

Pastoral Women: Female Agency, Tradition and Resilience Practices during Climate Shocks

Women's Climate Change Adaptation and Local Practices in Northern Kenya

Policy White Paper

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I. Executive Summary

This white paper explores how pastoralist women in Northern Kenya recognise, interpret, and respond to climate change. Drawing on participatory data from focus groups, life histories, and community observations, it reveals that women are not passive victims of climate stress but central actors driving adaptation and resilience. Their practices spanning traditional meteorological systems, local water governance, seedling cooperatives, and informal pipeline repair demonstrate the transformative potential of female agency within fragile ecosystems.

Key findings show that women:

- Combine traditional forecasting (Karoyok) with modern tools (radio, WhatsApp) to anticipate climatic shifts.
- Shoulder the primary labour of water access and household survival, while gradually expanding influence in local water committees.
- Lead small-scale entrepreneurial and ecological innovations such as communal nurseries and informal repair systems.
- Redefine traditional gender norms by creating hybrid roles as “rain scouts,” “custody guardians,” and “water feminists.”

The paper argues that resilience in pastoral systems is co-produced through female agency, institutional design, and the blending of traditional and new knowledge. It concludes with actionable policy recommendations for inclusive climate governance and gender-responsive adaptation planning.

2. Introduction

Pastoral women across arid and semi-arid lands face intersecting challenges: shrinking grazing land, erratic rainfall, water scarcity, and socio-cultural constraints. Yet, as evidence from Ribkwo shows, they also serve as innovators and organisers within these changing climates.

This white paper synthesises research findings structured around five analytical axes:

1. Recognition of environmental change
2. Intra-household decision-making on water and livestock
3. Adjustment and adaptation during droughts
4. Innovation amid infrastructure failure
5. Life trajectories, trade-offs, and emergent female roles

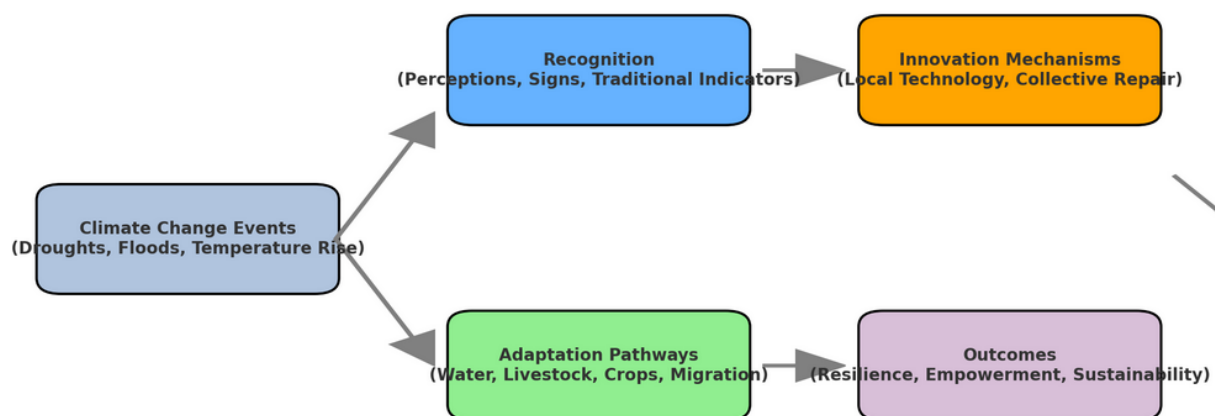


Figure 1: Adaptive and Resilience Framework illustration

The paper situates women as key agents in resilience-building, whose responses link local knowledge, governance participation, and gendered labour transformations.

2. Recognition of Climate Change

Recognition of climate change is foundational for adaptation. In Ribkwo, 82% of women identified delayed rains as the most visible sign, and 95% cited declining pasture and heat intensification.

