

Moving with Climate

Transhumance Corridor
Approach: Designing Resilience
Programs in Dryland Areas

PRACTITIONERS GUIDE



Disclaimer

This Practitioners Guide was prepared by DoGoodFilms Limited as part of its technical support to CARE in consortium with World Vision International, Shaqadoon and WARDI, under the Anticipatory Action and Climate Resilience along Transhumance Corridors (AART) Project in South-West State, Somalia.

The content reflects field-based experience, technical analysis, and learning generated through the AART Project, and is intended to support programme design, implementation, and replication in dryland and pastoral contexts.

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Special appreciation is extended to DoGoodFilms Consultancy for synthesising field evidence and programme learning into this practical, user-focused resource designed to support replication across Somalia and other dryland contexts.

List of Acronyms

AART – Anticipatory Action & Climate Resilience along Transhumance Corridors

CAHW – Community Animal Health Worker

EWS – Early Warning System

GIS – Geographic Information System

PVP – Private Veterinary Practitioner

RAM – Rapid Appraisal of Mobility

TCA – Transhumance Corridor Approach

Glossary

Transhumance Corridor: Seasonal movement routes used by pastoralists to move livestock between grazing areas, water points, and service locations, governed through customary and formal access arrangements.

Half-Moon Structures: Semi-circular earthworks constructed on degraded rangeland to capture rainwater, improve soil moisture, promote vegetation regeneration, and reduce erosion.

Anticipatory Action: Pre-planned and pre-financed actions triggered by early warning information to reduce the humanitarian impacts of climate shocks before they fully unfold.

Early Warning System (EWS): A system that collects, analyses, and disseminates climate, water, pasture, and risk information to enable timely and informed decision-making by communities, governments, and responders.

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1. Purpose & Scope of the Guide

Mobility as a foundation for pastoral resilience

Dryland regions in Africa are home to millions of people whose livelihoods depend on livestock and seasonal access to grazing, water, and markets. In recent years, these environments have become increasingly uncertain. Climate change and irregular rainfall are making pasture availability less predictable, droughts more frequent, and risks such as disease and conflict harder to anticipate.

For pastoralist communities, moving with livestock is not a sign of vulnerability. It is a deliberate strategy that allows households to seek pasture and water during dry periods, manage risk, protect livestock assets, and sustain food security. This adaptive way of life has enabled pastoral systems to function for generations in highly variable environments.

As climate change accelerates, this mismatch becomes more costly. Traditional movement patterns are harder to navigate, access to resources becomes more uncertain, and pastoralists face growing livestock losses, insecurity, and resource-related disputes – often leading to displacement.

Building resilience in dryland areas therefore requires approaches that **work with movement, not against it**. At its core, this guide is grounded in a simple but critical insight: **pastoral resilience depends on safe, informed, and well-functioning mobility**.



Mobility Is Not a Problem to Be Fixed

During AART implementation, pastoralists repeatedly highlighted that their biggest risks came from being forced to move without reliable information, services, or negotiated access along routes. By shifting planning from villages to corridors, AART supported mobility as a resilience strategy rather than treating movement as displacement.

Why a corridor approach?

Pastoralist movement does not happen randomly. Across dryland Africa, pastoralists rely on **established transhumance corridors** – seasonal routes that connect grazing areas, water points, markets, and services, shaped over time by local knowledge and social agreements.

A corridor is more than a physical route. It is a **functional system** that brings together:

- access to pasture and water across seasons,
- livestock-related services and markets,
- information that supports decision-making while on the move,
- and governance arrangements that regulate access and manage disputes.

When these elements function together, mobility enables pastoralists to manage drought, adapt to climate variability, and protect their livelihoods. When they break down – due to failing infrastructure, restricted access, or delayed information – movement becomes risky and resilience declines.



Many resilience programmes overlook this system-wide reality, planning activities village by village rather than around how pastoralists move across seasons. The corridor approach addresses this gap by shifting the focus **from communities to corridors**, and from isolated interventions to integrated, mobility-focused systems.

Who This Guide Is For and How to Use It

This practitioners guide supports those working on **resilience, climate adaptation, and livelihoods** in dryland areas where pastoralist communities are present. It helps programme teams understand how mobility shapes pastoralist livelihoods and how this can be reflected more effectively in programme design and implementation.

The guide provides a **clear, step-by-step overview of the Transhumance Corridor Approach** and explains how it can be applied across the programme cycle – from design and inception to implementation, review, and scaling.

The guide is intended for:

- **NGOs and UN agencies** designing or implementing resilience, climate adaptation, or anticipatory action programmes in dryland areas,
- **government planners and technical staff** working on livestock, rangelands, disaster risk management, or land use,
- **donors and advisors** seeking practical models for supporting pastoralist resilience,
- and **practitioners** involved in programme design, inception, review, or scaling.

While examples draw on experience from Somalia, the Transhumance Corridor Approach is not Somalia-specific. The principles described here are applicable across dryland regions where livelihoods depend on seasonal mobility, including the **Horn of Africa, the Sahel, and other rangeland systems**. While programme designs must be adapted to local ecological, social, and governance contexts, the **underlying logic of the corridor approach is transferable**.

This guide draws on practical experience from the **AART project** in Somalia, funded by Danida and implemented by CARE international, World Vision, WARDI, and Shaqadoon. These experiences are used as illustrative references, but the guide is intended as a general How-To Note for agencies seeking to design **mobility-aware, corridor-based resilience programming**.

When to use this guide

This guide is most useful when programmes are still flexible, including:

- during **programme design**, before locations and activities are fixed,
- during **inception**, when priorities and sequencing are being refined,
- when **adapting existing programmes** that are not effectively reaching mobile pastoralists.

Using a corridor approach early helps avoid design choices that later constrain impact and are difficult to reverse.

What this guide will help you do

By working through this guide, you will be able to:

- design programmes that account for mobility rather than settlement,
- understand pastoral movement as a system rather than isolated routes,
- identify where corridor-based investments can deliver the greatest resilience gains,
- design integrated activity packages that support livestock-based livelihoods,
- integrate early warning and anticipatory action for people on the move,
- strengthen coordination and governance along shared corridors.

2. Core Concepts for Corridor-Based Programming

This chapter helps clarify the **core concepts, distinctions and definitions that are essential for applying the Transhumance Corridor Approach correctly**. It is not intended to provide a comprehensive overview of pastoral systems, but to clarify a small number of concepts that are essential for mobility-aware programme design.

Livelihood systems and mobility: implications for design

Pastoralist livelihoods are primarily livestock-based and depend on **seasonal movement** to access pasture and water. Agro-pastoralist livelihoods combine livestock keeping with crop production and typically involve more limited or partial movement.

For programme design, the key issue is not classification, but **how central mobility is to livelihood resilience**. Where livestock survival and household security depend on movement across seasons, interventions designed for fixed populations are unlikely to be effective.

