

## POLICY BRIEF

# THE INCONVENIENT TRUTHS OF WATER DEVELOPMENT IN THE DRYLANDS OF THE HORN OF AFRICA

How to use new water sources to support resilience for pastoralists

Nancy Balfour, Jackson Wachira, Masresha Taye, Hussein Tadicha and Simon Levine

### Key messages

---

- **Challenge the narrative.** The assumption that water supply development always builds resilience is not true. The inconvenient truth that it may undermine pastoralists' resilience has to be faced.
- **Pastoralists manage water and grazing resources holistically** in a single resource management system, covering wide areas. New water supplies need to be planned in the same way, as part of a landscape-level resource management plan to contribute to resilience.
- **Where water is located matters.** Permanent water creates permanent settlement. If water supplies are placed in the wrong places, pastoralists may have better access to water but lose pasture, mobility and membership of critical social networks.
- **Boreholes aren't just about water**, they are also about how societies govern themselves, power relations between individuals and groups within the society, how claims on resources are made, and local and national politics. Understanding local governance arrangements is essential to avoid exclusion, conflict and corruption.
- **Most investments measure success only by the quantity of water delivered** – but the reliability and quality of the water also matters to users. Quality should not be sacrificed in order to meet quantitative targets. Too many boreholes are producing water that is too saline for use, with management systems that fail to meet the demands of water users.



## Introduction

The arid and semi-arid lands (ASALs) in the Horn of Africa face significant challenges in water scarcity and natural resource management. Pastoralist communities have developed strategies to stay resilient in the face of unpredictable rainfall. They achieve this largely through mobility: it rarely rains hard enough in any one place to guarantee enough grazing and water, so, by moving over large areas, pastoralists maximise rangeland productivity and mitigate risks associated with extreme environmental variability, including frequent periods of drought.

One of the key strategies for building resilience has been to address water scarcity directly by creating new permanent water supplies. This has led to increasing settlement around water points. The persistent narrative from those involved in these water investments is that this is making people in the drylands more resilient (Kioko et al., 2025). Little has been documented, though, about how far this is the case, and there has been little appetite to recognise some inconvenient truths about the limitations and dangers of water developments done badly.

The Supporting Pastoralism and Agriculture in Recurrent Crises (SPARC) research, led by the Centre for Humanitarian Change (CHC) and the Centre for Research and Development in the Drylands (CRDD), investigated the impact of new water supplies on how well people in the drylands in Ethiopia and Kenya coped with drought and climate change. This brief draws out the policy implications of that research. A [technical report](#) (Balfour et al., 2025) provides more details on

findings and recommendations as well as a [photo essay](#) that covers resilience-building through water projects.

## Starting with the right questions

If communities are asked ‘Do you want water?’, the answer will almost inevitably be ‘Yes’. There were many examples where agencies had asked this question and then responded to water scarcity by introducing new water sources that did not match the governance of the resources that have to be linked to water, such as grazing.

They acted without understanding the full picture of grazing and water resources on a landscape scale. This illustrates the importance of starting with the right question. Water development should be based on an understanding that includes the various claims being made by different people and groups on resources including, but not restricted to, water, and the power dynamics at play at local level and above.

To understand this overall natural resource management system, it is much better to start with questions such as ‘How do different people currently get access to resources across this landscape as a whole?’, ‘How are different resources used?’, ‘What competing claims are there?’ and ‘What are your fears about claims that others may make?’. If the answers to such questions lead to a decision to develop new permanent water sources, they are more likely to lead to water being developed in the right place, with the right people and in the right way to be well-managed and with the most benefit.

## Consider both informal and formal governance

Conflicts over water access have often arisen where competing power systems have been set up around water. Access to natural resources, and particularly the sharing of water, is usually governed to some extent by local or indigenous institutions (often regarded as 'informal' institutions by outsiders). These have often been ignored or sidelined by agencies establishing new water points, who have not regarded them as having the legitimacy to authorise the rehabilitation of water points or the construction of new ones. Instead, agencies have created new institutions that they regard as 'formal'. A governance vacuum has resulted where so-called formal and so-called informal institutions compete, which has led to water projects with contested ownership, some with a lack of any ownership, and in some cases to elite capture of the water.