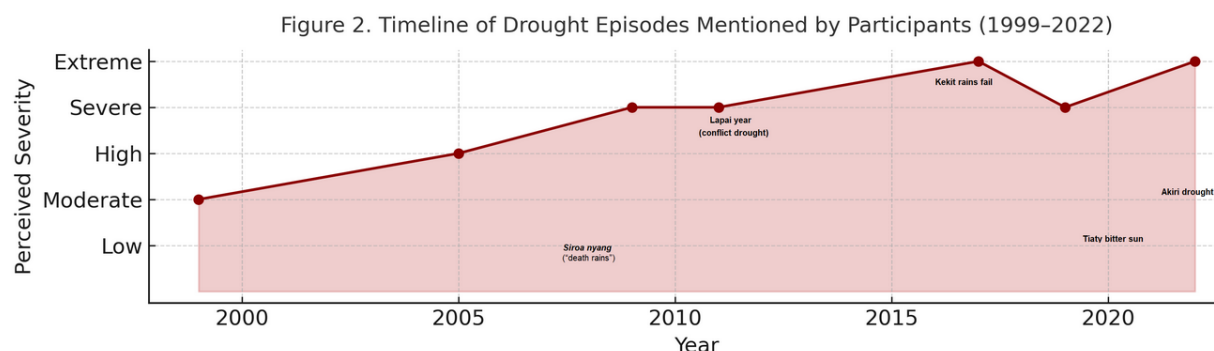


Figure 2: Some of Climate Shocks reported

Three recognition pathways emerged:

- Traditional interpretation: Older semi-nomadic women rely on *Karoyok*, a traditional meteorological system that guides herd migration and planting decisions.
- Hybrid innovation: Younger and mid-life women combine instrumental indicators (soil dryness, well depth) with digital tools and rituals, such as the *soil whisper* a dawn practice reading dew presence as a climate omen.
- Emergent scouts: Women-led “rain scout” teams map rainfall routes using colour-coded sticks, integrating local data into community water pipeline planning.



Recognition, therefore, is a socially constructed and stratified process, merging ancestral wisdom with modern connectivity.

3. Intra-Household Power and Resource Governance

Gender roles in water and livestock management remain highly asymmetrical.

- Women dominate domestic water procurement, often walking hours daily.
- Men retain authority over long-distance herd decisions and cattle sales.
- Women manage small stock and micro-sales, controlling essential household liquidity.
- Categories: Water Procurement, Livestock Care, Livestock Sales, Household Expenditure, Committee Leadership.

Table 1: Division of Labour and Decision-Making Authority

Task	Men (%)	Women (%)	Joint (%)
Domestic Water Procurement	5	95	0
Livestock Care (Small Stock)	15	81	4
Livestock Sale Decisions	90	5	5
Household Expenditure	30	60	10
Committee Leadership	80	18	2

Institutional participation through the Ribkwo Community Water Project enabled women to become kiosk attendants and treasurers. In these roles, they leveraged Mobile Money Transfer (MPESA) transparency to reduce water leakage and increase service reliability translating domestic burden into governance influence. The findings reveal that when women hold institutional roles, community outcomes improve, showcasing governance as a vector for empowerment.

4. Shock Adjustments: Coping, Adaptation, and Strain

Women's responses to drought evolve across three temporal phases:

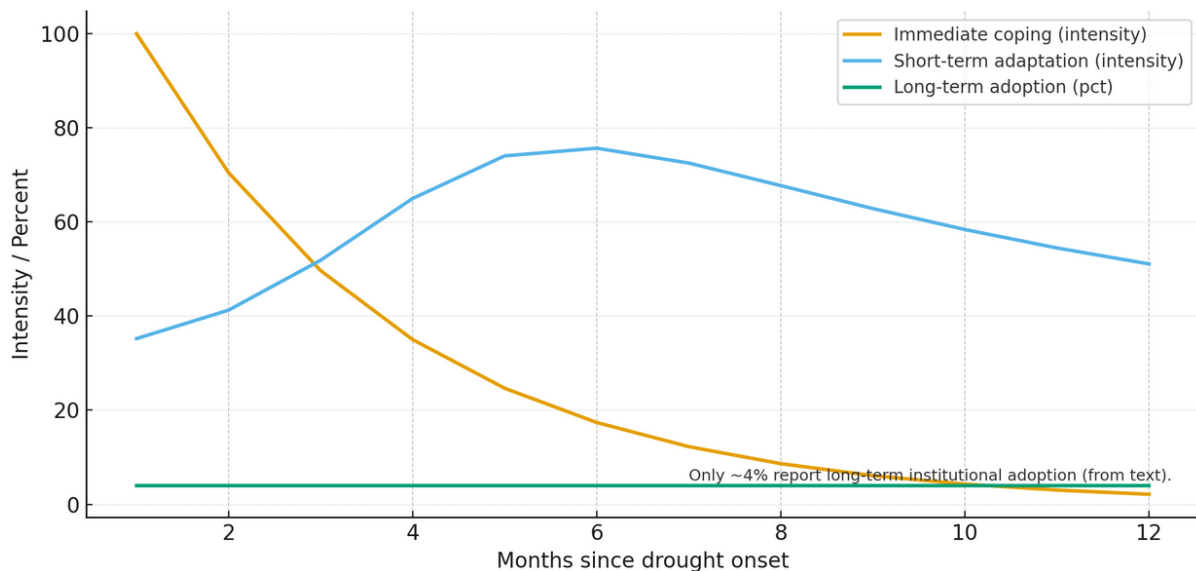


Figure 3: Coping strategies

- **Immediate Coping:** Women sell small livestock early, ration water, and reduce meals. Education of daughters suffers due to water-fetching duties.
- **Short-Term Adaptation (3–12 months):** Households diversify livelihoods: men migrate for wage labour; women engage in petty trade or milk vending. Emerging strategies include communal nurseries for drought-resistant seedlings, creating modest income buffers.
- **Long-Term Strategy (rare):** Only 4% of households adopted sustained climate-smart practices, constrained by limited rights, credit, and extension services.

Hence, most responses remain reactive coping rather than transformative adaptation.

5. Life Trajectories, Trade-offs, and Emerging Female Roles

Climate resilience depends as much on traditional governance as on technology.

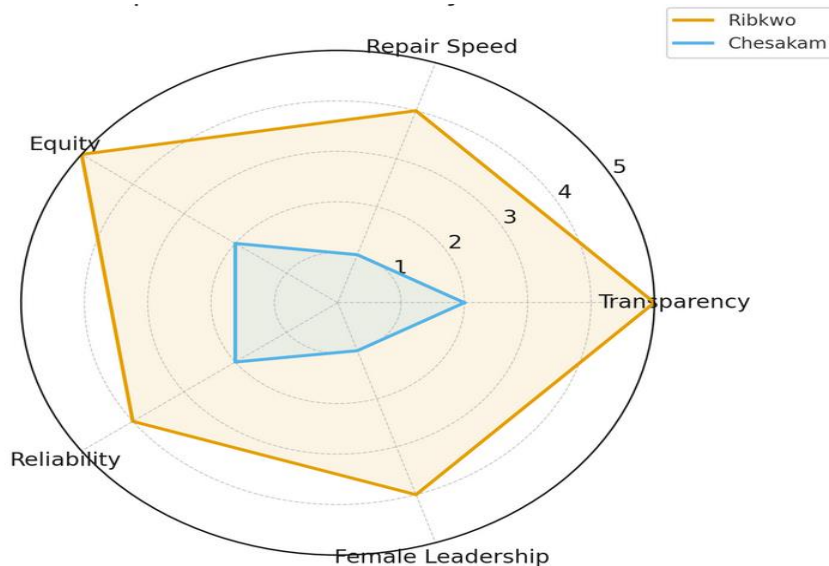


Figure 4: Comparative Functionality across two clusters

In Ribkwo, collective innovation thrived through partnerships between women's groups and youth associations. Mobile-money payment modalities such as MPESA improved transparency and reduced downtime in water delivery. Conversely, in Chesakam lacking formal committee women invented rotation and pooling systems, sharing limited water access and collecting dew for seedlings.

- These cases show that agency thrives under institutional scaffolding but collapses without supportive governance.
- Composite case profiles (Amina, Ruth, and Nabaloi) illustrate that resilience pathways vary by age, asset level, and settlement type.