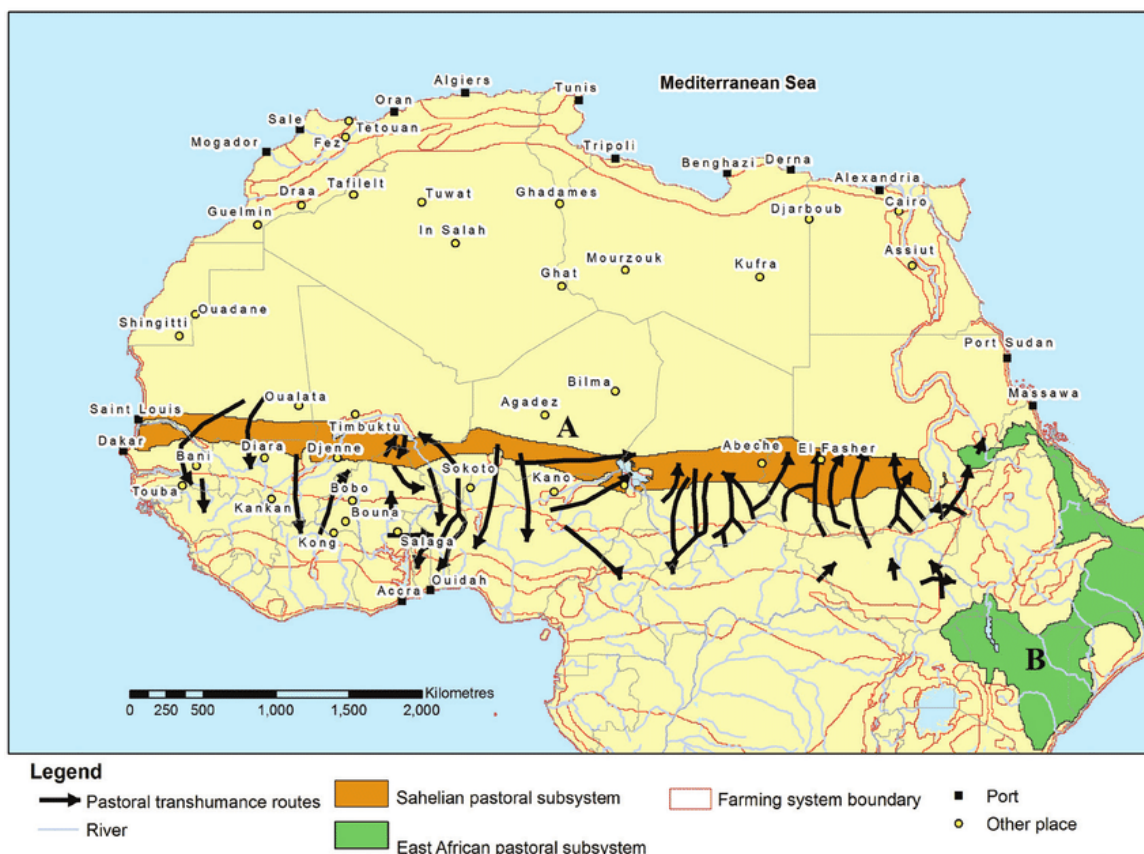
In such contexts, access to services, resources, and information cannot be planned solely around villages or administrative units. Programming must account for **where people move, when they move, and what they need along the way**.

What is a transhumance corridor?

Across dryland regions, pastoralists rely on **established transhumance corridors** to move livestock between grazing areas, water points, markets, and services across seasons. It is not limited to a single route or pathway, but constitute a **functional system** that brings together:

- seasonal movement routes and grazing areas,
- water points and rangeland resources,
- access to livestock-related services and markets,
- information that supports decision-making while on the move,
- governance arrangements that regulate access and manage disputes.

When these elements function together, mobility enables pastoralists to manage climate variability and protect their livelihoods. When one or more elements break down, movement becomes risky and resilience erodes.



Corridors as planning units

Traditional resilience programming often treats interventions as stand-alone activities delivered to individual communities. In pastoral contexts, this leads to scattered, site-based investments that do not align with how people move across seasons.

The corridor approach shifts the focus from:

- *Where are the villages?*
to
- *Where and when do pastoralists move, and what do they need along the way?*

By treating corridors as an interconnected system **rather than a set of locations**, corridor-based programming makes it possible to:

- prioritise investments at **critical pressure points along movement routes**,
- support livestock survival during **stress and dry periods**,
- reduce conflict over **scarce and shared resources**,
- enable **earlier and safer decision-making** in response to climate risks.

This shift allows relatively targeted investments to support resilience across a much wider area than village-based interventions.

What is the Transhumance Corridor Approach?

The Transhumance Corridor Approach is a way of designing resilience programmes that support mobile pastoralist livelihoods by **strengthening the systems** that make seasonal movement possible.

Rather than planning around fixed settlements, the approach starts from how pastoralists actually move with their livestock and asks how programmes can better support those movements – particularly under increasing climate stress.

At its core, the corridor approach treats **mobility as a resilience strategy**, not as a problem to be fixed. It focuses on restoring and reinforcing corridors as integrated systems of routes, resources, services, information, and governance that enable safer and more predictable movement over time.

3. How the Corridor Approach Changes Programme Design

This chapter aims to help you understand how and why the corridor approach requires a different design logic and avoid common early decisions that undermine mobility-aware programming.

Why conventional design logic falls short in pastoral contexts

Most development and resilience programmes follow a familiar sequence:

1. select districts and communities,
2. identify beneficiaries,
3. design activities,
4. conduct a baseline,
5. implement.

In pastoral contexts, this sequence often fails to reflect how livelihoods function. Mobility cuts across administrative boundaries, the same locations matter differently across seasons, and access to services depends on movement rather than proximity to villages.

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Common consequences include:

- selecting intervention sites rarely used by pastoralists during stress periods,
- rehabilitating infrastructure without seasonal or governance considerations,
- designing early warning systems that miss mobile populations,
- prioritising activities poorly aligned with livestock-based livelihoods.

These issues are not implementation failures — they are *design* failures.

The “upside-down” design logic

The Transhumance Corridor Approach reverses the conventional order of programme design. Instead of starting with locations and beneficiaries, it starts with **movement systems**.

In practice, this means:

1. **Understanding mobility first**

Mapping where and when pastoralists move, and how this changes across seasons and in times of stress.

2. **Identifying corridor gaps and constraints**

Analysing where movement becomes difficult, unsafe, or ineffective due to lack of water, degraded rangeland, limited services, restricted access, or delayed information.

3. **Prioritising critical locations along corridors**

Selecting where investments will have the greatest impact on mobility and resilience, rather than spreading activities evenly.

4. **Designing integrated activity packages**

Combining water, rangeland, livestock services, information, and governance measures to strengthen corridors as systems.

5. **Only then defining targeting, baselines, and implementation plans**

Using corridor priorities to guide who to target, what to measure, and how to sequence activities.

