



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

Federal Government of Somalia

Banadir Regional Administration (BRA)

Ministry of Health (MoH)

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Prepared by Ministry of Health & Human Services — Federal
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(Note that this document can serve as an anticipatory action protocol)

Executive Summary

The Banadir Heat Health Management Preparation Action Plan (HHAPMP) is a strategic framework developed to address the growing public health risks associated with extreme heat in Mogadishu and surrounding districts. As climate change intensifies, Banadir faces rising average temperatures and increasingly frequent heatwaves, which pose serious threats to vulnerable populations and strain the region's health system. This plan responds to the urgent need for coordinated, evidence-based action to protect health and build resilience in the face of heat-related hazards.

Developed by the Ministry of Health and Human Services (MoH) in a close collaboration with International Medical Corps (IMC), and other stakeholders including the Banadir Regional Administration (BRA), and generously funded by the Novo Nordisk Foundation (NNF). The HHAPMP is grounded in findings from the Somalia Heat and Health Vulnerability and Impact Assessment (IMC, 2025) and stakeholder consultations held in Mogadishu. It outlines both long-term adaptations to rising temperatures and emergency preparedness for acute heatwave events.

The HHAPMP focuses on five core areas: (1) strengthening health facility preparedness through infrastructure upgrades and supply management; (2) enhancing community awareness and risk communication; (3) establishing early warning systems and response protocols; (4) protecting health workers through occupational safety measures; and (5) improving coordination, monitoring, and evaluation. Special attention is given to vulnerable groups, including children, the elderly, pregnant women, people with chronic illnesses, and residents of informal settlements such as IDPs.

This plan serves as a model for localized heat-health preparedness and is designed to be scalable to surrounding districts in the Banadir region. It will be reviewed and updated annually based on new data, stakeholder feedback, and evolving climate conditions. Through this action plan, Banadir takes a critical step toward safeguarding public health in a warming world.

Acknowledgement

This document was developed through the dedicated efforts and technical expertise of a multi-disciplinary team committed to enhancing heat resilience in Somalia. Special appreciation is extended to the following individuals for their significant contributions to the design, validation, and finalization of the Banadir Heat Health Action Preparedness and Management Plan (HHAPMP):

- Hassan Osman: MSc. Climate Change, & Env. Health Specialist, MOH Advisor
- Dr. Omar Abdulle: MD, MPH, Epidemiologist, MOH Advisor
- Hassan Mowlid: IMC Project Officer

Their leadership and technical guidance ensured that this plan is grounded in evidence and aligned with national health and climate priorities. We also acknowledge the broader support provided by the Federal Ministry of Health (FMoH), the Banadir Regional Administration (BRA), and the International Medical Corps (IMC).

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1. Background

In recent years, Banadir region, a home to Somalia's capital, Mogadishu has experienced increasingly intense and prolonged periods of heat. This trend is not isolated, it reflects a broader pattern of climate change that is reshaping weather patterns across the Horn of Africa. For communities in Banadir generally, especially those living in informal settlements or internally displaced persons (IDP) camps, the rising temperatures are not just uncomfortable but they are dangerous. Many households lack access to cooling, clean water, or adequate shelter, making them highly vulnerable to heat-related illnesses in Banadir. These risks are compounded by poverty, overcrowding, and limited access to health services.

The Somalia Heat and Health Vulnerability and Impact Assessment (IMC, 2025) identified Banadir as one of the regions most at risk from both long-term temperature increases and acute heatwave events. The assessment found that health facilities in Mogadishu are already seeing seasonal spikes in cases of dehydration, heat exhaustion, and complications among patients with chronic illnesses. However, most facilities are not equipped to respond effectively. They lack cooling infrastructure, surge capacity, and trained personnel to manage heat-related emergencies. The assessment also highlighted gaps in public awareness, early warning systems, and coordination among health actors.

To address these challenges, the Ministry of Health and Human Services (MoH), in collaboration with Banadir Regional Administration (BRA) and other international partners such as the International Medical Corps (IMC), initiated the development of a Heat Health Management Preparation Action Plan (HHAPMP) for Banadir. This plan is grounded in evidence, informed by local consultations, and aligned with global best practices. It aims to protect the health and well-being of Mogadishu's residents by strengthening preparedness, improving response systems, and building long-term resilience to heat.

1.1 The Purpose of the 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.
- It also aims 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.

1.2 Scope of the HHAPMP

This action plan focuses on the Banadir region, with a particular emphasis on Mogadishu 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.

