



Baidoa Heat-Health Action Preparedness and Management Plan (HHAPMP)

Federal Government of Somalia

Baidoa District, Southwest State of Somalia

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Prepared by Ministry of Health & Human Services — Federal
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Executive Summary

The Baidoa District Heat Health Preparedness and Management Plan (HHAPMP) is a strategic, district-level framework designed to address the escalating public health threats posed by extreme heat in Baidoa, located in the Bay Region of Southwest State, Somalia. Rising temperatures—regularly exceeding 40°C during peak seasons—combined with chronic vulnerabilities such as displacement, inadequate shelter, and limited public services, have placed thousands of residents, particularly internally displaced people (IDPs), at severe risk of heat-related illness, dehydration, and mortality.

This plan emerges in response to the increasing frequency and severity of climate shocks, including droughts and heatwaves, and the significant infrastructural and health system gaps in Baidoa. The initiative is spearheaded by the Ministry of Health (MoH) in close collaboration with the International Medical Corps (IMC), the District Health Office, local civil society organizations, and other national and international stakeholders. It is underpinned by the Vulnerability and Capacity Assessment (VCA) conducted in July–August 2025, which identified critical risk factors, high-exposure groups, and institutional limitations in heat-health preparedness.

The HHAPMP adopts a multi-sectoral approach, recognizing that managing heat risks requires interventions across health, water, shelter, urban planning, disaster risk reduction, and community engagement. Key vulnerable groups targeted by the plan include children under five, pregnant and lactating women, elderly individuals, people with chronic illnesses or disabilities, and the large IDP population living in plastic-sheet shelters with poor ventilation and no access to electricity or clean water.

Central to the plan is the establishment of the Baidoa Heat-Health Taskforce, a coordination mechanism that brings together actors from health, environment, disaster management, and local governance. The Taskforce will oversee the implementation of core activities, such as:

(I) Installation of community-based early warning systems using SMS alerts, radio messaging, and mosque announcements; (II) Development of cooling centers in high-density IDP settlements and public spaces; (III) Prepositioning of medical supplies including oral rehydration salts (ORS), IV fluids, and electrolyte tablets; (IV) Health facility upgrades, such as shaded triage areas, improved ventilation, and solar-powered cooling systems; (V) Training of health workers on heat-related illness recognition and treatment; (VI) Community awareness campaigns in local languages (Maay and Somali) to promote heat safety and hydration practices.

The HHAPMP also outlines strategies for simulation drills, monitoring and evaluation frameworks, and annual review mechanisms to ensure continuous improvement based on field experience and new climate data. Sustainability is a key pillar, with emphasis on resource mobilization from government budgets, humanitarian donors, and public-private partnerships focused on water provision, solar energy, and green infrastructure.

Ultimately, this action plan is not only a lifesaving intervention for Baidoa but also a scalable model for other heat-affected regions in Somalia. By linking climate adaptation with public health and community resilience, the Baidoa HHAPMP represents a forward-looking, evidence-based strategy to protect lives and livelihoods in the face of a rapidly warming world.

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1. Background

Baidoa District, a major urban hub in Somalia's Southwest State, faces severe challenges due to the intensifying impacts of climate change, particularly extreme heat events. Rising temperatures, fragile infrastructure, and high levels of internal displacement converge to create significant public health threats. Many residents—especially those in IDP camps—live in poorly ventilated shelters without access to electricity, clean water, or cooling systems.

The 2025 Vulnerability and Capacity Assessment (VCA) revealed that Baidoa suffers from both structural and systemic vulnerabilities that amplify the effects of heatwaves. Health facilities are ill-equipped, communities lack awareness, and early warning systems are underdeveloped. With a population of over 400,000—of which nearly 150,000 are considered highly vulnerable—the need for an evidence-based, multi-sectoral preparedness and response plan is urgent.

This Heat-Health Preparedness and Management Plan provides a framework for coordinated response, sustainable adaptation, and long-term resilience building. It was developed through a collaborative process and integrates local data, stakeholder consultations, and global best practices.

2. The Purpose of HHAPMP

The purpose of the Banadir HHAPMP is:

- To reduce the health impacts of extreme heat through a coordinated, preparedness, response, and adaptation strategies of multisectoral approach.
- To protect vulnerable populations, strengthen the capacity of health systems, and ensure timely and effective responses to heatwaves.
- To integrate heat risk management into routine health programming and disaster preparedness frameworks, ensuring that the health sector is better equipped to deal with both chronic and acute heat-related threats.
- To be a living document—one that evolves based on evidence, feedback, and changing climate realities.

3. Scope of the HHAPMP

- This action plan focuses on the Banadir region, with a particular emphasis on Baidoa and its surrounding districts. It addresses both long-term adaptations to rising average temperatures and short-term preparedness and response to heatwaves. The scope includes health facility readiness, community education, early warning systems, coordination mechanisms, and monitoring and evaluation. The plan is designed to be inclusive, scalable, and adaptable to other regions in Somalia facing similar risks.

4. Methodology

The development of the Heat Health Mitigation and Preparedness Action Plan (HHAPMP) followed a participatory and evidence-based process, ensuring that it reflected local realities and was grounded in empirical data. The process was guided by findings from the Vulnerability and Capacity Assessment (VCA) conducted in Baidoa District between July and August 2025. The assessment combined both quantitative and qualitative methods to capture a comprehensive understanding of community exposure and adaptive capacity. It included 119 household surveys, of which 64.7% were conducted in internally displaced persons (IDP) camps, facility readiness assessments of key health centers, and Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs) with healthcare providers, community leaders, and local residents.