This “upside-down” logic is often unfamiliar, but it is essential for ensuring that programmes respond to **how pastoralist livelihoods actually operate**

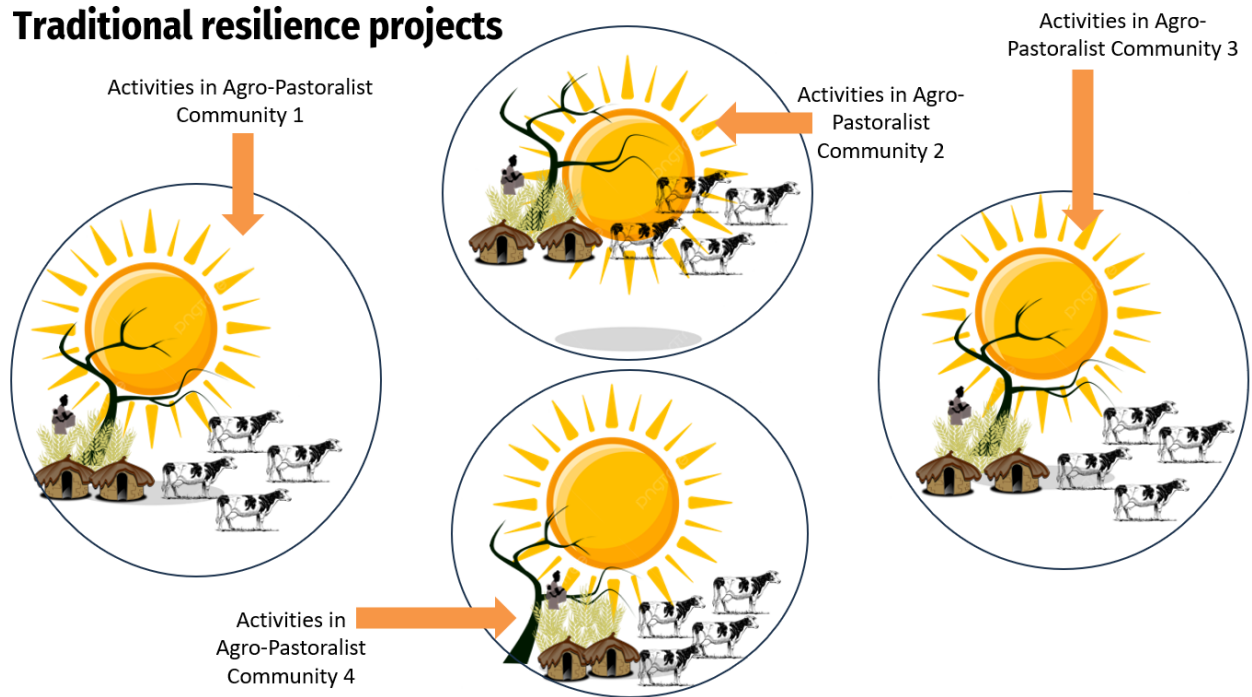


Fewer Sites, Bigger impact

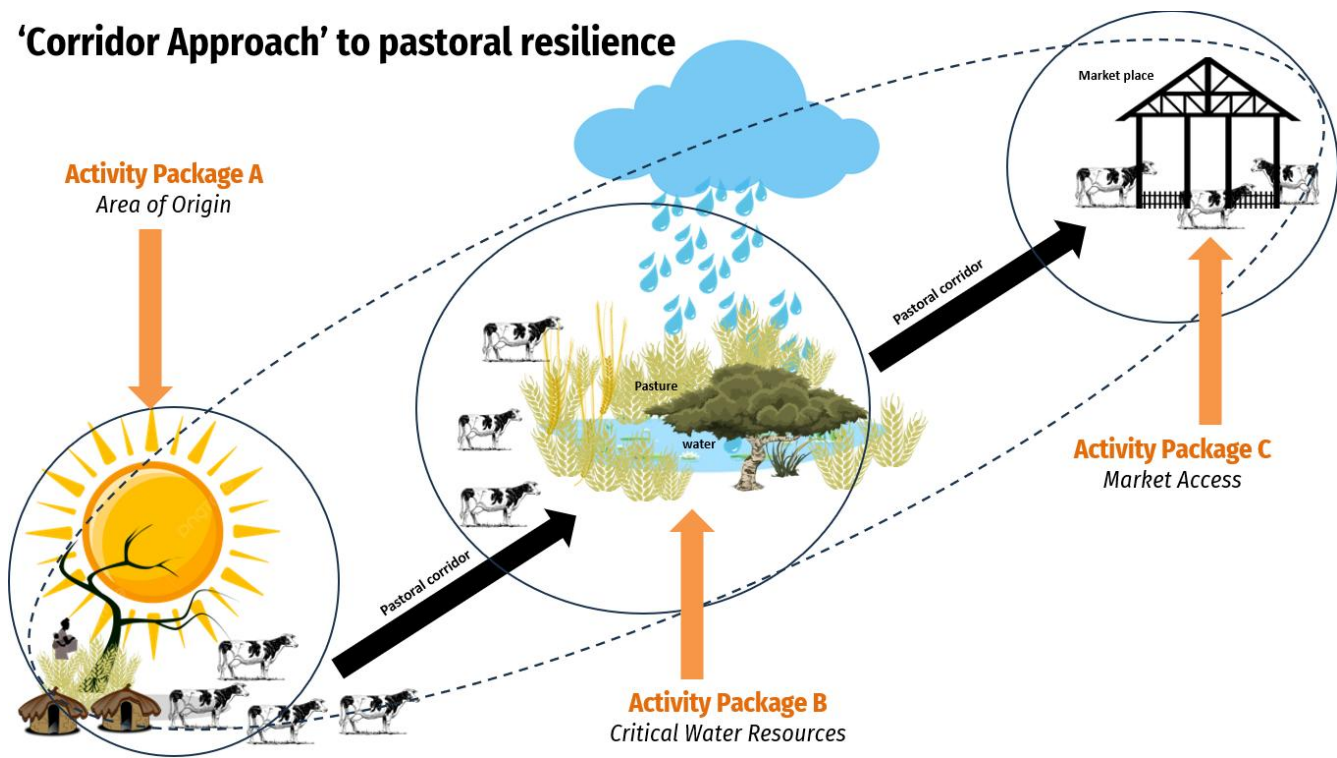
By concentrating investments at a small number of corridor pressure points rather than spreading activities evenly, AART achieved wider resilience gains across movement systems.

Transhumance Corridor Vs Traditional Resilience Approach

Traditional resilience projects



‘Corridor Approach’ to pastoral resilience



What this shift means in practice

Adopting a corridor-based approach has several practical implications for programme teams:

- **Locations are not fixed at the start.**
Initial geographic scope may be broad, specific sites are identified only after mapping and analysis.
- **Baselines come later.**
Data collection should reflect corridor priorities and mobility patterns, not predefined villages.
- **Activities are bundled, not isolated.**
Single-sector interventions are replaced by integrated packages aligned with seasonal needs.
- **Seasonality drives decisions.**
Timing and sequencing of activities are as important as locations.
- **Livestock and mobility remain central.**
Other livelihood activities may be relevant for specific groups but should not displace the core logic of pastoral resilience.