1.3 Methodology

The HHAPMP was developed through a participatory and evidence-based process. It began with climate and health data provided the Somalia Heat and Health Vulnerability and Impact Assessment (August 2025), findings from focus group discussions (FGDs), and stakeholder workshops held in Mogadishu in July 2025, which included representatives from MoH, BRA, IMC, WHO, and local NGOs. These consultations helped identify priority risks, vulnerable groups, and gaps in capacity. The plan was structured using IMC's recommended format and validated through technical inputs, review and feedback from MOH, local health authorities and partners.

2. Country and Location (District / Region) of Heat Health Action Plan:

Country: Somalia, located in the Horn of Africa, is one of 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 year-round, which are intensifying due to global warming. The health sector in Somalia faces significant challenges in responding to climate-related risks, including limited infrastructure, fragile health systems, and high levels of poverty and displacement. These challenges are especially pronounced in urban centers like Mogadishu, where rapid population growth and informal settlements exacerbate exposure to heat.

Region: Banadir region, has the capital city of Somalia Mogadishu, which is the political, economic, and demographic heart of Somalia. It is home to an estimated 4 million people, including a large number of internally displaced persons (IDPs) around 25%, living in overcrowded and poorly ventilated shelters. The region's health facilities serve a diverse and densely populated urban population, but many are under-resourced and ill-equipped to manage climate-sensitive health risks. Banadir's vulnerability to heat is compounded by its urban landscape, characterized by concrete structures, limited green spaces, and inadequate water and sanitation services, which contributes to the urban heat island effect and increases the health burden during hot season.

Table 1: Health Facilities

District	Health Facility Name	HF Type
Dharkenley	Banadir Hospital	Health Care
Daynille	Deynile Hospital	Hospital
Hodan	Hodan Health Care	Health Care
Waberi	DeMartini Hospital	Hospital
Karaan	Karaan Health Care	Health Care

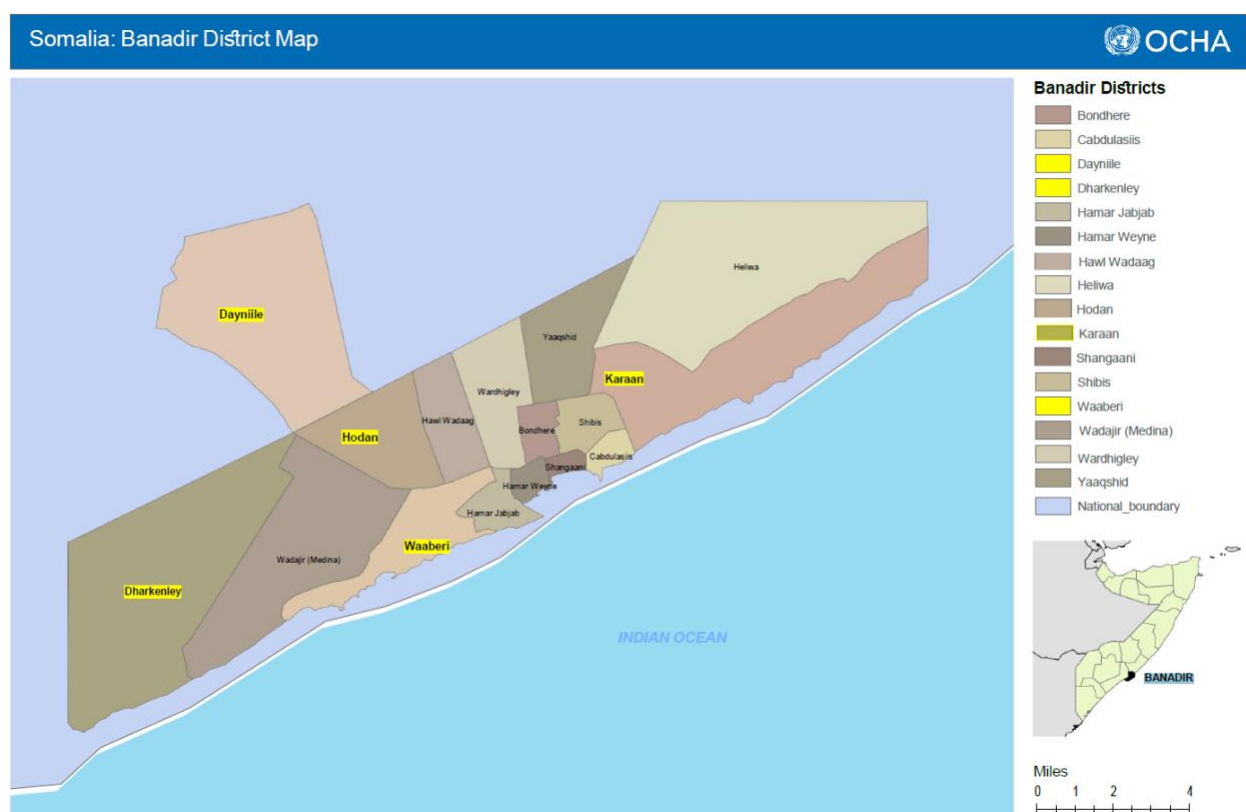


Figure 1. Map of Banadir Region Highlighting Five Key Districts

This Map illustrates the geographical layout of the Banadir Region, with five districts prominently highlighted for emphasis.

