



BREAKING THE CYCLE: MAKING SOMALILAND'S RURAL WATER SYSTEMS CLIMATE RESILIENT

Nasir M. Ali and Kedir Jemal

About the Authors



NASIR M. ALI

Dr. Nasir M. Ali is the director, researcher and a professor in international relations and African political economy at Laas Geel Academy of International Relations in Somaliland. His research focuses on state fragility, state capacity, security, migration, and climate change. Dr. Ali holds a Ph.D. in Peace, Governance, and Development, along with two master's degrees—in International Relations and African Studies, and a BA in Global Studies and International Relations.



KEDIR JEMAL

Dr. Kedir Jemal is an associate professor of agricultural economics at Haramaya University and currently serves as the dean of the College of Agriculture and Environmental Sciences. He has 18 years of academic and research experience and serves as a visiting lecturer at the University of Hargeisa, University of Amoud, Somaliland. Associated Researcher at the University of Roskilde, Denmark. His research interest areas include ecological economics, climate change, pastoralism, food security, poverty, and inequality of opportunity.

Cover image: Supplied by the authors

The views expressed in this report are those of the author(s) alone. They do not necessarily reflect the views of the Toda Peace Institute. An online edition of this and related reports and policy briefs can be downloaded on our website: toda.org/policy-briefs-and-resources.html



Toda Peace Institute
Samon Eleven Bldg. 5F,
3-1 Samon-cho, Shinjuku-ku
Tokyo 160-0017, Japan

Tel. +81-3-3356-5481
Fax. +81-3-3356-5482
Email: contact@toda.org

© 2026 Toda Peace Institute

The policy choice

Somaliland's water crisis will not be solved by emergency water delivery alone. The Government should treat rural water access as a climate adaptation and local governance priority, with groundwater protection, service standards and accountable financing implemented together.

KEY MESSAGES

- Climate variability is increasing water stress, but the policy gap is institutional: Somaliland lacks a sufficiently coordinated, locally accountable system to plan, finance and maintain rural water services.
- Rural and pastoralist communities carry the greatest exposure to drought and erratic rainfall, while peri urban settlements absorb people and livestock displaced by water scarcity. The resulting pressure is both a service delivery problem and a governance problem.
- A practical response should prioritise three linked reforms: a rural water service framework, groundwater and drought information systems, and predictable financing for operation, maintenance and locally led adaptation.

The policy gap

WHY ACTION IS NEEDED

Somaliland's water crisis reflects a policy gap between the scale of climate and demographic pressures and the capacity of current institutions to plan, finance and maintain rural water services. Evidence from research sites, particularly around Hargeisa, indicates that rural communities face erratic rainfall, rising temperatures and recurrent drought, while pastoralist mobility and relocation to peri urban settlements increase demand in receiving areas. Somaliland relies heavily on groundwater and rainfall, yet the paper identifies limited public investment in water infrastructure, weak coordination across levels of government, insufficient groundwater information, and inadequate arrangements for operation and maintenance. These gaps make emergency responses more likely and longer-term adaptation less likely. The central policy question is therefore not only how to find more water, but how to establish a rural water system that is climate informed, locally accountable and financially sustainable.

The fieldwork also shows why this gap has direct consequences for livelihoods and public trust. In the study sites, households spend substantial time and income securing water, particularly during dry seasons. Where public wells and sand dams are limited or fail, families rely on private water trucks. The study reports that the cost can be unaffordable for poorer households and can force pastoralists to sell livestock to meet immediate water needs. Water insecurity therefore reduces both household welfare and the asset base on which pastoral livelihoods depend.

The governance problem is not limited to the absence of infrastructure. The study identifies a largely unregulated private water market, with concerns about pricing, quality control and the consistency of public oversight. It also describes a weakening of traditional resource governance as climate shocks, urbanisation and generational change place pressure on the authority of customary institutions. These dynamics strengthen the rationale for a framework that combines public standards with community participation, rather than treating infrastructure investment as a stand-alone solution.

The policy response also has a peacebuilding and inclusion dimension. Competition over scarce water can increase tensions between communities and between pastoralists and farmers, while women and girls often carry the greatest burden of water collection and related security risks. A rural water framework should therefore include conflict sensitive planning, representation of women and pastoralist users, and transparent procedures for resolving disputes over access and fees.

