

How African health systems are tackling the climate crisis

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Key messages

Health systems resilience is missing from national climate strategies: Despite growing recognition of health in climate discourse, national climate adaptation plans have yet to embed health system resilience through cross-sectoral planning. Coordinated inter-ministerial action is urgently needed to mainstream health into Nationally Determined Contributions (NDCs) and climate financing frameworks.

Integrating climate forecasts with health planning can improve vaccination delivery and emergency responses: Climate change is accelerating health threats such as vector-borne diseases, malnutrition, and heat stress. Countries like Senegal and Uganda have successfully expanded early warning systems and surveillance.

Health system adaptation to climate impacts in Africa remains underfunded and poorly aligned to health risks: Despite Africa bearing a disproportionate burden of climate-sensitive health conditions, more work is needed to target investments to where climate impacts are greatest, particularly in fragile systems.

Proven climate-health strategies that protect access to care and infrastructure exist and could be accelerated: Countries such as Rwanda and Ethiopia have integrated resilience into primary care infrastructure and community health programs, protecting access to care and nutritional security in climate-vulnerable regions.

Inclusive climate-health responses can address inequities and empower communities: Effective adaptation must be people-centred, involving local communities, women, and marginalised groups in planning and response. In Mozambique, community-based early warning systems and emergency WASH interventions have reduced cholera outbreaks post-disasters.

Investing in climate-smart infrastructure and workforce readiness supports service continuity: Solar-powered clinics in Kenya boosted maternal care uptake, while Uganda and Ghana updated standard operating procedures (SOPs) and staff training to manage seasonal disruptions.

Real-world data on effective adaptation remains limited: Despite growing recognition, evidence of what works is still lacking. Robust, longitudinal studies and impact tracking are essential to demonstrate return on investment, support scaling, and sustain policy momentum.



Executive summary

The issue

Africa is experiencing intensifying climate change impacts (such as rising temperatures, floods, droughts and shifting disease patterns) that are exposing already fragile health systems. These systems, often under-resourced, are struggling to meet the growing demand for services. Particularly vulnerable to climate-related health threats are marginalized communities, poor people, older persons, women and individuals with chronic illnesses. Although health is increasingly included in climate policies, implementation remains weak, underfunded, and often overlooks the critical role of health systems.

Impact

Climate change is disrupting health care infrastructure, supply chains and service delivery across Africa. Heatwaves and floods damage facilities, displace communities and increase disease outbreaks such as malaria, cholera and malnutrition. These disruptions heighten health risks, inflate costs, widen inequalities and strain already overstretched health workers. Without targeted investment and systemic transformation, health systems risk becoming casualties of climate shocks.

Responses

Much of the focus to date has been on recognizing the need to improve health through both adaptation (anticipating and managing climate impacts) and mitigation (reducing emissions and environmental footprints). The adaptation of health systems to climate pressures is a more recent focus. At the global level, WHO frameworks and financing tools like the Green Climate Fund are supporting climate-smart health planning. Regionally, policies like the Libreville Declaration and Africa's 2024 Framework aim to enhance surveillance, strengthen early warning systems and foster intersectoral coordination.

Nationally, countries like Ethiopia, Kenya and Rwanda are leading the way with climate-resilient infrastructure, early warning systems, solar-powered health facilities and health workforce training. Programmes like Senegal's community health initiatives and South Africa's green hospital designs offer scalable models. Still, only a few countries have current adaptation plans, and finance remains a major barrier to implementation. Evidence on the effectiveness of climate and health system policies and strategies is still limited, uneven and emerging.

The way forward

As in all regions of the world, health systems in the African Region must systematically embed climate resilience into governance, planning and financing. This includes regularly updating adaptation plans, investing in sustainable infrastructure, improving early warning systems and building a climate-informed health workforce. These efforts must be underpinned by rigorous analysis to understand their impact. Equity, community participation and cross-sector collaboration are essential. With innovation, leadership and adequate funding, the African Region can become a global leader in building climate-resilient, equitable and low-carbon health systems.

Policy implications

To address the health impacts of climate change, African health systems must take a proactive, system-wide approach (Olushayo Oluseun, 2025). This includes strengthening preparedness, enhancing climate-sensitive disease surveillance and training the health workforce. Strong leadership and alignment with national climate and disaster strategies are key, alongside the integration of sustainable, low-carbon practices to build long-term resilience.

Strengthen policy continuity and implementation

Regularly update national HNAPs with clearly defined milestones and implementation pathways. These updates should align health strategies with national climate adaptation and disaster risk reduction frameworks to ensure coherence and sustained momentum. Translating plans into tangible impact requires investment in training and equipping the health workforce to deliver climate-resilient services.

For example, Rwanda has implemented a dedicated climate change and health financing strategy, leveraging international climate funds and partnerships to strengthen health infrastructure and services against climate shocks.

Expand financial support mechanisms

Develop robust financing strategies to improve access to climate and health-related funding. These strategies should prioritize populations facing the highest health risks to help address inequities. This includes enhancing coordination with international donors, national agencies and nongovernmental organizations. Member States should also engage with global financing instruments like the Green Climate Fund to support implementation.

For example, Ethiopia has integrated climate change considerations into its health sector planning through a regularly updated HNAP aligned with the national Climate-Resilient Green Economy Strategy. This approach promotes policy continuity and cross-sector accountability.

