MINISTRY OF HEALTH

HEALTH NATIONAL ADAPTATION PLAN (HNAP)

for

CLIMATE CHANGE

March 2026

Contents

List of Abbreviations

Abbreviation	
CCH/CC&H	Climate Change and Health
CSHO	Climate-Sensitive Health Outcome
CVD	Cardiovascular Diseases
DRM	Disaster Relief Management
DRR	Disaster Risk Reduction
EWS	Early Warning System
HCF	Health Care Facility
HCW	Health Care Waste
H&E	Health and Environment
HNAP	Health National Adaptation Plan
IDSR	Integrated Disease Surveillance Response
IRS	Indoor Residual Spraying
IVM	Integrated Vector Management
IPCC	Intergovernmental Panel on Climate Change
JTT	Joint Task Team for the Health and Environment Strategic Alliance
LLIN	Long-Lasting Insecticidal Net
L/M/A	Limited/Moderate/Adequate
M&E	Monitoring and Evaluation
NCCC	National Climate Change Coordinating Committee
NDC	Nationally Determined Contributions
NAP	National Adaptation Plan
PPPs	Policies, Plans, Programs

RTI	Respiratory Tract Infection
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
V&A	Vulnerability and Adaptation
WHO	World Health Organization
PHEMC	Public Health Emergency Management Committee

Foreword

Climate change represents one of the most pressing threats to global health in our time, and Ghana is no exception. Rising temperatures, erratic rainfall patterns, prolonged droughts and devastating floods, are no longer projections, they are realities confronting our nation. These changes are altering disease patterns, disrupting livelihoods, threatening food and water security, and placing unprecedented pressure on our health systems.

The health consequences are profound. We are witnessing heightened risks of vector-borne diseases such as malaria and dengue fever, waterborne illnesses such as cholera following floods, heat-related conditions, food insecurity and malnutrition, respiratory illnesses linked to environmental degradation, and mental health challenges associated with displacement and climate-related loss.

These impacts disproportionately affect women, children, the elderly, rural populations, coastal communities, and northern regions that are particularly climate vulnerable. As a result, climate change is not only an environmental issue but also a developmental challenge and a matter of social equity. Most importantly, it is a public health emergency that demands coordinated and sustained action.

As the Minister for Health, I am deeply aware that climate change threatens to undermine our collective progress toward Universal Health Coverage, reverse hard-won gains in disease control and widen existing inequalities. If left unaddressed, it has the potential to erode decades of investment in Ghana's health sector and slow the sustained progress made towards improved health outcomes.

It is against this backdrop, that I am proud to present Ghana's Health National Adaptation Plan (H-NAP) for Climate Change. The plan represents a bold, strategic, and evidence-based roadmap for building a climate-resilient health system within the medium-term. A plan that can anticipate, prevent, and respond effectively to climate-related health risks. It also reflects our collective commitment to protect the health of every Ghanaian and ensure that our health system remains strong, adaptive, and equitable in the face of a changing climate.

This Plan moves Ghana beyond conducting vulnerability assessment into decisive action. Developed through extensive consultations with key stakeholders, the H-NAP reflects a multisectoral and collaborative effort. It aligns with Ghana's National Adaptation Plan, the National Climate Change Policy, the Nationally Determined Contributions under the Paris Agreement, and international commitments such as the United Nations Framework Convention on Climate Change (UNFCCC) and the Alliance for Transformative Action on Climate and Health (ATACH).

The implementation of this Plan requires strong political leadership, adequate and predictable financing, innovation, and sustained partnerships. I therefore call upon my fellow Ministers, Members of Parliament, Regional and District Health Directors, healthcare professionals, development partners, civil society organizations, academia, and the private sector to join the Ministry of Health in translating this strategic vision into measurable impact.

With collective effort and unwavering commitment, this Health National Adaptation Plan will safeguard public health, protect our most vulnerable citizens, and secure a healthier and more climate-resilient future for generations to come.

HON. KWABENA MINTAH AKANDOH (MP)
MINISTER FOR HEALTH
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Executive Summary

Climate change presents a significant systemic threat to Ghana's health sector. Rising temperatures, erratic rainfall patterns, droughts, flooding, and extreme weather events are increasing the burden of climate-sensitive diseases, disrupting service delivery, and damaging critical infrastructure. These impacts undermine progress toward Universal Health Coverage, placing pressure on health infrastructure and deepen existing inequities, particularly among vulnerable populations. Strengthening climate-resilience is therefore a national public health and development priority for Ghana. .

The Health National Adaptation Plan (HNAP) provides a strategic framework to integrate climate considerations into health sector policies, planning, budgeting, and performance management. Aligned with the National Climate Change Policy, the National Adaptation Plan Framework, Ghana's Nationally Determined Contributions, and key health sector strategies, the Plan positions health as a central pillar of national climate adaptation efforts.

The objective of the HNAP is to build a climate-resilient health system capable of anticipating, preventing, responding to, and recovering from climate-related shocks. Using a systems-based approach consistent with the World Health Organization health system building blocks, the Plan outlines priority interventions across governance, health financing, workforce development, service delivery, supply chains, surveillance and information systems, and infrastructure planning.

The development of the Health National Adaptation Plan (HNAP) was informed by a comprehensive climate and health vulnerability assessment, epidemiological analyses, infrastructure risk profiling, and extensive stakeholder consultations. These consultations involved relevant ministries, departments and agencies, metropolitan, municipal and district assemblies, development partners, academia, and civil society organizations. This inclusive process ensured alignment with national development frameworks and facilitated the incorporation of sub-national vulnerability patterns and priorities

Priority risks identified include vector-borne diseases, water and food-borne diseases, heat-related illnesses, malnutrition, and the health impacts of extreme weather events. The Plan prioritizes enhanced climate informed surveillance and early warning systems, integration of meteorological and health data, climate-resilient infrastructure and logistics systems, strengthened emergency preparedness, climate responsive workforce training, and expanded research and innovation.

Sustainable financing is a central component, requiring alignment of domestic resources, climate finance mechanisms, and development partner investments. The HNAP emphasizes integrating climate-resilience into programme-based budgeting, public investment management, and infrastructure development. Stronger cross-sector coordination across health, environment, finance, local government, agriculture, water resources, and disaster management is required for effective implementation.

A monitoring, evaluation, and learning framework will track adaptation progress, ensure accountability, and support access to international climate finance. Successful implementation will reduce preventable morbidity and mortality, protect health infrastructure, enhance service continuity during climate shocks, and strengthen national health security. The HNAP represents a strategic commitment to build a resilient and future-ready health system that safeguards population health and sustains national development gains.

1. Introduction

1.1 Background

Climate change and climate variability have significant direct and indirect impacts on human health, with the long-term consequences rising from changes in temperature, rainfall patterns and the frequency of extreme weather events. These contribute to a conducive environment for the transmission of vector and waterborne diseases as well as exposure to environmental contaminants[1],[2].

The World Health Organization (WHO) estimates that these changing conditions are already causing over 150,000 deaths globally and expected to intensify as climatic hazards become more frequent and severe. Global assessments indicate that the capacity of national health systems and related sectors to anticipate, prevent and manage climate-sensitive health risks will be crucial to determine how communities experience the health impacts associated with climate hazards[3].This is particularly challenging in developing countries, where the prevalence of climate-sensitive diseases is high and adaptative capacity is limited.

In Africa, climate change adds to the already significant burden of climate-sensitive diseases, with malaria, malnutrition and diarrhoeal diseases disproportionately accounting for the high burden of disease. Many countries, including Ghana face persistent barriers in surveillance, early warning, and response systems for major outbreaks associated with climate variability. There are also critical gaps in information, education, and communication dissemination, disease monitoring, and preparedness for extreme weather events. As a result, health systems are unable to implement timely and coordinated responses to the growing climate-related risks, while the absence of a comprehensive strategic climate policy or climate-informed policy framework further limits opportunities to strengthen resilience across all levels of care.

Given this context, there is the need for more coherent health adaptation strategies to drive the health sector's actions on climate change. In response, the WHO Regional Committee for Africa (AFRO) has established a *Framework for Public Health Adaptation to Climate Change in the African Region*, urging member states to develop and implement Health National Adaptation Plans (HNAPs). These plans are intended to strengthen countries' preparedness through an essential package of interventions, including vulnerability assessments, capacity building, integrated surveillance platforms, public awareness initiatives, social mobilization, and environmental management approaches. The framework also emphasizes multisectoral collaboration and strengthening partnership towards evidence-informed adaptation planning.

Effectively addressing the health impacts of climate change requires a coordinated, multi-sectoral action, particularly with sectors whose policies and practices influence greenhouse gas emissions, land use, air quality, and the management of natural resources. Many of the major sources of greenhouse gas (GHG) emissions also emit harmful air pollutants, which provides opportunity for collaborative and integrated actions that improve both climate outcomes and public health.

[1] Chan, M. (Producer). (2014, 7/5/2015). How Climate Change Can Rattle the Foundations of Public Health. Retrieved from http://www.huffingtonpost.com/dr-margaret-chan/how-climate-change-can-ra_b_5822950.html

[2] Patz JA, Olson SH. Climate change and health: global to local influences on disease risk. Ann Trop Med Parasitol. 2006 Jul-Sep;100(5-6):535-49. doi: 10.1179/136485906X97426. PMID: 16899153.