These shifts often require early alignment with donors, partners, and government counterparts, as they challenge standard planning assumptions.

Common early mistakes to avoid

Experience from corridor-based programming highlights several recurring pitfalls during design and inception:

- fixing districts, villages, or beneficiary lists before mapping mobility,
- treating corridor mapping as a report rather than a planning tool,
- spreading investments evenly instead of targeting pressure points,
- drifting toward crop-based activities at the expense of livestock systems,
- designing early warning systems for settled populations only,
- underestimating the importance of corridor governance and negotiated access.

The step-by-step guidance in the next chapter is designed to help teams **avoid these pitfalls** and apply the corridor approach in practice.

The Building Blocks of Corridor-Based Programming

In practice, corridor-based programmes consistently concentrate on **three interlinked building blocks that** guide where to invest, what to prioritise, and how to design activities that strengthen resilience along corridors:

1. Understanding barriers to pastoralist movement

Corridor-based programming starts by understanding where, when, and why movement becomes constrained. This includes identifying physical, social, institutional, and informational barriers that prevent pastoralists from moving safely or predictably along established routes — particularly during stress and dry periods.

2. Restoring and safeguarding critical infrastructure and services

Based on this analysis, programmes prioritise strategic investments along corridors — such as water points, grazing areas, fodder systems, veterinary services, and market access — that are essential for livestock survival while on the move. The focus is not on spreading services evenly, but on strengthening critical pressure points.

3. Ensuring access to early warning and climate information

Mobility only works when households can make informed decisions. Corridor programmes therefore ensure that pastoralists have timely access to early warning, climate, pasture, and water information that supports decisions on when and where to move, rather than reacting too late.

The step-by-step guidance in the next chapter shows how to operationalise this focus — from mapping movement patterns and identifying corridor constraints, to designing integrated activity packages and adapting implementation season by season.

Key Features of the Corridor Approach



Understand barriers to pastoralist movement

→ Mapping where and why movement stalls along corridors



Restore critical infrastructure along corridors

→ Securing access to water, pasture and services while on the move



Ensure access to early warning & climate information

→ Supporting informed decisions on when and where to move

4. Step-by-Step Guide to Corridor-Based Programming

This chapter provides practical steps for applying the corridor approach across the programme cycle. The sequence may feel “upside down” compared to conventional resilience programming — but it is essential if you want investments to match how pastoralist livelihoods actually function across seasons.

1 Step 1: Start with participatory corridor mapping.

Objective:

Develop a shared, spatial understanding of *where*, *when*, and *why* pastoralists move — across seasons and in stress periods — as the foundation for all corridor-based decisions.

Why this matters:

If you select districts, communities, or activity sites before mapping, you are likely to invest in the wrong places — because pastoralist movement does not follow administrative boundaries, and needs change by season.

What to do:

Use a **combined participatory and technical mapping approach** that brings together pastoralist knowledge and spatial analysis:

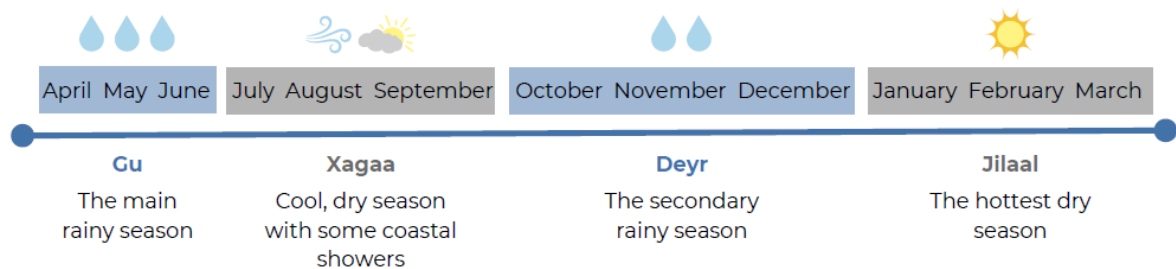
- A. **Conduct participatory transhumance mapping** with pastoralists and key livelihood actors (e.g. elders, herders, Community Animal Health Workers (CAHWs), private veterinary providers, traders) to map:
 - seasonal movement routes,
 - dry-season and wet-season grazing areas,
 - areas of herd concentration,
 - key water points, livestock markets, veterinary service points, fodder production and storage locations,
 - differences between “good” and “bad” (drought) years.



B. Use seasonal framing explicitly. Mapping should always distinguish:

- typical/good years vs. drought years,
- different seasons within the year,
- how routes, destinations, and pressure points change over time.

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

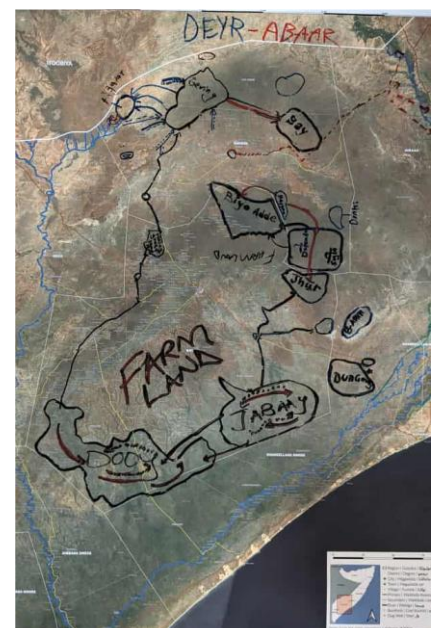


C. Combine participatory outputs with spatial analysis.

To strengthen accuracy and usability:

- work with a **GIS or remote sensing specialist**,
- overlay participatory maps with satellite imagery (e.g. vegetation indices, water availability, land use),
- digitise routes, grazing zones, and key locations into **shape files** that can be updated and reused throughout the programme cycle.

This combination allows local knowledge to guide interpretation, while producing outputs that are usable for planning, targeting, and coordination.