To complement the field findings, stakeholder consultations were held during a multi-sectoral workshop at Isha View Hotel, Baidoa (July 28–29, 2025). The workshop brought together representatives from the Ministry of Health and Human Services (MoH), International Medical Corps (IMC), Baidoa District Health Office, World Health Organization (WHO), Civil Society Organizations (CSOs), the Ministries of Environment, Agriculture, and Education, and local academic institutions. These engagements provided valuable insights into intersectoral linkages, coordination challenges, and institutional readiness for heat-related health response.

Data and feedback collected from these participatory processes were systematically analyzed to identify risk patterns, vulnerabilities, existing capacity gaps, and community strengths. The findings informed the formulation of context-specific interventions and policy recommendations. The final plan was structured according to IMC's recommended Heat Health Mitigation and Preparedness (HHMP) framework and subsequently validated by technical partners to ensure accuracy, feasibility, and alignment with national health priorities.

5. Country and Location

5.1 District/Region: Baidoa District, Bay Region, Southwest State, Country: Somalia

Somalia, located in the Horn of Africa, is among the countries most vulnerable to the impacts of climate change, particularly extreme heat. With a predominantly arid and semi-arid climate, the country experiences high temperatures throughout the year, conditions that are intensifying due to global warming and environmental degradation. The health sector in Somalia faces considerable challenges in responding to climate-related risks, including limited infrastructure, fragile health systems, and high levels of poverty and displacement. These vulnerabilities are compounded by recurrent droughts, food insecurity, and limited adaptive capacity across communities.

Urban centers such as Baidoa, the capital city, exemplify these challenges. Home to an estimated four million people, including around 25% internally displaced persons (IDPs), Baidoa's rapid urbanization and expansion of informal settlements have created conditions of overcrowding, inadequate housing, and poor ventilation. Many residents live in temporary

shelters made of plastic or corrugated metal, which amplify indoor temperatures and increase exposure to heat-related illnesses. The city's urban landscape—dominated by concrete structures, minimal vegetation, and insufficient green spaces—contributes to the urban heat island effect, further elevating temperatures. Limited water and sanitation services and unreliable electricity exacerbate these conditions, making the population highly susceptible to heat stress, dehydration, and vector-borne diseases.

Somalia's vulnerability to extreme heat and other climate-induced hazards highlights the urgency of integrating climate resilience into health planning and urban development. Addressing heat-related health risks in such a fragile and complex setting requires coordinated, multisectoral interventions that combine public health preparedness, infrastructure adaptation, and community engagement.

5.2 Regional Context: Bay Region

The Bay Region, located in southern Somalia, forms part of the country's Southwest State and plays a central role in the nation's agricultural and humanitarian landscape. Historically known for its fertile soils and agro-pastoral livelihoods, Bay has been severely affected by recurrent droughts, erratic rainfall patterns, and environmental degradation. The region has endured multiple failed rainy seasons between 2019 and 2023, leading to widespread crop failures, water shortages, and mass displacement.

Bay Region is also deeply impacted by conflict and insecurity, which have disrupted local governance, strained essential services, and impeded humanitarian access. The health infrastructure across the region remains fragile, with limited facilities, inconsistent medical supplies, and a shortage of trained healthcare professionals. The interaction of climate stressors and conflict dynamics has heightened public health risks, particularly in relation to malnutrition, communicable diseases, and climate-sensitive conditions such as heat-related illness.

Despite these challenges, Bay Region remains a hub of humanitarian and development activity, hosting numerous national and international organizations that support resilience-building initiatives in health, water, and disaster management. The region's population demonstrates strong adaptive capacity, rooted in community networks and local governance structures, though systemic vulnerabilities continue to constrain effective response.

5.3 District Context: Baidoa District, Bay Region, Southwest State

Baidoa, the capital of the Bay Region and administrative seat of Southwest State, is a critical urban center situated at the nexus of Somalia's humanitarian, climatic, and socio-political challenges. Home to an estimated 400,000 people, nearly half of whom are internally displaced, Baidoa reflects the complex intersection of displacement, poverty, and environmental stress that defines much of southern Somalia.

The district's vulnerability to climate change has increased markedly in recent years. Once supported by predictable seasonal rainfall patterns, Baidoa's ecosystem now faces prolonged droughts, flash floods, and intensifying heatwaves, with daytime temperatures regularly exceeding 40°C. These climatic extremes have undermined traditional livelihoods and accelerated migration into the city's urban periphery, where displaced families live in crowded

informal settlements with limited access to water, sanitation, and electricity. For residents in makeshift shelters, extreme heat poses a daily threat to health and survival.

Conflict and insecurity have further complicated Baidoa's development trajectory. Ongoing instability in rural areas disrupts public service delivery and restricts humanitarian access, weakening the systems that are vital for healthcare, water supply, and disaster preparedness. Despite these challenges, the Southwest State administration, in partnership with international and local organizations, has made concerted efforts to stabilize governance and strengthen resilience.

Baidoa's health infrastructure, including the Bay Regional Hospital and several smaller health centers, operates under severe strain. Many facilities lack the necessary infrastructure—such as cooling systems, shaded waiting areas, and reliable electricity—to manage heat-related illnesses effectively. Children under five, pregnant women, the elderly, and individuals with chronic diseases or disabilities are among the most vulnerable groups affected by heat stress and dehydration.

Humanitarian partners have played a pivotal role in mitigating immediate health risks, yet sustainable and climate-resilient health planning remains limited by resource constraints. Addressing Baidoa's growing heat-health burden requires long-term investment in adaptive infrastructure, early warning systems, and capacity building.

The Baidoa District Heat-Health Action Preparedness and Management Plan (HHAPMP) responds to these challenges by providing a structured, multi-sectoral framework for safeguarding communities against the health impacts of extreme heat. The plan focuses on early warning, facility adaptation, workforce training, and community engagement, aiming to build systemic resilience and reduce mortality and morbidity associated with high temperatures. With effective coordination and sustained implementation, Baidoa can serve as a model for climate-health preparedness across Somalia's urban centers.