[3] Campbell-Lendrum D, Corvalán C, Neira M. 2007, Global climate change: implications for international public health policy, available at: https://pmc.ncbi.nlm.nih.gov/articles/PMC2636241/

For health, co-benefits can be achieved through cleaner household energy (i.e., cleaner fuels and stoves), increased active transport, improved urban planning and diets that are both healthier and more sustainable.

This health adaptation action plan has therefore been designed to promote synergies and coordinated response across health-determining sectors such as food, water, energy, housing and environment sectors. It aims to strengthen the integration of climate-related health risks into health plans, programmes, and policies. This ensures that the health sector is well-positioned to protect populations from current and emerging climate-driven health risks.

1.2 Context and Rationale for Ghana's Health National Adaptation Plan (HNAP)

The National Adaptation Plan (NAP) process, established under the Cancun Adaptation Framework (CAF), enables countries to formulate and implement NAPs to identify medium- and long-term adaptation needs and develop strategies to address them. The NAP process is designed to be iterative, country-driven, gender-responsive, and participatory, which ensures that adaptation priorities reflect national contexts .

Within this framework, the World Health Organization defines a Health National Adaptation Plan (HNAP) as a strategic plan developed by a country's Ministry of Health as part of a country's broader national adaptation agenda. The development of Ghana's HNAP is important for several reasons, including:

- Prioritizing actions to address health impacts of climate change at all planning levels
- Strengthening integration of health sector considerations into national and international climate agendas, highlighting the health co-benefits of mitigation and adaptation in other sectors
- Promoting coordinated and inclusive climate and health planning across government levels and health-determining sectors
- Enhancing the health sector's access to international climate financing

The HNAP integrates health adaptation into national health planning strategies, processes, and monitoring systems, offering a flexible, context-specific approach.

1. 3 Regulatory and Policy Context for Climate Change and Health

Ghana's commitment to environmental protection and climate resilience is grounded in the 1992 Constitution, which enjoins duty bearers and citizens to protect and safeguard the environment. In addition, Ghana is party to several international environmental agreements, including the Convention on Biological Diversity, the United Nations Framework Convention on Climate Change (UNFCCC), and the United Nations Convention to Combat Desertification. Ghana's commitments also align with the Sustainable Development Goals (particularly SDGs 3, 11, and 13), the African Health Strategy (2016–2030), and the African Union Agenda 2063. It also aligns with the Belem health action plan for the adaptation of the health sector to climate change.

To domesticate these international commitments, Ghana has enacted several laws and regulatory instruments. These include the Control and Prevention of Bushfires Act (1990), the

Forest Plantation Development Fund Act (2000), and the Environmental Protection Agency Act (1994). The latter has now been revised into the Environmental Protection Act, 2025 (Act 1124), with an enhanced governance framework for climate adaptation. These frameworks provide entry points for integrating climate issues into health systems and strengthening resilience.

Ghana's national overarching Medium-Term National Development Policy Framework (2026-2029) also emphasizes mainstreaming climate change and biodiversity into the development planning process. Complementary policies include the National Climate Change Policy, National Climate Change Adaptation Strategy, National Adaptation Plan (2024), the Social Protection Policy (2016–2031), Revised Environmental Sanitation Policy (2024), and National Energy Policy (2021).

Within the health sector, the HNAP aligns with the National Health Policy (2020), Ghana's Roadmap for Attaining Universal Health Coverage (2020–2030), the Health Sector Medium-Term Development Plan (2026–2029) and the Health Infrastructure Strategic Plan (2024–2028). These frameworks ensure coordinated, integrated, and nationally grounded climate action to strengthen Ghana's health sector capacity to address climate-related risks..

1. 4 Development of Health National Adaption Plan (HNAP)

The Health National Adaptation Plan (HNAP) was developed under the leadership of the Minister for Health, with strategic oversight provided through the Climate Change & Health steering committee chaired by the Chief Director of the Ministry of Health. The day-to-day coordination was led by the Planning & Budget Unit within the Ministry's Policy Planning Monitoring & Evaluation Directorate, which served as the Secretariat. The unit supported a multidisciplinary and cross-sectorial Technical Working Group that contributed expertise throughout the development process.

The development of the HNAP followed an evidence-based and participatory approach. It was informed by major national assessments, including Ghana's Harmonised Climate Change and Health Vulnerability and Adaptation Assessment. The process involved extensive consultations within the health sector, other sector ministries, multilateral and bilateral development partners, civil society organizations. This inclusive approach ensured that the HNAP reflects national priorities and the diverse perspectives needed to strengthen Ghana's resilience to climate-related health risks

1.5 Situational Analysis

The situational analysis was informed by Ghana's Harmonised Climate Change and Health Vulnerability and Adaptation (V & A) assessment, which underpins the development of the Health National Adaptation Plan (HNAP). It assesses climate risks, levels of adaptive capacities, and system gaps across the health system using the WHO climate-resilient health system framework.

1.5.1 Leadership and Governance: The adaptive capacity of the health sector to respond to climate change impacts is constrained by fragmented institutional arrangements and the absence of a cohesive strategic framework across sectors. Currently, there is no standalone national climate change and health policy or action plan to guide coordinated action, and climate-related health considerations remain insufficiently integrated into relevant sectoral policies and programmes.

Within the health sector, a Climate Change and Health Steering Committee has been established at the national level to provide strategic direction and coordinate climate and health-related actions. However, the mechanism has not yet been fully operationalized across all levels of the health system. This limits effective coordination and implementation of climate and health adaptation measures and constrains the sector's ability to mobilize and access national and international support for financing, technology transfer, and technical expertise required to strengthen health system resilience.

1.5.2 Health Workforce: The health system's capacity to effectively respond to climate-related health risks is constrained by several human resource challenges. There is a shortage of specialised professionals in climate-sensitive health fields, including dermatology, respiratory health, and allergy-related conditions, as well as an inequitable distribution of skilled health workers who are largely concentrated in urban areas. Climate change and health considerations are also inadequately integrated into pre-service and in-service training curricula, limiting the preparedness of health professionals to address emerging climate-related health threats. In addition, there is currently no standardized training manual or guidance for training of health workers on climate change and health, and limited assessment of the specific capacity needs within the sector.

Addressing these gaps will require comprehensive training needs assessment across the country to identify priority competencies and inform the development of appropriate training materials and programmes. Given the complex and interrelated nature of climate-related health risks, strengthening technical capacities in areas such as health impact assessment, environmental epidemiology, air-quality monitoring, and risk assessment will be essential. Consequently, a medium- to long-term workforce development strategy is needed to guide the training, deployment, and retention of a climate-resilient and multisectoral health workforce capable of responding to emerging threats and supporting national adaptation priorities.

1.5.3 Climate and Health Financing: Despite the growing health risks associated with climate change, the health sector currently lacks adequate financial and technical capacity to mobilize, access, track and effectively manage climate finance. Limited domestic budget allocations, weak systems for tracking climate-related expenditures, and insufficient expertise in economic modelling, proposal development, and investment case preparation constrain the sector's ability to leverage both national and international climate funding opportunities. Strengthening institutional capacity in climate finance, including resource mobilization, financial tracking, and the development of evidence-based investment cases, will be critical to enabling the health sector to access emerging climate funds and implement priority adaptation actions.

1.5.4 Climate-Resilient and Sustainable Technologies and Infrastructure: Health system infrastructure in many parts of the country was not originally designed to account for the

increasing risks associated with climate variability and extreme weather events. As a result, many health facilities remain vulnerable to climate-related hazards such as flooding, extreme heat, storms, and water shortages. Existing national policies addressing climate-related issues do not comprehensively incorporate climate-resilient standards, technologies, and design considerations for health infrastructure. In addition, a nationwide assessment to determine the baseline climate resilience of health facilities has not been systematically conducted, limiting the ability of the health sector to identify vulnerabilities and prioritize investments in climate-resilient infrastructure.

Several structural and operational deficiencies continue to affect the resilience of health facilities. These include leaking roofs, inadequate protection against moisture and mould, insufficient water, sanitation and hygiene (WASH) infrastructure, and weak cold chain systems for vaccines and other temperature-sensitive commodities. The capacity of facilities to manage direct climate threats remains limited due to insufficient knowledge, technical capacity, and financial resources for flood risk management and climate-resilient infrastructure maintenance. Routine inspection schedules to detect structural deterioration are not consistently implemented, and many facilities lack contingency plans for the safe evacuation of patients and health personnel during disasters.

Coordination with disaster management agencies also remains limited, and systematic post-disaster assessments of structural damage to health facilities are not consistently undertaken. In addition, important data gaps persist regarding the condition of health infrastructure, the frequency of climate-sensitive disruptions to essential medicines and medical supplies, and the number of facilities that become damaged, inaccessible, or isolated during extreme weather events. These information gaps constrain evidence-based planning and limit the health sector's ability to anticipate and respond effectively to climate-related disruptions.

The availability of diagnostics, vaccines, and treatments is also insufficiently aligned with the management of key climate-sensitive health conditions, including heat-related illnesses, asthma, and chronic obstructive pulmonary disease (COPD). Shortages of essential medical commodities may intensify the health impacts of climate change, particularly in regions already vulnerable to climate variability and environmental stressors.