WHY THE GAP MATTERS FOR POLICY

The paper's evidence points to a reinforcing cycle: drought and climate variability reduce water availability; water scarcity increases mobility, livelihood stress and demand in peri urban settlements; and weak institutional capacity limits timely investment, maintenance, and equitable allocation. The result is a recurring shift from planned service provision to crisis response. This cycle creates three policy risks:

- Service failure: water points and infrastructure may not be maintained or extended as demand changes;
- Resource depletion: groundwater abstraction may increase without adequate monitoring, recharge planning or transparent allocation;
- Inequality and instability: rural communities, pastoralists, women and displaced households may face the highest costs while having the least influence over decisions.

What the evidence shows

The analysis draws on empirical evidence from selected research sites in Somaliland, particularly around Hargeisa, and on the sources cited in the paper. The evidence base supports a focused policy agenda, but it does not justify assuming that conditions are uniform across Somaliland. The recommendations should therefore be piloted, monitored, and adapted across different rural and peri urban contexts.

The research sites around Hargeisa included Aburin, Habasweyn, Darfa'le and Bargo. Participants consistently identified the lack of accessible water as a primary concern, linking it to health risks, livelihood loss, and the movement of people and livestock in search of water and pasture. This site level evidence gives the policy problem a concrete service delivery dimension: the question is whether water points remain available, affordable, and functional when rainfall fails.

The study reported changes in rainfall and temperature, including more erratic rainfall, failed or shortened Gu and Deyr rainy seasons, longer dry periods, and occasional heavy rainfall that existing infrastructure does not adequately capture. The paper links these conditions to reduced groundwater recharge, the depletion of shallow wells and underground cisterns, and increasing pressure on rangelands. These observations support integrating water infrastructure, groundwater monitoring, and drought preparedness rather than funding each as a separate intervention.

The impacts are distributed unevenly. The paper highlights the burden on women and girls, who often spend time travelling to collect water and face associated security risks and lost opportunities for education, income generation, and care. It also highlights the exposure of pastoralists, for whom the depletion of water points can trigger mobility, livestock losses, and competition over scarce resources. Any policy response should therefore measure access and affordability for these groups rather than report only aggregate infrastructure outputs.

A key informant described how climate shocks can force households to sell assets to save lives, while asset prices may fall at the same time. This illustrates why the policy objective should extend beyond increasing supply during a drought. It should also protect household assets by improving the reliability and affordability of water services before and between shocks.

The evidence has limits that matter for policy design. The empirical findings come primarily from sites surrounding Hargeisa and should not automatically be generalised to coastal areas or eastern pastoral zones, where ecological conditions, settlement patterns, and local governance arrangements may differ. Piloting and comparative monitoring across different contexts will be important before scaling the proposed framework.

- Water insecurity links climate shocks to displacement and changing settlement patterns. The paper reports that pastoralists move towards peri urban areas when traditional grazing and water sources become less reliable, increasing pressure on host communities and services.
- Water governance is fragmented across national, regional and local levels. The paper highlights limited capacity to invest in and manage basic services, as well as weak formal planning and inadequate public investment in rural water infrastructure.
- Information and finance are missing parts of the response. The paper calls for better data on groundwater, rainfall and consumption, early warning systems, dedicated public resources, and longer-term financing rather than short project cycles.

Policy recommendations

1. Establish a rural water service framework

Lead: Government of Somaliland, with local authorities and community representatives.

Adopt minimum service standards for rural and peri urban water points, define responsibilities for planning, ownership, operation, and maintenance, and require each investment to include a maintenance and drought contingency plan. Create mechanisms for communities, including women and pastoralist representatives, to participate in siting, tariff and maintenance decisions.

- First 12 months: Map institutional responsibilities and agree service standards. Within 24 months: pilot the framework in selected districts and publish performance information.

2. Protect groundwater through monitoring and allocation

Lead: The responsible water authorities, supported by research institutions and development partners.

Create a shared groundwater information system that combines water point inventories, abstraction, water quality, rainfall and recharge indicators. Use the system to identify stressed aquifers, guide new borehole siting and inform drought related restrictions or water rationing.

- First 12 months: Establish a common data protocol and baseline for priority aquifers. Within 36 months: integrate groundwater indicators into drought early warning and investment decisions.

3. Shift finance from emergency response to resilient services

Lead: Government of Somaliland and development partners.

Create a dedicated rural water financing window that supports capital investment, operation and maintenance, rehabilitation, and locally-led adaptation. Align partner support with multi-year district or catchment plans, and assess options including climate adaptation funds, diaspora finance, and public private partnerships without transferring public accountability for service standards.