Table 2: Traditional Resilience practices to Climate Shocks

	Keywords	Illustrative Verbatim
Rotational Water Custodianship	shared labour; reciprocal fetching; night rotation	“When the drought is long, we take turns at night to fetch water so that no one’s livestock dies. We make a list and every woman keeps her time.” (<i>Elder woman, Chesakam FGD</i>)
Clay Pot Water Preservation (Traditional Cooling)	clay pots; temperature control; evaporation limits	“My grandmother taught us to store water in <i>sorok</i> , it stays cool and lasts two more days. Even the children know this.” (<i>Middle-aged pastoral woman, Ribkwo FGD</i>)
Reinvention of ‘Arot’ (Communal Forage Exchange)	barter of grass; livestock care; herd redistribution	“Those who have grass share with others who have none. We call it <i>arot</i> , today for you, tomorrow for me.” (<i>Young agro-pastoralist woman</i>)
Use of Dew and Moonlight Watering (‘Kapchel Toret’)	dew collection; nocturnal irrigation; seedling protection	“At night, when the moon is strong, we collect the dew from roofs and water small gardens. We call it <i>kapchel toret</i> .” (<i>Younger women’s group discussant, Ribkwo</i>)
Livestock Redistribution (Kin-Based Restocking)	clan network; lending; social solidarity	“When one’s goats die, another sister lends one or two. It is shameful to see a woman without even a goat.” (<i>Elder woman, Chesakam</i>)
Water Fund through Mobile Transfers (Digital Micro-Resilience)	Mobile-money payments; maintenance fund; transparent accounting	“We contribute 200 shillings each month on MPESA so that when a pipe breaks, we fix it fast.” (<i>Ribkwo management committee woman</i>)
Eco-cultural Prayer Rites (‘Tornit’) for Rain and Renewal	ancestral appeasement; collective prayer; gendered leadership	“We women lead <i>tornit</i> to speak with ancestors for rain; men only prepare the goat.” (<i>Female ritual custodian, Chesakam</i>)
Seed Custody Circles (‘Kopoch Ng’ot’) for Future Planting	communal seed banks; trust; inter-household exchange	“When rains fail, we hide some seeds with grandmothers so they don’t spoil or get eaten.” (<i>Agro-pastoral FGD</i>)
Rest Days for Livestock (‘Kapor’)	controlled grazing; herd rest rotation	“We rest the cows one day every week; they eat better and milk returns faster after the drought.” (<i>Semi-nomadic elder, Chesakam</i>)

Key patterns:

- women exhibit survival resilience grounded in tradition.
- Mid-age women blend institutional roles with livelihood diversification.
- Younger women innovate informally but face resource precarity.

Trade-offs persist particularly between education, rest, and economic stability. Yet new female roles are crystallising:

- Rain Scouts: Early warning observers who blend science and ritual.
- Custody Guardians: Pipeline monitors ensuring equitable access.
- Seed Nursery Cooperators: Women-led ecological entrepreneurs.
- Water Feminists: Advocates framing water management as collective care.

These identities redefine pastoral femininity as active, strategic, and visionary.

6. Synthesis: Agency, Knowledge, and Design

Across all themes, several structural insights emerge:

- Knowledge hybridity drives early recognition but requires institutional support to translate into adaptation.
- Labour burden is the key mechanism through which climate stress affects women reducing it enables innovation.
- Institutional design matters more than infrastructure alone; governance quality determines system success.
- Stratification by age, livelihood, and mobility shapes access to adaptation pathways.

Thus, female agency is multi-modal combining ritual, governance, enterprise, and custodianship within a relational ecosystem of resilience.

7. Policy Implications and Recommendations

1. Institutionalise Women's Leadership in Water Governance
 - Mandate gender quotas and transparent financial audits in local water committees.
 - Train women in technical maintenance and financial oversight.
2. Ways to convert the Traditional Practices to Hybrid Knowledge Systems
 - Integrate traditional forecasting (Karoyok) and new practices (soil whisper) into digital early warning systems.
 - Encourage co-production of data between women scouts and meteorological offices.
3. Invest in Micro-Irrigation and Seedling Enterprises
 - Provide small grants to women's groups managing communal nurseries and kitchen gardens.
4. Design Flexible Water Infrastructure for Mobile Livelihoods
 - Develop mobile governance models that move with pastoral herds and integrate women's custodianship.
5. Reduce Time Burden through Technology and Access
 - Promote solar pumps, ergonomic jerrycan rollers, and community-managed transport systems.

8. Conclusion

Pastoral women in are not passive recipients of climate stress they are knowledge producers, organisers, and innovators whose actions sustain households and reshape governance. Their resilience derives not from external aid but from adaptive ingenuity and collective organisation.

Policies must therefore shift from technology-first to governance-first models that recognise women as architects of resilience. Embedding their voices in design, decision-making, and monitoring is essential for building equitable climate futures in pastoral Kenya.