate change, including climate variability, has multiple influences on human health. Both direct and indirect impacts are expected. These include alterations in the geographic range and intensity of transmission of vector-, tick-, and rodent-borne diseases and food- and waterborne diseases, and changes in the prevalence of diseases associated with air pollutants and aeroallergens. Climate change could alter or disrupt natural systems, making it possible for diseases to spread or emerge in areas where they had been limited or had not existed, or for diseases to disappear by making areas less hospitable to the vector or the pathogen. The World Health Organization (WHO) estimates that climate change may already be causing over 150,000 deaths globally per year. While direct and immediate impacts such as deaths in heat waves and floods can often be dramatic and provoke immediate policy-responses, the most important long-term influences will likely act through changes in natural ecosystems and their impacts on disease vectors, waterborne pathogens, and contaminants.

Despite the increasing understanding of health risks associated with climate change, there has been limited identification and implementation of strategies, policies, and measures to protect the health of the most vulnerable populations. Reasons for this include the relatively recent appreciation of the links between climate change and health, which means that existing public health related policies and practices globally do not reflect needs with respect to managing likely climate change-related health impacts.

Recognizing the fact that Ghana experiences an extremely high burden of climate-sensitive diseases such as malaria, diarrhoeal, cerebrospinal meningitis and other infectious diseases and given the fact that Ghana is significantly vulnerable to climatic changes, The Ministry of Health (MOH), Ghana in partnership of United Nations Development Programme (UNDP) is implementing a Global Environment Facility (GEF) funded project to pilot climate change adaptation for health in Ghana.
Malaria, Cerebrospinal Meningitis and Diarrhoeal Diseases, were identified as climate sensitive diseases of interest for the pilot project. The pilot will cover three districts – Bongo in the Upper East Region, Keta in the Volta region and Gomoa West in the Central region.

The proposed project will develop systems and response mechanisms to strengthen the integration of climate change risks into the health sector. Critical barriers will be overcome to shift the current response capacity of the health sector from being reactive towards being more anticipatory, deliberate and systematic. Project actions will identify, implement, monitor, and evaluate adaptations to reduce likely future burdens of malaria, diarrhoeal diseases, and cerebrospinal meningitis (CSM), priority climate change-related health issues identified by national stakeholders.
The production of this report was facilitated by the Climate Change and Health Project Implementation Unit, Ministry of Health, led by Benjamin Yaw Manu, the Project Manager, with the support of Abena Nakawa, the Project Associate, and in consultation with Mr. Isaac Adams, Director, Research, Statistics, Information Management, Ghana.

The content of this report was developed, discussed and validated through extensive consultations led by the Ministry of Health with stakeholders from government agencies including Ghana Health Service, Ghana Meteorological Service, National Malaria Control Programme, National Development Planning Commission, National Disaster Management Organization, Ministry of Local Government and Rural Development, Environmental Protection Agency, Ministry of Environment Science and Technology, National Disease Control Programme, Health Promotion Unit, Ministry of Health, Ministry of Finance and Economic Planning (External Relations Unit)

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Determination of Optimal Institutional Coordination Mechanism for the Management of Climate Change Related Health Risks
3.4 Existing capacities (logistical, human and organizational) available at the Regional level for managing climate change related health risks

3.4.1 Central Region – Cape Coast
3.4.2 Volta Region – Ho
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3.5 Existing cross-sectoral coordinating mechanisms and structure for the management of climate change related health risks at the National level

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4.0 Analysis Of Gaps And Strategy For Gradual Transformation And Sustainability Of Existing Structures

4.0 Setting the scene for gap analysis

4.1 Strengths of existing institutional collaboration

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4.4.1 District level
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5.0 Conclusions and Recommendations

5.1 Conclusions

5.2 Recommendations and road map for results generation at the pilot districts and their corresponding regions

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Appendix 1: Membership of a multi-sectoral health committee in Gomoa West
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POLICY BRIEF: Climate Change and Health

SUMMARY

Context and importance of the problem
Critique of extant policy
Analysis Of Gaps And Strategies For Gradual Transformation And Sustainability Of Existing Structures
Executive summary

To date, Ghana’s approach to climate change in relation to human health vulnerability has been reactive, and is characterized by an absence of a well-defined strategic policy intervention and plan for both the medium and long-term. Besides financing shortages, the absence of a policy framework for addressing climate change related health risks, weak and fragmented technical and institutional collaboration at local and national levels makes the need for corrective interventions even more urgent. This is further compounded by inadequate institutional coordination, with major institutions and key stakeholders acting unilaterally, duplicating efforts and over concentrating on limited areas, while equally impacted areas where interventions are needed are left out.

This study was therefore commissioned to determine, the adequacy or otherwise of existing institutional structures and arrangements for coordinating and directing activities aimed at responding appropriately to climate change related health risks. This will establish the functionality of the structures and how they can be enhanced to ensure sustainable and integrated response.

The study was conducted in the Climate Change and Health Project pilot districts and their regional administrations, including national level engagements. The pilot districts are Bongo District, Gomoa West District and Keta Municipal. Questionnaires were administered to generate information, while formal and informal discussions were used to gain further insights on issues which were not well captured in the questionnaire. Major stakeholder institutions at the district, regional and national levels were engaged to gain an understanding of the existing coordination mechanism in the planning and management of climate related health risks.

It was evident that the focal health institutions were collaborating with other institutions in the area of preventive, advocacy and curative levels of care. These collaborations were either bilateral or multi-stakeholder. Though both forms of collaboration exist, the bilateral collaboration was the strongest and the most effective. The multi-stakeholder collaborations were inter-agency committees, which provide guidance for effective planning, management and coordination of health related issues. However, in most of the study areas these inter-agency committees were not as efficiently operational as they were intended, while the bilateral collaborations were adhoc. The most critical gap in the current institutional coordination is the fact that most of the collaboration was centered on individual discretion. Hence the need for an effective means to move the collaboration beyond individual discretion. Specific proposals are made at the district, regional and national levels to strengthen the effectiveness of institutional collaboration in decision making for the management of climate related health risks.
Determination of optimal institutional coordination mechanism for the management of climate change related health risks
Determination of Optimal Institutional Coordination Mechanism for the Management of Climate Change Related Health Risks

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List of acronyms

DISEC ....................... District Security Council
REGSEC ..................... Regional Security Council
DHMT ........................ District Health Management Team
DMAT .......................... District Malaria Advocacy Team
DHAT .......................... District Health Advocacy Team
DHD ............................ District Health Directorate
DCD ............................ District Coordinating Director
RHD ............................ Regional Health Directorate
GHS ............................ Ghana Health Service
CHPS .......................... Community-Based Health Planning and Services
ISD .............................. Information Services Department
RCC .............................. Regional Coordinating Council
RCD .............................. Regional Coordinating Director
DA ............................... District Assembly
GES ............................. Ghana Education Service
TA ............................... Traditional Authorities
RHAD .......................... Regional Health Administration Directorate
RHMT .......................... Regional Health Management Team
MEST .......................... Ministry of Education, Science and Technology
Determination of optimal institutional coordination mechanism for the management of climate change-related health risks
1.0 Introduction
Determination of optimal institutional coordination mechanisms for the management of climate change related health risks
1.1 Background

Many potential climate change health impacts have been established, and several are already evident (McMichael et al. 2004). Enough evidence is now available to show that global climate change/variability have profound impacts on health and livelihood in countries throughout the world. Studies by Campbell-Lendrum and Woodruff, (2006), had reinforced the ability of climate change to increase the burden of climate-induced diseases such as heat-related illness, vector-borne disease, diarrheal diseases, injuries from extreme events, and respiratory diseases. This has resource implications for both policy and operational interventions in the overall public health care delivery system. Therefore the public health delivery systems must consciously become responsive at all levels to the extent of additional risk and anticipated impacts that climate change poses.

Despite the greater recognition of the negative effects of climate change to public health delivery (Huang et al. 2011), there has been little discussions of how public health organizations should implement and manage the process of planned adaptation. Huang et al. (2011) noted that this might mostly include, among many other options, enhancing adaptive capacity, which involve providing timely resources for adaptation and the ability to use them effectively and efficiently in implementing adaptive actions. For many countries, adapting to the impacts of climate change, irrespective of the type of sector, will require strengthening existing capacity (institutional, logistical and human), and applying new approaches to examine the risks associated with it. However, this will only be possible if the prevailing situations and their impact are well studied and assessed.

In Ghana, the approaches to tackling climate change and human health issues have largely remained reactive, uncoordinated and characterised by an apparent lack of a well-defined policy and strategic interventions in the medium and long-term. Because climate change related health risk issues are inadvertently, or one way or the other addressed in the mainstream public health delivery, it is a challenge to advocate for a dedicated focus in all aspects. Besides the additional financing needed to making the health sector climate-proof, the absence of a coherent policy framework for addressing climate change related health risks, weak and fragmented technical and institutional collaboration at local and national levels necessitates the need for corrective interventions even more urgent.

