

Applying Uganda's Health National Adaptation Plan at Facility Level

Lessons from EMPOWER

Solar-equipped health facility at Budadiri HCIV in Sironko District, Uganda, 2026.

The EMPOWER Programme

Funded by the United Kingdom Foreign, Commonwealth & Development Office (FCDO), the The Empowering Women for Better Reproductive Health Outcomes (EMPOWER) programme (February 2025–December 2026) supports the Government of Uganda to reduce preventable maternal and child deaths by strengthening public health systems, building health worker capacity to deliver quality reproductive and maternal health services, and addressing misinformation and harmful gender norms. Pathfinder International leads implementation in partnership with the Association of Obstetricians and Gynaecologists of Uganda, Baylor College of Medicine Children's Foundation Uganda, Communication for Development Foundation Uganda, and Uganda Youth and Adolescent Health Forum.

Putting Climate Adaptation into Practice

Uganda is experiencing the consequences of a changing climate. The country is facing more frequent and severe climate-related hazards, including droughts, floods, landslides, heavy rainfall, and rising temperatures. These events contaminate water sources, increase the risk of water- and vector-borne diseases, and disrupt the delivery of health services. Uganda's Ministry of Health (MOH) identifies these and other climate-related risks as growing threats to the health system and called for stronger capacity to anticipate and respond to them.¹

At the same time, there is a need to adapt our health systems for be more resilient. Under a high-emissions scenario, the World Health Organization projects that the number of hot days in Uganda in 2050 could be 34 times higher than the 1961–1990 baseline period.² These changing conditions place additional pressure on health facilities, health workers, and the systems that support continuity of essential services.

In response to these risks, Uganda's MOH developed the Health National Adaptation Plan (H-NAP) 2025–2030 to guide climate adaptation across the health sector. The H-NAP was informed by Uganda's Climate Change and Health Vulnerability and Adaptation Assessment and provides a framework for building a more responsive and resilient health system. Pathfinder International supported the Government of Uganda in developing the H-NAP, creating a foundation for a longer-term partnership focused not only on defining national priorities, but on translating them into action.

The EMPOWER programme provided an opportunity to apply that framework through routine health system implementation. Rather than treating climate adaptation as separate activities, EMPOWER used H-NAP priorities to examine how existing health system investments can contribute to more resilient services and what additional systems, capacities, and infrastructure are needed to sustain them.

One example is blood transfusion services at Level 4 health facilities that serve communities far from referral hospitals. Blood must be stored under controlled conditions. When the power supply is interrupted, access to a stable blood supply for emergency transfusions can be compromised, putting patients at risk including women experiencing postpartum hemorrhage.

Solar-powered blood refrigerators help reduce reliance on an unreliable electricity supply. However, the equipment alone does not make facilities resilient. Trained health workers, safe transfusion practices, stock management, equipment maintenance, waste management, and functioning systems are also needed to maintain services. EMPOWER's experience offers a practical example of how the H-NAP can move from national strategy to facility level action. Rather than treating climate-resilient infrastructure as a stand-alone investment, the programme used the H-NAP to consider the wider systems, capacities, and conditions needed to maintain essential health services under changing conditions.

Applying the Health Adaptation Framework under EMPOWER

H-NAP provides a national framework for strengthening Uganda's health system in response to climate-related risks. Through EMPOWER, Pathfinder and the MOH applied this framework to health system investments, using implementation experience to explore what climate resilience looks like at the facility level. An example of this is EMPOWER's support to 14 Health Centre IVs across 13 district and city jurisdictions with solar-powered blood refrigerators. Working with the MOH, Uganda Blood Transfusion Service, District Health Teams, and Regional Blood Banks, Pathfinder paired the infrastructure investment with support for stock management, ordering, temperature monitoring, and safe transfusion practices.

From 10–14 August 2026, a joint team of the MOH's Environmental Health Department and Pathfinder visited five facilities (Budadiri in Sironko, Bufumbo in Mbale City, Mulanda and Mukuju in Tororo, and Kumi in Kumi) to review use of the equipment, temperature and blood stock records, and day-to-day practices. The visits also considered water and waste management, emergency care space, electricity, and locally relevant climate risks.

Looking Beyond the Equipment

Applying the H-NAP through EMPOWER shifted the focus from whether climate-resilient infrastructure had been installed to what is needed for that investment to support a functioning service. The facility visits showed the value of looking at the refrigerator within the wider transfusion system, including staff practices, blood stock management, maintenance, electricity, water, waste management, and emergency care capacity. For example, at Mulanda Health Centre IV, the team found that the facility did not have an adequate water supply. Most facilities also lacked a dedicated register to record adverse reactions to blood transfusions.

Addressing these interconnected operational gaps revealed a broader need for how facility level readiness is tracked. These observations reinforce that infrastructure is only one component of a resilient health service. Equipment must be maintained, supplies managed, staff supported, and essential facility services available for investments to translate into reliable care.

A Practical Approach to Facility Level Measurement

While routine records provide information on equipment and transfusion services, information on climate readiness is more fragmented. A simple, shared approach could help translate H-NAP priorities into practical measures that facility and district teams can use to identify vulnerabilities, track progress, and prioritise investment. Rather than only declaring a facility '100% resilient', it establishes what is working, what remains at risk, and what needs to be addressed or financed next. The measurement should cover five domains:

1. ENERGY AND EQUIPMENT

Power interruptions, solar power system condition, battery health, service dates, temperature excursions, and corrective action.

