Restoring Pastoral Mobility for Climate Resilience:

Livestock Route Infrastructure, Early Warning & Community Action

Pastoralists in Somalia suffer the compounding effects of climate change

Pastoralists in Somalia are among the populations most exposed to climate risks. Their traditional resilience mechanism, seasonal migration in search of pasture and water, is increasingly constrained by a combination of climate change, land degradation, insecurity, and limited governance capacity. These overlapping pressures are disrupting long-established mobility patterns and straining critical infrastructure, leaving communities more vulnerable to displacement, resource-based conflict, and the erosion of their livelihoods.

Climate solutions often overlook the realities of mobile pastoralist communities. Most resilience programs are designed for sedentary populations, ignoring the specific risks and mobility needs of pastoralists. As a result, pastoralists are excluded from systems, like early warning mechanisms, that could otherwise help them anticipate and adapt to drought, disease, or conflict.

The ***Anticipatory Action & Climate Resilience along Transhumance Corridors in Somalia (AART)*** project addresses this gap by strengthening pastoralist resilience through mobility. It introduces a new **Corridor Approach**, revitalizing transhumance systems as integrated networks of infrastructure, resources, and climate information, enabling adaptive movement in the face of growing climate shocks.

AART strengthens dryland resilience by:

- Reviving livestock corridors through restored water, pasture, and fodder infrastructure.
- Delivering early warning and anticipatory action tools tailored to mobile pastoralists.
- Connecting community governance to transhumance corridors and national Early Warning Systems (EWS).

The Transhumance Corridor Map

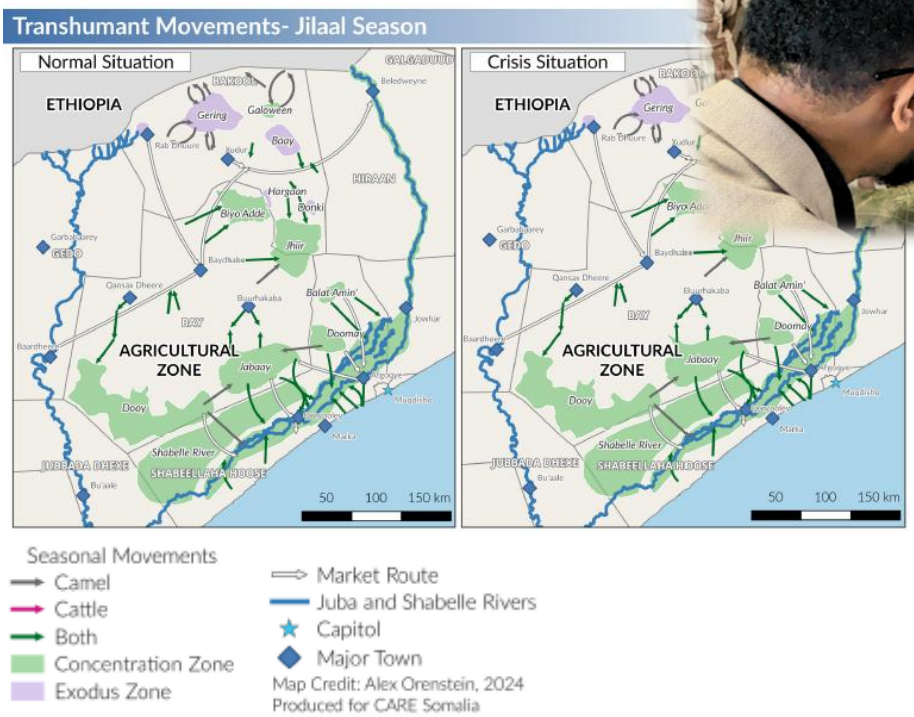
An innovative mapping approach aligning climate solutions with pastoralists' movements

Participatory mapping conducted with a remote sensing specialist and **pastoralists and agropastoralists communities across 6 districts**, for the first time in almost 40 years.

The Corridor Mapping identified

- Seasonal migration routes,
- Grazing areas,
- Crisis paths,
- Critical water points,
- Livestock fodder and;
- Veterinary services.

This data enables targeted interventions across the entire corridor and effective tailoring of Early Warning Systems to the needs of pastoralists.



Transhumance in Somalia is primarily defined by the seasons, listed here:

April May June	July August September	October November December	January February March
Gu	**Xagaa**	**Deyr**	**Jilaal**
The main rainy season	Cool, dry season with some coastal showers	The secondary rainy season	The hottest dry season

Livestock corridors revived

Insights from the Corridor Map guided the spatial rollout of AART's infrastructure, services, and information interventions along the corridor. Infrastructure and services interventions included:

- **Water infrastructure restoration:** Ten critical water points, including shallow wells and boreholes, were rehabilitated, supporting up to 55,000 livestock and improving access to cleaner, more reliable water for local households.
- **Pasture restoration:** Over 16,300 half-moon rainwater harvesting structures were constructed by communities, regenerating more than 9.3 hectares of degraded rangeland.
- **Fodder access:** Fodder storage banks were established along grazing routes to serve as dry-season reserves. Producer groups were supported to ensure year-round feed access.
- **Veterinary services:** Mobile vet outreach was expanded and linked to an electronic livestock disease surveillance system, enabling real-time reporting and faster response.
- **Climate-smart livelihoods:** To diversify livelihoods and ease pressure on rangelands, Internally Displaced Persons (IDPs) and former pastoralists who had lost their herds were supported to adopt greenhouse farming, drought-tolerant crops, water-saving techniques, honey production, and improved livestock care (e.g. vaccination, supplementary feeding).
- **Grazing and rangeland management plans** were developed to promote sustainable pasture use and reduce conflict.