This is further compounded by inadequate institutional coordination, with major institutions and key stakeholders acting unilaterally, duplicating efforts and over concentrating in limited areas, whilst equally impacted areas where interventions are needed are left out. In view of the enormous challenges that changes in climatic variables present to the health of an already impoverished population, there is the need to optimize resources for maximum benefits. This requires measures to strengthen capacity and institutional collaboration at all levels to plan and manage diseases that are sensitive to climate change within a well-defined and strategic cross-sectoral policy framework in the medium and long terms, through systematic information gathering and management approach. Funding is necessary and has often been cited as a major factor hampering effective response to the management of climate related health risks, but funding issues are not sufficient elements in successfully addressing and managing the impacts of climate change, including adaptation. Without viable institutions, which are linked to each other strategically and guided by effective inter-sectoral policy frameworks at all levels, progress in the management of climate related health risks will falter.

The International Commission on Climate Change and Development has concluded that climate change adaptation could not be effective without efficient and accountable organizations and institutions. Disseminating information, building knowledge, articulating needs for effective responses to climate related health issues, ensuring accountability,
and transferring resources in a structured and collaborative are all needed for an optimal management of climate related health risks. These are guided by and happen through effective institutional coordination.

Recognizing the fact that Ghana experiences an extremely high burden of climate-induced diseases such as malaria, diarrhoeal, cerebrospinal meningitis and other infectious diseases and given the fact that Ghana is significantly vulnerable to climatic changes, the Ministry of Health (MOH), Ghana in partnership with the United Nations Development Programme (UNDP) is implementing a Global Environment Facility (GEF) funded project to pilot climate change adaptation for health in Ghana. This study was therefore commissioned to determine, the adequacy or otherwise of existing institutional structures and arrangements for coordinating and directing activities aimed at responding appropriately to climate change related health risks. This will establish the functionality of the structures and how they can be enhanced to ensure sustainable and integrated response.

1.2 Specific objectives

- Define existing cross-sectoral coordinating mechanisms and structure for the management of climate change related health risks in Ghana at national, regional and district levels.
- Describe existing capacities (technical, organizational) available at the various levels for managing climate change related health risks.
- Identify gaps and recommend appropriate coordinating mechanisms for national, regional, and district level management of climate related health risks.
- Provide a strategy for the gradual transformation and sustainability of existing structures into national, regional and district level structures to enhance the management of climate change related health risks.
- Provide a roadmap for results generation at the pilot districts and corresponding regions.
2.0 Methodology
2.1 Study area

Malaria, Cerebrospinal Meningitis and Diarrhoeal Diseases, were identified as climate sensitive diseases of interest for the pilot project. The study was conducted in the three pilot districts of the project, including their regional administrations, and up-scaled to the national level. These are;

- Gomoa West District – Apam (Central Region – Cape Coast)
- Keta Municipal assembly – Keta (Volta Region – Ho)
- Bongo District – Bongo (Upper East Region – Bolgatanga)

The pilot districts of the projects, which also served, as the study area are presented in the location map below.

- Figure 1: Map of Ghana showing location of study district
2.2 Study approach

The study commenced with a detailed desk study to identify main stakeholder institutions as well as institutions mandated to plan, respond to and manage diseases related to climate change at the local, district, regional and national levels. The review also attempted to assess their capacities, roles, responsibilities, and challenges. The key points of contact for information was the Climate and Health Project office, Ministry of Health, Ghana Health Service; including regional and district directorates, as well as the National health control programme staff of the Malaria and Guinea Worm Control Programmes and the National Disease Surveillance Unit.

It is important to identify key stakeholder institutions at the local, district, regional and national levels to ensure that there is synergy in planning, responding to and managing diseases associated with changes in climatic variables. Due to the fact that any manifestation of climate induced diseases will be at the community level, there is the need to identify important actors at the local level who can contribute to responding to and managing these diseases, with much emphasis on grassroots challenges which could hamper planning and response to health risks associated with climate change. Such institutions could include traditional authorities, community-volunteers communities and social organizations, including faith-based organizations. Key stakeholders identified for this assignment were:

- Ministry of health and allied MDAs
- Ghana Health Service, including regional and district directorates
- District and regional Hospitals
- National health control programme staff of the Malaria and Guinea Worm Control Programmes as well as National Disease Surveillance Unit
- Traditional Authorities and community based institutions
- Faith-based organizations
- NGO’s
- District Assemblies and Regional Ministries
- District education and Regional Directorates
- Information Services Department
- Donors and International partners
- Environmental Protection Agency

2.3 Data collection

Formal and informal discussions were held with the identified institutions involved in the planning and management of health risks and the linkages in their operations at the local, district, regional and national levels to identify the roles, responsibilities, challenges and activities of the various actors. This was intended to highlight capacity gaps (human, institutional and logistical) in the planning and management of diseases that are sensitive to climate change. In some instances, questionnaires were used to generate more information. SWOT analysis was undertaken to identify gaps and challenges in the implementation and coordinating mechanisms for local, district, regional and national level planning and management of climate related health risks. This generated important information, which fed into a proposed strategy for the transformation and sustainability of existing structures.
3.0 Findings

Determination of optimal institutional coordination mechanism for the management of climate change related health risks
Determination of Optimal Institutional Coordination Mechanism for the Management of Climate Change Related Health Risks
3.1. Existing cross-sectoral coordinating mechanisms and structure for the management of climate change related health risks at the District level

The study revealed that the Ghana Health Service and its regional and district directorates are the focal points for Health in terms of planning, management and service delivery. These activities are executed through institutional collaborations, which are manifested in two ways. These two classes of collaboration run through all the levels (district, regional and national).

1. Preventive and advocacy collaboration: this is the collaboration among institutions to advocate for good practices, dissemination of information, monitoring, provision of infrastructure and logistics to ensure the prevention of diseases, including vaccination exercises.

2. Curative collaboration: this is the level of treatment and management of disease outbreaks.

The curative and preventive collaborations are achieved through bilateral and multi-stakeholder interaction platforms at the local district, regional and national levels. Figure 2 illustrates this collaboration. Primary healthcare in the district is classified into three levels (District, Sub-district and community levels). In order to have good collaboration at the community level, community health committees have been formed around Community-Based Health Planning and Services (CHPS) zones to assist local health officers to manage health service delivery. The community health committee is a local level institutional collaboration which involves traditional authorities, opinion leaders and local health officers. This community level collaboration is further enhanced with the involvement of community volunteers who assist with information gathering and dissemination.

![Figure 2: Schematic representation of multi-stakeholder and bilateral collaboration at the district and regional levels](image-url)
3.1.1. Gomoa West District

Preventive and Advocacy Collaboration

Invariably, collaboration at the advocacy and prevention level manifests in two ways. These are bilateral collaboration and multi-stakeholder collaboration. The bilateral institutional collaboration is basically dependent on when an institution is needed to perform specific activities or tasks. For instance in the dissemination of information, the DHD collaborates with the District Information Services Department. This bilateral collaboration is also strong at the community level where volunteers are trained to provide community level guidance in health related issues, in close association with the traditional leaders. This bilateral collaboration is established with all relevant institutions at the district, though there is no formal agreement. It is basically based on how proactive the head of the district directorate is in involving other institutions in the delivery of health.

With regard to Multi-stakeholder institutional collaboration, the District has gone through several institutional collaborations to a more structured District Health Advocacy Team (DHAT), with a well-defined action plan and management team. The DHAT was initiated by the District Assembly and evolved from the District Malaria Advocacy Taskforce (DMAT), which only focused on malaria prevention and the distribution of treated bed nets. This is a typical multi-stakeholder collaboration in the district.

The District Health Advocacy Team is made up of persons in leadership positions, representing various stakeholder institutions in the district, committed to supporting effective health services delivery. Their goal is to promote effective planning, coordination and implementation of programs in priority health areas of the district by strengthening support through increased involvement of all relevant stakeholders. The committee is chaired by the Omanhene of Apam and with the District Director of Health (DHD), and a representation from all decision making and policy implementing institutions from public, private and non-governmental sectors of the district. The thematic health areas that the DHAT would be concerned with include reproductive health, family planning, nutrition, malaria and water and sanitation. These thematic areas well capture climate related health issues such as malaria and Diarrhea, though they were not emphatically mentioned.

The DHAT was inaugurated in December 2011, with 17 members. Not much has been done since its inauguration. Aside the collaboration at the level of the DHAT, the DHD is in close collaboration with the District Directorate of the Ghana Education Service (DGES), with health focal persons who are constantly trained and updated as an effective means to mainstream health advocacy and prevention in the schools. This healthy collaboration also exists between the DHD and the District Environmental Health Unit, Information Services Department, Churches and Mosques.

Curative Collaboration

The Catholic Hospital at Apam is the main referral hospital in the district, and there is a strong collaboration between the District Health Directorate and the District Assembly to ensure effective health delivery. At the sub-district and community levels, the District Health Directorate is in close collaboration with the District Assembly in the construction and maintenance of the health centers, CHPS compounds and community clinics.