Bay Region - Baidoa District

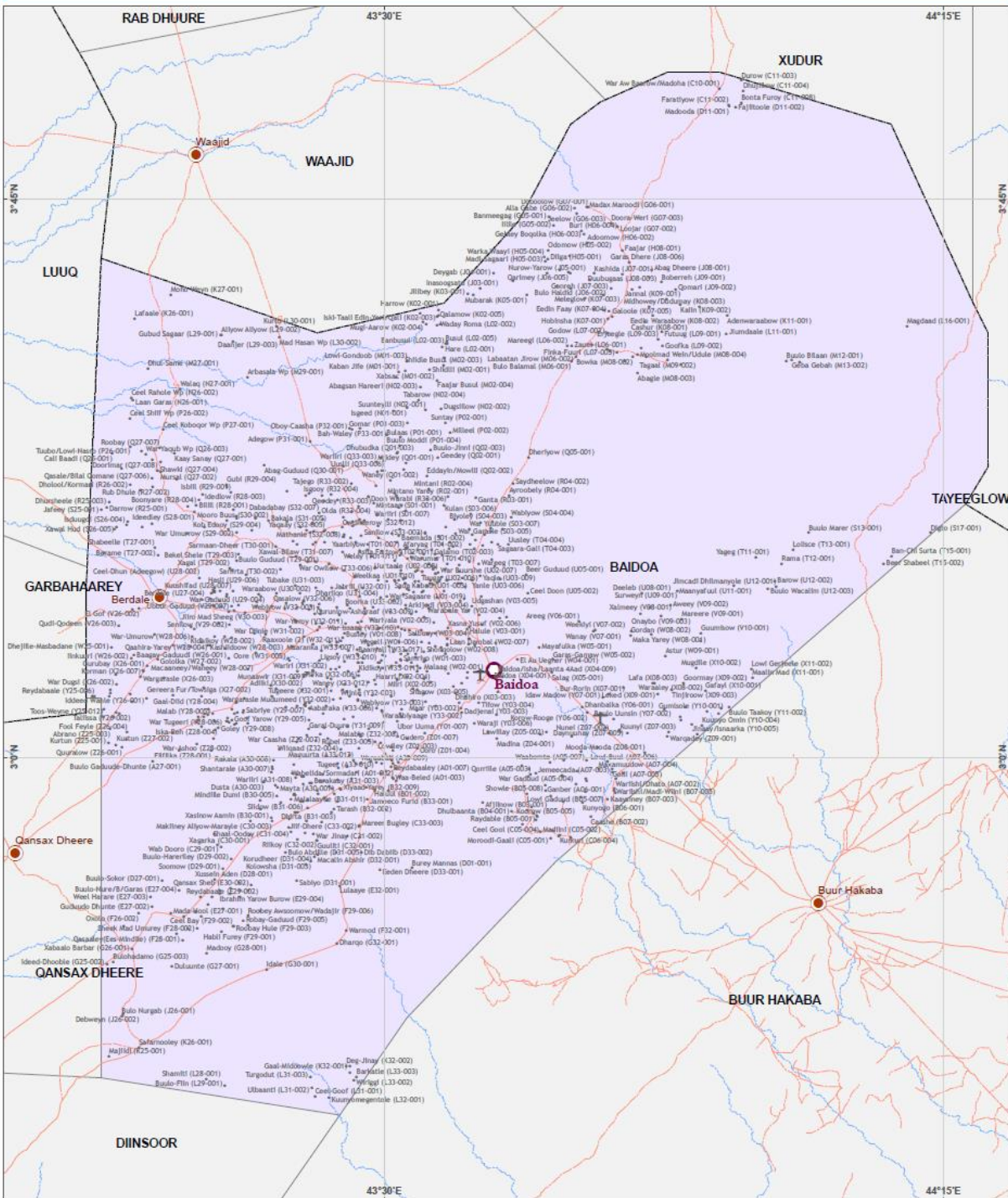


Figure 1 Map showing Baidoa District

6. Brief assessment of risks and vulnerabilities related to heat in Baidoa

6.1 Long-Term Risk (5 Years)

Baidoa's communities are facing the slow but intensifying effects of long-term climate warming, a process that is projected to accelerate across southern Somalia in the coming decades. According to recent climate assessments, Somalia's mean annual temperature has increased by approximately 0.21°C per decade since the early 1990s, with inland areas such as Baidoa projected to experience even faster warming due to low vegetation cover and high surface radiation. This gradual rise in temperature is not merely a distant concern—it translates into longer and hotter dry seasons, more frequent days exceeding 40°C, and extended periods of discomfort for residents living in plastic or makeshift shelters.

Over time, this sustained heat exposure erodes the health and resilience of vulnerable populations, particularly children, the elderly, pregnant women, and individuals with chronic diseases such as cardiovascular or respiratory illnesses. Prolonged heat also increases the prevalence of dehydration, renal complications, and heat-related exhaustion, contributing to a steady rise in morbidity and mortality.

The health system in Baidoa—already strained by resource shortages—faces mounting challenges under these conditions. Hospitals and health centers must contend with rising patient loads during hot periods, while unreliable electricity complicates the maintenance of cold chains for vaccines and medicines. Simultaneously, water scarcity is aggravated by higher evaporation rates, limiting both consumption and sanitation, particularly in IDP settlements. The cumulative effect is a slow-onset crisis that threatens not only public health but also household livelihoods and social stability.

The major long-term risks identified include:

- Rising mean annual temperatures and prolonged hot seasons.
- Increased frequency and severity of heatwave days.
- Chronic health impacts including cardiovascular, renal, and respiratory diseases.
- Worsening water scarcity and energy stress.
- Heightened strain on health and social infrastructure.