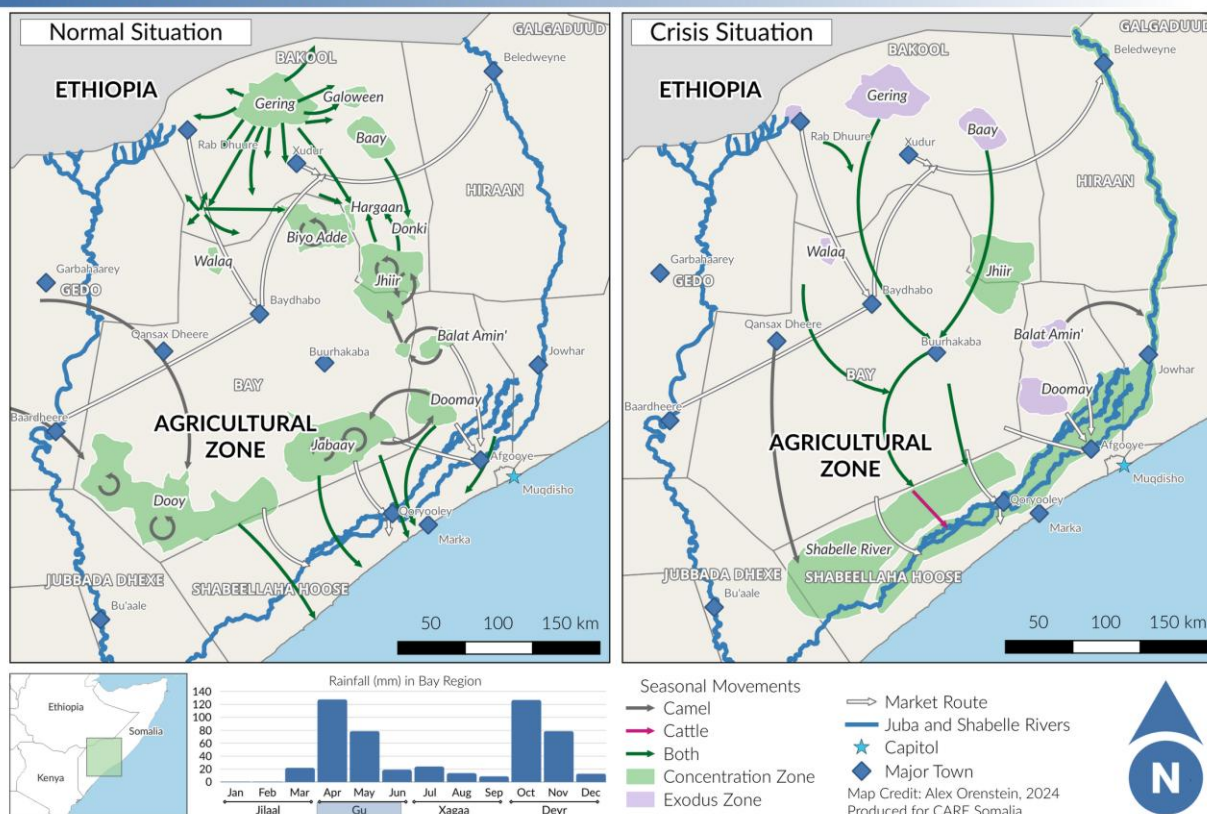
Good practice tips

- Map systems, not villages: focus on movement paths and seasonal use, not administrative boundaries.
- Ensure diverse participation: include actors with knowledge across large areas, not only one community.
- Treat mapping as a planning tool, not a report — revisit and update it as conditions change.
- Validate maps with participants to ensure shared understanding before finalising outputs.

Output

- Seasonal corridor maps (good and bad years) showing:
 - movement routes – distinguishing “normal” and “crisis” situations,
 - grazing areas and pressure points,
 - key resources, livestock services, markets, and constraints.
- Digitised spatial layers (shape files) to support analysis, prioritisation, and later monitoring.

Transhumant Movements- Gu Season



Further guidance

For detailed, step-by-step methods and facilitation guidance, see resources in our **learning hub**

- These resources provide practical tools for combining participatory mapping with spatial analysis and are strongly recommended when applying the corridor approach in practice.

2 Step 2: Analyse corridor gaps and pressure points

Objective:

Translate mapping data into priorities: where does mobility break down, and why?

Why this matters:

A map alone is not a plan. This step identifies the “weak links” that cause losses, conflict, or crisis movement.

What to do:

- Review the corridor map season by season and ask:
Where do herds get stuck, delayed, diverted, or exposed to major risks?
- Identify the main types of constraints:
 - **Resource constraints:** water failures, pasture degradation, lack of fodder
 - **Service constraints:** gaps in mobile veterinary outreach, disease surveillance, market access
 - **Information constraints:** early warning not reaching mobile users or arriving too late
 - **Access/governance constraints:** contested points, unclear rules, weak coordination
- Prioritise a small number of pressure points that matter most during stress periods (not only in “normal” seasons).

Seasonality is key:

- Priorities may differ by season. A water point that matters most in Jilaal/dry season may not be the main priority in Gu/rainy season.

Outputs:

- A prioritised list of corridor pressure points, with the season(s) when they matter most as well as recommended response options.

3 Step 3. Prioritise strategic locations for investment

Objective:

Decide where the programme will concentrate support — based on corridor logic, not villages.

Why this matters:

Corridor programming works best when it concentrates resources in a few strategic locations that unlock wider resilience gains.

What to do:

- Use the pressure point analysis to select priority locations (e.g. water points, grazing nodes, livestock service hubs, bottleneck areas).
- Check feasibility and access (security, permissions, technical feasibility, community acceptance).
- Confirm that selected locations reflect seasonal patterns (some locations matter only in certain seasons).
- Avoid spreading investments evenly across districts “for balance” — this usually undermines corridor impact.

Outputs:

- A small set of prioritised investment locations, linked clearly to:
 - the corridor map,
 - seasonal movement,
 - and the pressure points you are addressing.

4 Step 4. Design and validate corridor-based activity packages

Objective:

Translate corridor priorities into a small number of integrated, seasonally sequenced activity packages.

Why this matters:

Corridor programming is not “a list of activities.” It is a set of linked interventions that strengthen mobility as a system.

What to do:

- Define what corridor functions need strengthening (by season), such as:
 - dry-season water access,
 - fodder availability during stress,
 - livestock health along key routes,
 - timely information for safer movement.
- Design **integrated packages** (not isolated activities). Packages typically combine:
 - water infrastructure + governance arrangements,
 - pasture/rangeland restoration,
 - fodder production and storage,
 - mobile veterinary services + disease surveillance,
 - early warning + anticipatory action,
 - mobility-relevant information services (including digitallised pasture information systems where feasible/appropriate – see description of E-Sahan in next chapter).

- Keep the focus on livestock and mobility. Agriculture/CSA may be relevant for IDPs or pastoralist drop-out groups, but should not replace the corridor logic for mobile pastoralists.

Validate through a design workshop

- Test whether packages address the most critical pressure points.
- Check seasonal sequencing and feasibility.
- Confirm coordination roles (government, partners, community structures).
- Ensure early warning/anticipatory action is integrated, not an add-on.

Outputs:

- A validated set of corridor-based activity packages, each linked to:
 - mapped movement patterns,
 - priority locations,
 - and seasonal risks.

Integration Matters

Water, rangeland, veterinary, information, and governance interventions were designed together to avoid shifting risk elsewhere.

5 Step 5. Define targeting and baseline

Objective:

Collect baseline data and define targeting once corridor priorities and locations are clear.

Why this matters:

In corridor programming, baseline and targeting must reflect mobility patterns and service use — not pre-selected villages.

What to do:

- Define who to target based on corridor realities:
 - mobile pastoralist households,
 - seasonal users of key locations,
 - service users (vet outreach, water points, info channels).
- Ensure baseline includes mobility-relevant indicators:
 - access to water/pasture services by season,
 - livestock condition and mortality,
 - early warning reach and use,
 - conflict/disputes at key points,
 - coping decisions (destocking, route changes).

Outputs:

- Baseline and targeting approach aligned to corridor priorities.