3.1.2. Keta Municipality

Preventive and Advocacy Collaboration

There seems to be a very elaborate structure for preventive and advocacy collaboration and co-ordination within the health service delivery system in the Keta Municipality. There is a District Health Management Team which comprises identified stakeholders in the health sector. The DHMT is responsible for managing the health needs of the municipality. There is a District Health Management Team which comprises identified stakeholders in the health sector. The DHMT is responsible for managing the health needs of the municipality. The District Health Management Team is made up of representatives from various units from the Municipal Assembly, Municipal Hospital and the Ghana Health Service Directorate. Public
health services and education is done jointly by the DHMT and the Public Health unit of the Keta District hospital.

**Curative Collaboration**

The Keta Municipal Hospital provides clinical care at the district level. The district hospital is headed by a medical superintendent.

3.1.3. Bongo district

**Preventive and Advocacy Collaboration**

Though there are bilateral collaborations with district level stakeholder institutions such as NADMO, GES, Information Services Department etc, the District Emergency Preparedness Team serves as the multi-agency collaboration platform. Its role is to support in health care including immunization for CSM, treatment of Malaria and Diarrhea, in addition to health education. These roles are assigned to them by the regional and national health directorates. Their activities are within this mandate. No formal institutional structure exists. All collaborators serve on the emergency preparedness committee. The team meets regularly to discuss issues and is all well linked. It is instructive to understand that aside the DEPC, there is no multi-agency committee geared towards health issues in the Bongo District. The community health committees are also weakly functional, with most collaborations focused on bilateral linkages.

**Curative Collaboration**

There is a strong collaboration between the DHD and the surrounding hospitals at the district, sub-district and community level, with a greater collaboration between the traditional authorities, community volunteers, District Assembly and the DHD. But a major gap that is affecting the functionality of these collaborations has been inadequate financing and logistics.

3.2. Existing cross-sectoral coordinating mechanisms and structure for the management of climate change related health risks at the Regional level

3.2.1 Central Region – Cape Coast

**Preventive and Advocacy Collaboration**

At the regional level, there is the Regional Interagency Committee on Communication, as well as Heads of Departments Meeting, which serves as a platform for discussing health related issues. But this is a very general platform, which does not only focus on health but all other issues in the region. However, there is a very strong relationship and support from the Regional Administration in the management of health issues in the region. There is also a strong engagement with traditional authorities in advocacy activities in the region.

**Curative Collaboration**

Collaboration at this level is with the Regional Hospital, with the Regional Administration providing strong support to all activities.

3.2.2 Volta Region – Ho

**Preventive and Advocacy Collaboration**

At the regional level, the Regional Health Administration Directorate (RHAD) is headed by the Regional Director of Health Services. RHAD supervises the management of health issues in the Volta Region. There is an established Regional Health Management Team (RHMT) which is made up of:

- Regional Director of health
- Deputy directors (public, clinical care, administration, Nursing services, Pharm services, )
- Internal audit
- Accountant
- Programme heads
The RHMT meets periodically on a monthly basis to review the state of health management in the region. The RHMT collaborates with other agencies/organizations in the management of health issues in the Volta Region. The collaborators include: Regional Minister; Regional Coordinating Council (RCC); Ministry of Food and Agriculture (MOFA); International NGOs; Ghana Education Service; Ministry of Women and Children Affairs (MOWAC); UN Agencies; Ghana Water Company, etc.

These collaborations are particularly stronger with the Ghana Education Service through the School Health Programme and also on Nutrition programmes with the MOFA. Generally, as and when an organization is identified as a stakeholder, it is brought on board. With the exception of the GES through the School Health Programme, there is no formal documentation of collaboration with the other identified stakeholders.

Curative Collaboration

Curative health delivery is by the Volta Regional Hospital.

3.2.3 Upper East Region – Bolgatanga

Preventive and Advocacy Collaboration

The Regional Health Management Team and Regional Epidemic Preparedness Team serve as the multi-stakeholder platforms for the effective delivery of health in the region. The role of these committees are to provide leadership and technical expertise, to enable them engage in effective planning, implementation, monitoring and evaluation of programmes that prevent, control, and eradicate diseases or events related to climate change. The regional administration is performing this role satisfactorily.

There is also the coalition of NGO's which are very proactive on issues of health in the region. These NGO's collaborate with the regional and district health directorates in pursuing effective health delivery.

3.3 Existing capacities (logistical, human and organizational) available at the district level for managing climate change related health risks

3.3.1 Gomoa West District

The organizational and human capacity to deliver quality health at the district is appreciably high, with proactive leaders who go extra miles to ensure that health delivery is brought to the doorstep of people. However, there is some knowledge gap in the climate change connection to health related risks. This can hamper effective adaptation mechanisms at the district level. There is also the need to equip the DHD with more logistics to efficiently operationalize their plans. Collaboration with other agencies should be strengthened to ensure that logistics and transport facilities could be shared.

3.3.2 Keta Municipal

The Keta Municipal Health directorate has the human and organizational capacity to deliver quality health. In addition to the Medical Doctors, Nurses, Pharmacists, Public Health Personnel, Community Health Nurses, etc, there is at the sub-district level, the Community based surveillance Volunteers (CBSV) who lives in the community. The duties of the CBSVs include identifying diseases such as malaria, polio, AIDS, TB of people in the community and reporting to the health workers; undertaking health education with community health nurses and reporting...
any new disease that they notice in the community to the Disease Control Unit of the District Health Directorate. They keep registers which are used to record the diseases.

However, the district is lacking in knowledge on climate change and health issues which are essential for managing climate change related health risks. None of the staff interviewed in the study admitted to having enough knowledge on climate change and health. The Municipal Health Directorate also has resource challenges in to ensure effective health management.

3.3.3 Bongo District

This is the district with the least human and logistical capacity, though institutionally, they are adequately resourced to plan and manage health issues. However there is the need for improved capacity in the knowledge gap in terms of climate related health issues in order to ensure an anticipatory planned adaptation.

3.4 Existing capacities (logistical, human and organizational) available at the Regional level for managing climate change related health risks

3.4.1 Central Region – Cape Coast

The Ghana Health Service in the Central Region has personal across the various levels to handle all health management issues. Generally, the GHS will need more personnel for effective health delivery but notwithstanding this, there are enough people to ensure effective running of the system. There is, however, a big gap in the knowledge of health personnel on issues of climate change and health. The health personnel have very little knowledge on climate change and health issues and they lack the resources to upgrade themselves on such issues.

3.4.2 Volta Region – Ho

The Ghana Health Service in the Volta Region has personnel across the various levels to handle all health management issues. Generally, the GHS in the Volta region, just as any other place, though have quite a number of personnel, will need more personnel for improved and effective health delivery. Notwithstanding this, there are enough people to ensure effective running of the system. There is, however, a big gap in the knowledge of health personnel on issues of climate change and health. The health personnel have very little knowledge on climate change and health issues and they lack the resources to upgrade themselves on such issues.

3.4.3 Upper East Region – Bolgatanga

Generally the existing institutional governance for the delivery of public health service is well coordinated horizontally among all units at the region vertically with the district, communities and units. However the following challenges are strongly manifested:

- **Technical** - regional health directorate is well endowed with technical human resources.
- **Organizational** - The regional health directorate is very strong with its senior management committee directing affairs, which trickle down the RHMT.
- Limited financial resources affect the use of organization's ability to deliver on its mandate.

3.5 Existing cross-sectoral coordinating mechanisms and structure for the management of climate change related health risks at the National level
Preventive and Advocacy Collaboration

There is no cross-sectoral platform for the management of health issues at the national level. Though the National Climate Change Committee appears to be the focal platform for climate change related activities nationally, it has a limited coordination and organizational ability in terms of health. The ministry of health is represented on the national climate change committee, which is hosted by MEST. There is an informal working group on climate change which provides support (harmonize and coordinate activities) to the national climate change committee. Invariably, bilateral collaborations have been largely engaged in the management of health issues in prevention and advocacy of various health issues, including climate related ones. For instance, the Ghana Health Service as an implementing agency collaborates with the media, allied ministries, departments and agencies to ensure that the masses receive needed guidance related to the prevention of certain diseases.

This form of collaboration also exists between the Ghana Health Service and the private as well as international organization at various levels, including the provision of logistics; capacity building etc. There has been specific intervention such as the National Malaria Control Program, which is engaging various stakeholders in the prevention and advocacy on malaria and related issues. Though there is no similar program for CSM and Diarrheal diseases, specific collaborative interventions have been engaged with relevant stakeholders (such as the ISD, the media, NGOs etc.) to advocate for best practices in order to reduce the occurrences of these diseases and ensure adequate management.

Curative Collaboration

At the national level, curative collaboration occurs between the GHS and the main referral hospitals and emergency response centers in the country. There is no cross-sectoral platform to engage stakeholders in the curative collaboration, but there is a strong bilateral collaboration with the hospitals and emergency response centers. The GHS also collaborates with various research institutions in specific interventions, which could aid effective curative measures for various diseases and health issues. However, because some of these referral hospitals and platforms for bilateral collaboration are not specifically under the supervision of the GHS, bureaucracies and uncoordinated programs could hamper the smooth operations of specific interventions. This form of collaboration is also adhoc and not guided by any formal arrangements but based on the managerial prowess and effectiveness of individual heads of institutions.