6.2 Medium-Term Risk (Three Years)

In the medium term, Baidoa's heat-related vulnerabilities are expected to worsen as high temperatures interact with socio-economic and environmental stressors. Prolonged exposure to elevated temperatures is likely to exacerbate chronic illnesses such as hypertension, diabetes, and heart disease, especially among the elderly and low-income populations. As recurrent droughts and crop failures continue to undermine food production, more households will depend on imported or processed foods, increasing dietary salt and fat intake, thereby compounding the risk of non-communicable diseases (NCDs).

Water scarcity is also projected to become more severe in the medium term, driving up costs and reducing both access and quality. Limited availability of safe drinking water will restrict cooling and hygiene practices, heightening the risk of dehydration, heat stress, and vector-borne disease transmission. In addition, frequent power outages will continue to disrupt the functioning of health facilities, refrigeration systems, and water pumps—further weakening resilience.

These cumulative stresses may also deepen urban poverty and widen inequalities between host communities and IDPs, with displaced populations disproportionately affected by high food prices, limited access to healthcare, and inadequate shelter.

The key medium-term risks include:

- Worsening of chronic illnesses due to prolonged heat exposure.
- Increased dependence on processed foods and heightened food insecurity.
- Intensifying water scarcity affecting health and hygiene.
- Growing strain on energy supply and public services.
- Socio-economic stress and widening inequality between hosts and IDPs.

6.3 Short-Term Risk (One Year)

Baidoa faces acute short-term emergency risks during periods of extreme heat, particularly when daytime temperatures exceed 40°C and humidity levels rise. These episodes often trigger sudden spikes in heat-related illnesses such as heat exhaustion, dehydration, and life-threatening heatstroke, especially among IDPs and outdoor workers. Health facilities in the district, which already operate with limited capacity, frequently experience overcrowding during these events, while power disruptions compromise the operation of fans, refrigerators, and cooling systems.

The short-term consequences of extreme heat include increased hospital admissions for acute kidney injury, heat exhaustion, and exacerbation of chronic diseases such as diabetes and hypertension. For many households, particularly those in temporary shelters, these episodes bring severe discomfort, income loss, and psychological distress.

The main short-term risks identified are:

- Heat exhaustion, dizziness, and dehydration among IDPs and outdoor laborers.
- Heat stroke, shock, and worsening of chronic health conditions.
- Increased hospital admissions linked to acute heat-related illnesses.
- Power failures and disruptions to essential health and water services.

6.4 Vulnerable Population Groups

The impacts of extreme heat in Baidoa are unevenly distributed, with certain groups facing a much greater risk due to age, health condition, gender roles, or living circumstances. Children under five years are highly susceptible because their bodies are less efficient at regulating temperature and they dehydrate quickly. Elderly individuals often suffer from chronic diseases and reduced thermoregulation capacity, increasing their vulnerability. Pregnant and lactating

women are also at heightened risk, as extreme heat can endanger both maternal and fetal health.

Persons with chronic illnesses or disabilities face additional risks due to limited mobility, dependence on medical devices, and challenges in accessing care during hot periods. Outdoor workers, including construction laborers, street vendors, and transport operators, are directly exposed to sunlight for extended hours with little opportunity for rest or hydration. Meanwhile, residents of IDP camps—especially women and children living in poorly ventilated plastic shelters—face compounded risks due to overcrowding, lack of electricity, and minimal access to cooling or clean water.

Mental health impacts are also emerging as a concern, with reports of fatigue, anxiety, and sleep disturbance linked to prolonged heat exposure. Recognizing and prioritizing these vulnerable groups is essential for developing an inclusive, equitable, and effective heat-health action plan in Baidoa.

The key vulnerable groups include:

- Children under five years of age.
- Pregnant and lactating women.
- Elderly persons and those with chronic illnesses or disabilities.
- Outdoor laborers and informal workers.
- IDP and low-income households living in poorly ventilated shelters.
- Individuals with limited access to water, electricity, or healthcare services.