6 Step 6. Implement, review, and adjust

Objective:

Implement corridor-based activities in line with seasonal movement patterns, while keeping the corridor functional and adapting as conditions change.

Why this matters:

Corridors are dynamic systems. Climate variability, security conditions, land use, and movement patterns change across seasons and years. Corridor-based programming therefore requires active implementation and regular adjustment, not fixed plans.

What to do:

i. Implement with a strong seasonal rhythm:

- roll out activities in line with seasonal movement and stress periods,
- review corridor conditions at key seasonal moments,
- adjust early warning triggers and anticipatory actions,
- maintain infrastructure and corridor governance mechanisms.

ii. Use regular reflection and adaptation moments:

- hold reflection sessions after seasons or shocks,
- update corridor priorities, sequencing, and workplans as needed.

iii. Monitor whether the corridor system is functioning:

- are key access points usable and maintained?
- are services reaching mobile users?
- is information used in movement and livelihood decisions?
- are disputes managed and access negotiated?

Outputs:

- Seasonal review notes,
- Updated corridor priorities and workplans.

Cross-Cutting Considerations

While the steps above are presented sequentially, several considerations cut across **all stages** of corridor-based programming and should be integrated throughout design, implementation, and adaptation.

- **Gender and inclusion:**

Women, youth, and marginalised groups experience mobility, access to resources, and risks differently. Corridor planning, mapping, and governance should actively include these perspectives and avoid reinforcing existing exclusions.

- **Conflict sensitivity:**

Corridors often pass through contested or shared spaces. All investments and services should be designed with an understanding of local conflict dynamics and support negotiated access rather than intensifying competition.

- **Governance and coordination:**

Effective corridor functioning depends on both customary and formal institutions. Strengthening coordination and clarifying roles is as important as technical investments.

- **Climate uncertainty and flexibility:**

Movement patterns, routes, and priorities can change quickly. Corridor plans should be treated as living documents and revisited regularly, especially after shocks or major seasonal shifts.

These considerations are not separate steps, but **principles that shape how each step is carried out.**

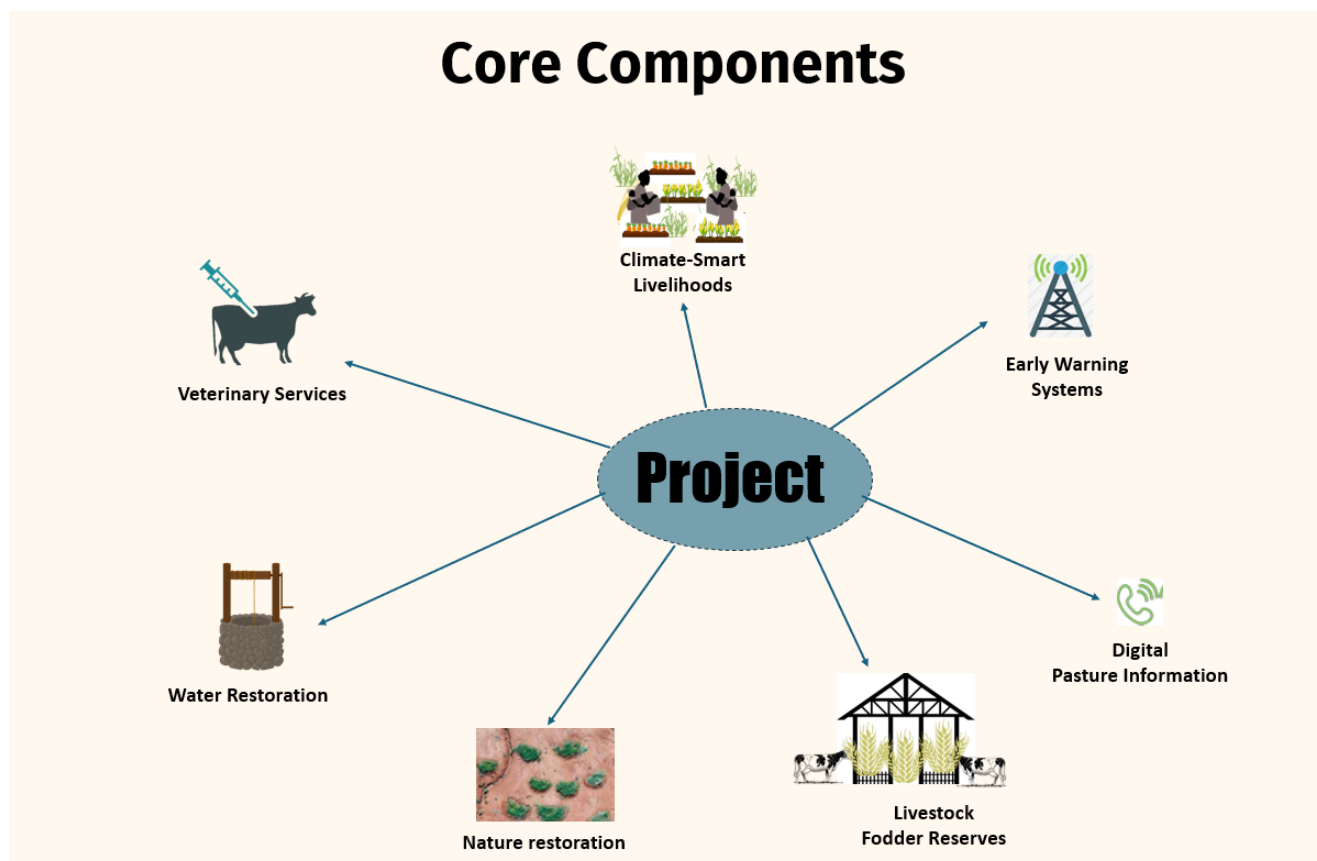


Common pitfalls to avoid

- *Fixing districts/villages/beneficiaries before mapping mobility*
- *Treating mapping as a report instead of a decision tool*
- *Spreading investments evenly instead of prioritising pressure points*
- *Drifting toward crop-based programming and losing focus on livestock systems*
- *Designing early warning for settled communities only*
- *Underestimating corridor governance, access negotiation, and conflict sensitivity*

5. How to Design Core Corridor Components

This chapter describes the core components that typically make up a corridor-based resilience programme. These components are designed to work together to support safe, informed, and functional mobility. Not all components will be relevant everywhere, but experience shows that corridors function best when multiple components are combined and sequenced, rather than implemented in isolation.



1 COMPONENT 1: Water Infrastructure and Governance

Objective

Ensure reliable, equitable access to water at critical points along seasonal movement routes.

What this involves

- Rehabilitation or upgrading of strategically located water points (e.g. boreholes, shallow wells) identified through corridor mapping, including where feasible clean-energy technologies such as solarised boreholes.

- Prioritisation of **dry-season and stress-period locations**, rather than evenly distributing investments.
- Establishment or strengthening of **local water governance arrangements**, including management committees, access rules, and maintenance systems.
- Integration of water points into early warning and anticipatory action planning (e.g. triggering rehabilitation or rationing ahead of drought).