3. Brief assessment of risks and vulnerabilities related to heat

3.1 Long-term Risk:

Banadir's communities are already experiencing the slow but relentless impacts of rising average temperatures, a trend is projected to accelerate in the coming decades. According to the World Bank, Somalia's mean annual temperature has been increasing at approximately 0.21°C per decade since 1991, with Banadir's urban and peri-urban areas exposed due to the limited green spaces. This gradual warming is not just a statistic it translates into longer hot seasons, more frequent days above 40°C, and persistent discomfort for families living in poorly ventilated shelters or informal IDP settlements. Over time, these conditions erode the health and resilience of the most vulnerable people such as children, the elderly, pregnant women, and people with chronic illnesses, who face higher risks of dehydration, heat exhaustion, and worsening of cardiovascular and respiratory diseases (World Bank, 2022; Somalia Heat and Health Vulnerability Capacity Assessment, 2025).

The long-term rise in temperature also places a silent but growing strain on Banadir's health system and social safety. Health facilities, already stretched by resource limitation, must cope with increased patient loads during hot periods, while also facing challenges in maintaining cold chains for medicines and vaccines. Water scarcity becomes more acute as evaporation rates rise, threatening both drinking water supplies and hygiene standards. For many households, especially in IDP camps, the lack of shade, cooling infrastructure, and reliable electricity means that daily life becomes a struggle for comfort and safety. The following are the long-term risks:

- Rising means annual temperature.
- Increased frequency/severity of heat days.
- Chronic health impacts: cardiovascular, respiratory, renal, mental health.
- Strain on health infrastructure, water, and energy.

3.2 Emergency Risks:

Banadir faces acute emergency risks during periods of extreme heat, particularly when temperatures soar above 40°C and humidity levels are high. These heatwaves can trigger sudden spikes in heat-related illnesses such as heat exhaustion, dehydration, and life-threatening heatstroke, overwhelming health facilities that are already operating with limited resources. Power outages is common during peak heat, it can disrupt cooling systems, water supply, and the cold chain for essential medicines and vaccines, further compounding health risks.

3.3 Vulnerable Groups

The impacts of extreme heat in Banadir are not felt equally certain groups face far greater risks due to their age, health status, living conditions, or occupation. Children under five, whose bodies are less able to regulate temperature, and elderly people who often have underlying health conditions, are especially susceptible to heat-related illnesses and dehydration. Pregnant and lactating women

face additional risks as high temperatures can threaten both maternal and fetal health. People living with chronic diseases such as cardiovascular, respiratory, or renal conditions are at heightened risk of complications or death during heatwaves. Outdoor workers including laborers, market vendors, and transport workers are exposed to the sun for long hours with limited access to shade or hydration. Internally displaced persons (IDPs) and residents of informal settlements are among the most exposed, often living in overcrowded, poorly ventilated shelters made of heat-trapping materials. People with disabilities and those with limited mobility may struggle to access cooling centers or emergency services. Recognizing and prioritizing these vulnerable groups is essential for an effective, equitable heat-health action plan (Somalia Heat Health Vulnerability and Capacity Assessment 2025).

4. Participating organizations

Lead Organization: Ministry of Health and Human Services (MOH)