3.6. Existing capacities (logistical, human and organizational) available at the National level for managing climate change related health risks

There is so much human and institutional capacity at the national level. Though access to adequate logistics have always been a challenge, if the collaboration between agencies is strengthened, these critical resources could be pooled together and synergized to achieve substantial benefits in the management of health issues. However, because there is very limited coordination in many activities at the national level, significant logistics are underutilized, while institutional roles and tasks are duplicated. Invariably, the health sector of the country has been bedeviled with lower numbers of health workers and retention of staff at the core areas of health delivery remain a challenge. Doctor-patient ratio has been consistently low, while that of nurses and allied workers has not been any different. Hence the major capacity gap at the national level for the management of climate related diseases has been the needed human resources to undertake various health delivery services.
Analysis Of Gaps And Strategy For Gradual Transformation And Sustainability Of Existing Structures
Determination of optimal institutional coordination mechanism for the management of climate change related health risks.
4.0 Setting the scene for gap analysis

Effective adaptation requires participatory democracy, functioning institutions, and transparency at all levels. People at risk must have access to information, and be able to voice their views and concerns through a well-coordinated feedback and redress channel. According to the International Commission on Climate Change and Development, effective adaptation strategies would require coherent and coordinated policies and cooperation among governments, civil society, and the private sector. Because impacts are local and contextual, the principle of subsidiarity should apply.

The bulk of responsibility will fall on local and national governments, supported by international actions to provide appropriate capacities and resources. But importantly, the major issue is how to make effective response to climate related health issues a collective responsibility of all stakeholder institutions, rather than it being the sole responsibility of the focal institutions. This means that mechanisms to ensure that the GHS plays a catalytic role in the collaboration and mobilization of responses in the management of climate related health risks at the district, regional and national levels must be established.

This study has revealed consistent limitations in the delivery of healthcare in the country in terms of collaboration to ensure effective outcomes. It is therefore pertinent to outline the gaps that need to be addressed, as well as a strategy for effective collaboration at the curative and advocacy levels.

4.1 Strengths of existing institutional collaboration

The following are summaries of the strengths of the existing institutional collaboration for addressing climate change within the public health delivery system:

- **Availability of institutional structures** – there are existing institutional structures that are capable of rising to the occasion with the needed resources in place. This is reflected in the formation of inter-agency committees to coordinate the planning and management of health issues. At all the levels, there is the existence of inter-agency committees which are performing some functions relating to health delivery. The major lesson is that there is a good platform to mainstream adaptation activities both across the vertical and horizontal health planning structures.

- **Overwhelming acknowledgement of the impacts of climate change** – there is overwhelming acknowledgement by all stakeholders that climate change impacts pose additional risk on the general health of the people as well as the health delivery system. This provides a good window of opportunity to seek solutions and pursue practical and relevant adaptation options, which will build resilience and reduce vulnerability.

- **Acknowledgement of knowledge gap and willingness to improve understanding of climate change and health issues** – there is strong willingness on the part of all stakeholders to gain or improve their knowledge on how to manage climate change induced health issues. This would be one of the major success factors for any future climate-based intervention.

- **Proactive and dedicated leadership at the district, regional and national directorate of GHS** – there is also strong leadership at the district, regional and national levels, offering quality direction to the management of health issues. It only requires refocusing, retooling and reorientation to fully and effectively integrate climate change health related risk into planning and implementation both at the regional and district levels.

- **Strong bilateral collaboration at all levels (district, regional and national)** – there is a very strong bilateral collaboration among the different institutions at the district, regional and national levels that can be improved to enhance the quality of health delivery.
4.2 Opportunities and potential of existing institutional collaboration

- **Existence of multi-sectoral district and regional health advocacy committees**
  - Most of the districts and regions have health advocacy or health management committees, which have been formed to create a cross-sectoral platform for the management of health issues. Though this is much weaker at the regional level, it is a good platform which could be used to improve the management of climate related health issues. All that is needed is to adequately resource and fund the committees to efficiently operationalize their action plans. However, the committees’ activities should complement, but not duplicate the activities of the District or Regional Health Administration. This justifies the enactment of clear mandates. The DMAT of the Gomoa West District could serve as a model, with some modifications for implementation at the other districts and regions.

- **Good relationship between allied agencies**
  - At all the levels, it was observed that bilateral collaboration is the most effective platform for engaging other relevant stakeholders in the management of health issues. This could be as a result of the good relations that exist between various institutions. In some instances, these relationships transcend beyond the institutional level to individuals.

- **Clear channels of collaboration**
  - There are already established channels of collaboration, which could be, explored further to make it more efficient. For instance, the district IFD is consistently roped into most community education and outreach programs. There are similar channels of collaboration with all stakeholder institutions, which ensures that health care is optimized as much as possible.

- **Very proactive heads of institutions**
  - There are very proactive heads of the various directorates of the GHS at the district, regional and national levels. This has sustained the good collaboration among relevant stakeholder institutions in the midst of the absence of formal institutional arrangements for collaboration. Their managerial prowess has ensured that they reach out to all institutions when necessary to ensure effective health delivery. This managerial skill and proactiveness is the major strength behind the successes of most multi-stakeholder interventions.

4.3 Challenges and weaknesses of existing institutional collaboration

- **Collaborations are centered on the proactiveness of the heads of institutions**
  - The fact that these collaborations are centered on the proactiveness of the heads of institutions serves as a major weakness. This is because there is the strong tendency for the collaboration of any kind would be based on individual discretion and could be subjected to weaknesses in the administrative and managerial skills of that individual. There are instances where some heads have been less proactive, and this has stifled lots of initiatives. For instance, there have been cases where a district health directorate was collaborating very well with the district ISD. However, when the head of the ISD was transferred, the collaboration waned, because the new head was not as enthusiastic in engaging others as the former head.

Also of a challenge is the relationship between the District Directors of Health Service and the medical superintendent in-charge of the district hospitals. In situations where the district hospitals are headed by medical doctors and the district health directorates are headed by Public Health Officers, the challenge arises and results in ineffective collaboration between the district health director, who is supposed to be the head of health management in the district and the medical doctor who is seen as higher in rank than the head of the district directorate. This is usually not the case where both the District Health Director and the District Hospital are medical doctors.
- **Lack of synergy and duplication of efforts** – Building synergy and avoiding duplication of efforts is a central element that is very limited in the collaboration among institutions. There are some activities in the various institutions, which overlap, however, because there is very limited coordination, often times there is duplication of the use of resources and efforts. The environmental health unit of the assembly complains of lack of logistics to implement their activities, but this could be improved if there is a platform for engaging each other on specific activities in order share part of the logistics of the DHD to implement activities. Similarly, the ISD could do with additional fuel support from other institutions so they cover more areas and incorporate the educational and information dissemination activities of other institutions. The Ghana health service has been the sole architect of health programs and the coordination of such programs in the district. The low involvement of other stakeholders in planning, delivery and coordination of health programs leads to duplication of efforts and low impact.

- **Appointment of inefficient members of some committees** – Due to the fact that volunteers can be co-opted onto committees at the district level, there is an emerging weakness where people see this, as an opportunity to gain some benefits, there is always some power play, which results in inefficient people representing the communities.

- **Bureaucracies** – Because most of the collaborations are at the bilateral level, it takes so much time for decisions to be made and actions to be taken. In some instances, decisions would have to be communicated through a hierarchy before actions can be taken.

- **Collaboration is built around individuals** – The collaborations are too centered on individuals. Given that the bilateral collaborations are more operational than the multi-stakeholder platforms, there is a high tendency for individuals to usurp the process with very little involvement of others. Thus, in the absence of the individual in charge, very little can be achieved.

- **Lack of funds and logistics** – Funding and logistics are huge challenges. This is needed to operationalize the activities of the committees. The health service, like all other essential social services, require adequate logistics to achieve its targets. Inadequate logistics such as diagnostic equipment like Rapid Diagnostic Testing Kits for malaria, drugs and storage facilities are among the challenges being faced by the District Health Management Teams.

- **Recent appreciation of the linkage between climate change and health** – Despite the increasing understanding of health risks associated with climate change, there has been limited identification and implementation of strategies, policies, and measures to protect the health of the most vulnerable populations. Reasons for this include...
the relatively recent appreciation of the
links between climate change and health,
which means that health related policies
and practices globally do not reflect
needs, with likely climate change-related
health impacts.

- **Lack of accountability** – Finding a way to get the commitment of the committee members, and a superior body to determine accountability of results based on tasks assigned. Currently committee members flout agreed timelines for the delivery of tasks, with no measure to ensure that assigned tasks are executed with the urgency that it deserves.

- **Volunteer expectation** – Volunteers get expectant at certain times and expect more motivation and incentives. This is a general feeling that needs to be addressed if the implementation of local and community level interventions are to succeed. A little improvement in the motivation packages will significantly enhance the work of the volunteers who play a very critical frontline row in health delivery.