7. Participating Organizations

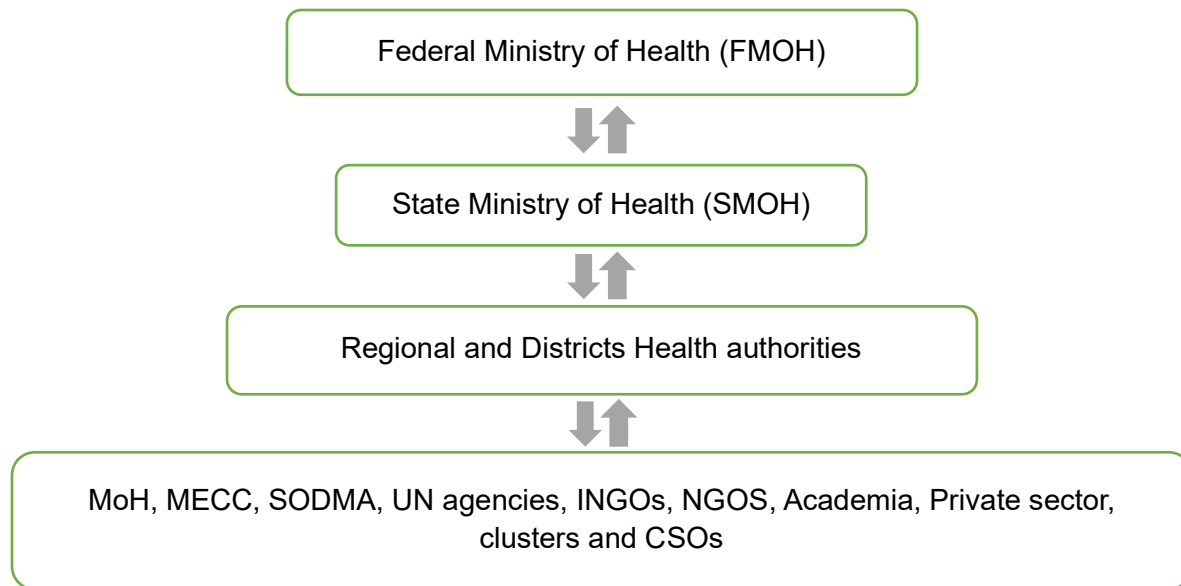


Figure 2: Coordination Structure for HHAPMP Implementation in Baidoa

This flowchart illustrates the hierarchical coordination mechanism in Baidoa, with the Federal Ministry of Health and Human Services (FMoH) and the Southwest State Ministry of Health (SMoH) providing overall leadership and strategic direction. The coordination structure is supported by a District-level Technical Working Group (TWG) that brings together key actors, including the Ministry of Environment and Climate Change (MoECC), Somalia Disaster Management Agency (SoDMA), UN agencies, international and national NGOs (INGOs and NGOs), clusters, academia, and the private sector. This multi-sectoral platform ensures effective alignment of policies, operational coordination, and joint planning. The coordination cascades further down to community health committees and health facilities, promoting localized implementation, timely response, and community engagement in Baidoa and surrounding areas.

8. Adaptations, Optimization to Existing Services and Preparedness Activities

8.1 Policy and Institutional Adaptation

- **Explicit Policy Recognition:** Designate extreme heat as a distinct hazard within national and district health frameworks.
- **Coordination:** Establish a clear lead agency for heat-health, supported by joint planning between health, climate, water, housing, and disaster management sectors.
- **Financing:** Create dedicated budget lines for heat-health within the Ministry of Health and disaster management agencies, ensuring prevention and preparedness are funded alongside response.

- **Equity:** Direct resources to IDPs, high-burden regions, and facilities serving the most disadvantaged populations.

8.2 Cross-Cutting Priorities

- **Equity and Inclusion:** Ensure all interventions are gender-sensitive, displacement-aware, and targeted to those facing the greatest risks.
- **Community Engagement:** Embed co-creation approaches with local knowledge holders, combining indigenous climate indicators with scientific forecasts.
- **Sustainability:** Reduce reliance on ad hoc donor-driven support by embedding heat-health into core health system strengthening and leveraging multi-sector partnerships.

Table 1 Adaptation and Optimization

Activity	Description	Target Population / Facilities	Monitoring Indicators	Responsible Institutions	Lead Institution
Community Heat Risk Education	Conduct year-round awareness campaigns through radio (in Maay and Somali), social media, and community meetings.	General public, IDPs, school children, and market vendors	- # of people reached with heat health risk awareness education regarding CVD. Number of people received proper hydration in the heat wave period. # of people received safe water handling (drinking safe water) # of people received Heat symptoms	SMoH, Baidoa District Health Office, NGOs, Local NGOs, Academic, Media Partners	MoH & MOE
	Engage public figures, religious leaders, and CHWs to promote protective behaviors	religious leaders, people who are praying at the mosque	# of public figure educated with heat risk # of heat health awareness session conducted through public figure # of religious leaders educated with heat risk # of heat health awareness session conducted through Religious leaders		
Facility Adaptation and	Cooling system & ventilation	public health facilities in Baidoa	- % of facilities with functional cooling and ventilation	SMoH, Baidoa District Health	MoH

Infrastructure Improvement	Upgrade health facilities with solar-powered fans, shaded triage areas. Convert public halls, mosques, schools, and large tents into cooling shelters for vulnerable populations.		# of facilities with solar-powered or fans installed # of facilities with shaded triage areas - # of facilities with water access points	Office, NGOs, Local NGOs	
Health Facility Staffing and Readiness	Oriente and activate heat health district team Recruit additional staff during peak heat months and train them on emergency protocols and triage for heat-related illnesses.	Health facilities (public)	# of heat health district team Oriented and activated # of staff recruited or deployed during heat periods- # of facilities with adequate staff trained on emergency protocols on heat case management and triage for heat-related illnesses.	SMoH, Baidoa District Health Office	MoH
Training Community Health Workers (FHWs/CHWs)	Train CHWs on heat health symptom recognition. FHWs/CHWs screen and identify patients with heat risk and refer.	Health workers, CHWs, and academic institutions	# of # of FHWs/CHWs trained with Heat health risk symptoms recognized # of FHWs/CHWs detected patient with heat risk and referred.	SMoH, FMOH, Research Institutions, Universities, partners	MoH & MOE
Water Supply Enhancement	Ensure clean and safe drinking water availability in public spaces, and IDP settlements.	Health facilities and public locations	- # of public water points functional	SMoH, WASH Cluster, Baidoa Municipality, partners	MoH
Surveillance System Integration	Integrate heat-related illness reporting (heatstroke, dehydration, cardiovascular emergencies) into DHIS2/HMIS.	All health facilities in Baidoa	heat-related illness reporting Integrated in IDSR/DHIS2 # of health facility staff trained with using heat health reporting tool # of heat-related CVD/NCD cases reported into DHIS2	SMoH, partners, District Health Office	MoH