Participating organizations: MoECC, BRA, IMC, WHO, SoDMA

Arrangements for coordinating participating organizations

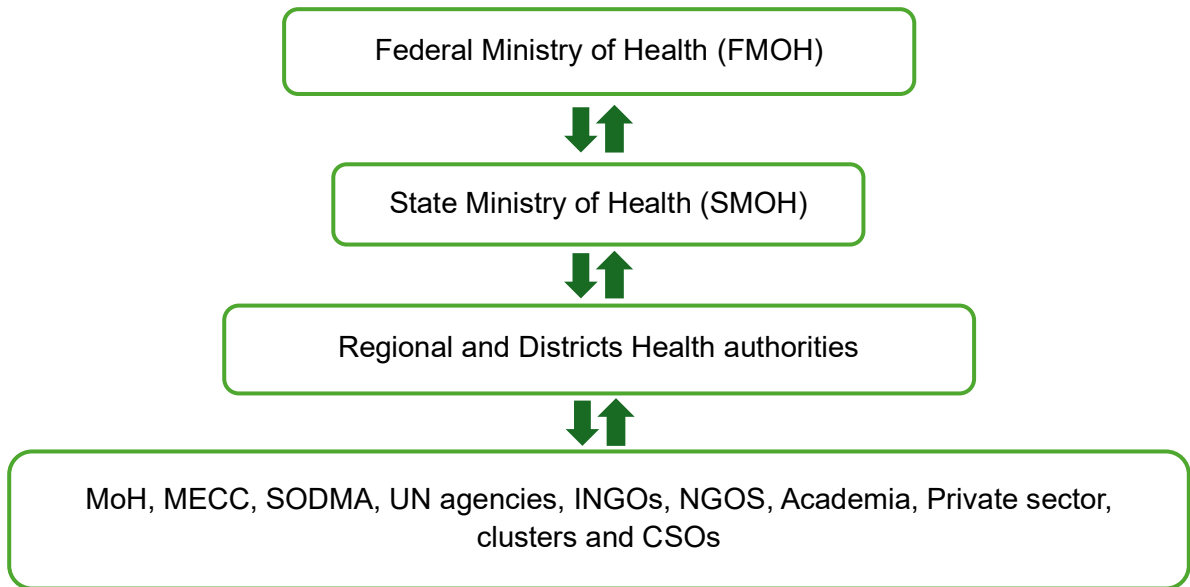


Figure 2. Coordination Structure for HHAPMP Implementation in Banadir

This flowchart illustrates the hierarchical coordination mechanism for the current participants of HHAPMP, with the Ministry of Health and Human Services (MoH) leading at the national level, supported by a Technical Working Group (TWG) comprising key partners including IMC, WHO, HEALTH/WASH CLUSTER, UNICEF, Horn Environmental & Sustainable Development (HESDA), Gapbridge Institute for Research and Consultancy, and authorities, and authorities, including Federal MOH's, BRA, MoECC SoDMA, and State level MOH's and MoECC. Coordination cascades down to district health teams and health facilities, ensuring localized implementation and community-level responsiveness.

5. Adaptations to existing services to address risks of increased average temperatures

Table 2: Adaptation Optimization in Banadir Region

Activity	Description	Target Population / Facilities	Monitoring Indicators	Frequency	Responsible Institutions	Lead Organization	Budget
Community Heat Risk Education	Year-round awareness campaigns via radio, SMS, and mosques on heat risks, hydration, and protective behaviors. Social media. public gathering /places	General public, vulnerable groups	# of sessions, # of people reached, pre/post knowledge scores Output: # of unique individuals reached by SMS/radio alerts; # of community sessions held. Outcome: % of community members who can correctly identify 3+ heat protection measures	Monthly Community Surveys, and Radio transmission logs.	UN agencies, World Bank, EU, IMF, IGAD, FCDO, SIDA, MoE, Sports, MIC, MoECC, NOVA Nordisk, MOH, BRA, UN agencies, INGOs, NGOs, CSOs, and MoF, SODMA	MoH/MoE,	USD 58,000
Health Facility Cooling Upgrades	Install solar-powered fans, improve cross-ventilation, water dispensers, backup power, and create shaded triage areas (including tree planting) to reduce the “urban heat island” effect in clinics.	Five (5) public health facilities in Banadir	Output: # and % of health facilities with functional cooling systems (solar fans, ventilation, or shaded areas) installed. Outcome: % of facility hours (12PM-3PM) where indoor temperature reduction/lower (°C) in upgraded facilities compared to baseline	Monthly facility audit, Daily temp & equipment logs	UN agencies, World Bank, EU, IMF, IGAD, FCDO, SIDA, NOVA Nordisk, INGOs, NGOs, CSOs, Private sectors, International community, SODMA, MECC, clusters	MoH	USD 185,000

Capacity strengthening , health worker Staff Training on Heat Illness, and operational readiness	Train health workers on heat illness recognition (of cardiovascular), triage, and management of heat-related conditions. ensure regular readiness checks before hot seasons.	Health workers in public and private facilities	Output: # and % of clinical staff (F/M) completing the HHAPMP training module. Outcome: % of staff achieving on clinical proficiency simulations for heat risk management. % of facilities with heat SOP/triage protocol available. % of facilities with monthly readiness review conducted.	Training Attendance sheets; Annual Post Training Drills	UN agencies, World Bank, EU, IMF, IGAD, FCDO, SIDA, INGOs, NGOs, CSOs, Private sectors, International community, SODMA, MECC, clusters, and MoF	MoH	USD 44,110
Essential medicine supplies and equipment, and Safe drinking Water	Ensure clean water and Oral Rehydration Solutions (ORS) stations at Banadir facilities and IDP communal points during hot seasons	Five Health facilities, especially in IDP areas	Output: % of facilities with Essential medicine supplies and equipment, % of facilities with Safe drinking Outcome: % of target facilities maintaining zero “stock-out days” for ORS and water during peak heat months	Monthly Logistics/Stock Records; Water Availability Logs.	UN agencies, INGOs, UN agencies, World Bank, EU, IMF, IGAD, FCDO, SIDA, NOVA Nordisk, NGOs, CSOs, Private sectors, International community, SODMA, MECC, clusters	Ministry of water, Mineral and energy	USD 216,000
Surveillance System Integration	-Technically integrate heat-related illness codes (heat risk, dehydration) into the national DHIS2 platform for reporting -Business requirement document(heat illnesses, respiratory, Mental Health and etc) -Use the DHIS2 climate app	All health facilities	Output: Successful technical integration of 3specific heat health codes into DHIS2 (Yes/No). Outcome: % of HF submitting complete and timely heat illness data.	DHIS2/HMIS Quarterly Reports	UN agencies, World Bank, EU, IMF, IGAD, FCDO, SIDA, INGOs, NGOs, CSOs, Private sectors, international community, SODMA, MECC, clusters, and MoF	MoH	USD 39,102