- **Undetermined knowledge gap on climate related health risks and intervention areas** - Most stakeholders, including staff of the Ghana Health Service (GHS) do not have adequate knowledge about the various policies that guide the direction and implementation of health programs in the district. It will therefore be necessary to advocate for sensitization of stakeholders, particularly health staff and partner organisations on relevant health policies in the country. These would include the malaria drug policy, integrated vector management policy, including ITN distribution and use, malaria in pregnancy policy. There is also inadequate capacity to aid planning and management of climate related health issues at all levels of health care delivery (national, regional and district). The greatest challenge is how to move the collaborations beyond the bilateral and individual proactiveness, to one that is multi-stakeholder and strengthened to ensure quality and timely delivery of actions.

- The perception that the GHS is self-sufficient – Increasingly, there is the perception that the GHS is self-sufficient and that it is endowed with so much resources that it does not need any assistance or collaboration in the execution of its responsibilities. This perception has contributed to the lack of commitment on the part of major stakeholders in some collaborative interventions, especially at the district level.

### 4.4 Gradual transformation and sustainability of existing structures

In ensuring a gradual transformation and sustainability of existing structures, there is the need to put in place good governance structures for decision-making in strengthening the management of climate change and health related issues. The bilateral platform has proved to be the most effective existing mechanism for collaboration. However, as much as the multi-institutional platform is weak presently, it is a veritable mechanism whose benefits and overarching impacts cannot be discounted. Nonetheless, the multi-stakeholder platform will only be effective if proper arrangements are made to ensure that it does not suffer the same fate as most committees which have been formed in time past. It is vital for this platform to have a good sense of ownership by all parties involved, with a transparent system of governance and operation, which is accountable.

Two elements of accountability are envisaged under this mechanism. These are:

1. A reporting structure
2. A reporting format

It is just not enough to put a nice document in place detailing tasks and activities to be performed, with a litany of institutions or actors to be involved. It is necessary to put in place a clear system for reporting on the progress of activities to ensure that timelines are followed, and also ensure that there is some level of supervision. This critical factor in the functioning
of a committee was the major limitation resulting in most multi-stakeholder committees going moribund.

A major point worth noting is the possibility of having parallel committees which have almost similar functions. Given the experiences manifesting from the district to the national levels, with regard to effectiveness of committees, it is important to strengthen existing ones rather than establishing totally new ones. Unless in situations where the existing committees are not functional.

It is also important to involve the media in relevant activities to ensure wider outlets for dissemination of information. If the multi-stakeholder platform is adequately rolled out, with each institution actively participating in the planning and coordination of activities, it should be possible for a composite plan of activities to be drawn which will incorporate health related activities (or climate related diseases) of each stakeholder organization. Thus, the activity plan of each institution will be drawn from that of the multi-stakeholder platform. Hence, each member of the multi-agency committee could set aside a budget or logistics for the implementation of the committee’s activities. This can be achieved by collaborating at the committee level to draw up annual plans, which could constitute components of the annual activities of individual agencies. This has the advantage of leveraging limited logistics and resources across board. It is also to ensure sustainability beyond donor support.

There should also be terms of reference for the committee members to ensure that each member’s role and responsibilities are clear. To ensure a sustainable multi-stakeholder committee with the full commitment of each stakeholder, there is the need to tackle the issue of where the committee draws its authority from, for instance DISEC and REGSEC have their legitimacy in laws, and are active in the regions and districts. The multi-stakeholder platform could be modeled around the success of the DISEC and REGSEC as a multi-stakeholder committee to improve its operations and delivery of health care. One particular means is to enact by-laws\(^1\) at the district level, which could be based on the Local Government act 462. This will give the committee the much needed legitimacy and ownership. This could also set the tone for the mechanism of ensuring accountability. Overall, the feasibility of implementing a multi-agency committee depends on its legal backing and level of sustenance. The major lesson here is that it is important to know that many committees have been formed. Their success or failure depend on mechanisms to ensure sustainability beyond the short term.

\(^1\) It is a fact that the process of enacting by-laws could be bureaucratic and take long, which could cause undue delays. But it is a medium to longterm measure that could ensure the sustainability and effectiveness of the inter-agency committees. Efforts should therefore be concentrated on modalities for overcoming these delays.
4.4.1 District level

For optimal institutional collaboration and decision making at the district level, there are two existing platforms, which can be enhanced and strengthened. The Community Health Committee is a local level institutional collaboration which involves traditional authorities, opinion leaders and local health officers. This is an active platform, hence with a structured capacity building program, much improvements can be made in the decision making processes for the delivery of health. However, at the district level, the District Health Management committees or in some cases, the District Health Advocacy Committees (as has been formed at the Gomoa West District), could be resourceful channels for adequate inter-agency collaboration in the management of all health related issues, including climate related ones. We are however recommending that the District Health Advocacy Committee be adopted as a model platform for the management of climate related diseases, based on its multi-stakeholder involvement, including community volunteers in district level multi-agency committees. This should not be an ad hoc selection, which will give the opportunity for undedicated people to take advantage, but be based on strict criteria. Hence three tiers of collaboration have been identified as the viable platforms to strengthen the planning, coordination and management of health care delivery at the district level.

i. Community volunteers: These are individuals who are selected and trained to provide community level information and education on various aspects of health delivery. Among others, they serve as liaisons between the focal health management institution and the communities. These group of people exist in most communities, and are easily accessible in the communities.

ii. District Health advocacy Teams/District Health Management Teams: This is a district level inter-agency committee that deals with the planning, coordination and management of health issues. It is made up of all relevant stakeholder institutions, including government, private and faith-based organizations, NGO's and other identifiable bodies as may be deemed appropriate for the effective delivery of health in the district. The committee is a district level platform to foster inter-agency collaboration in the management of health issues, including climate related ones, with the DHD serving as the catalyst. For instance, the Gomoa West District has a DHAT\(^2\) structure in place to contribute to the management of health issues. This model structure was established by the DCD, and chaired by the Omanhene of Apam, with the District Health Director serving as the Vice-Chairman. It is a fairly independent body with financial support from the District Assembly. Though it is yet to assume full functionality, it provides useful lessons that can be built on and modified for other districts. It is our recommendation that the DHAT at Gomoa should be adopted as the model multi-agency committee for all the pilot districts in the management of climate related diseases. We believe that if identified gaps are addressed, the committee can serve

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2 Readers are referred to the DHAT document of the Gomoa West District (available at the office of the District Health Director) for further information.
the functions of managing climate related diseases instead of forming a new climate change and health committee. The DHAT structure at the Gomoa West district could be adapted for wide implementation in other districts. Appendix 1 shows the composition of the multistakeholder committee at the Gomoa West district.

Figure 3 illustrates the implementation and reporting structure of a multi-stakeholder decision-making and implementation platform. The district health planning coordinating meeting is the apex platform for the overall planning and coordination of the district health agenda. This is an existing platform, which is convened annually by the DHD to discuss and strategize for yearly activities. Most of the relevant departments within the district are invited to participate in this meeting to ensure a broader involvement and coordination. In order to ensure that there is concrete synergy and coordination of health activities in the district, the DHMT/DHAT should draw their plans and activities from the outcome of the district health planning coordinating meeting. This will reduce possibilities of duplication of efforts and overconcentration on limited activities and areas. In the same light the community health committees and community volunteers will be guided by programs of the DHAT/DHMT.

Invariably, the DHD will provide the overall guidance and serve as a catalyst to all the tiers (as stated above), with possible direct engagements based on their own work plans and schedules. Within this structure is a reporting regime, which is based on the fact that once a lower tier draws its activities from a higher tier, it behaves that tier to report to the higher tier on the outcomes and outstanding issues to be completed. This can serve as an accountability mechanism to ensure that activities are completed and expected outcomes are achieved. It is also a monitoring and evaluation mechanism that will ensure that progress of activities are tracked, whilst challenges are identified early and addressed.

Based on the fact that the DHD is the focal institution on health, it can monitor and demand for results of assigned activities as a result of its direct engagements with these tiers. Importantly, the structure shows the connectedness between the regional and national health directorates to the district level, as well as the national and regional interagency committees to the equivalent district level platforms. The DHD will serve as a conduit through which national programs will be carried out at the district level, based on the structured collaboration with local and district level institutions.

Figure 3: Multi-stakeholder decision-making and implementation structure
It is important to note that the inclusion of the district, regional and national health directorates in figure 3, is to ensure technical guidance to the different tiers of inter-agency committees. Thus, these focal institutions will serve as the catalyst to mobilise resources and generate overall direction with regard to the management of climate related health issues.