Improve governance and multisectoral collaboration

Strengthen governance by creating climate-health taskforces within health ministries and embedding health considerations into broader climate policy dialogues. Promote high-level political leadership and foster collaboration across sectors (environment, water, agriculture and education) to build integrated, climate-resilient systems. Community engagement and inclusion are critical.

For example, Kenya has institutionalized multisectoral collaboration through its National Climate Change Council, with active health sector participation. Climate-health taskforces at both national and county levels support coordinated and localized responses.

Integrate climate forecasts into health system preparedness

Health ministries should establish formal partnerships with meteorological services to co-develop early warning systems that translate climate data into timely health actions. These systems should support facility planning, staff deployment, risk communication and supply chain management, ensuring continuity of care during climate-related events such as heatwaves, floods or disease outbreaks.

For example, Senegal's heat-health early warning system (HHEWS), launched in 2023, enhances the health system's ability to anticipate and respond to extreme heat events. Developed by the National Meteorological Agency and the Directorate of Public Health, the system provides real-time heat forecasts, risk maps and health alerts, enabling timely action to protect vulnerable populations and reduce strain on services during heatwaves.

Invest in technology and climate-resilient infrastructure

Promote the development and deployment of green technologies and resilient infrastructure in the health sector. Partner with academic and research institutions to implement evidence-based innovations. Health facilities should be equipped to function during extreme weather events and environmental stresses.

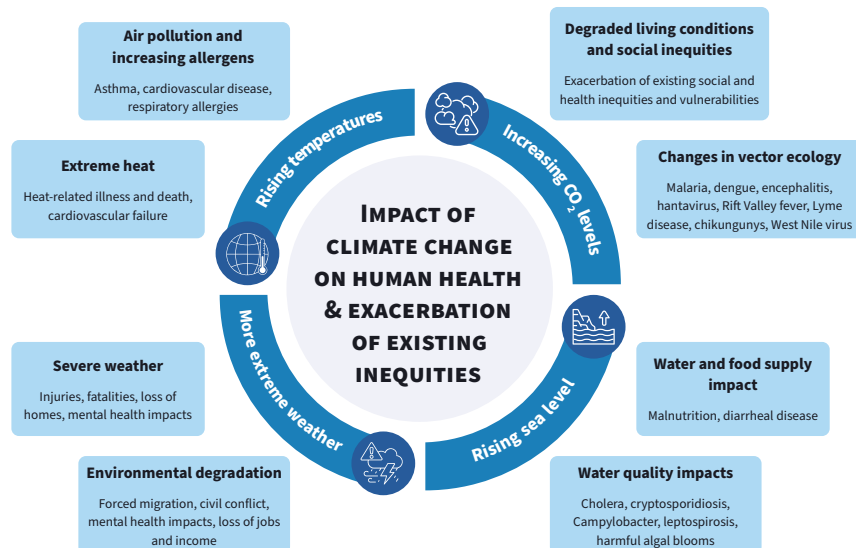
For example, South Africa has advanced climate resilience by investing in solar-powered health clinics and climate-resilient facility designs. Collaborations with institutions like the University of Cape Town have enhanced the application of research to real-world climate-health challenges.

Build evidence to drive effective climate-health adaptation

To ensure that climate-health adaptation efforts are effective and scalable, governments and development partners must invest in implementation research and robust monitoring and evaluation systems that generate credible evidence on health and economic outcomes. Without clear data on what works, adaptation interventions risk remaining ad hoc, underfunded and politically deprioritized. Embedding evaluation frameworks into adaptation plans – from pilot to scale-up – will help identify high-impact strategies, justify sustained investment and build climate-resilient health systems backed by evidence. While this brief focuses on health systems, it is essential to recognize that effective climate resilience requires a multisectoral approach.

For example, the AMMA-2050 project in Senegal and Burkina Faso piloted and evaluated decision-support tools that helped health planners integrate climate forecasts into disease preparedness. This approach enhanced the timing and targeting of interventions, demonstrating the value of climate information in reducing health risks (AMMA-2050, 2021).

Figure 1: Extreme weather events and how they will exacerbate inequalities in Africa.



Source: ASSAf, 2024.

About AHOP

The African Health Observatory - Platform on Health Systems and Policies (AHOP) is a regional partnership that promotes evidence-informed policy-making. AHOP is hosted by the WHO Regional Office for Africa through the integrated African Health Observatory. National Centres include Addis Ababa University, Ethiopia; KEMRI Wellcome Trust, Kenya; the Health Policy Research Group, University of Nigeria; the University of Rwanda; and Institut Pasteur de Dakar, Senegal. AHOP draws on support from the European Observatory on Health Systems and Policies (EURO-OBS), the London School of Economics and Political Science (LSE), and the Bill & Melinda Gates Foundation (BMGF).

AHOP policy briefs

AHOP policy briefs are one of a suite of outputs produced by the platform. They aim to capture current concepts, experiences, and solutions that are of importance to health policymaking within the African region, often applying a comparative lens. All undergo a formal and rigorous peer review process.

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Cover photo credit: Cholera vaccination outreach in drought-affected Modogashe sub-county, Kenya, February 2023. © WHO / Billy Miaron.

Further information

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