Community Health Workers household outreach	Empower Community Health Volunteers (CHWs) to perform home visits for the elderly and pregnant women to deliver early warnings and monitor vulnerability	CHWs in urban and peri-urban districts	Output: # of high-risk households visited by CHWs for heat protection counseling. Outcome: % of visited high-risk individuals reporting increased hydration or shade-seeking during heat alerts	Monthly CHW Activity Reports; Household Surveys	UN agencies, World Bank, EU, IMF, IGAD, FCDO, SIDA, INGOs, Bank, NGOs, CSOs, Private sectors, International community, SODMA, MECC, clusters and MoF	MoH	USD 63,500
Cooling Centers Activation	Repurpose public halls, mosques, and schools as designated cooling shelters during forecasts exceeding 35°C	IDPs, elderly, pregnant women, outdoor workers	Output: # of cooling centers operational within 24 hours of an alert. Outcome: % of patients' satisfaction reporting with the cooling effectiveness. % of patients satisfied with waiting times in cooled areas. % of patients satisfied with overall comfort during their visit.	Center Registry/Usage Logs. Exit Interviews/Hotline Feedback	UN agencies, World Bank, EU, IMF, IGAD, FCDO, SIDA, INGOs, Bank, NGOs, CSOs, Private sectors, International community, SODMA, MoEC/WMMoWME clusters, and MoF	MoH/	USD250,205
Total	USD 925,917						

5.1 Key Gaps in Health Facility Staffing and Readiness

Health facilities in Banadir are already experiencing seasonal increases in dehydration, heat exhaustion, and complications among patients with chronic illnesses, yet the current system remains insufficiently prepared to manage heat-related surges in a structured and timely manner. The Banadir HHAPMP itself acknowledges that many facilities are under-resourced and not adequately equipped to respond to heat-related emergencies, with gaps in cooling infrastructure, surge capacity, trained personnel, early warning linkages, and overall coordination. This means that, even where the risk is recognized, operational readiness at facility level remains weak and heavily dependent on ad hoc responses rather than standardized preparedness arrangements. A major gap relates to health workforce capacity and staffing readiness during peak heat periods. The wider Somalia Heat and Health Vulnerability and Impact Assessment found that facility preparedness is critically low overall, with an average heat service readiness score of only 1.29 out of 5. Only 5.9% of facilities had heat action plans, 11.8% had heat illness standard operating procedures, and 29.4% had trained staff. The same assessment further notes that Banadir faces rising urban heat island risks while facility capacity remains modest. In practice, this means many facilities may not have sufficient trained staff on duty to identify heat illness early, manage triage safely, respond to cardiovascular complications, or maintain continuity of care when caseloads rise during hot periods.

Another critical weakness is the limited operational readiness of facilities as systems, not just as buildings. Readiness requires more than fans, shade, or water points; it also depends on whether facilities have clear heat-response focal persons, duty rosters for peak heat periods, referral pathways, emergency stocks, and protocols for protecting both patients and health workers. The VCA shows that most facilities lack adequate shaded waiting areas, functional cooling, reliable electricity, and water, while routine health information systems still do not capture heat-related illness properly. This creates a double problem: facilities are clinically underprepared, and managers also lack the surveillance data needed to anticipate demand, monitor seasonal trends, and trigger response actions in time. A useful way to strengthen the Banadir region is to make these staffing and readiness gaps explicit. Therefore, this plan explicitly identifying gaps in staffing, protocols, chronic disease preparedness, surveillance, and seasonal readiness.