**Governance**

At the heart of the sustainability of the above structure are its governance arrangements. This entails the entire planning, decision making and execution/implementation activities that are engaged in order to have a functioning system. It is important to ensure ownership and transparency at all levels, so as to realize concrete results and achievements on the ground. This brings the legitimacy of these arrangements to focus. However, this could be handled more easily, due to the fact that all the tiers are existing platforms which have been long established as part of the management arrangements for the delivery of health at the districts. What was lacking was the fact that there was limited coordination, which resulted in duplication of efforts and underutilization of limited resources. Thus, there is the need to reorient these institutions to make them effective. In spite of the fact that most the tiers are existing and functioning platforms, concrete mechanisms which could be used to strengthen them should be seriously explored so that they do not suffer similar fates as most committees. One mechanism is to pass a district by-law to give the DHAT legitimacy 3, with a well-equipped secretariat under the supervision of the DHD, or an employee of the DHD who has additional responsibility for the day-to-day running of the DHAT. This will then be the official platform for coordinating all multi-stakeholder activities on health, with its work plans being drawn from the district health planning meetings and peculiar health challenges of the district.

With the involvement of traditional authorities and opinion leaders, the community health committees could rely on local governance systems based on the authority of chiefs and traditional governance systems to drive the programs of the committee. Figure 5 shows the elements of an effective governance structure. This is applicable at all the tiers. The actors refer to all the individuals or representatives of institutions who form the membership of the multi-stakeholder platform. The process encompasses the protocols, terms of reference and activities of the actors, while the system is the framework within which the actors implement the process, in this case a multi-stakeholder platform.

4 The DHAT at Gomoa West was set up by the DCD, with seed money to cover operational expenses coming from the Assembly. This is an effort of a particular regime, thus its continual existence and financing cannot be guaranteed if the regime changes. Hence the need for a more sustainable approach, which could be a bye-law.
Reporting regime and accountability

It is very important to establish sustainable mechanisms for regular feedbacks as a means of monitoring and evaluating evidence of results achieved. Because implementation of the various activities of the tiers will be drawn from the higher ones, the lower tiers could report to the higher tiers and experiences gathered fed into the overall health planning platform. As these platforms take shape, it is important to figure out the reporting formats that will accompany the reporting structure that has been espoused in figure 3.

Developing a reporting format to accompany the reporting structure will serve as a means of demanding accountability from members of the tiers, which is a major drawback accounting for the low performance of most committees. Each tier could be accountable to the next higher tier, with the district health planning meeting being the ultimate platform to demand accountability of activities carried out and results achieved. The District Health Directorate (DHD) must provide the needed guidance and supervision of all health related activities in the district, including activities of the various tiers.

4.4.2 Regional level

At the regional level, the bilateral collaborations proved to be the most effective platform for engaging other agencies in the management of health issues, including climate related ones. It is therefore a mechanism that is highly encouraged and should be perfected. Regional Health Directors should therefore have adequate capacity in interpersonal skills and strategies for facilitating linkages with other institutions to ensure effective collaboration.

Though there have been some attempts at establishing multi-agency platforms in the regions, its sustenance and effectiveness has been difficult. This is largely because direct implementation of programs and activities take place at the district/municipal/metropolitan level, with the regions playing a supervisory role. Hence most of the collaborations appear to be diffused and not as compact as the district/municipal/metropolitan level. In spite of the difficulties in operationally sustaining a multi-stakeholder committee at the regional level, a regional multi-stakeholder platform could be established. This could be modeled around the REGSEC\(^4\) and could draw its authority from the Local Government Act, Act 462, with backing from the regional minister.

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\(^4\) REGSEC is established and backed by the security and intelligence agencies Act (Act 526). The districts and regions have invoked the powers of the Act to establish DISEC and REGSEC, with a full participation and operation of all related stakeholders.
and convened by the regional coordinating director. This will have similar governance and accountability structures as outlined for the district level. The Regional Health Director could function as the coordinator and provide technical direction and possibly a secretariat for the day to day running of the multi-stakeholder platform. This arrangement is to also ensure that the platform is institutionalized so it could outlive individuals and governments.

**Figure 6: A model structure for a regional health coordinating mechanism**

4.4.3 National level

Similar to the regional level, at the national level, the bilateral collaborations proved to be the most effective platform for engaging other agencies in the management of health issues, including climate related ones. However, just as the regional level, though there have been some attempts at establishing multi-agency platforms, its sustenance and effectiveness has been difficult.

Though the multi-stakeholder platform could prove to be useful in galvanizing resources and capacity of relevant institutions in the delivery of health nationally, we should be mindful of the fact that most national level functionaries are already over-burdened with numerous activities, travels and engagements, thus their availability for critical decision making could be limiting to the progress of any committee that they may be part of. Moreover, given that national level agencies operate at the policy level, inter-sectoral collaboration is diffused. Hence, there is the need to explore the possibility of strengthening established linkages which could be used as platforms for ensuring collaboration in the management of health issues in general and climate related ones in particular. This study therefore proposes four options which could be activated individually or engaged in concert in an effective collaboration to ensure adequate delivery of health services. These are:
Strengthened linkages with established platforms which have clear engagements with particular diseases or programs (such as the National Malaria Control Program).

Fully engaging the National Climate Change Committee to ensure collaboration with agencies in decision making and management of climate related diseases.

Strengthening the existing provisions to input critical health related issues in the national development planning agenda at the National Development Planning Commission.

Further utilizing the Annual Health Summit, as a platform to bring critical stakeholders on board to input into health planning and review activities.

There is the need to explore the possibility of strengthening the presence and reach of the National Malaria Control Program at the district and regional levels. Several activities are being implemented, including the distribution of bed nets. These activities should dovetail into the management of malaria as a climate related health issue. Fortunately this is a program that falls under the Ministry of Health hence it should be relatively easy to engage this collaboration. The Non Communicable Diseases Control Program could also be a platform to streamline the coordination and management of diseases, including climate related ones at the national level. However, this platform needs to be resuscitated and strengthened with the much need logistics, human and institutional capacity to play the leading role in providing useful platform for decision making on climate related health issues, which could be part of the diseases being managed by this unit. Other institutions such the Community Water and Sanitation could be brought into various discussions especially relating to malaria and diarrhea diseases.

The National Climate Change Committee is a multi-stakeholder platform at the national level which coordinates and takes the lead in decision making on issues related to climate change across all the sectors of the economy, including health. The Ministry of Health is fully represented on this committee; therefore it is an opportunity to engage other institutions on issues of effective collaboration and decision making in the management of the three focal climate related diseases.

The National Development Planning Commission (NDPC) is a vital platform to address health and development issues. Climate change impact on health has assumed a major developmental challenge, particularly malaria. Since the Ministry of Health and its agencies provide useful inputs into the national development planning strategy, it is important to use this opportunity to seek and mainstream collaboration in decision making at the highest level, which could trickle down to the grassroots level. It is also an opportunity to engage the NDPC in the planning of developmental strategies in the health sector.

Health sector review meetings could also be an additional platform for planning and coordinating issues pertaining to climate related diseases. With the needed direction, this platform could serve as a good opportunity for various stakeholders to input useful suggestions into the work plans of the national health delivery strategy. This could then pass through the channels of the GHS and trickle down to the districts where real implementation takes place. Also it could be a critical platform where effective linkages could be drawn with key partners and institutions for decision making on climate related diseases.
Determination of optimal institutional coordination mechanism for the management of climate change-related health risks
Conclusions and Recommendations
5.1 Conclusions

It is evident that the focal health institutions are collaborating with other institutions in the area of preventive/advocacy and curative health delivery. This is similar at the district, regional and national levels.

These collaborations are either bilateral or multi-stakeholder. Though both forms of collaboration exist, the bilateral collaboration is the strongest and the most effective. The multi-stakeholder collaborations are inter-agency committees, which are formed to provide effective planning, management and coordination of health related issues. However, in most of the study areas these inter-agency committees are not as efficiently operational as they were intended, whilst the bilateral collaborations are adhoc.

Also, though institutional capacity is fairly adequate, there is a clear need for human and logistical upgrades.

The leadership quality of the focal point of health is at the heart of the existing institutional collaboration. The most critical gap in the current institutional coordination is that most of the collaboration is centered on individual discretion. For effective, efficient and sustainable collaboration, there is the urgent need for an effective means to move the collaboration beyond individual discretion and personality interests.

5.2 Recommendations and road map for results generation at the pilot districts and their corresponding regions

Protection from climate change is part of a basic, preventive approach to public health, not a separate or competing demand. The public health community has a wealth of experience in protecting people from climate-sensitive hazards. Many of the most important actions are public health interventions of proven effectiveness, from controlling vector-borne disease, to providing clean water and sanitation. Widening the coverage of these measures will save lives now, and is a critical contribution to the global effort to adapt to climate change. Hence collaboration between the District Health Directorates, District Assemblies and their departments and units such as works department and the environment unit is so crucial. Strengthening of public health systems is already necessary; climate change makes this need even more critical. Today’s short-falls in providing basic public health services leave much of the population exposed to climate-related health risks. There is a need for additional investments to strengthen key functions and for forward planning to address the new challenges posed by climate change.