At the same time, the health sector contributes to climate change through its own environmental footprint. This is partly driven by the limited adoption of renewable energy technologies and environmentally sustainable practices within health facilities, including waste management systems and ecosystem-based interventions such as tree planting. Many health facilities also rely on energy-intensive systems and infrastructure that are not designed to be climate-sensitive or energy efficient. Addressing these gaps will require investments in climate-resilient and environmentally sustainable health infrastructure to ensure continuity of essential health services while reducing the sector's contribution to greenhouse gas emissions

1.5.5 Management of Climate-Sensitive Health Outcomes: The burden of climate-sensitive health outcomes is increasing, resulting in additional burdens on the health system. Traditional disease patterns are changing with meningitis spreading into new non-endemic areas while malaria incidence has remained high. While interventions for some zoonotic diseases remain low with regards to emerging threats – e.g., COVID-19, Ebola, Avian Flu, Mpox etc.

Simultaneously, environmentally induced non-communicable diseases – i.e., asthma, COPD, allergies are a growing concern due to environmental degradation and social disruption. For example, surveillance for allergic diseases is low and public awareness of the links between climate change, air pollution (from biomass fuels and harmattan dust), and health is also low.

Droughts, floods, and harmful practices (e.g., unregulated mining) can lead to chemical pollution, contamination of water sources, and water scarcity, putting people's health at risk. Climate change also acts as a threat multiplier – for example, drought can induce displacement and conflicts from herder migration, which are important factors influencing mental health issues and strains community resources.

The health system's ability to track, prevent, and respond to these risks is severely hampered by persistent systemic gaps. For example, surveillance systems are inadequate for recording data on allergic diseases, mental health, injuries from extreme weather, and food-borne illnesses. Preventative measures are also inadequate, as reflected in low awareness among food vendors, poor sanitation in key industries, and inadequate access to vital treatments like Anti-Snake Venom.

The broader economic and social toll is evident in lost productivity for workers, adverse reproductive health outcomes, and increased transportation accidents due to reduced visibility from dust and fog. Yet these impacts are poorly quantified. Ultimately, without robust surveillance, data integration, and targeted preventive interventions, the health system becomes more reactive and less responsive to climate-related health hazards or threats.

1.5.6 Integrated Risk Monitoring and Early Warning: The health system's ability to proactively anticipate and communicate risks is constraint by a lack of interoperability between disease surveillance systems and climate or early warning systems. Current health information systems such as DHIMS2 and SORMAS operate independently and are not linked to environment-related data systems, which affects real-time data fusion needed to predict outbreaks or health impacts triggered by environmental changes. In addition, there are no integrated, standardized indicators to track, monitor, and understand the evolving impact of climate change on health. Even when risks are identified, there is no unified cross-sectoral strategy for communicating these threats to the public and stakeholders, resulting in inconsistent messaging, public confusion, and missed opportunities for coordinated preventive action.

1.5.7 Emergency Preparedness and Management: There are gaps in operational planning within the health system. Although some regional-level multi-hazard and disaster preparedness plans exist particularly in flood-prone areas such as the Eastern and Volta Regions, their coverage remains limited despite the availability of costed national-level pre- and post-disaster emergency preparedness and recovery plans. These gaps undermine coordinated action across the health sector and constrain efforts to mobilize resources to strengthen preparedness, response, and resilience.

In addition, the needs of the health system are not systematically forecasted for climate-related events, which limits opportunities for post-disaster evaluation, learning, and continuous

improvement. The absence of clear contingency plans for the safe evacuation of patients and health personnel further leaves health facilities inadequately prepared to respond to immediate climate-related threats. These challenges are compounded by limited community engagement, as the public remains insufficiently informed and involved in addressing the health impacts of climate change.

1.5.8 Management of Environmental Determinants of Health: Climate change has direct and indirect risks to human health and community stability, with their cumulative impact often revealing serious weakness in existing health systems. Acute events such as storms, floods, and extreme heat can cause injuries, displacement, and death, including cutting off access or damaging health facilities. These can interact with slower-onset environmental changes (i.e., droughts and bushfires) to reduce food production and safe water and sanitation supplies, leading to poor health. Harmful practices such as uncontrolled mining, logging, and sand-winning lead to pollution, land degradation and create a conducive environment for conflicts over limited dwindling resources.

Several system barriers make these challenges worse, including a fragmented information system, limited climate-resilient planning for water safety and community infrastructure, weak evidence base on the environmental burden of disease and the lack of tools to track climate-health indicators. As a result, health impacts of environmental change are not adequately included in environmental regulations and land-use planning.

1.5.9 Monitoring Progress: The health system does not have a comprehensive national monitoring and evaluation framework including data infrastructure to track climate-related interventions. As a result, the process of reporting, monitoring and accountability is unstructured, culminating in ineffective evaluation and learning objectives. There is a need for a comprehensive national framework to help track the effectiveness of health-related climate change actions. Added to this, the health workforce does not have adequate capacity to evaluate climate and health interventions, affecting feedback essential for learning and improvement.

2. The HNAP: Vision, Mission, and Strategic Objectives

2.1 Vision

A climate-resilience health system for a healthy population for national development.

2.2 Mission

To build climate-resilient and adaptive health systems for a healthy population through enabling policies, sustainable financing, multi-sectoral collaboration and coordination, capacity building, evidence generation, and community ownership, and strengthened adaptation and resilience actions across health determining sectors.

2.3 Goal

The overall goal is to reduce climate-related health risks and strengthen health system resilience to advance universal health coverage.

The specific objectives are to:

- Strengthen governance and policy frameworks for climate change and health (CCH) adaptation.
- Build human resource capacity for climate-resilient health services.
- Mobilise and align sustainable domestic and international funding for CCH adaptation policies and programmes, including access to climate finance and integration into investment plans for health and health determining sectors.
- Ensure health infrastructure and technologies are resilient to climate impacts.
- Strengthen systems for assessing climate-health vulnerabilities and adaptive capacity.
- Strengthen prevent and management of diseases and conditions exacerbated by climate change.
- Develop integrated systems for disease surveillance and early warning, linking climate, environment and health data for timely decision making
- Enhance preparedness for climate-related health emergencies.
- Address environmental risk factors affecting health through coordinated multisectoral action under climate change.

2.4 Guiding principles

The HNAP is guided by the following principles:

- Multisectoral collaboration - recognising that effective management of climate-related risks requires coordinated actions across sectors such as health, environment, water, agriculture, energy, and disaster management actors.
- Strategic partnerships – engaging non-state actors (CSOs, industry, development partners) to co-design and deliver appropriate health interventions that strengthen population health and resilience.

- Equity and vulnerability responsiveness – applying equity analysis to identify and address demographic, geographical, socio-economic, and cultural factors that drive exposure and vulnerability to climate-sensitive health risks.
- Gender and disability inclusion – ensuring that women, men, people with disabilities, children, and older people who often face climate impact and have lower adaptive capacity are meaningfully included in planning, implementation, and monitoring.
- Community ownership and engagement – promoting active participation of communities in decision making, implementation, and monitoring to enhance ownership, sustainability, and responsiveness of climate and health interventions.

2.5 Key HNAP Components

The HNAP is structured around ten components, each addressing key areas of vulnerability and proposing adaptive actions. Below is a summary of each component.

Component 1: Leadership and Governance

Objective: Strengthen governance and policy frameworks for climate change and health (CCH) adaptation.

Key Actions:

- Establish and operationalize a multi-sectoral CCH steering committee at MoH.
- Designate regional environmental health coordinators as climate change focal points.
- Integrate the HNAP into the overall NAP and NDCs.
- Develop and adopt a standalone health sector Climate Change Policy.
- Revise the Public Health Act (2012) to integrate climate change risks.
- Mainstream CCH issues into national development policies and sector plans.
- Strengthen partnerships with global, regional, and national actors for resource mobilization.
- Ensure health sector representation in key climate change processes (e.g., UNFCCC COP meetings).

Component 2: Health Workforce

Objective: Build human resource capacity for climate-resilient health services.

Key Actions:

- Conduct assessment of health workforce needs to address climate-related health issues, or for climate-health risks
- Develop a standardized training manual for health personnel on Climate Change and Health based on the needs assessment
- Plan for health workforce size, skill mix, and equitable distribution to address climate-related health issues.

- Integrate climate change into health training curricula and introduce continuous professional development (CPD) courses.
- Institutionalize training on health vulnerability, impact assessment, and adaptation.
- Develop a database of staff with climate change expertise.
- Develop contingency plans for deploying health workers during climate emergencies.
- Implement gender-sensitive communication strategies to raise awareness on CCH.

Component 3: Climate and Health Financing

Objective: Mobilize and align sustainable domestic and international financing for CCH policies and programmes.

Key Actions:

- Mobilize resources for CCH policy development and implementation.
- Develop investment plans for prioritized HNAP actions and establish health and climate change expenditure tracking tools.
- Develop tools to screen funding proposals for climate-sensitive health impacts in key sectors (water, sanitation, food security).
- Enhance capacity to access international climate funds (e.g., Green Climate Fund, Adaptation Fund).
- Promote diverse financing mechanisms (green bonds, public-private partnerships).

Component 4: Climate-Resilient and Sustainable Technologies and Infrastructure

Objective: Ensure health infrastructure and technologies are resilient to climate impacts.

Key Actions:

- Revise health facility construction standards to align with climate risks.
- Conduct climate vulnerability assessments for health facilities.
- Promote climate-resilient design (e.g., green concepts) for new infrastructure.
- Develop robust drug information systems for climate-sensitive diseases.
- Accelerate the national health infrastructure plan.
- Promote renewable energy, water conservation, and sustainable waste management in health facilities.
- Improve digital health technologies (e-health, telemedicine) for system resilience.