2. SAFE BLOOD SERVICES

Days with usable stock, requests filled, expiries, transfusion documentation, adverse-reaction reporting, and referral reasons.

3. ESSENTIAL FACILITY SERVICES

Dependable water, sanitation, waste segregation and disposal, emergency care space, and relevant diagnostics.

4. CLIMATE EXPOSURE AND PREPAREDNESS

Locally relevant flood, landslide, heat, or storm risks, continuity procedures, and a named responsible person.

5. MANAGEMENT RESPONSE

A dated action register with an assigned owner, cost estimate, financing status, deadline, and evidence of closure.

Implementation should build on existing responsibilities and information systems. Facility staff and district teams could verify service records, regional blood-bank teams could review transfusion practice, and the MOH Environmental Health Department could help align definitions with H-NAP indicators and existing health information systems. Reporting should include denominators and missing data so that gaps in the evidence are visible. The aim is to support decisions about service readiness and investment, not to create a parallel reporting burden.

Building on EMPOWER's Experience

EMPOWER's experience points to several practical considerations for implementing the H-NAP:

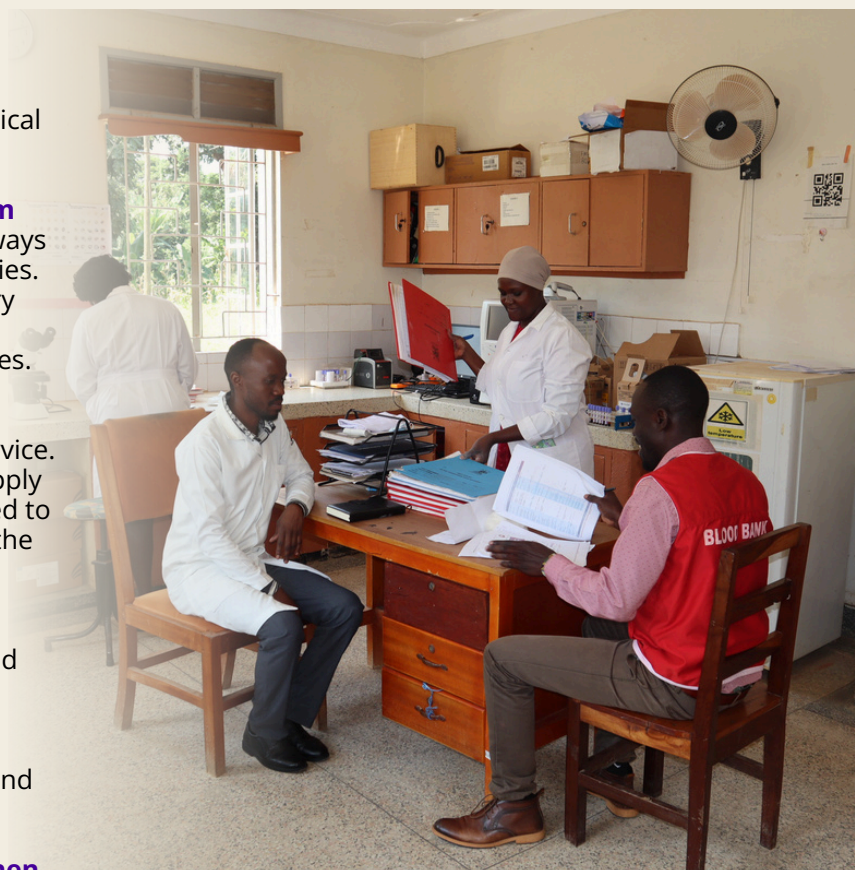
Build adaptation into existing health system investments. Climate adaptation does not always require a separate programme or set of activities. Existing investments can provide practical entry points for applying H-NAP priorities and strengthening the resilience of essential services.

Plan for the service, not just the asset. Infrastructure is only one part of a resilient service. Maintenance, staff capacity, safe practices, supply management, and other facility conditions need to be considered alongside the technology from the outset.

Keep measurement practical. Facility level monitoring should help teams identify gaps and make decisions without creating a parallel reporting burden. H-NAP indicators should be translated into measures that can be collected through existing systems and used by facility and district teams.

Use implementation experience to strengthen the H-NAP. Applying the national framework at facility level can help identify where guidance, indicators, or implementation approaches need further refinement. Continued collaboration between the MOH, districts, and partners will be important as the H-NAP moves from strategy to routine implementation.

Ultimately, the question for climate-resilient health investments is not only whether infrastructure is available, but whether the whole service remains ready when conditions are difficult. Future monitoring can help establish whether better-maintained cold chains are accompanied by a reliable blood supply and safer, more timely care, strengthening the evidence for sustained investment in climate-resilient health services.



Health workers discuss climate-resilient laboratory & transfusion practices at Mulanda Health Centre IV in Tororo, Uganda, 2026.

Endnotes

1. Ministry of Health, Uganda. Health National Adaptation Plan (H-NAP) 2025–2030. Kampala: Ministry of Health, 2024. [\[LINK\]](#)
2. World Health Organization. Health and Environment Scorecard: Uganda, 2025[[LINK](#)]

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