Consultations behind the design of water investments should engage with all users and institutions, both formal and informal. The relationship between formal and informal institutions (or official and indigenous institutions) needs to be established in advance to ensure that management of the structures captures the best of each world. This may not require a single formalised hybrid management structure. Management of water sources can be divided in different ways between institutions, e.g. operational management, including managing finances, can be undertaken by one structure, while policy-making around access to water can remain based on indigenous decision-making and negotiation.

## Acknowledge the politics explicitly

There are always politics in resource development in the drylands. It is dangerous to assume that aid can remain outside this. Consultations behind water investments must lead to an understanding of the different agendas at play, including the hidden agendas. It is important to understand how these politics will affect the planned water activities, and how a water development will affect power dynamics. A new resource will inevitably affect power dynamics, so it is important to recognise who gains from the development and who will lose out. Politics cannot be completely kept out and not everything can be controlled, but understanding these issues makes it possible to manage competing agendas, to reduce the likelihood of later repercussions and to prevent marginalised groups from being further excluded.

In many places in the drylands, investments in multiple water sources have been made in the same settlement. This is being justified by the rhetoric that more water equals more resilience – but putting water where there is already water does not improve resilience. This may seem obvious but politics and patronage are driving funds towards these projects at the expense of interventions that could genuinely support pastoralist resilience. Such patterns must be identified for what they are.



Water pumped from a locally managed rainwater catchment supports mobile herds in Somali Region, Ethiopia. All users contribute to the running of the supply with minimal 'formal' management.  
© Masresha Taye, April 2024

## Water quality matters!

The same rhetoric that more water always brings more resilience in the drylands is also untrue if the water is not usable. Up to 70% of boreholes in the study areas were saline, often to a level that made the water unpotable and that was causing health problems, including mortality, for people and livestock. This is a huge technical problem, for which a solution should be sought, but the scale of the problem is being hidden by misleading self-promotion and success stories. Investments in groundwater water supplies should include a full analysis of water quality and give solutions for providing potable water. The best way of addressing salinity is to focus on what is feasible in ASALs. This is not necessarily the most technically advanced solution and could include simple household technologies such as distillation.

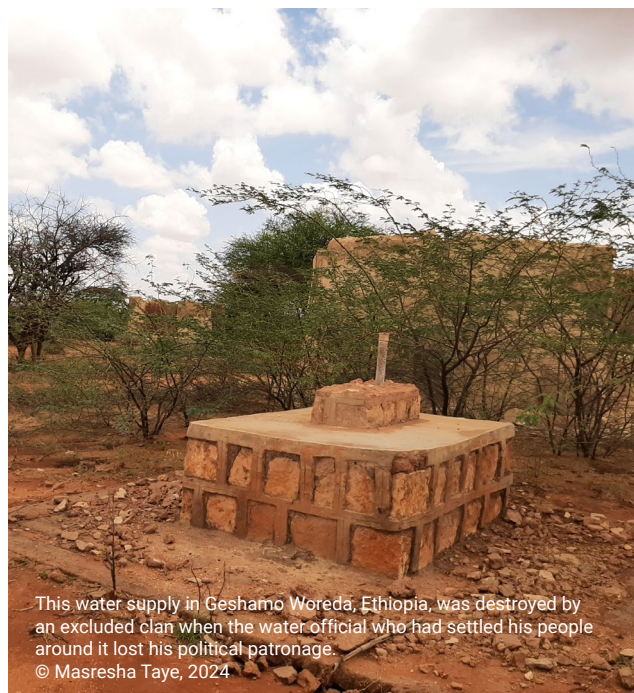
## Water in the right places

To enhance resilience, water also has to be put in the right places. In pastoralist systems, rangeland and water must be managed together, almost as a single resource. This is not how external agencies, including government, see the situation. Water supply projects are usually carried out in isolation, without considering a wider resource management plan on a wider geographic scale, let alone how pasture and water are used in a mobile system. Treating water supply in isolation as a solution to water scarcity does not solve the wider problems of resource scarcity and inequitable access.