Component 5: Vulnerability, Capacity, and Adaptation Assessment

Objective: Strengthen systems for assessing climate-health vulnerabilities and adaptive capacity.

Key Actions:

- Conduct comprehensive health vulnerability and adaptation assessments at population and facility levels, including children focused climate risk assessments.

- Develop baseline data on health system capacity for disaster response.
- Integrate climate and health data across sectors through data-sharing agreements.
- Use V&A results to prioritize adaptive actions and update regional adaptation plans.
- Establish iterative review mechanisms for the HNAP based on new evidence.

Component 6: Management of Climate-Sensitive Health Outcomes

Objective: Strengthen prevention and management of diseases and conditions exacerbated by climate change.

Key Actions:

- Scale up vector control (IRS, larviciding, bed nets) and vaccination for malaria and yellow fever.
- Improve zoonotic disease surveillance and response.
- Vaccinate at-risk populations for meningitis and enhance public education.
- Advocate for sustainable mining and agricultural practices to protect food security.
- Strengthen surveillance for respiratory, cardiovascular, and heat-related illnesses.
- Improve food and water safety systems and promote WASH initiatives.
- Enhance mental health and psychosocial support services for disaster-affected populations.
- Strengthening injury and accident surveillance linked to extreme weather events.

Component 7: Integrated Risk Monitoring and Early Warning

Objective: Develop integrated systems for disease surveillance and early warning for timely decision making.

Key Actions:

- Strengthen interoperability between health and environmental surveillance systems.
- Develop multi-hazard early warning systems for infectious disease epidemics.
- Establish databases and knowledge management systems for climate and health data.
- Update DHIMS2 to capture climate-sensitive health indicators, including children environmental health indicators.
- Develop and implement integrated risk communication strategies.
- Build capacity of health workers in using climate services for early action.

Component 8: Emergency Preparedness and Management

Objective: Enhance preparedness for climate-related health emergencies.

Key Actions:

- Develop cost emergency preparedness and response plans.
- Integrate climate-sensitive health risks into national disaster risk reduction strategies.

- Establish health sector contingency plans for extreme weather events.
- Reinforce health facilities in disaster-prone areas and ensure backup power supply.
- Strengthen community engagement, incorporate women and children involvement in local capacity building programs for climate change adaptation and disaster response
- Participate actively in national disaster management coordination mechanisms.

Component 9: Management of Environmental Determinants of Health

Objective: Address environmental risk factors affecting health through coordinated multisectoral action under climate change.

Key Actions:

- Conduct health impact assessments for policies in key sectors (transport, mining, agriculture, energy).
- Promote multi-sector approaches to water safety, waste management, food security, and air quality.
- Strengthen coordination through the Health and Environment Strategic Alliance (HESA).
- Enhance monitoring of water resources, vector breeding sites, and environmental pollutants.
- Develop and enforce regulations for air quality, sanitation, and waste management.
- Mainstream health into climate-resilient water safety plans and land-use policies.

3. HNAP Logical framework

Key Actions	Expected outputs	Time Frame				Indicators	Means of Verification	Lead Institutions	Contributing Institutions	Cost (GHS)	Cost (USD) @11.5
		Y1	Y2	Y3	Y4						
1. To strengthen governance and policy frameworks for climate change and health (CCH) adaptation											
Establish and operationalize a multi-sectoral CCH steering committee at MoH	A functional steering committee established	X	X	X	X	Number of CCHSC meetings organised	Minutes/ Reports of CCHSC meetings held, Annual workplan, TOR for committee	MOH	GHS, MEST/EPA, NDPC, DPs, MoF, Climate Change & Sustainability (Office of the President)	1,001,600	87,095.65
Designate regional environmental health coordinators as climate change focal points.	16 Regional occupational and health coordinators appointed and trained	X	X	X	X	Number of Regional occupational and environmental health coordinators appointed	Letters of Assumption of Duty	GHS	MOH, MESTI/EPA, Climate Related CSOs, DPs	899,200	78,191.30
							Routine appraisals			-	-
						Number of Regional occupational and environmental health coordinators trained	Training Reports			-	-
Integrate the HNAP into the NAP and NDCs.	HNAP activities integrated into	X				Number of HNAP activities	NAP and NDC documents	MOH/MEST/ EPA	GHS		-

Key Actions	Expected outputs	Time Frame				Indicators	Means of Verification	Lead Institutions	Contributing Institutions	Cost (GHS)	Cost (USD) @11.5
		Y1	Y2	Y3	Y4						
	the NAP and NDCs					included in the NAP and NDCs					
Develop and implement Health Sector Climate Change Policy	National Health Sector Climate Change Policy developed and implemented	X	X			Health Sector Climate Change Policy launched	Climate Change and Health Policy document	MOH/GHS	MEST/EPA, NDPC/ Climate Related CSOs, DPs	1,315,200	114,365.22
Integrate climate change risks into the Public Health Act (2012)	Climate change risks integrated into the Public Health Act	X	X	X	X	Proposal to integrate Public Health Act to include Climate Risk Public Health Act amended to integrate climate change risks	Amended Public Health Act	MOH	GHS, NDPC/ Climate Related CSOs, Parliament, AG's Department, DPs	2,400,000	208,695.65
Mainstream CCH issues into Health Sector Medium Term Development Plan (HSMTDP 2026-2029)	CCH issues integrated into the Health Sector Medium Term Development Plan (HSMTDP)	X				Number of CCH related issues integrated in the Health Sector Medium Term Development Plan (HSMTDP 2026-2029)	Health Sector Medium Term Development Plan (HSMTDP 2026-2029) document	MOH	GHS, DPs, NDPC, THs, CHAG, AMHSG, Psychiatric Hospitals, Private Health Facilities, HeFRA	-	-

Key Actions	Expected outputs	Time Frame				Indicators	Means of Verification	Lead Institutions	Contributing Institutions	Cost (GHS)	Cost (USD) @11.5
		Y1	Y2	Y3	Y4						
Strengthen partnerships with global, regional, and national actors for resource mobilization	Partnerships with global, regional, and national actors for resource mobilization strengthened	X	X	X	X	Number of MoUs signed with Development Partners / NGOs/CSOs	Signed MoU	MOH	GHS, MoF, DPs, Private Health Sector, CSOs, CCS - President	600,000	52,173.91
Ensure health sector representation in international climate change events (e.g., UNFCCC COP and subsidiary bodies meetings)	Health sector represented and visible in international climate change events	X	X	X	X	Number of International Climate Change events attended	Event reports submitted by health sector representatives	MoH/GHS	Private Sector, DPs, Parliament, CSOs, MoF, CCS- President	1,680,000	146,086.96
2. To build human resource capacity for climate-resilient health services.											-
Conduct training needs assessment on Climate Change & Health	Needs assessment conducted	**x**	**x**			Percentage of staff trained in climate and health	Needs assessment report	MOH/GHS	DPs, MEST	1,200,000	104,347.83
Develop training manual for climate change and health capacity building	Framework for training manual developed		**x**	**x**	**x**	Number of training for different staff cadre	Training manual	MOH/GHS	DPs, MEST	6,000,000	521,739.13

Key Actions	Expected outputs	Time Frame				Indicators	Means of Verification	Lead Institutions	Contributing Institutions	Cost (GHS)	Cost (USD) @11.5
		Y1	Y2	Y3	Y4						
Enforce implementation of Health Sector Staffing Norms to ensure equitable distribution to address climate-related health issues.	Health workforce equitably distributed to address climate-related health issues	X	X	X	X	Proportion of health workforce equitably distributed to address climate-related health issues	Health Workforce Distribution Report	GHS, THs, CHAG, AMHSG	MoH	657,600	57,182.61
Integrate climate change into health training curricula and introduce continuous professional development (CPD) courses (Pre-service and In-service training).	Training of health workforce on climate change enhanced	X	X	X	X	Number of Climate Change Topics integrated into the health training curricula	Health training curricula updated to include climate change topics	MOH	HTIU, GCPS, GCNM, GCPharm, Medical and Dental Council, Nurses and Midwives Council, Ghana Psychology Council, Pharmacy Council, Traditional Medicine Practice Council, Academia, DPs	6,000,000	521,739.13
						Number of health workforce trained on climate change and health	Training Reports				
						Number of Climate Change CPD course developed and implemented	Climate Change CPD curricula				

Key Actions	Expected outputs	Time Frame				Indicators	Means of Verification	Lead Institutions	Contributing Institutions	Cost (GHS)	Cost (USD) @11.5
		Y1	Y2	Y3	Y4						
Update the National Public Health Emergency Contingency Plans to include measures for deploying health workers during climate emergencies.	National Public Health Emergency Contingency Plans updated to include measures for deploying health workers during climate emergencies	X	X	X	X	SOP developed for deploying health workers during climate related disease outbreaks	Contingency Plans for deploying health workers during climate related disease outbreaks	GHS	MOH, CHAG, AMHSG, GMET, NADMO, Academia	1,200,000	104,347.83
3. To secure sustainable funding for CCH policies and programmes.											-
Mobilize resources for CCH policy development & implementation	CCH policy development and implementation adequately budgeted for in the health sector budget	X	X	X	X	% of allocated funds disbursed for the development and implementation of CCH policies	Annual/ Quarterly Health Sector Financial Statement document	MoH/MOF	GHS, DPs, Parliament, Climate Related CSOs		
	Climate Change Resource Mobilisation Strategy developed and implemented					% of Climate Change Resource Mobilisation Strategy implemented	Periodic report on Climate Change Resource Mobilisation Strategy implementation			822,000	71,478.26