Table 2 Preparedness and Response Activities

Activity	Description	Target Population / Facilities	Monitoring Indicators	Responsible Institutions	
Community Heat Risk Education	Conduct year-round awareness campaigns through radio (in Maay and Somali), social media, and community meetings. Engage public figures, religious leaders, and CHWs to promote protective behaviors and outreach in IDP camps, markets, and schools.	General public, IDPs, school children, and market vendors	• # of community heat risk awareness sessions conducted; • # of people reached through community heat risk awareness sessions (by gender and age group); • % change in community knowledge and practices (pre/post) on xyz; • # of religious/ community leaders engaged in xyz?	SMoH, Baidoa District Health Office, NGOS, Local NGOs Academic., Media Partners	
Facility Adaptation and Infrastructure Improvement	Upgrade health facilities with solar-powered fans, shaded triage areas, improved ventilation, and water points in wards and storage areas. Maintain cooling systems and install thermometers and humidity meters.	All public and private health facilities in Baidoa	• % of facilities with functional cooling and ventilation; • # of facilities with water access points; • Average indoor temperature (°C) reduction post-upgrade; • facility audit and temperature logs	SMoH, Baidoa District Health Office, NGOS, Local NGOs Academic., Media Partners	
Health Facility Staffing and Readiness	Recruit additional staff during peak heat months and train them on emergency protocols and triage for heat-related illnesses.	Health facilities (public and private)	• # of staff recruited or redeployed during heat periods; • % of facilities with adequate staffing levels; • case management quality scores	SMoH, Baidoa District Health Office, NGOS, Local NGOs Academic., Media Partners	

Training Health Workers and CHWs	Train clinicians and CHWs on recognition, triage, and management of heat-related illnesses. Develop a localized heat-health management guide and integrate heat-health education into academic curricula.	Health workers, CHWs, and academic institutions	• inclusion of heat-health content in academic curricula; • # of clinicians and CHWs trained in recognition, triage and management of heat-related illness; • # of refresher trainings in recognition, triage and management of heat-related illness conducted; • inclusion of heat-health content in academic curricula; feedback from trainees	SMoH, FMoH, Research Institutions, Universities, Partners	
Water Supply Enhancement	Ensure clean and reliable water availability in health facilities and public spaces, especially IDP settlements.	Health facilities and public locations	• % of facilities with uninterrupted water supply; • # of public water points functional; • Liters of water available per patient per /day; • satisfaction surveys	SMoH, WASH Cluster, Baidoa Municipality, IMC	
Surveillance System Integration	Integrate heat-related illness reporting (heatstroke, dehydration, cardiovascular emergencies) into DHIS2/HMIS.	All health facilities in Baidoa	• # of heat-related cases recorded and reported in DHIS2; • Heat-related illness Data completeness and timeliness scores; • % of health facilities submitting heat-related illness data	SMoH, WHO, IMC, District Health Office	
Community Health Volunteer Support	Train and equip CHWs to deliver heat-health messages, monitor vulnerable groups, and share early warnings at the household level.	CHWs in Baidoa and surrounding districts	• # of trained CHWs trained in heat-health and early warning messaging, and monitoring of vulnerable groups (by gender and area); • # of households visited by CHWs to deliver heat-health messages, monitor vulnerable groups, and issue early warnings;	SMoH, IMC, Local NGOs (HESDA)	

			• % of CHWs active in heat-health-related illness surveillance or messaging; • feedback reports		
Cooling Centers Setup	Convert public halls, mosques, schools, and large tents into cooling shelters for vulnerable populations.	IDPs, elderly, pregnant women, and outdoor workers	• # of cooling centers established and operational; • Cooling centers' usage rate; • satisfaction feedback; • % of vulnerable individuals accessing cooling shelters	SMoH, Baidoa Municipality, WHO, SWS DRM Authority	
Prepositioning of Medical and Cooling Supplies	Stockpile climate related commodities (ORS, IV fluids,) and cooling materials Apply roof whitening for temperature control.	All health facilities	• # of facilities prepositioned with climate related commodities (drugs, ORS, Solutions,) and cooling materials • # of facilities that Apply roof whitening. • # of facilities create green spaces	SMoH, partners , District Health Office	Prepositioning of Medical and Cooling Supplies
Facility Operations Adjustment	Adjust clinic hours, ensure shaded waiting areas, and maintain cooling systems during extreme heat.	All health facilities	• # of facilities adjusting working hours during heat wave	SMoH, District Health Office, partners	Facility Operations Adjustment
Outreach to Vulnerable Individuals	Identify and register high-risk individuals (elderly, disabled, chronically ill, pregnant women) and conduct household visits during heatwaves.	Vulnerable individuals in IDP and host communities	• # of households reached during heatwaves; • # of high-risk individuals OPD visits registered	SMoH, CHWs, international partners, Local NGOs	Outreach to Vulnerable Individuals

9. Arrangements for Testing Preparedness and Response Activities (Baidoa)

To ensure operational readiness, the Baidoa Heat-Health Taskforce Plan (B-HHAPMP) will be tested annually before the peak heat season (e.g., February–March) through tabletop exercises and simulated heatwave response drills. These exercises will be coordinated by the South West State Ministry of Health (SMoH) in collaboration with FMoH, Baidoa District Health Office, partners, SODMA, MoECC, and other Technical Working Groups (TWGs).

Testing will include health facility staff, community focal points, CHWs, and emergency responders. Simulations will cover activation of early warning alerts, cooling center operations, patient triage and treatment, and outreach to vulnerable populations. Following the exercises, after-action reviews (AARs) will be conducted to document lessons learned, assess readiness, identify gaps, and recommend improvements. Findings will be shared with the District TWG, multi-sectoral coordination forums, and state-level authorities, and will be used to update and improve the Baidoa Heat-Health Taskforce Plan, ensuring continuous operational effectiveness and responsiveness.

10. Arrangements for Evaluation of the Heat-Health Plan (Baidoa)

The B-HHAPMP will be evaluated annually (September) to assess both implementation fidelity and public health impact.

Process evaluations will focus on:

- Completion of planned activities and interventions,
- Effectiveness of stakeholder coordination and communication,
- Efficiency and utilization of resources.