- First 12 months: Identify a financing mechanism and publish eligibility criteria. Within 24 months: fund multi-year pilots with clear maintenance and equity requirements..

4. Link drought early warning to local action

Lead: Relevant government institutions, local authorities, and humanitarian and development partners.

Connect rainfall, groundwater and livelihood information to agreed triggers for anticipatory action, including water trucking where necessary, protection of critical water points, temporary support to mobile populations, and reallocation of resources before water shortages become acute.

- First 12 months: Agree triggers, responsibilities and communication channels in pilot districts. Review the system after each drought season.

5. Make equity and accountability operational

Lead: Local authorities and water user institutions, with oversight from national authorities.

Require transparent information on water point location, service status, fees, and repair responsibilities. Track access and affordability for rural households, pastoralists, women-headed households, and displaced people. Establish accessible complaint and redress mechanisms and use the findings to adjust investments.

- First 12 months: Include equity indicators and feedback channels in pilot designs. Thereafter: report results publicly and use them in budget and project reviews.

Implementation priorities

The recommendations should begin with a limited number of districts that represent different combinations of rural water stress, pastoralist mobility and peri urban growth. A pilot approach would allow institutions to test service standards, data arrangements and financing before scaling. The implementation package should include:

- A named lead institution and focal point for each action;
- A baseline covering water availability, functionality, affordability, groundwater condition, and user representation;
- A small set of measurable indicators, including functionality of water points, repair times, groundwater trends, drought response lead time, and access for under-served groups;
- Annual public review involving local authorities, communities, pastoralist representatives, women's groups, and development partners.

Conclusion

Somaliland's water challenge is not only a shortage of physical resources. It is also a gap in the institutions, information, and finance needed to manage scarce water fairly under climate stress. The Government and its partners can reduce this vulnerability by moving from fragmented and reactive interventions towards a coordinated rural water service system. The immediate priority is to pilot a framework that combines groundwater monitoring, clear service responsibilities, predictable maintenance finance, drought triggers, and local accountability. Success should be judged by whether water services remain functional and equitable between shocks, not only by the number of new facilities constructed.

SOURCES

Ali, Nasir M., Sihaam A. Mumin and Soreer H. Bulhan. (2023). "Rural Urban Migration Climate Variability Nexus: The Case of Somaliland," in *Multiple Layers of Migration and the Horn of Africa*, Jan Záhorský, Roselyne Omondi, and Aleksí Ylönen (Eds.). The HORN International Institute for Strategic Studies.

Government of Somaliland, Ministry of Planning and National Development. (2023). *National Development Plan III (2023–2027)*. Hargeisa.

Ibrahim, Kedir. (N.d.) "The Effects of Climate Change on Groundwater Resources in the IGAD Region." Addis Ababa: IGAD Water Unit, Agriculture and Environment Division.

Omer, M. A., & Mohamoud, H. A. (2026). "Vulnerability and adaptive capacity of fisheries-dependent communities on the Coast of Berbera to climate change." *Cogent Social Sciences*, 12(1). <https://doi.org/10.1080/23311886.2025.2604967>

Quirk, Joel and Darshan Vigneswaran (Eds.). (2015). *Mobility Makes States: Migration and Power in Africa*. Philadelphia: University of Pennsylvania Press.



THE TODA PEACE INSTITUTE

The Toda Peace Institute is an independent, nonpartisan institute committed to advancing a more just and peaceful world through policy-oriented peace research and practice. The Institute commissions evidence-based research, convenes multi-track and multi-disciplinary problem-solving workshops and seminars, and promotes dialogue across ethnic, cultural, religious and political divides. It catalyses practical, policy-oriented conversations between theoretical experts, practitioners, policymakers and civil society leaders in order to discern innovative and creative solutions to the major problems confronting the world in the twenty-first century (see www.toda.org for more information).

CONTACT US

Toda Peace Institute

Samon Eleven Bldg. 5 th Floor
3-1 Samon-cho, Shinjuku-ku, Tokyo 160-0017, Japan

Email

contact@toda.org

Sign up for the Toda Peace Institute mailing list

<https://toda.org/policy-briefs-and-resources/email-newsletter.html>

Connect with us on the following media.

YouTube: [@todapeaceinstitute3917](https://www.youtube.com/@todapeaceinstitute3917)

X (Twitter): <https://twitter.com/TodaInstitute>

Facebook: <https://www.facebook.com/TodaInstitute>