Key design principle

Water infrastructure without governance often increases conflict and breakdowns. In corridor programming, technical rehabilitation and governance arrangements must be designed together.



2 Component 2: Pasture and Rangeland Restoration

Objective

Restore and protect access to grazing resources along corridors, especially in key resting and dry-season areas.

What this involves

- Identification of degraded but high-value grazing areas through corridor mapping and seasonal analysis.
- Community-led rangeland restoration measures (e.g. water-harvesting structures such as *half-moon structures*, regeneration enclosures).

- Development of grazing and rangeland management agreements linked to seasonal movement patterns.
- Alignment with customary institutions responsible for regulating access and use.

Key design principle

Restoration should follow **livestock movement and seasonal use**, not administrative boundaries. Targeted restoration at key grazing nodes can unlock access to large rangeland areas.



Illustration: Community digging half-moon structures through cash for work modality.



3 Component 3: Fodder Production and Storage

Objective

Reduce dry-season feed gaps and livestock losses by strengthening fodder availability along corridors.

What this involves

- Supporting **fodder production groups** located near corridors, often linked to agro-pastoral or settlement areas accessible to mobile herds.
- Establishment of **Livestock Fodder Reserves** ("fodder banks") positioned along corridors to serve as strategic dry-season buffers.
- Linking fodder production and storage to **local markets**, pricing mechanisms, and collective management arrangements.
- Integrating fodder availability into early warning and anticipatory action planning.

Key design principle

Fodder systems are most effective when designed as **seasonal reserves that complement mobility**, rather than replacing grazing systems or promoting permanent settlement.



4 Component 4: Climate-Smart, Mobility-Compatible Livelihoods

Objective

Strengthen household resilience by supporting climate-smart livelihood activities that complement pastoral mobility and reduce pressure on core livestock assets during stress periods.

What this involves

- Supporting **climate-smart livelihood activities that are compatible with mobility**, rather than replacing pastoral systems.
- Designing livelihoods that:
 - move with pastoralists where possible, or
 - are strategically located to support pastoral households during seasonal or temporary settlement.
- Examples from AART include:
 - **Mobile beekeeping systems**, where beehives are designed to be transported along migration routes, allowing pastoralists to maintain income while on the move.
 - **Greenhouse and small-scale horticulture** targeted primarily at IDPs, agro-pastoralists, or pastoralist drop-out households located near corridors, contributing to food availability and income diversification without drawing pastoralists away from mobility.
- Linking livelihood activities to:
 - corridor mapping and seasonal analysis,
 - local markets and value chains,
 - and broader resilience objectives rather than stand-alone income generation.



Key design principle

Climate-smart livelihoods should **support pastoral mobility, not undermine it**. Under the corridor approach, livelihood diversification complements livestock systems by reducing vulnerability during shocks—without encouraging premature settlement or shifting focus away from movement-based resilience.

5 Component 5: Mobile Veterinary Services and Disease Surveillance

Objective

Protect livestock health along movement routes and enable early detection of disease risks.

What this involves

- Mobile veterinary outreach aligned with seasonal movement patterns.
- Strengthening livestock disease surveillance systems that can operate across wide geographic areas.
- Training and equipping extension officers, CAHWs, and private veterinary service providers to report symptoms and outbreaks, including e-surveillance where feasible.
- Linking disease alerts to early warning systems and response mechanisms.

Key design principle

Livestock health services must **move with herds**. Fixed-point services alone rarely reach pastoralists at the moments of highest risk.



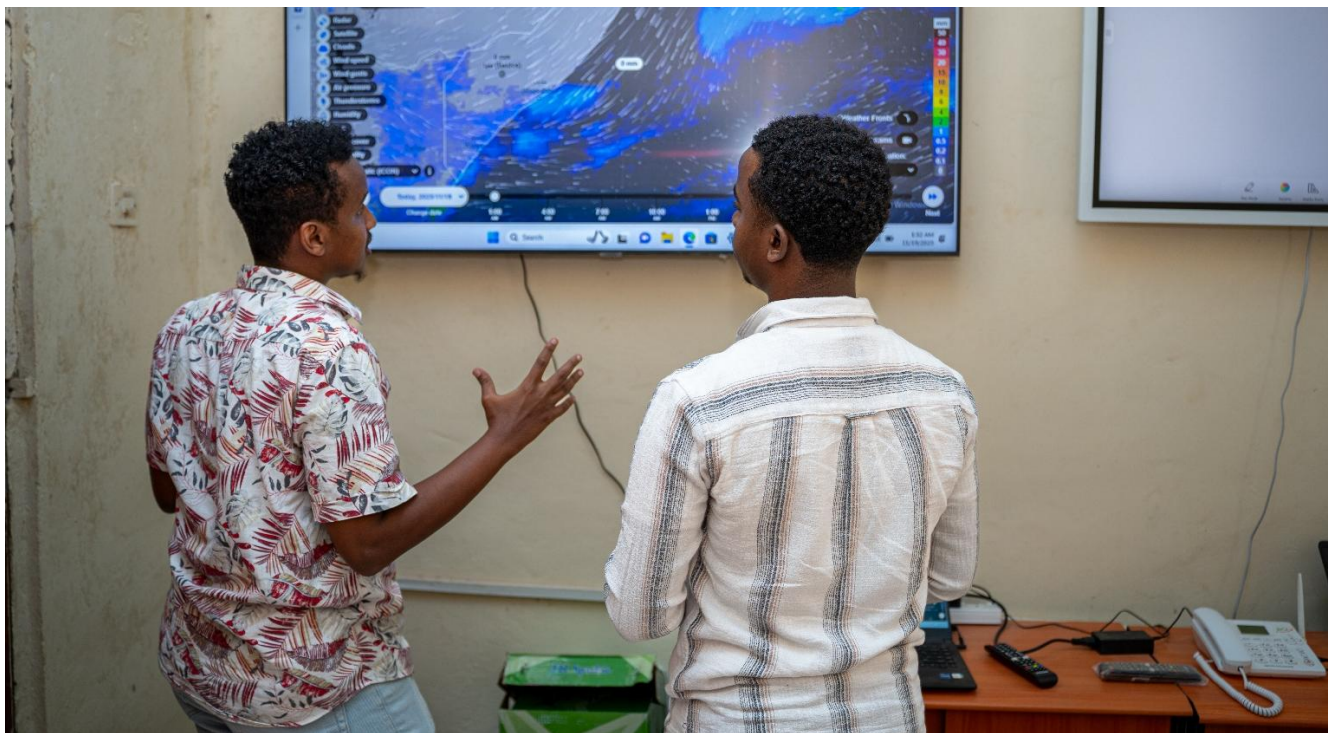
6 Component 6: Early Warning & Anticipatory Action for Mobile Livelihoods

Objective

Enable pastoralists and institutions to anticipate climate and resource risks early and take timely action before impacts escalate.