Key Actions	Expected outputs	Time Frame				Indicators	Means of Verification	Lead Institutions	Contributing Institutions	Cost (GHS)	Cost (USD) @11.5
		Y1	Y2	Y3	Y4						
Develop investment plans for prioritized HNAP actions and track expenditures incurred on health and climate change	Investment plans for prioritized HNAP actions developed	X	X	X	X	Number of investment plans developed and implemented, Number of reports generated from resource mapping and expenditure tracking tool on health and climate changes issues	Investment plans, Expenditure reports	MoH/GHS	DPs, Climate Related CSOs, MoF	600,000	52,173.91
	Expenditures incurred on Health and climate change tracked					Number of reports generated from the health and climate change expenditure tracking tools	Reports generated from Health and climate change expenditure tracking tools				
Improve capacity to access international climate funds	Institutional capacity in the development of proposal for accessing international	X	X	X	X	Number of well-developed funding proposals submitted and approved	Copy of approved funding proposals	MoH/GHS	DPs, Climate Related CSOs, MESTI/EPA, MoF	822,000	71,478.26

Key Actions	Expected outputs	Time Frame				Indicators	Means of Verification	Lead Institutions	Contributing Institutions	Cost (GHS)	Cost (USD) @11.5
		Y1	Y2	Y3	Y4						
(e.g., Green Climate Fund)	climate funds (e.g., Green Climate Fund) built										
4. To ensure health infrastructure and technologies are resilient to climate impacts.											-
Revise health facility construction standards to align with climate risks and green building concepts.	Health facility construction standards revised to aligned with climate risks	**X**	**X**	X	X	Number of climate risks integrated into the revised standards by type of facility.	Revised health facility construction standards.	MOH, HeFRA, GHS	Ghana Standard Authority (GSA), EPA	600,000	52,173.91
						Revised health facility construction standards approved and disseminated.	Site inspection report				
						Number of new health infrastructure projects that are climate resilient					

Key Actions	Expected outputs	Time Frame				Indicators	Means of Verification	Lead Institutions	Contributing Institutions	Cost (GHS)	Cost (USD) @11.5
		Y1	Y2	Y3	Y4						
Promote renewable energy, water conservation, and sustainable waste management in health facilities.	Health facilities equipped with operational renewable energy systems, water-saving technologies, and sustainable healthcare waste management practices.	**X**	**X**	**X**	**X**	Number of targeted health facilities implementing renewable energy, water conservation, and sustainable waste management systems.	Monitoring and installation Reports	MOH, GHS, HeFRA	EPA, MWHWR, Ministry of Local Government, Chieftaincy & Religious Affairs (MLGCRA)	1,000,000	86,956.52
5. To strengthen systems for assessing climate-health vulnerabilities and adaptive capacity.											-
Conduct comprehensive health vulnerability and adaptation assessments at population and facility levels including children-focused climate risk assessment.	Comprehensive health vulnerability adaptation assessments conducted at population and facility levels	**X**	**X**	X	X	Health vulnerability adaptation assessments tools.	Health vulnerability adaptation assessments reports.	MoH/ GHS	GSS	1,800,000	156,521.74
						Number of health facilities assessments done using the tools.	Stakeholder engagement and validation report.				
						Number of regions/districts with completed population					

Key Actions	Expected outputs	Time Frame				Indicators	Means of Verification	Lead Institutions	Contributing Institutions	Cost (GHS)	Cost (USD) @11.5
		Y1	Y2	Y3	Y4						
						level assessments by ecological zones					
Develop regional adaptation plans based on V&A results	Regional adaptation plans developed using prioritized adaptive actions based on the V&A results			**X**	X		Regional adaptation plan document	MoH/ GHS	GSS, EPA	2,400,000	208,695.65
6. To strengthen management of diseases and conditions exacerbated by climate change.											-
Scale up vector control (IRS, larviciding, bed nets) and vaccination for malaria and yellow fever.	Improved population-level protection against malaria and yellow fever, resulting in decreased morbidity and mortality."	**X**	**X**	**X**	**X**	Percentage of households in targeted areas protected by at least one effective vector control intervention (IRS, larvicide, or insecticide-treated bed nets)	Vector control implementation reports.	MoH/ GHS	Ministry of Local Government, Chieftaincy and Religious Affairs (MLGCRA), Zoomlion	24,000,000	2,086,956.52

Key Actions	Expected outputs	Time Frame				Indicators	Means of Verification	Lead Institutions	Contributing Institutions	Cost (GHS)	Cost (USD) @11.5
		Y1	Y2	Y3	Y4						
						Number of insecticides treated bed nets distributed to household in malaria endemic areas	Community engagement report				
Improve zoonotic disease surveillance and response.	Zoonotic disease surveillance and response enhanced to detect, report, and respond to zoonotic disease outbreaks	X				Percentage of suspected zoonotic disease events detected and reported.	Zoonotic surveillance report	MoH/GHS/Veterinary		1,200,000	104,347.83
						Number of active zoonotic disease surveillance activities undertaken over time					
Vaccinate at-risk populations for meningitis and enhance public education.	Increased protection of at-risk populations against meningitis, and enhanced vaccination coverage and	X	X	X	X	Proportion of at-risk population vaccinated against meningitis	Meningitis vaccination report.	MoH/GHS	NCCE	672,000	58,434.78
						Number of community engagement	Meningitis health promotion report				

Key Actions	Expected outputs	Time Frame				Indicators	Means of Verification	Lead Institutions	Contributing Institutions	Cost (GHS)	Cost (USD) @11.5
		Y1	Y2	Y3	Y4						
	public awareness.					and sensitization on meningitis held					
Strengthen surveillance for respiratory, cardiovascular, and heat-related illnesses.	Improved surveillance and response for respiratory, cardiovascular, and heat-related illnesses	X	X	X	X	Number of standardised case definition and reporting tools.	Case definition reporting tool	MoH/GHS		1,312,000	114,086.96
						Percentage of health facilities submitting complete and timely surveillance data on respiratory, cardiovascular, and heat-related illnesses.	Surveillance report				
Improve food and water safety systems and promote WASH initiatives.	Reduced disease burden of food and water-borne diseases and improved WASH practices	X	X	X	X	Number of food and water safety surveillance undertaken in facilities	Facility maintenance report	MoH/GHS	MWHWR	3,600,000	313,043.48
						Percentage of health facilities with functional	WASH survey report				

Key Actions	Expected outputs	Time Frame				Indicators	Means of Verification	Lead Institutions	Contributing Institutions	Cost (GHS)	Cost (USD) @11.5
		Y1	Y2	Y3	Y4						
						safe drinking water services.					
						Percentage of facilities with managed sanitation facilities.					
Enhance mental health and psychosocial support services for disaster-affected populations.	Improved psychosocial well-being and access to mental health support for disaster-affected populations.	X	X	X	X	Number of disasters affected individuals receiving psychosocial support.	Patient registration and attendance report	MoH/GHS		378,000	32,869.57
						Number of trained MHPSS personnel deployed and providing services.	Training report				
						Percentage of targeted health facilities providing MHPSS.	Annual performance reports				

Key Actions	Expected outputs	Time Frame				Indicators	Means of Verification	Lead Institutions	Contributing Institutions	Cost (GHS)	Cost (USD) @11.5
		Y1	Y2	Y3	Y4						
Collaborate with relevant institutions to improve on injury and accident surveillance linked to extreme weather events.	Improved surveillance and coordination for injuries and accidents related to extreme weather events	**X**	**X**	**X**	**X**	Percentage of injury and accident cases related to extreme weather events reported on time	Surveillance assessment reports	MoH/GHS	National Road Safety Authority, National Ambulance Service, Ghana Police service	378,000	32,869.57
7. To develop integrated systems for disease surveillance and early warning.											-
Establish an interoperability between health and environmental surveillance systems.	An operational system that links health and climate variables developed		X	X	X	A functioning climate health surveillance system: Number of surveillance data system integrated	Integrated Surveillance Reports	MoH/GHS	EPA, GMET, NADMO	12,000,000	1,043,478.26
Develop multi-hazard early warning systems for infectious and non-	Early Warning Systems or alert triggers developed and implemented		X	X	X	Number of alert systems developed; Number of DHIMS2	Alert reports Annual reports Program reviews	MoH/GHS	Research & Academic institutions, EPA, GMET, NADMO,	493,200	42,886.96

Key Actions	Expected outputs	Time Frame				Indicators	Means of Verification	Lead Institutions	Contributing Institutions	Cost (GHS)	Cost (USD) @11.5
		Y1	Y2	Y3	Y4						
infectious disease epidemics.	Dashboards and mobile-based apps; SMS alerts developed					dashboards integrating climate data			Development partners (WHO, etc)		
						Number of functioning alert systems					
Establish knowledge management systems for climate and health data.	An integrated repository, set of tools, templates, and reporting formats developed. IT systems are developed and disseminated, and in use.		X	X	x	Number of knowledge products developed,	Monitoring reports	MoH/GHS	Research & Academic institutions, EPA, GMET, NADMO, Development partners (WHO, etc), NDPC, GSS	12,000,000	1,043,478.26
						Number of knowledge products in use	Forum reports				
						Number of dissemination forums organised	Meeting reports				
Incorporate climate-sensitive health indicators in DHIMS2	DHIMS2 updated to capture climate-sensitive health indicators	X	X	x	x	Number of climate-sensitive health indicators captured in DHIMS2	Monitoring the system	MoH/GHS	EPA, GMET, NADMO, Development partners (WHO, etc)	144,000	12,521.74
							Reports from DHIMS2				
							Reporting tools				
Develop communication strategies for Climate related issues	Communicatio n strategies for climate related issues		X	x		Number of integrated risk communication strategies developed	Meeting reports Reporting tools	MoH / GHS	Research and Academic Institutions, EPA, GMET, NADMO, Development	493,200	42,886.96