6. Preparedness and Response Activities for Heatwaves

Table 3: Preparedness and Response Activities

Activity	Description	Target Population / Facilities	Monitoring Indicators	Frequency	Responsible Institutions	Lead Institution
Heat risk Trigger-based Early Warning Alerts	Disseminate alerts via SMS, radio, posters, loudspeakers, mosque, public gathering and social media when temp are forecasted exceed 35°C for 3 days	General public, especially vulnerable groups	Output: % of target geographic area reached by SMS/radio alerts within 6 hours of a trigger event. Outcome: % of community respondents who report taking at least one protective action (e.g., drinking more water) upon receiving the alert.	Telecom transmission logs; Rapid Post-Alert Community Surveys.	UN agencies, World Bank, EU, IMF, IGAD, FCDO, SIDA, MoE, MIC, MoECC, NOVA Nordisk, MOH, BRA, State, UN agencies, INGOs, NGOs, CSOs and MoF	SoDMA/MOEC C
Cooling Centers Activation	Purpose Open shaded or ventilated spaces in clinics, mosques, schools, public halls/mosques as cooling shelters	IDPs, elderly, outdoor workers	Output: % of designated centers fully operational (staffed, powered, and water-equipped) within 24 hours of a trigger. Outcome: Utilization rate of centers by registered vulnerable groups (elderly, children, IDPs) during peak heat hours (12 PM–4 PM).		UN agencies, World Bank, EU, IMF, IGAD, FCDO, SIDA, MoE, MIC, MoECC, NOVA Nordisk, MOH, BRA, State, UN agencies, INGOs, NGOs, CSOs and MoF	MoH/SODMA/MoECC
Hydration Points Distribution	Provide clean drinking water and ORS at public locations and health facilities	General public, especially in high-risk areas	Output: # of liters of safe water and ORS packets distributed per person per day during a trigger event. Outcome: % reduction in dehydration-related admissions from target IDP settlements compared to previous baseline.	Logistics distribution logs; DHIS2 health facility data.	UN agencies, World Bank, EU, IMF, IGAD, FCDO, SIDA, MoE, MIC, MoECC, NOVA Nordisk, MOH, BRA, State, UN agencies, INGOs, NGOs, CSOs,	MoH
Medical Surge & kit prepositioning	Pre-position emergency kits, increase staffing, and prepare for heat-related cases	Health facility in Banadir	Output: % of priority facilities maintaining a 100% stock of "Heat-Health Kits" during peak months.		UN agencies, World Bank, EU, IMF, IGAD, FCDO, SIDA,	MoH

			Outcome: % of heat-related illness cases (F/M) managed according to protocols without facility-level stock-outs.		MoE, MIC, MoECC, NOVA Nordisk, MOH, BRA, State, UN agencies, INGOs, NGOs, CSOs and MoF	
Outreach to Vulnerable Individuals	Register and visit high risk individuals during heatwaves	Elderly, disabled chronically ill, pregnant women	Output: % of registered high-risk households visited by a CHW within 24 hours of an emergency trigger Outcome: # individuals with high-risk registered, or report no onset of heat-exhaustion symptoms during the alert period.	CHW mobile reporting apps; DHIS2 (if integrated)		MoH/BRA
Facility Operations Adjustment	Modify/shift clinic hours ensure shaded waiting areas, and provide cooling equipment and avoid peak hours	Health facilities	# of facilities adjusted, a # of HF maintaining indoor temp			MoH/BRA
Cooling Equipment Maintenance	Ensure fans, refrigerators, and functional backup power systems	Health facilities	Outcome: % of HF with functional cooling equipment. Frequency of maintenance check per quarter Maintenance logs, equipment uptime, temperature records			MoECC

7. Arrangements for Testing Preparedness and Response Activities

To ensure operational readiness, the HHAPMP will be tested annually before the onset of the hot season (e.g., March-April) through tabletop exercises and simulated heatwave response drills. These will be coordinated by MOH in collaboration with IMC, BRA, and other TWGs. Testing will occur prior to the onset of the hot season and will include health facility staff, community focal points, and emergency responders. After-action reviews will be conducted to document lessons learned, assess readiness, and recommend improvements. These findings will be shared with the Technical Working Group (TWG) and used to update/improve the plan.

8. Arrangements for Evaluation of Heat Health Plan

The HHAPMP will be evaluated annually (September) to assess both implementation and impact. Process evaluations will review activity completion, stakeholder coordination, and resource use. Impact evaluations will analyze heat-related morbidity and mortality trends using DHIS2 data and facility reports, and WHO Heatwave Preparedness Checklist and Epidemic Simulation Exercise Toolkit. Community feedback will be collected through surveys and focus groups. Findings will inform updates to the plan, ensuring continuous improvement and relevance.