> *"We built half-moon structures with our own hands. After the rains, we saw grass growing again where it was bare for years."* – Project participant

Emerging Impacts Along the Corridor

Captured in the annual monitoring survey of a representative sample of project beneficiaries.

Rehabilitated water points improved access to water for households and 55,000 livestock

9.3 hectares of degraded rangeland regenerated, with grass now growing where land had been bare for years

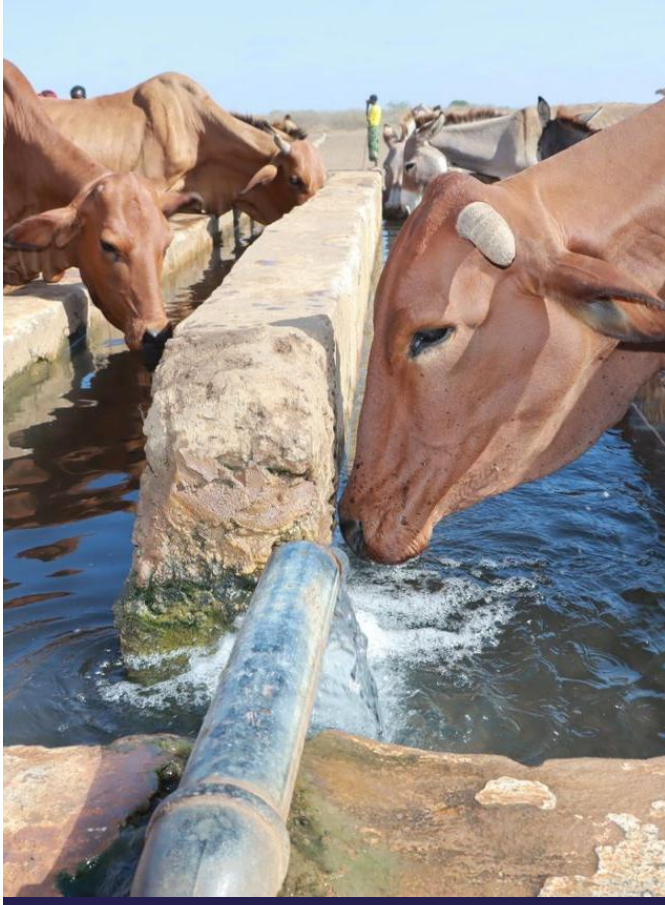
71% of beneficiary households adopted climate-smart livelihood practices or improved livestock practices.

Climate foresight for pastoralists

To support climate preparedness among mobile pastoralists, AART worked with government and communities to strengthen early warning systems. By improving real-time data flows and enabling localized anticipatory action, the project helped ensure timely responses to drought, pasture decline, and other seasonal shocks.

- **Tailored early warning for mobile herders:** Together with local government, AART upgraded the existing EWS systems – *Sadaal* – to reflect pastoralist needs. Real-time data on rainfall, vegetation, water levels, markets, and livestock health is now captured, enabled through solar-powered weather stations and borehole sensors — making this Somalia's first state-run EWS tailored to mobile livelihoods.
- **Digital pasture navigation – E-Sahan:** In partnership with AFRISCOUT, AART is piloting *E-Sahan* - Somalia's first digital platform combining satellite imagery with local knowledge. The app give pastoralists real-time updates on pasture conditions, helping guide mobility and grazing decisions.
- **Local alerts, faster response:** Over 200 Early Warning Committee members — equipped with mobile phones and trained in climate alerts — now serve as local focal points linking communities with government responders.
- **Pre-agreed early action triggers:** AART introduced Somalia's first corridor-based early action framework. With predefined measures (e.g. borehole repair, rangeland restoration, cash-for-work), the system enables rapid response when risk thresholds are reached.

> "*... This initiative [the Sadaal Early Warning System] has the potential to become the backbone of disaster preparedness, not only for our state (SWS) but for the entire Somali community. It is a legacy in the making, one that will strengthen community resilience for years to come.*" - Director of MOHADMA



EWS & Climate Information for Pastoralists

Information from project monitoring and the annual monitoring survey of a representative sample of project beneficiaries

31 local EW committees established across project communities

60% of beneficiaries report using the digital early warning platform to inform decisions.

83% of targeted communities (26 out of 31), have developed disaster response plans aligned with national frameworks.