Key Actions	Expected outputs	Time Frame				Indicators	Means of Verification	Lead Institutions	Contributing Institutions	Cost (GHS)	Cost (USD) @11.5
		Y1	Y2	Y3	Y4						
						Number of integrated risk communication strategies in use			partners (WHO, etc), Academic Institutions, EPA, GMET, NADMO, Development partners (WHO, etc)		
8. To enhance preparedness for climate-related health emergencies.											-
Develop costed emergency preparedness and response plans for climate related emergencies	Costed emergency preparedness & response plan developed & implemented for climate related emergencies	X	X	X	X	Number of costed emergency preparedness and response plans developed and implemented	Costed emergency preparedness and response plan document	MoH/GHS	EPA, GMET, NADMO	493,200	42,886.96
Integrate climate-sensitive health risks into national disaster risk reduction strategies.	Integrate climate-sensitive health risks into national disaster risk reduction strategies		X	X		Number of climate-sensitive health risks integrated into national disaster reduction strategies developed and implemented	Policy documents, policy briefs and other related publications	MoH / GHS	EPA, GMET, NADMO	493,200	42,886.96

Key Actions	Expected outputs	Time Frame				Indicators	Means of Verification	Lead Institutions	Contributing Institutions	Cost (GHS)	Cost (USD) @11.5
		Y1	Y2	Y3	Y4						
	Assessment tools for health risk in disaster planning is developed					Number of assessment tools for health risk in disaster planning developed and implemented	Assessment tools				
Reinforce health facilities in disaster-prone areas and ensure backup power supply.	Health facilities in disaster-prone areas reinforced	X	X	X	X	Percentage of Health facilities in disaster-prone areas reinforced	Reports (Monitoring, auditing etc)	MoH/GHS, Association of Private Hospitals, CHAG, Public/Private service delivery agencies	EPA, NADMO, GMET, NGOs	12,000,000	1,043,478.26
	Backup power supply reinforced					Percentage of facilities with functional backup power supply	Monitoring Visits records Facility assessment reports				
Strengthen community engagement and local capacity for disaster response.	Community engagement and local capacity for the disaster response plan developed	X	X	X	X	Number of Community Action Plans developed	Community Action Plans	MOH/GHS	EPA, GMET, NADMO, NGOs	2,400,000	208,695.65
						Percentage of community engagements held	Engagements Reports				
						Number of Individuals reached					

Key Actions	Expected outputs	Time Frame				Indicators	Means of Verification	Lead Institutions	Contributing Institutions	Cost (GHS)	Cost (USD) @11.5
		Y1	Y2	Y3	Y4						
Incorporate women and child participation and empowerment under community training and awareness creation on climate change and health	Women and Children empowered on Climate Change and Health	x	x	x	x	Percentage of community engagements held	Engagements Reports	MOH/GHS	EPA,NADMO,NGO	2,500,000	217,391.30
Participate actively in national disaster management coordination mechanisms.	Health sector participated in the national management coordination	X	X	X	X	Number of national coordination meetings attended	Minutes/ Reports from meetings held	MOH/GHS/ NADMO	EPA, Coalition of NGOs in Health	600,000	52,173.91
	Involved in simulation exercise(s)					Number of simulation exercises participated in					
	Health sector participated in the national disaster technical advisory platform					Number of national disaster technical advisory platforms					

Key Actions	Expected outputs	Time Frame				Indicators	Means of Verification	Lead Institutions	Contributing Institutions	Cost (GHS)	Cost (USD) @11.5
		Y1	Y2	Y3	Y4						
9. To address environmental risk factors affecting health under climate change.											-
Conduct health impact assessments for policies in key sectors (transport, agriculture, energy).	Health impact assessments incorporated into key sector policies	X	X	X	X	Number of impact assessments conducted	Reports (review, assessment etc)	MOH/GHS	Ministries of Transport, Agriculture and Energy, Research and Academic institutions	493,200	42,886.96
						Number of sectors that have incorporated health policies	Sector Policy documents and briefs				
Promote multi-sector approaches to climate resilient water safety plans, waste management, food security, and air quality.	A multi-sectoral coordination mechanism established for key sectors	X	X	X	X	Number of coordination mechanisms among various sectors established	Reports, Advocacy reports	MOH/GHS/ EPA	NDPC, NADMO, GMET, MOFA, MWHWRs, MLGCRA (Sanitation), Research and Academic Institutions, WRC EPA	822,000	71,478.26
	Advocacy for multi-sectoral approaches to water safety, waste management, food security, and air quality championed					Number of Advocacy sessions conducted	Meeting minutes, Advocacy Plans				
	Integrated action plans developed					Number of integrated action plans					

Key Actions	Expected outputs	Time Frame				Indicators	Means of Verification	Lead Institutions	Contributing Institutions	Cost (GHS)	Cost (USD) @11.5
		Y1	Y2	Y3	Y4						
						developed and implemented					
Enhance monitoring of water resources, vector breeding sites, and environmental pollutants.	A multi sector integrated monitoring system established	X	X	X	X	Number of multi sectorial monitoring tools developed	Joint monitoring reports	NDPC, MOH/GHS	WRC, EPA, MLGCRA, GMET, MEST	2,400,000	208,695.65
	Regular monitoring and surveillance reports produced					Number of monitoring visits conducted	Integrated monitoring tools Integrated monitoring checklist/database				
Collaborate with relevant Agencies to enforce regulations for air quality, sanitation, and waste management.	functional enforcement mechanism in place.	X	X	X	X	Number of meetings	Updated regulation documents Reports (Compliance, monitoring, audit, inspection logs)	EPA, MEST, MSWR, MLGCRA	MOH/GHS, DVLA, MMDAs, Local gov't services, WRC, GWC, Ghana Police Service	493,200	42,886.96
Grand-Total										**110,362,800**	**9,596,765.22**

Monitoring & Evaluation Logical Framework

The purpose of this M&E framework is to develop a comprehensive M&E framework for monitoring and evaluating the HNAP implementation. It will also:

- Identify and prioritize climate change and health indicators for national reporting.
- Facilitate the integration of HNAP indicators into existing health sector M&E systems (e.g., DHIMS2).
- Contribute to institutional capacity building for M&E of climate-health interventions, and
- Establish clear reporting mechanisms at sectoral, national, and international levels.

HNAP Objectives	Actions	Indicators	Data Source	Baseline	Target	Frequency of reporting (M,Q,Y)	Responsible
				2025	2029		
	Component 1: Leadership and Governance						
Strengthen governance and policy frameworks for climate change and health (CCH) adaptation	Establish and operationalize a multi-sectoral CCH steering committee at MoH	Number of CCHSC meetings organized	MoH Climate Change Desk Office	1	16	Annual	MoH
	Designate regional environmental health coordinators as climate change focal points.	Number of Regional occupational and health coordinators appointed	Occupational and Environmental Health Unit, GHS	16	16	Annual	GHS
		Number of Regional occupational and health coordinators trained	Occupational and Environmental Health Unit, GHS	N/A	16	Annual	GHS/MoH
	Integrate the HNAP into the overall NAP and NDCs.	Number of HNAP activities included in the NAP and NDCs	MESTI - NDCs and EPA - NAP documents	N/A	NAP =8, NDCs=4	Once	MoH
	Develop and implement Health Sector Climate Change Policy	Health Sector Climate Change Policy	MoH Climate Change Desk Office	Draft HNAP document	Final Climate Change and	Annual	MoH/ GHS

HNAP Objectives	Actions	Indicators	Data Source	Baseline	Target	Frequency of reporting (M,Q,Y)	Responsible
				2025	2029		
		developed and launched			Health Policy documents		
	Integrate climate change risks into the Public Health Act (2012)	Proposal submitted to amend the Public Health Act (2012) to integrate climate change risks	MoH Climate Change Desk Office	Public Health Act (2012)	Amended Public Health Act which includes climate change risk	Annual	MoH/ GHS
	Mainstream CCH issues into Health Sector Medium Term Development Plan (HSMTDP 2026-2029)	Number of CCH related issues integrated in the Health Sector Medium Term Development Plan (HSMTDP 2026-2029)	MoH/PPME	N/A	8	Annual	MoH
	Strengthen partnerships with global, regional, and national actors for resource mobilization.	Number of MoUs signed with Development Partners / NGOs/CSOs	MoH/PPME	N/A	5	Annual	MoH
	Ensure health sector representation in international climate change events (e.g., UNFCCC COP and subsidiary bodies meetings)	Number of International Climate Change events attended	MoH/PPME	N/A	2 funding sources	Annual	MoH/GHS
		Amount of dedicated budget line allocated for health sector participation in climate change meeting	MoH/PPME	N/A	At least GHC500,000 earmarked for health sector participation in climate change meeting	Annual	MoH/GHS