The following recommendations are therefore being made as strategies for effective collaboration;

- The DHAT model of Gomoa West is recommended for the district and regional levels, with a modification which captures improved reporting structure, reporting format and accountability mechanisms of all committee members.
- Strengthened institutional collaboration in disease surveillance, including the management of climate related diseases with volunteers, environment unit of the DA, Information Services Department, District Education Directorate, District Works Department, Community Water and Sanitation, NGOs, Faith-based Organisations, Religious Bodies, Traditional Authorities, and District Coordinating Directors. These institutions could be effectively captured as members of an interagency platform such as the DHAT for the planning, coordination and management of health issues.
- Addressing the impacts of climate related health risks present a fundamental challenge to decision-makers from the individual to community, district, regional and national levels. It requires leadership, and an unprecedented degree of collaboration between communities, district, regional and national institutions. The skills, capacity and shared values of the public health community in collaboration with all stakeholders can
make an important contribution to a fair and effective response to climate change and its impact on human health. Hence, formation of District, Regional and National interagency committees should be strengthened and backed by local by-laws or any such power, with clear roles and responsibilities to institutionalize it, and drive it beyond individual discretion and commitment.

- There is the need for the heads of all district, regional and national levels of the GHS to be constantly upgraded in leadership and effective management skills to ensure that collaborations with other agencies are handled with professionalism. It is also important to review these collaborations for gaps to be identified and addressed.

- The regional coordinating council must be brought into the picture to serve a fulcrum for the collaboration and at the same time provide platform for all the players to work in harmony. All attempts to create interagency committees should be championed by the district or regional administrations, with the health directorate only playing a catalytic role.

- Though the bilateral collaborations can be maintained as a short term and adhoc measure for the delivery of health care, it is important for structures to be put in place for a sustainable system that is grounded in the existing structures with accountable mechanisms to ensure effectiveness. Therefore, enacting by-laws and carefully modeling the inter-agency committees around the REGSEC and DISEC are medium to long term mechanisms that will ensure that these committees are institutionalized and clearly mandated to perform their role.

- Though logistics and financing could be huge stumbling blocks hindering the progress of the interagency committees, it is important that a mechanism is sought to Marshall resources across board in response to particular health challenges. For instance, once the inter-agency committee draws its annual plan, attempts could be made to harmonise it with the plans of individual institutions to leverage logistics and get some amount of financial boost for the implementation of actions plans, whilst efforts are put in place to generate adequate finances and resources.
Bibliography

 Determination of Optimal Institutional Coordination Mechanism for the Management of Climate Change Related Health Risks
As a multi-sectoral team, membership of the DHAT cuts across all decision making and policy implementing institutions from the public, private and non-governmental sectors of the district. Key among these are the District Assembly, the Decentralized Departments, the Ghana Health Service, the District Council of Chiefs and Queen Mothers, the District Council of Churches including the Muslim mission, private companies and non-governmental organizations engaged in health promotion activities.
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<td>Dr. Yaw Ofori-Yeboah</td>
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<td>Ibrahim Bisilki</td>
<td>Exec. Member</td>
</tr>
<tr>
<td>14</td>
<td>District Assembly (Presiding Member)</td>
<td>Hon. Anthony Eyiah Quansah</td>
<td>Member</td>
</tr>
<tr>
<td>15</td>
<td>District Assembly (DCD)</td>
<td>Peter Antwi-Boasiako</td>
<td>Member</td>
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<tr>
<td>16</td>
<td>Ghana Health Service (District Public Health Nurse)</td>
<td>Sarah Sarkwa</td>
<td>Member</td>
</tr>
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<td>17</td>
<td>Ghana Health Service (Health Information Officer)</td>
<td>Amy Takyi</td>
<td>Member</td>
</tr>
<tr>
<td>18</td>
<td>Department of Environmental Health</td>
<td>Francis Adarkwah</td>
<td>Member</td>
</tr>
<tr>
<td>19</td>
<td>District Disease Control Officer</td>
<td>Cletus Bayor</td>
<td>Member</td>
</tr>
<tr>
<td>20</td>
<td>Chemical Sellers association</td>
<td>J. S Acquah</td>
<td>Member</td>
</tr>
<tr>
<td>21</td>
<td>Water and Sanitation Department</td>
<td>Samuel Amakye</td>
<td>Member</td>
</tr>
<tr>
<td>22</td>
<td>Omanhene</td>
<td>Nana Akoto Fenyi X</td>
<td>Member</td>
</tr>
<tr>
<td>23</td>
<td>Queen Mother</td>
<td>Nana Aba Afoah</td>
<td>Member</td>
</tr>
<tr>
<td>24</td>
<td>Queen Mother</td>
<td>Nana Akoa</td>
<td>Member</td>
</tr>
</tbody>
</table>
Appendix 2: Questionnaire

Questions for field work

Determination of Optimal Institutional Coordination Mechanism For The Management Of Climate Change Related Health Risk

Objectives:
1. Define existing cross-sectoral coordinating mechanisms and structure for the management of climate change related health risks in Ghana at national, regional and district levels.
2. Describe existing capacities (technical, organizational) available at the various levels for managing climate change related health risks.
3. Identify gaps and recommend appropriate coordinating mechanisms for national, regional, and district level management of climate related health risks.
4. Provide a strategy for the gradual transformation and sustainability of existing structures into national, regional and district level structures to enhance the management of climate change related health risks.
5. Provide a roadmap for results generation at the pilot districts and corresponding regions.

Organizations to survey:
- Ministry of health
- Ministry of Water Resources Works and Housing
- Ministry of Food and Agriculture
- Ghana Health Service; regional and district directorates
- National health control programme staff of the malaria and Guinea worm control programmes national disease surveillance unit
- NADMO

Undertake formal and informal discussions on existing institutions involved in the planning and management of health risks at the local, district, regional and national levels and the linkages in their operations.
Questions:

1. Are you aware of a committee or set-up at the national, regional, district level responsible for management of health-related issues?
   
   Yes [  ]  No [  ]

   What's the name of the committee/setup?
   
   ........................................................................................................................................................................
   ........................................................................................................................................................................

2. Is your organization or a representative part of the committee?

   Yes [  ]  No [  ]

3. What are the major climate-related health risks your organization can identify: national, regional, district?

   ........................................................................................................................................................................
   ........................................................................................................................................................................

4. Any climate-related health programmes already underway which your organization is involved in? Name them.

   ........................................................................................................................................................................
   ........................................................................................................................................................................
   ........................................................................................................................................................................

5. Role of organisation
   
   i. Does your organization play any role in health related issues at the national, regional, district level?

       Yes [  ]  No [  ]

   ii. If yes to question 3:

       Briefly explain your role?

       ........................................................................................................................................................................
       ........................................................................................................................................................................
       ........................................................................................................................................................................

       Are you satisfied with your role?

       ........................................................................................................................................................................

   ........................................................................................................................................................................
What improvements can be made to enable you play your role effectively in the management of climate change related health risk?

iii. If no to question 3:

Do you believe you should have a role to play?

Yes [ ] No [ ]

6. What role do you envisage as your organization proper role in the management of climate change related health risk?

7. Which other organisations do you collaborate with in performing your health-related roles?

8. Are the clearly defined collaboration and linkages between your organization and the other collaborators?

Yes [ ] No [ ]

If yes: explain

NB: Collect an organogram or any material to support this, if available

If no: how do you ensure effective collaboration with other organisation?

9. Do you consider your organization well resourced (technical, organizational) to manage climate change related health risks?

Yes [ ] No [ ]

If Yes, explain:

Technical:
Organisational:

…………………………………………………………………………………………………………………………………………………

…………………………………………………………………………………………………………………………………………………

If yes, is there something else that could be done to even improve upon the organisation’s capacity to manage climate change related health risks?

Yes [ ] No [ ]

Explain

…………………………………………………………………………………………………………………………………………………

…………………………………………………………………………………………………………………………………………………

If no to question 9, what should be done to improve the organization’s capacity to manage climate change related health risks?

Technical:

…………………………………………………………………………………………………………………………………………………

…………………………………………………………………………………………………………………………………………………

Organisational:

…………………………………………………………………………………………………………………………………………………

…………………………………………………………………………………………………………………………………………………
Appendix 3: Collaboration in health care delivery at the District and Regional Levels: existence or absence of structures, and functionality Matrix
### District Level

<table>
<thead>
<tr>
<th>District Level</th>
<th>Gomoa West District</th>
<th>Keta Municipality</th>
<th>Bongo District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preventive and advocacy collaboration</td>
<td>Present</td>
<td>Absent</td>
<td>Present</td>
</tr>
<tr>
<td>Bilateral collaboration</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Multi-stakeholder collaboration</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Curative collaboration</td>
<td>Bilateral collaboration</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Multi-stakeholder collaboration</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

### Regional Level

<table>
<thead>
<tr>
<th>Regional Level</th>
<th>Central Region</th>
<th>Volta Region</th>
<th>Upper East Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preventive and advocacy collaboration</td>
<td>Present</td>
<td>Absent</td>
<td>Present</td>
</tr>
<tr>
<td>Bilateral collaboration</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Multi-stakeholder collaboration</td>
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<tr>
<td>Multi-stakeholder collaboration</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

### Key

1. **Existence of Structures**
   - ☑ Mark to indicate presence or absence of structure

2. **Level of Functionality**
   - Fair
   - Good
   - Very Good
Determination of optimal institutional coordination mechanism for the management of climate change related health risks
Determination of Optimal Institutional Coordination Mechanism for the Management of Climate Change Related Health Risks
SUMMARY

Besides the additional financing needed to make the health sector climate-proof, the absence of a coherent policy framework for addressing climate change related health risks, weak and fragmented technical and institutional collaboration at local and national levels necessitates the need for planned adaptive interventions even more urgent. Under the existing institutional collaboration, the bilateral collaboration proves to be the most effective, though it is adhoc, with the multi-agency committees being inefficiently functional as they were intended. In order to move these collaborations beyond individual discretion, it is important to establish multi-agency committees with the focal health institutions only acting as catalysts for effective institutional collaboration and decision-making. Invariably, the multi-stakeholder platform will only be effective if proper arrangements are made to ensure that it does not suffer the same fate as other committees which have been formed in time past. It is vital for this platform to be institutionalised, with a good sense of ownership by all parties involved, as well as a transparent system of governance and operation, which is accountable.