Impact evaluations will analyze:

- The Heat Health District Response and Management Plan should include a structured impact evaluation framework designed to assess whether implementation of the plan reduces mortality, morbidity, and health system stress during extreme heat events. The evaluation approach should apply rigorous epidemiological and quasi-experimental methods capable of measuring attributable impact over time and across geographic areas.
- The mortality impact evaluation component should assess whether implementation of the district heat health plan contributes to reductions in excess deaths during periods of extreme heat. Recommended analytical approaches include interrupted time-series analysis comparing pre- and post-implementation periods, difference-in-differences analysis comparing districts with and without implementation, synthetic control models,

and excess mortality modeling using historical baseline mortality trends. Key mortality indicators should include heat-attributable mortality rates, excess mortality during heatwaves compared with seasonal historical averages, cause-specific mortality associated with heat stroke, cardiovascular diseases, and respiratory illnesses, as well as mortality among vulnerable and high-risk population groups. These groups include older adults aged 65 years and above, infants and young children, outdoor workers, individuals living with chronic diseases, and populations residing in urban informal settlements or densely populated urban areas.

- The morbidity impact evaluation component should determine whether implementation of the heat health response plan reduces severe illness and acute health events associated with extreme heat exposure. Evaluation should measure trends in heat-related hospital admissions and emergency department visits during heat alert periods. The assessment should also monitor the incidence and severity of major heat-related conditions, including heat stroke, heat exhaustion, dehydration, acute kidney injury, and exacerbations of cardiovascular and respiratory diseases occurring during heatwaves. Comparative analysis should assess changes in morbidity patterns before and after implementation and across intervention and non-intervention districts where feasible.
- The health system resilience evaluation component should assess the capacity of district health systems to maintain service continuity and manage increased demand during extreme heat events. Key indicators should include surge capacity utilization during heat emergencies, reduction in emergency department overcrowding, health worker absenteeism during heatwaves, functionality and availability of cooling spaces within health facilities, availability of emergency supplies and heat management commodities, and continuity of essential health services during periods of extreme heat. The evaluation should also examine facility preparedness, early warning system activation, referral efficiency, and operational responsiveness of district emergency coordination mechanisms during heat events.
- The overall evaluation framework should integrate routine health information systems, meteorological data, mortality surveillance systems, hospital records, and community-based reporting mechanisms to support continuous monitoring, evidence generation, and adaptive management of district heat health interventions.

Evaluation findings will inform updates to the plan, helping ensure continuous improvement, relevance, and adaptive management of heat-health preparedness and response in Baidoa.

11. Arrangements for Fund Mobilization (Baidoa)

Implementation of the Baidoa Heat-Health Taskforce Plan will be funded through a combination of national and international sources, leveraging existing policy frameworks such as Somalia's Third Nationally Determined Contribution (NDC 3.0), which highlights the health sector as a priority for climate adaptation and resilience.

While dedicated funding streams are being developed, anticipated support will come from:

- Somalia national budget allocations via the South West State Ministry of Health (SMoH) and District Health Office,
- International donors and funding instruments such as the Green Climate Fund, Adaptation Fund, UN agencies, and bilateral/multilateral partners,
- Foundations and NGOs supporting climate-health initiatives, e.g., Novo Nordisk Foundation, and green climate
- Public-private partnerships to enhance water provision, shade infrastructure, and communication technology for heatwave preparedness.

12. Financing and Resource Mobilization Measures:

- Develop a costed implementation plan with detailed budgeted actions for all preparedness and response activities.
- Proactively seek funding from UN agencies, international NGOs, and local partners.
- Promote public-private partnerships to support infrastructure, cooling centers, and early warning dissemination.
- Advocate for allocation of funds within the SMoH annual plan and district-level health budgets to sustain operational readiness and community protection.

13. Estimated Health Heat Wave Budget Plan

Table 3 Heat Health Budget

Component	Activity Description	Responsible Organization(s)	Monitoring Indicators	Budget (USD)	Funding Source
Adaptations to Existing Services					
Activity 1: Community Heat Risk Education	Awareness campaigns through radio (Maay language), social media, and community meetings; outreach in IDP camps, markets, and schools.	MoH, Deegaan Development Organization	- Number of sessions conducted- People reached- Community feedback reports	25,000	UN agencies, international NGOs, and local partners.. Novo Nordisk Foundation /
Activity 2: Facility Adaptation and Infrastructure Improvement	Install solar fans, shaded triage areas, and water points in all health facilities; maintain ventilation and cooling systems.	Bay Regional Hospital, Suqa Xoolaha HC, MoH	- Number of facilities upgraded- Functionality of cooling systems- Facility	70,000	MoH / MoECC/ UN agencies, A FDB, GCF, international NGOs,

			monitoring reports		and local partners.
Activity 3: Training Health Workers	Conduct training for clinicians and CHWs on recognition and management of heat-related illnesses.	Green Som University, MoH	- Number of trained staff- Pre-/post-training assessment scores	18,000	UN agencies, international NGOs, and local partners. / MoH
Subtotal – Adaptations				113,000	
6. Early Warning System (EWS) and Triggers					
EWS Implementation	Use of SWSS local meteorological data, WHO localized Heat EWS, and community alert mechanisms via SMS and radio.	SWSS, MoH,	- Timeliness of EWS reports- Number of alerts disseminated	10,000	MoECC / SWSS
Trigger Activation & Public Communication	Disseminate alerts through SMS, radio, mosques, and CHWs when temperature >40°C for 3 days or heat index >45°C.	MoH, IMC, Community Committees	- Response time after alert- Population coverage	8,000	MoH /
Subtotal – EWS				18,000	
7. Preparedness and Response Activities					
Activity 1: Establishment of Cooling Centers	Convert community halls and tents into cooling shelters in IDP settlements and markets.	MoH, Bay Regional Hospital, Local Government	- Number of operational centers- People accessing centers	45,000	Local Government
Activity 2: Prepositioning of Medical and Cooling Supplies	Store ORS, IV fluids, cooling blankets, fans, and electrolyte solutions.	District Health Office, Logistics Team	- Stock inventory levels- Monthly reporting	30,000	MoH
Activity 3: Communication and Public Alerts	Disseminate information via radio, SMS, megaphones, posters, and CHW visits; ensure Maay and Somali messaging.	MoECC, MoH, Green Arlaadi	- Number of alerts- Community feedback- Reach of campaigns	20,000	MoECC
Subtotal – Preparedness and Response				95,000	
8. Testing Preparedness and Response	Conduct biannual simulation drills with community members, CHWs, and facility staff. Evaluate coordination, response time, and communication.	MoH, IMC, Bay Regional Hospital	- Number of drills conducted- Response time improvement	12,000	MoH /