HNAP Objectives	Actions	Indicators	Data Source	Baseline	Target	Frequency of reporting (M,Q,Y)	Responsible
				2025	2029		
		Number of delegation slots reserved for health representation during key climate change processes	MoH/PPME	3	5	Annual	MoH/GHS
	Component 2: Health Workforce						
To build human resource capacity for climate-resilient health services	Plan for health workforce size, skill mix, and equitable distribution to address climate-related health issues.	Number of meetings held to develop guideline/ strategies to streamline health workforce, skill mix and equitable distribution to address climate-related health	MoH/ GHS	N/A	1	Once	MoH/ GHS
	Integrate climate change into health training curricula and introduce continuous professional development (CPD) courses.	Number of Climate Change Topics integrated into the health training curricula	HTIU	N/A	5	Annually	HTIU
		Climate Change CPD course developed	GCNM/ GCPS/ GCPharm	N/A	1	Once	GCNM/ GCPS/ GCPharm
	Institutionalize training on health vulnerability, impact assessment, and adaptation.	% of health workforce trained on health vulnerability, impact assessment, and adaptation	GHS	N/A	25%	Quarterly	GHS/MOH
		Number of training sessions on health	GHS	N/A	64	Annually	GHS/MOH

HNAP Objectives	Actions	Indicators	Data Source	Baseline	Target	Frequency of reporting (M,Q,Y)	Responsible
				2025	2029		
		vulnerability, impact assessment, and adaptation measures organized					
	Update and map health staff with climate change expertise in the HRIMS	List of mapped health staff with climate change expertise in the HRIMS	GHS/HRMIS	N/A	4	Annually	GHS
	Develop contingency plans for deploying health workers during climate emergencies.	Number of contingency plans for deploying health workers during climate related disease outbreaks	GHS/RHD	N/A	16	Once	GHS
	Component 3: Climate and Health Financing						
To secure sustainable funding for CCH policies and programmes.	Mobilize resources for CCH policy development and implementation.	% of allocated funds disbursed for the development and implementation of CCH policies	MOH	N/A	100% of allocated funds disbursed for the development and implementation of CCH policies	Annually	MoH/GHS
		% of Climate Change Resource Mobilization Strategy implemented	MoH/ GHS	N/A	75% implementation of the Climate Change Resource mobilization Strategy	Annually	MoH/GHS

HNAP Objectives	Actions	Indicators	Data Source	Baseline	Target	Frequency of reporting (M,Q,Y)	Responsible
				2025	2029		
	Develop investment plans for prioritized HNAP actions and establish health and climate change expenditure tracking tools.	Number of investment plans developed and implemented	MoH/ GHS	N/A	5 investment plans developed and implemented	Annually	MoH/GHS/ DPs
		Functional Health and climate change expenditure tracking tools	MoH	N/A	Health and climate change expenditure tracking tools developed by end of 2027 and in use	Once	MoH/GHS
		Number of reports generated from the health and climate change expenditure tracking tools	MoH	N/A	4 annual reports generated	Annually	MoH/GHS
	Develop tools to screen funding proposals for climate-sensitive health impacts in key sectors (water, sanitation, food security).	Finalized SOPs for drafting funding proposals for climate-sensitive health impacts in key sectors	MoH/GHS	N/A	One (1) SOP for drafting funding proposals for climate-sensitive health impact in key sectors by end of 2027	Annually	MoH/GHS
	Enhance capacity to access international climate funds (e.g., Green Climate Fund).	Number of well-developed funding proposals submitted and approved	MoH/GHS	N/A	5 proposals submitted and approved	Annually	MoH/GHS
	Component 4: Climate-Resilient and Sustainable Technologies and Infrastructure						
To ensure health		Number of technical review meetings held.		N/A	3	Quarterly	MOH, GHS, Ghana Standard

HNAP Objectives	Actions	Indicators	Data Source	Baseline	Target	Frequency of reporting (M,Q,Y)	Responsible
				2025	2029		
infrastructure and technologies are resilient to climate impacts.	Revise health facility construction standards to align with climate risks.	Number of sectors engaged.	MOH, GHS, Ghana Standard Authority (GSA), HeFRA	N/A	6	Annually	Authority (GSA), NRA, NAS, HeFRA
		Number of climate risks integrated into the revised standards.		N/A	4 (Flooding, sea level rise, drought, heat stress)		
		Revised health facility construction standards approved and disseminated.		Health facility constructio n standards document	Revised health facility construction standards approved and disseminated.		
	Conduct climate vulnerability assessments for health facilities.	Proportion of health facilities assessed	MOH/GHS	N/A	80%	Annually	MOH/GHS
	Promote climate-resilient design (e.g., green concepts) for new infrastructure.	Number of Information, Education and Communication (IE&C) sessions held such as awareness creation	MOH/GHS	N/A	4 sessions per district	Quarterly	MOH/GHS, HeFRA
		Proportion of new infrastructure projects incorporating approved climate compliant designs		N/A	80%	Annually	
	Develop robust drug information systems for climate-sensitive diseases.	Proportion of health facilities using the drug information system.	MOH/GHS	N/A	80%	Annually	MOH/GHS

HNAP Objectives	Actions	Indicators	Data Source	Baseline	Target	Frequency of reporting (M,Q,Y)	Responsible
				2025	2029		
		Number of staff trained on the systems.		N/A	2.15% of Pharmacy staff across all regions	Annually	
	Accelerate the operationalization of the national health infrastructure plan.	Proportion of national infrastructure plan implemented	MOH, GHS, HeFRA	N/A	100%	Annually	MOH, GHS, HeFRA, NAS, GRA, FDA, GSA
	Promote renewable energy, water conservation, and sustainable waste management in health facilities.	Number of Information, Education and Communication (IE&C) sessions held such as awareness creation	MOH, GHS, HeFRA	N/A	4 sessions per district	Annually	MOH, GHS, HeFRA
	Improve digital health technologies (e-health, telemedicine) for system resilience.	Number of health information systems incorporating climate resilience	MOH & GHS	DHIMS2, GHIMS	Health information systems integrated with climate-resilience		MOH & GHS
	Component 5: Vulnerability, Capacity, and Adaptation Assessment						
To strengthen systems for assessing climate-health vulnerabilities	Comprehensive health vulnerability adaptation assessments conducted at population and facility levels	Health vulnerability adaptation assessments tools.	MoH/ GHS	1	Health vulnerability adaptation assessments tools completely developed	Annually	MoH/ GHS

HNAP Objectives	Actions	Indicators	Data Source	Baseline 2025	Target 2029	Frequency of reporting (M,Q,Y)	Responsible
and adaptive capacity.		Number of health facilities assessments done using the tools.		N/A	All health facilities by end of 2029	Annually	
		Number of regions/districts with complete population level assessments.		N/A	All regions and districts	Annually	
		Stakeholder engagement and workshops conducted to review and validate assessment findings		N/A	3 review meetings in 2028	Quarterly	
	Baseline data on health system capacity for disaster response developed.	Number of health facilities assessed for disaster response capacity.	MoH/ GHS	N/A	50% of health facilities		MoH/ GHS
	Integrated climate and health data across sectors established	Number of MoUs signed among the sectors	MoH/GHS	N/A	MoUs signed with selected sectors		MoH/GHS
		Number of data-sharing agreements signed among the sectors		N/A	Agreements signed with selected sectors		
	Develop regional adaptation plans based on the V&A results	Number of prioritized adaptive actions identified for implementations	MoH/ GHS	1.Health regional adaptation plan	At least 60% identified		MoH/ GHS

HNAP Objectives	Actions	Indicators	Data Source	Baseline	Target	Frequency of reporting (M,Q,Y)	Responsible
				2025	2029		
		Number of regional adaptation plans updated based on the V&A results		2.Health regional adaptation plan	All regional adaptation plan updated by 2029		
	Iterative review mechanisms for the HNAP based on new evidence established	Development of HNAP review framework	MoH/ GHS	N/A	HNAP review framework developed by 2026		MoH/ GHS
		Establishment of review team		N/A	Review team established by 2026		
		Number of HNAP reviews		N/A	One review to be done		
Component 6: Management of Climate-Sensitive Health Outcomes							
To strengthen management of diseases and conditions exacerbated by climate change	Scale up vector control (IRS, larviciding, bed nets) and vaccination for malaria and yellow fever.	Percentage of households in targeted areas protected by at least one effective vector control intervention (IRS, larvicide, or insecticide-treated bed nets)	MoH/ GHS	N/A	60%	Quarterly	MoH/ GHS
		Number of insecticides treated bed nets distributed to		N/A	At least 90%	Quarterly	

HNAP Objectives	Actions	Indicators	Data Source	Baseline 2025	Target 2029	Frequency of reporting (M,Q,Y)	Responsible
		households in malaria endemic areas.					
	Improve zoonotic disease surveillance and response.	Percentage of suspected zoonotic disease events detected and reported.	MoH /GHS/ Veterinary service	N/A	90%		MoH /GHS /Veterinary service
		Number of active zoonotic disease surveillance activities undertaken over time	MoH /GHS /Veterinary service	N/A	At least 5 surveillance activities		
	Vaccinate at-risk populations for meningitis and enhance public education.	Proportion of at-risk population vaccinated against meningitis	MoH/GHS	N/A	90%	Annually	MoH/GHS
		Number of community engagement and sensitization on meningitis held		N/A	4 sessions per district	Annually	
	Strengthen surveillance for respiratory, cardiovascular, and heat-related illnesses.	Number of standardized case definition and reporting tools.	MoH/GHS	N/A	All standardized case definition and reporting tools approved and disseminated		MoH/GHS
		Percentage of health facilities submitting complete and timely surveillance data on respiratory,		N/A	90% of facilities	Annually	