9. Arrangements for Fund Mobilization

Funding for the implementation of the Banadir HHAPMP is expected to be mobilized through a combination of national and international sources. As outlined in Somalia's Third Nationally Determined Contribution (NDC 3.0), the health sector is explicitly recognized as a priority for climate adaptation and resilience, with commitments to channel climate finance towards strengthening public health systems and preparedness for climate-related risks, including extreme heat. While dedicated funding streams are still being developed for the key activities, the plan anticipates support from the Somalia national budget, as well as from international climate change funding instruments such as the Green Climate Fund, Adaptation Fund, and bilateral and multilateral donors such as World Bank, Novo Nordisk Foundation. The integration of health sector adaptation in the NDC 3.0 provides a strong policy basis for aligning domestic resources and leveraging external climate finance to ensure the sustainability and effectiveness of heat-health preparedness activities in Banadir and across Somalia.

Annex 1: Fund Mobilizing for Key Activities

Table 4: Estimated Banadir HHAPMP Budget Plan for Key Activities

Component	Activity Description	Responsible Organization(s)	Monitoring Indicators	Budget (USD)	Funding Source
Key Adaptations to Existing Services					
Activity 1: Community Heat Health Risk Education	Awareness campaigns through radio (Maay language), social media, and community meetings; outreach in IDP camps, markets, and schools.	MOH, BRA, State MoH, UN agencies, INGOs, NGOs, CSOs, Private sectors, international community, academia, Institutions, SODMA, MECC, clusters, All stakeholders	Number of sessions conducted- People reached- Community feedback reports	58,000	Novo Nordisk Foundation, GCF, Adaptation Fund, UN Agencies, World Bank, African Development Bank, UN agencies, World Bank, EU, IMF, IGAD, FCDO, SIDA, MoE, MIC, MoECC, NOVA Nordisk, MOH, BRA, State, UN agencies, INGOs, NGOs, CSOs, and MoF
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.		Number of facilities upgraded- Functionality of cooling systems- Facility monitoring reports	185,000	
Activity 3: Capacity Strengthening Health Workers	Conduct training for clinicians and CHWs on recognition and management of heat-related illnesses.		Number of trained staff- Pre-/post-training assessment scores	44,110	
Subtotal – Adaptations				287,110	
Heat Health Early Warning System (EWS) and Triggers					
EWS Implementation	Use of BRA/SODMA/MoECC meteorological data, WHO localized Heat EWS, and community alert mechanisms via SMS and radio.	MOH, BRA, State MoH, UN agencies, INGOs, NGOs, CSOs, Private sectors, international community, academia, Institutions, SODMA, MECC, clusters, All stakeholders	Timeliness of EWS reports- Number of alerts disseminated	84,310	
Trigger Activation & Public Communication	Disseminate alerts through SMS, radio, mosques, and CHWs when temperature >35°C for 3 days or heat index >45°C.		Response time after alert- Population coverage	37,455	
Subtotal – EWS				121,765	
Key Preparedness and Response Activities					
Activity 1: Establishment of Cooling Centers	Convert community halls and tents into cooling shelters in IDP settlements and markets.	MOH, BRA, State MoH, UN agencies, INGOs, NGOs, CSOs, Private sectors, international	Number of operational centers- People accessing centers	250,205	Novo Nordisk Foundation, GCF, Adaptation Fund, UN Agencies, World Bank, African

Activity 2: Prepositioning of Medical and Cooling Supplies	Store ORS, IV fluids, cooling blankets, fans, and electrolyte solutions.	community, academia, Institutions, SODMA, MECC, clusters, All stakeholders	Stock inventory levels- Monthly reporting	216,000	Development Bank,
Subtotal – Preparedness and Response				466,205	
Testing Preparedness and Response	Conduct biannual simulation drills with community members, CHWs, and facility staff. Evaluate coordination, response time, and communication.		Number of drills conducted- Response time improvement	40,541	
Evaluation of Heat-Health Plan	Annual review by Banadir Heat-Health Taskforce to assess reduction in heat illness, facility readiness, and public awareness.		Annual evaluation report- Indicator performance	25,015	
Subtotal – Evaluation and Testing					
Total Estimated Budget for Banadir Heat Health Management Plan				USD 940,636	

Note:

- Budget includes direct implementation, monitoring, and coordination costs.
- Administrative overheads (approx. 5%) and contingency funds are embedded in total estimates.
- Community-based monitoring will ensure transparency and accountability through joint reviews by IMC, MoH, local and, International partners.

Annex 2: Preparedness stocks of medication and equipment for heatwaves

This annex outlines the essential medical supplies and equipment required to prepare health facilities in Banadir for heatwave response. These items support hydration, emergency treatment, cooling, and protection of vulnerable patients and health workers.