9. Evaluation of Heat-Health Plan	Annual review by Baidoa Heat-Health Taskforce to assess reduction in heat illness, facility readiness, and public awareness.	MoH, Taskforce	- Annual evaluation report- Indicator performance	7,000	MoH /
HHAPMP Funds monitoring	Monitoring and evaluation of the funded activities	MOH	# amount of funding requested to implement HHAPMP # Amount of Funding Secured to implement HHAPMP	Monitoring and evaluation unit of the MOH	MoH
Subtotal – Evaluation and Testing				19,000	
Total Estimated Budget for Baidoa Heat Health Management Plan				245,000 USD	

Annex 1: Preparedness Stocks

Category	Items	Storage Sites	Responsible
Cooling Equipment	Fans, portable AC units, shaded tents	Bay Regional Hospital, Suqa Xoolaha HC	Partners /MoH,SWS, SODMA, MCCE
Medical Supplies	IV fluids, ORS, electrolyte tablets, thermometers	All major facilities	MoH/SODMA
Communication Materials	Posters, leaflets, radio scripts, SMS templates	MoH HQ and CHW network	Green Arlaadi,MOH, Metrological unit
PPE and Other	Cooling vests, sun hats, gloves	District Warehouse	MoECC/SODMA, MOH

Annex 2: Heat and Occupational Health

This annex outlines key measures to protect health workers and support staff from the risks of extreme heat during heatwaves and hot seasons. These actions aim to ensure staff safety, maintain service continuity, and reduce heat-related illness among frontline personnel. The following is a more detailed set of activities to ensure the health of staff during heatwaves:

1. In preparation for heat events, host a heat stress awareness session for staff.
 - a. Encourage staff to “stay healthy”, hydrate, and maintain a basic level of aerobic fitness.
 - b. Encourage heat acclimatization planning and use progressive exposure to improve thermal tolerance.
2. Ensure awareness of hot weather conditions amongst staff.
 - a. Provide information on local weather conditions and forecasts as well as associated risk, particularly when conditions change.
 - b. Monitor workers for signs and symptoms of heat-related illness
 - c. Create a ‘buddy’ system for informal peer-to-peer monitoring of heat stress, following a protocol that is appropriate to your context.
 - d. In conditions conducive to heat stress, avoid situations where staff work alone.
 - e. Supervisors are also responsible for monitoring staff for the signs and symptoms of heat stress.
3. Limit staff exposure to heat and/or exertion.
 - a. Consider needed staffing levels to enable surge/shadow rotations to facilitate break and rest periods.
 - b. Schedule work that may result in the rapid storage of body heat and/or increase body core temperature as manageable periods of time. Follow this with exposure to cooler areas to dissipate body heat and reduce the risk of heat stress. This could involve directing staff to tasks and wards requiring different levels of PPE.
 - c. Work/rest cycles are an established approach but may not always be practicable. Mechanical aids (e.g. trolleys) can also help to reduce physical workloads and, as a result, the body’s metabolic heat production.
4. Establish a cool rest area for staff.
 - a. Provide a cool area for staff and schedule adequate time for cooling during rest breaks.
 - b. Ensure air conditioning and ventilation systems are regularly inspected and maintained, and operate at the correct settings.
 - c. In many places, electric fans may be more accessible; but may help transmit the virus indoors, and in very hot and dry environments these can increase heat stress.
 - d. Consider supplementing with ice slurry consumption where cooling facilities are not available or are insufficient, particularly in hot and humid conditions.
 - e. Consider the use of cooling devices under protective garments such as a vest with phase change materials, ice or equivalent.
5. Ensure sufficient hydration and nutrition for staff.
 - a. Provide cool water and access to food within clean (and ideally cool) areas.
 - b. Encourage staff to self-monitor their hydration. Practical options include: displaying simple urine-colour charts in toilet facilities; and providing weighing

scales in changing rooms so that staff can weigh themselves before and after each shift to calculate fluctuations in their body mass (and therefore hydration level).

6. Consider how to ensure cooled toilet facilities.
 - a. Providing toilet facilities within hot areas encourages staff to continue hydrating rather than reducing their fluid intake to avoid urinating until they can reach a more convenient toilet in a cooler area. This reduces their risk of dehydration due to the combined effects of heat and a lack of fluids.
7. Establish a formal monitoring system for staff heat experiences.
 - a. Encourage workers to report heat stress symptoms.
 - b. Consider issuing a brief anonymous staff survey to monitor heat stress symptoms and the adequacy of control strategies.
 - c. Create a critical incident log to record heat illness and “near misses”. This can inform future policies as well as the training of new staff.
8. Ensure access to treatment area for heat-related illness of staff, including heat stroke.
 - a. Provide access to cooling facilities for staff to rapidly reverse excessively high body core temperature.

Where immersion in cool water is not practicable, apply cold towels and/or ice packs to the body.