HNAP Objectives	Actions	Indicators	Data Source	Baseline 2025	Target 2029	Frequency of reporting (M,Q,Y)	Responsible
		cardiovascular, and heat- related illnesses.					
	Improve food and water safety systems and promote WASH initiatives.	Number of food and water safety surveillance undertaken in facilities	MoH/GHS	N/A	Food and water surveillance done every quarter in 80% of facilities and WASH initiatives promoted		MoH/GHS
		Percentage of health facilities with functional safe drinking water.		N/A	90% of health facilities	Annually	
		Percentage of facilities with managed sanitation facilities.		N/A	90% of facilities	Annually	
	Enhance mental health and psychosocial support services for disaster-affected populations	Number of disaster-affected individuals receiving psychosocial support.	MoH/GHS, Mental Health authority	N/A	At least 95% of individuals need support	Annually	MoH/GHS, Mental Health authority
		Number of trained MHPSS personnel deployed and providing services.		N/A	All MHPSS personnel trained	Annually	

HNAP Objectives	Actions	Indicators	Data Source	Baseline	Target	Frequency of reporting (M,Q,Y)	Responsible
				2025	2029		
		Percentage of targeted health facilities providing MHPSS.		N/A	95% of targeted facilities	Annually	
	Improve on injury and accident surveillance linked to extreme weather events	Percentage of injury and accident cases related to extreme weather events reported on time	MoH/GHS, NADMO, MTTD	GHIMS/ DHIMS2	100% facilities reporting		MoH/GHS, NADMO, MTTD
	Component 7: Integrated Risk Monitoring and Early Warning						
To develop integrated systems for disease surveillance and early warning.	Strengthen interoperability between health and environmental surveillance systems.	A functioning climate health surveillance system	MOH/GHS(PPMED) , MEST	0	1 national climate–health surveillance system is operational	Quarterly	MoH/GHS
	Develop multi-hazard early warning systems for infectious disease epidemics.	Number of alert systems developed	MOH/GHS (Public Health Division)	0	3 alert systems developed (1 dashboard 1 mobile app 1 SMS alert platform for 3 networks MTN, Telecel, AirTel Tigo)	Quarterly	MoH/GHS
		Number of functioning alert systems	MOH/GHS (Public Health Division)	0	3 functioning alert systems	Quarterly	MoH/GHS
	Establish knowledge management systems for climate and health data.	Number of knowledge products developed	MoH/GHS (Occupational Health, PPMED)	0	10 knowledge products *(policy briefs, technical*	Quarterly	MoH/GHS

HNAP Objectives	Actions	Indicators	Data Source	Baseline	Target	Frequency of reporting (M,Q,Y)	Responsible
				2025	2029		
					reports, dashboards, guidance notes)		
		Number of dissemination forums organised	MoH/GHS (Occupational Health, PPMED)	0	8 dissemination forums organised *with policymakers, technical officers, and stakeholders*	Quarterly	MoH/GHS
		Number of knowledge products in use	MoH/GHS (Occupational Health, PPMED)	0	5 climate–health knowledge products	Quarterly	MoH/GHS
	Update DHIMS2 to capture climate-sensitive health indicators.	Number of climate-sensitive health indicators captured in DHIMS2	MoH/GHS (PPMED)	0	8 priority climate-sensitive health indicators (eg: *Climate-sensitive vector-borne diseases, Heat-related illnesses, Flood-related injuries or outbreaks, Water-borne disease trends*)	Quarterly	MoH/GHS
	Develop and implement integrated risk communication strategies	Number of integrated risk communication strategies developed	MoH/GHS (Health Promotion Division), NADMO	0	2	Quarterly	MoH/GHS

HNAP Objectives	Actions	Indicators	Data Source	Baseline	Target	Frequency of reporting (M,Q,Y)	Responsible
				2025	2029		
		Number of integrated risk communication strategies in use	MoH/GHS (Health Promotion Division), NADMO	0	2	Quarterly	MoH/GHS
	Build capacity of health workers in using climate services for early action.	Number of Health workers trained	MoH/GHS (Human Resource Division)	≥5%	40% of health workers in priority departments capacity are built	Quarterly	MOH/GHS
		Percentage of trained health workers applying climate information in decision-making	MoH/GHS (Human Resource Division)	0	60% of total	Annually	MOH/GHS
	Component 8: Emergency Preparedness and Management						
To enhance preparedness for climate-related health emergencies.	Develop cost emergency preparedness and response plans.	Number of costed emergency preparedness and response plan developed	MoH/GHS (Occupational Health and Safety), NADMO	0	2	Annual	MoH/GHS
	Integrate climate-sensitive health risks into national disaster risk reduction strategies	Number of climate-sensitive health risks integrated into national disaster reduction strategies developed and implemented	MoH/GHS, NADMO, Ghana Hydrological Authority	0	5 climate-sensitive health risks integrated into national disaster reduction strategies and implemented	Annual	MoH/GHS

HNAP Objectives	Actions	Indicators	Data Source	Baseline	Target	Frequency of reporting (M,Q,Y)	Responsible
				2025	2029		
		Number of assessment tools for health risk in disaster planning in use	MoH/GHS, NADMO, Ghana Hydrological Authority	0	1 comprehensive tool developed	Quarterly	MoH/GHS
	Establish health sector contingency plans for extreme weather events.	Number of health sector contingency plans developed	MoH/GHS, GMET, NADMO	0	1 strategic document developed and implemented	Annual	MoH/GHS
	Reinforce health facilities in disaster-prone areas and ensure backup power supply.		MoH/GHS, GMET, NADMO				
	Strengthen community engagement and local capacity for disaster response	Percentage of community engagements held	MoH/GHS, NADMO	15%	At least 80% of targeted communities engaged in awareness and preparedness activities	Bi-Annual	MoH/GHS
		Number of Community Action Plans developed	MoH/GHS, NADMO	0	At least 50 Community Action Plans developed	Bi-Annual	MoH/GHS
		Number of Individuals reached	MoH/GHS, NADMO	≥2000	At least ±10,000 individuals reached through awareness and capacity-building activities	Bi-Annual	MoH/GHS

HNAP Objectives	Actions	Indicators	Data Source	Baseline	Target	Frequency of reporting (M,Q,Y)	Responsible
				2025	2029		
	Participate actively in national disaster management coordination mechanisms.	Number of national coordination meetings attended	MoH/GHS, NADMO	0	Attend all national coordination meetings attended	Quarterly	NADMO
		Number of simulation exercises participated in	MoH/GHS, NADMO	Not Applicable	Participate in 4 national simulation exercises annually	Quarterly	NADMO
		Number of national disaster technical advisory platforms	MoH/GHS, NADMO	Not Applicable	Contribute actively to 2 platforms	Quarterly	NADMO
Component 9: Management of Environmental Determinants of Health: Address environmental risk factors affecting health under climate change.							
To address environmental risk factors affecting health under climate change.	Conduct health impact assessments for policies in key sectors (transport, agriculture, energy).	Number of impact assessments conducted	MOH/GHS, Transport, Agriculture, Energy	0	4 Health Impact Assessment completed	Annually	MoH/GHS
		Number of sectors that have incorporated health policies	MOH/GHS, Transport, Agriculture, Energy	0	3 sectors integrate health considerations in policy documents	Annually	MoH/GHS
	Promote multi-sector approaches to water safety, waste management, food security, and air quality.	Number of coordination mechanisms among various sectors established	MoH/GHS, MWHWR, EPA, MOFA	0	4 coordination mechanisms established	Quarterly	MoH/GHS

HNAP Objectives	Actions	Indicators	Data Source	Baseline	Target	Frequency of reporting (M,Q,Y)	Responsible
				2025	2029		
		Number of Advocacy sessions conducted	MoH/GHS, MWHWR, EPA, MOFA	0	8 Advocacy sessions conducted	Quarterly	MoH/GHS
		Integrated action plans implemented	MoH/GHS, MWHWR, EPA, MOFA	0	4 action plans implemented	Quarterly	MoH/GHS
	Enhance monitoring of water resources, vector breeding sites, and environmental pollutants.	Number of multi-sectorial monitoring tools developed	MoH/GHS	0	3 monitoring tools developed	Annual	MOH/GHS
		Number of monitoring visits conducted	MoH/GHS	0	16 visits	Annually	MOH/GHS
	Collaborate with relevant agencies to enforce regulations for air quality, sanitation, and waste management.	Number of regulations reviewed	MoH/GHS, EPA, MLGCRA	25%	4 regulations reviewed	Annual	MOH/GHS
		Proportion of regulatory enforcement and compliance	MoH/GHS, EPA, MLGCRA	≥15%	70% compliance	Annual	MOH/GHS
	Mainstream health into climate-resilient water safety plans and land-use policies.	Number of plans developed	MoH/GHS, MLGCRA, Land Use and Spatial Planning Authority	0	4 plans developed	Quarterly	MOH/GHS
		Number of plans implemented	MoH/GHS, MLGCRA, Land Use and Spatial Planning Authority	0	3 plans implemented	Quarterly	MOH/GHS

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