What this involves

- Designing **early warning systems (EWS)** that are explicitly aligned with pastoral mobility patterns and seasonal corridor use, rather than fixed settlements or administrative units.
- Ensuring that risk analysis focuses on when and where mobility becomes constrained or dangerous, not only on static hazard levels.
- Integrating multiple data sources relevant to mobile livelihoods, including:
 - rainfall and drought forecasts,
 - water availability along corridors,
 - pasture conditions,
 - livestock health and disease risks,
 - livestock market signals.
- Linking early warning information to **pre-agreed anticipatory actions**, such as:
 - early water point rehabilitation,
 - strategic fodder pre-positioning,
 - livestock destocking or vaccination campaigns,
 - targeted cash or service support ahead of shocks.
- Ensuring dissemination channels reach people **while on the move** (mobile phones, radio, corridor committees, community focal points).



Key design principle

Early warning only reduces risk when it is **actionable**. In corridor programming, EWS must be explicitly linked to **anticipatory actions designed for mobile populations**, not treated as information products alone.

SADAAL – an Early Warning & Anticipatory Action Platform

*SADAAL is an early warning and anticipatory action platform developed under AART to support pastoralist decision-making along transhumance corridors. It integrates climate forecasts, water availability, pasture conditions, livestock disease surveillance, and market information into a single system. Crucially, SADAAL links risk signals to **pre-agreed anticipatory actions**, enabling earlier responses such as water rehabilitation, fodder support, or livestock health interventions before conditions deteriorate. The system is designed to support both community-level action and coordination with government and humanitarian actors.*

7 Component 7: Digital Pasture and Mobility Information Systems

Objective

Support pastoralists' day-to-day movement decisions by providing practical, location-specific information along corridors.

What this involves

- Providing **digital pasture and mobility information** that supports real-time navigation along corridors, building on traditional *sahan* (pastoral scouting) practices.
- Digitalising and scaling traditional pastoral scouting systems (*sahan*) by **combining community-based observation with satellite-derived data**.
- Providing **digital pasture and mobility information** that helps pastoralists navigate:
 - where pasture and water are currently available,
 - which routes are accessible or constrained,
 - where services (veterinary, fodder, markets) can be found.
- Combining **remote sensing data** with pastoralists' local knowledge to reflect real conditions on the ground.
- Designing tools specifically for use while on the move, **structured around corridors**, routes, and seasonal destinations – not villages or administrative boundaries.
- Ensuring information is simple, timely, trusted, and usable on basic mobile devices.

Key design principle

Digital pasture and mobility information supports everyday movement decisions and route choice. It complements early warning systems, but does not replace them.

E-SAHAN – a Digital Pasture & Mobility Information tool

*E-Sahan is a digital pasture and mobility information tool developed under AART to support pastoralists while on the move. It builds on the traditional sahan (pastoral scouting) system by combining community observations and **peer-to-peer alerts** with **satellite-derived pasture data** and corridor information.*

*Designed around movement routes rather than settlements, E-Sahan provides practical updates on grazing conditions, water points, route accessibility, and nearby services. It helps pastoralists decide **where to move, when to move, and when to wait**, reducing uncertainty and avoidable livestock losses.*

*The approach draws on principles used by **AfriScout**, which has been tested and scaled in dryland pastoral systems in **Kenya, Ethiopia, and Tanzania**.*



Transforming Traditional Livestock Routes into Climate-Smart Corridors

As shown in the illustration below, corridor-based programming works by deliberately connecting and sequencing resilience investments **along key livestock movement routes** – transforming traditional transhumance pathways into climate-smart corridors rather than delivering isolated activities around fixed communities. Water infrastructure, rangeland restoration, fodder reserves, veterinary services, early warning and anticipatory action, climate-smart livelihoods, and mobility-relevant information are layered at critical points along the corridor that pastoralists rely on across seasons.

Aligned in this way, these components reinforce one another — enabling safer movement, timely access to resources and services, earlier responses to climate stress, and reduced livestock losses during stress periods. Together, they function as an integrated, climate-smart corridor system.

Transforming traditional livestock routes into climate-smart corridors

6. Evidence: Why the Corridor Approach Works

The Transhumance Corridor Approach does not eliminate climate risk, but evidence from the AART project shows that designing resilience interventions around pastoralist movement systems – rather than fixed settlements – can reduce vulnerability, protect livestock assets, and better align programming with how pastoral livelihoods function across seasons.

What practitioners can expect

1. Improved access to water along migration routes

Under AART, water infrastructure was rehabilitated and spaced along mapped transhumance corridors, rather than concentrated around permanent settlements alone. This ensured that water access followed livestock movement during dry seasons and drought periods.

Communities reported:

- reduced walking distances for livestock,
- less congestion at water points,
- improved access to water during critical migration periods.

Key lesson from AART: Water infrastructure delivers greater resilience benefits when it supports mobility rather than anchoring people in place.

2. Healthier livestock and reduced losses during stress periods

Improved water access, restored pasture areas, and corridor-based veterinary outreach were combined under AART to support livestock health along movement routes. Disease surveillance through Community Animal Health Workers (CAHWs) enabled earlier detection and response.

Observed outcomes included:

- reduced livestock mortality, particularly among calves and lactating animals,
- more stable livestock productivity during dry periods,
- reduced need for distress sales.

***Key lesson from AART:** Protecting livestock early along corridors is more effective than post-crisis recovery measures.*

3. Reduced conflict around key resources

AART paired infrastructure rehabilitation with corridor governance arrangements, including negotiated access rules and joint management mechanisms. This helped manage pressure at shared water and grazing points.

Reported effects included:

- fewer disputes at rehabilitated water points,
- improved coordination between pastoralists and agro-pastoralists,
- more predictable movement patterns during seasonal migration.

***Key lesson from AART:** Infrastructure combined with governance can reduce tensions over scarce resources.*

4. Better-informed mobility decisions

Corridor mapping under AART was linked with early warning information through SADAAL and community-level systems. This helped ensure that early warning messages reflected actual movement routes and seasonal use patterns.

Communities reported:

- greater trust in early warning information,
- earlier migration decisions,
- activation of pre-agreed anticipatory actions before conditions became critical.

***Key lesson from AART:** Early warning is most effective when it reflects where people actually move.*

5. Reduced reliance on repeated emergency response

While full cost-benefit analysis requires longer timeframes, early evidence from AART suggests that corridor-based programming can contribute to:

- reduced emergency water trucking,
- prevention of large-scale livestock losses,
- reduced displacement during drought periods.

Key lesson from AART: *Preventive, corridor-based investments can reduce the need for repeated crisis response.*

Evidence takeaway

Evidence from AART suggests that the added value of corridor-based programming lies in *how* and *where* interventions are delivered. By aligning existing activities with pastoralist movement systems – along transhumance corridors and linked to early warning, governance, and seasonal planning – programs are better able to reduce losses and support earlier, safer decisions under climate stress.

Prevention Costs Less Than Response

Corridor-based investments under AART reduced emergency water trucking, livestock losses, and displacement during drought.

Aligning interventions with mobility systems delivers greater resilience gains than village-based programming.

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