Item	Quantity Needed	Storage Location	Responsible	Status/Note
Oral Rehydration Salts (ORS)	TBD	Central medical warehouse	MOH	High demand in heatwaves
Iv Fluids (Ringer's Lactate, NS)	TBD	Referral hospitals, clinics	MOH	
Electrolyte Tablets	TBD	Mobile health units	partners	
Cooling Fans	TBD	Health facilities	BRA	
Solar/Backup Generators	TBD	Major health facilities (Hospitals)	MOH	
Shade Structures	TBD	Health centres/IDPs	HEALTH Cluster	
PPE for Heat Response	TBD	All health facilities	MOH	
Water Tanks	TBD	Clinics, PHU, cooking centres	WASH Cluster	
Thermometers	TBD	All HF, & mobile units	MOH, all partners	
Emergency Medical Kits	TBD	Pre-positioned in facilities	MOH & All partners	

Annex 3: Preparedness stocks of medication and equipment for heatwaves

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.

Measure	Target Group	Implementation Method	Responsible Institution	Monitoring Indicator
Work/rest cycles during heatwaves	Health workers	Adjust shift schedules to reduce exposure during peak heat hours	partners	Staff feedback, absenteeism rates
Hydration stations in clinics	All staff	Install water dispensers and provide drinking water	MoH,	Water usage logs
Shaded rest areas	Health workers	Set up tents or ventilated rooms for breaks	BRA, HF managers	Facility audits
Heat stress awareness training	All staff	Conduct seasonal workshops and briefings	All Partners	# trained, knowledge assessment
PPE adjustments for hot conditions	Frontline workers	Provide lightweight uniforms and cooling vests	MoH, BRA	Staff satisfaction surveys
Monitoring of heat-related staff illness	All staff	Establish incident reporting system for heat-related symptoms	MoH, BRA	# of reported cases
Cooling equipment maintenance	Facility staff	Regular servicing of fans, AC units, and backup generators	MoH, BRA	Equipment uptime logs
Mental health support during heatwaves	Health workers	Provide counseling and peer support for stress management	All partners	# of sessions held, feedback reports

Annex 4: 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.
 - b. Where immersion in cool water is not practicable, apply cold towels and/or ice packs to the body.

Measure	Target Group	Implementation Method	Responsible Institution	Monitoring Indicator
Work/rest cycles during heatwaves	Health workers	Adjust shift schedules to reduce exposure during peak heat hours	All partners	Staff feedback, absenteeism rates
Hydration stations in clinics	All staff	Install water dispensers and provide drinking water	MoH,	Water usage logs
Shaded rest areas	Health workers	Set up tents or ventilated rooms for breaks	BRA, HF managers	Facility audits
Heat stress awareness training	All staff	Conduct seasonal workshops and briefings	All Partners	# trained, knowledge assessment
PPE adjustments for hot conditions	Frontline workers	Provide lightweight uniforms and cooling vests	MoH, BRA	Staff satisfaction surveys
Monitoring of heat-related staff illness	All staff	Establish incident reporting system for heat-related symptoms	MoH, BRA	# of reported cases
Cooling equipment maintenance	Facility staff	Regular servicing of fans, AC units, and backup generators	MoH, BRA	Equipment uptime logs
Mental health support during heatwaves	Health workers	Provide counseling and peer support for stress management	All partners	# of sessions held, feedback reports

Annex 4: Community Feedback Tools

This annex outlines the tools and mechanisms used to gather feedback from communities regarding heat-related health risks, preparedness activities, and service delivery. These tools are essential for ensuring that the HHAPMP remains responsive, inclusive, and grounded in community realities.

Tool / Method	Purpose	Target Group	Frequency	Responsible Institution	Monitoring Indicator
Community Surveys	Assess awareness, behaviors, and satisfaction	General public, vulnerable groups	Bi-annual	MoH, BRA and Partners	# of surveys completed, % response rate
Focus Group Discussions (FGDs)	Gather qualitative insights on heat impacts and needs	Women, elderly, IDPs, youth	Annual (pre-heat season)	All	# FGDs held, key themes documented
Suggestion Boxes at Facilities	Collect anonymous feedback on services and preparedness	Health facility users	Continuous	MoH, Facility Managers	# of suggestions received, action taken
Community Health Volunteer Reports	Relay community concerns and observations	CHWs, community leaders	Monthly	MoH, Partners	# of reports submitted, issues escalated
Hotline / SMS Feedback System	Enable real-time reporting of heat-related issues	General public	During heatwave alerts	MoH, BRA	# of messages received, response time
Stakeholder Review Meetings	Validate feedback and adjust plan accordingly	TWG members, community reps	Post-heat season	MOH	

Annex 5: Health Facility Lists

S\No	Region	District	HF Name	HF Type	Latitude	Longitude
1	Banadir	Dharkeynley				
		Deynile				
		Hodan				
		Karaan				