Some of the water supplies studied had been technology-driven, i.e. developed because it had become technically possible to provide water where it was previously impossible. Being technically possible did not make these the right places for permanent water supplies. Some of the systems had been used to promote attempted claims to land resources by one population at the expense of another. In pastoral areas, the siting of water development should be based on an explicit consideration of what water is needed where to best support resilient pastoralism, and of how water can be shared without conflict.

## The most difficult challenge: water that does not disturb mobility

Water supplies can provide benefits for households in pastoralist areas in the Horn of Africa but only if there is careful consideration of what water, where, how and for whom. Failing to consider this bigger picture has not only resulted in wasted investment but, in some cases, is undermining pastoralists' resilience.



Permanent water sources have sometimes disrupted the overall pastoral system because of their impact on settlement. To provide water where people need it and when they need it without such disruption means solving a difficult challenge. One option that has been attempted is to develop temporary water supplies, such as boreholes that are opened only in droughts. These have not always worked well because there has been pressure to provide permanent water and a drive for settlement around this. Other alternatives need to be explored. Landscape-level resource planning may require difficult decisions about balancing temporary and permanent water supplies alongside settlement and grazing reserves.

SPARC's study has not identified a solution but we can at least suggest a way forward. Water actors need to follow the example of pastoralists, to learn and to adapt. This requires: learning honestly, revisiting communities some years after water developments to see what is really happening regarding water quality and its use; management of water sources and finances, and integration of water and rangeland management; considering social and political dynamics, including elite capture, exclusions and conflict; and looking at the wider impacts of water development on herding patterns, mobility and settlement.

Actors developing water cannot continue to monitor and evaluate their work without testing their own assumptions about what works and what builds resilience. Only in this way can they learn how to support access to water in ways that build resilience for pastoralists.

---

## Acknowledgements

This policy brief is published through the Supporting Pastoralism and Agriculture in Recurrent and Protracted Crises (SPARC) programme, which is supported by the United Kingdom's Foreign, Commonwealth & Development Office (FCDO).

The authors would like to thank Dr Michael Odhiambo, Head of Programmes at the Rift Valley Institute and Dr Guy Jobbins, ODI, for their reviews of this policy brief.

The authors would also like to thank the SPARC communications team, including Julie Grady Thomas, along with Nina Behrman for copyediting, squarebeasts.net for design and Becky Owens for proofreading this report.

---

## About SPARC

Climate change, armed conflict, environmental fragility and weak governance, and the impact these have on natural resource-based livelihoods, are among the key drivers of both crisis and poverty for communities in some of the world's most vulnerable and conflict-affected countries.

Supporting Pastoralism and Agriculture in Recurrent and Protracted Crises (SPARC) aims to generate evidence and address knowledge gaps to build the resilience of millions of pastoralists, agro-pastoralists and farmers in these communities in sub-Saharan Africa and the Middle East.

We strive to create impact by using research and evidence to develop knowledge that improves how the UK Foreign, Commonwealth & Development Office (FCDO), donors, non-governmental organisations, local and national governments, and civil society can empower these communities in the context of climate change.

**How to cite:** Balfour, N., Wachira, J., Taye, M., Tadicha, H. and Levine, S. (2025) 'The inconvenient truths of water development in the drylands of the Horn of Africa: how to use new water sources to support resilience for pastoralists'. Policy brief. London: Supporting Pastoralism and Agriculture in Recurrent and Protracted Crises (SPARC) (<https://www.sparc-knowledge.org/publications-resources/inconvenient-truths-water-development-drylands>).

---

## References

Balfour, N., Wachira, J., Taye, M. et al. (2025) *Do new permanent water supplies in the drylands help build resilience? The impacts of new boreholes on coping with drought in Ethiopia and Kenya*. Technical report. London: Supporting Pastoralism and Agriculture in Recurrent and Protracted Crises (SPARC) (<https://www.sparc-knowledge.org/publications-resources/do-new-permanent-water-supplies-build-resilience>).

Kioko, E., Wachira, J., Balfour, N. et al. (2025) *Resilience narratives and outcomes of new water supplies in the Horn of Africa drylands: a desk study* (<https://whatworks.co.ke/publications/#70-144-wpfd-2025>).

Funded by



This material has been funded by UK aid from the UK government; however, the views expressed do not necessarily reflect the UK government's official policies.