Context and importance of the problem

There is scientific evidence showing a direct influence of inter-annual and inter-decadal climate variability on the epidemiology of vector-borne diseases. Climate change has been shown to enhance the spread of infectious diseases by two key mechanisms: 1) global warming expands the geographic conditions conducive to transmission of vector-borne diseases, and 2) extreme events result in the proliferation of mosquito, water and rodent-borne diseases. Cholera was originally thought to be a disease purely associated with poor sanitation but recent revolutionary understanding suggest that beyond poor sanitation, other factors such as the environment, hydrology, and weather patterns also come into play. Despite the greater recognition of the negative effects of climate change to public health delivery, there has been little discussions of how public health organizations should implement and manage the process of planned adaptation.

In Ghana, the approaches to tackling climate change and human health issues have largely remained reactive, uncoordinated and characterised by an apparent lack of a well-defined strategic and policy interventions in the medium and long-term. Nevertheless, besides the additional financing needed to make the health sector climate-proof, the absence of a coherent policy framework for addressing climate change related health risks, weak and fragmented technical and institutional collaboration at local and national levels necessitates the need for corrective interventions even more urgent. This is further compounded by inadequate institutional coordination, with major institutions and key stakeholders acting unilaterally, duplicating efforts and over concentrating in limited areas, whilst equally impacted areas where interventions are needed are left out.

In view of the enormous challenges that changes in climatic variables present to the health of an already impoverished population, there is the need to optimize resources for maximum benefits. This requires measures to strengthen capacity and institutional collaboration at all levels to plan and manage diseases that are sensitive to climate change within a well-defined and strategic cross-sectoral policy framework in the medium and long terms, through collaborative information gathering and management approach.

How can the public health system in Ghana determine the adequacy or otherwise of existing institutional structures and arrangements for coordinating and directing activities aimed at responding appropriately to climate change related health risks? To do this, there is the need to (i) define existing cross-sectoral coordinating mechanisms and structure for the management of climate change related health risks in Ghana at
national, regional and district levels; (ii) describe existing capacities (technical, organizational) available at the various levels for managing climate change related health risks; and (iii) identify and address gaps with appropriate coordinating mechanisms for national, regional, and district level management of climate related health risks.

Critique of extant policy

“Creating Wealth through Health”, the National Health Policy of Ghana, designed within the context of Ghana’s vision of achieving middle income status by 2015 places health at the centre of socio-economic development and presents a clear shift in the role of health in the national and international development framework.

The policy focuses on the promotion of healthy lifestyles through good nutrition, regular physical exercise, recreation, rest and personal hygiene. The Policy further places healthy lifestyles within the context of the physical and social environments where people live, go to school and work; emphasizing potable water, sanitation, and safe food, housing and roads, as means of promoting good health and prevention of diseases and injury. It provides broad guidelines for the development of programmes by key stakeholders in health delivery in Ghana.

Because climate change related health risk issues are inadvertently, or one way or the other addressed in the mainstream public health delivery, it is a challenge to advocate for a dedicated focus in all aspects. The current health policy (“creating wealth through health”) is a very comprehensive one that touches on all segments of health delivery in Ghana. On ‘Capacity Development For Health Delivery’, the policy had an objective ‘to strengthen the capacity of the health system by investing and mobilizing resources, allocating them equitably and ensuring their efficient utilization’ in key areas such as Human resources (technical and managerial), Infrastructure, Equipment, Drugs, and Essential logistics. The policy measures for this component are silent on knowledge in climate-related diseases, although this is an emerging and critical area.

The policy rightly acknowledges governance and partnerships as important for the effective functioning of the health system and for achieving health sector objectives. It recognises governance arrangements...
such as institutions and their organizational structures; managerial processes including policy formulation, priority setting; resource allocation, planning, monitoring and evaluation; coordination mechanisms; performance assessment and accountability; and regulation. Although the policy objective on partnerships and governance is to ensure an enabling policy environment, incorporating accountable and performance-oriented institutions; and to provide effective collaborative partnerships within the health sector and with other MDAs, not much happens in this regard. This has mainly been because the right structures and channels for effective collaboration are not established and functioning.

Analysis Of Gaps And Strategies For Gradual Transformation And Sustainability Of Existing Structures

The national, regional and district directorates of the Ghana Health Service remain the focal points for Health planning, coordination and management; with varying collaborative arrangements with allied institutions and organisations. These collaborations are either bilateral or multi-stakeholder in ensuring curative delivery of health services and advocacy of good practices. Though both forms of collaboration exist, the bilateral collaboration is the strongest and the most effective. The multi-stakeholder collaborations are inter-agency committees, formed to provide effective planning, management and coordination of health related issues. However, in most of the study areas these inter-agency committees are not as efficiently operational as they were intended, whilst the bilateral collaborations are adhoc. The most critical gap in the current institutional coordination is the fact that most of the collaboration is centered on individual discretion. Hence, the need for an effective means to move the collaboration beyond individuals, with the focal health institutions only acting as catalysts for effective institutional collaboration. In ensuring a gradual transformation and sustainability of existing structures, there is the need to put in place good governance structures for decision-making in strengthening the management of climate change and health related issues at all levels (district, regional and national). The bilateral platform has proved to be the most effective existing mechanism for collaboration. However, as much as the multi-institutional platform is weak presently, it is a veritable mechanism whose benefits and overarching impacts cannot be discounted. Nonetheless, the multi-stakeholder platform will only be effective if proper arrangements are made to ensure that it does not suffer the same fate as other committees which have been formed in time past. It is vital for this platform to be institutionalised, with a good sense of ownership by all parties involved, as well as a transparent system of governance and operation, which is accountable.

Figure 2: A multi-stakeholder decision making and implementation Platform at the district level with clear linkages to the GHS as a catalyst for effective collaboration

1 Most of these committees only exist in name. They are highly dysfunctional with no commitment on the part of committee members to ensure delivery of outputs. They often start very well with good participation, and gradually transform into white elephants.

2 District Health Advocacy Team (DHAT)/District Health Management Team (DHMT) is a multi-stakeholder committee, with members drawn from all relevant institutions at the district, including government, NGO’s, faith-based organizations and private institutions.
Recommendations

- Strengthened institutional collaboration in disease surveillance involving volunteers, environment unit of District Assemblies, Information Services Department, District Education Directorate and the Community Water and Sanitation Program. These institutions should be effectively captured as members of an interagency platform for the planning, coordination and management of health issues.

- Formation of District and Regional interagency committees for health delivery should be strengthened and backed by local bye-laws or any such power, with clear roles and responsibilities to institutionalize them, and drive them beyond individual discretion and commitment.

- Heads of all district, regional and national levels of Ghana Health Service should be constantly upgraded in leadership quality skills and effective management skills to ensure that collaborations with other agencies are handled with professionalism. It is also important to review these collaborations for gaps to be identified and addressed.

- The Regional and District Coordinating Councils must be the fulcrum for collaboration and at the same time provide platform for all the players in the health sector to work in harmony. The district and regional administrations should champion creation of interagency committees, with the health directorate only playing a catalytic role.

- In moving beyond short term and adhoc measure for the delivery of health care, it is important to enact bye-laws and carefully model the inter-agency committees around the Regional Security Councils and District Security Councils. This will ensure that these committees are institutionalized and clearly mandated to perform their roles in the medium to long term

- To overcome the challenge of logistics and financing hindering the progress of the interagency committees, it is important that a mechanism is sought to marshal resources across board in response to particular health challenges. Once the inter-agency committee draws its annual plan, they must be harmonised with the plans of individual institutions to leverage logistics and financial boost for the implementation of action plans.

At the national level, four options are being proposed, which can be activated individually or engaged in concert in an effective collaboration to ensure adequate delivery of health services. These are;

i. Strengthened linkages with established platforms which have clear engagements with particular diseases or programs. For example, the National Malaria Control Program.

ii. Fully engaging the National Climate Change Committee to ensure collaboration with agencies in decision making and management of climate related diseases.

iii. Strengthening the existing provisions to input critical health related issues in the national development planning agenda at the National Development Planning Commission

iv. Further utilizing the Annual Health Summit, as a platform to bring critical stakeholders on board to input into health planning and review activities.
References: