A One Health and Socio-Ecological Systems Framework for Pastoralism

The case of northern Kenya

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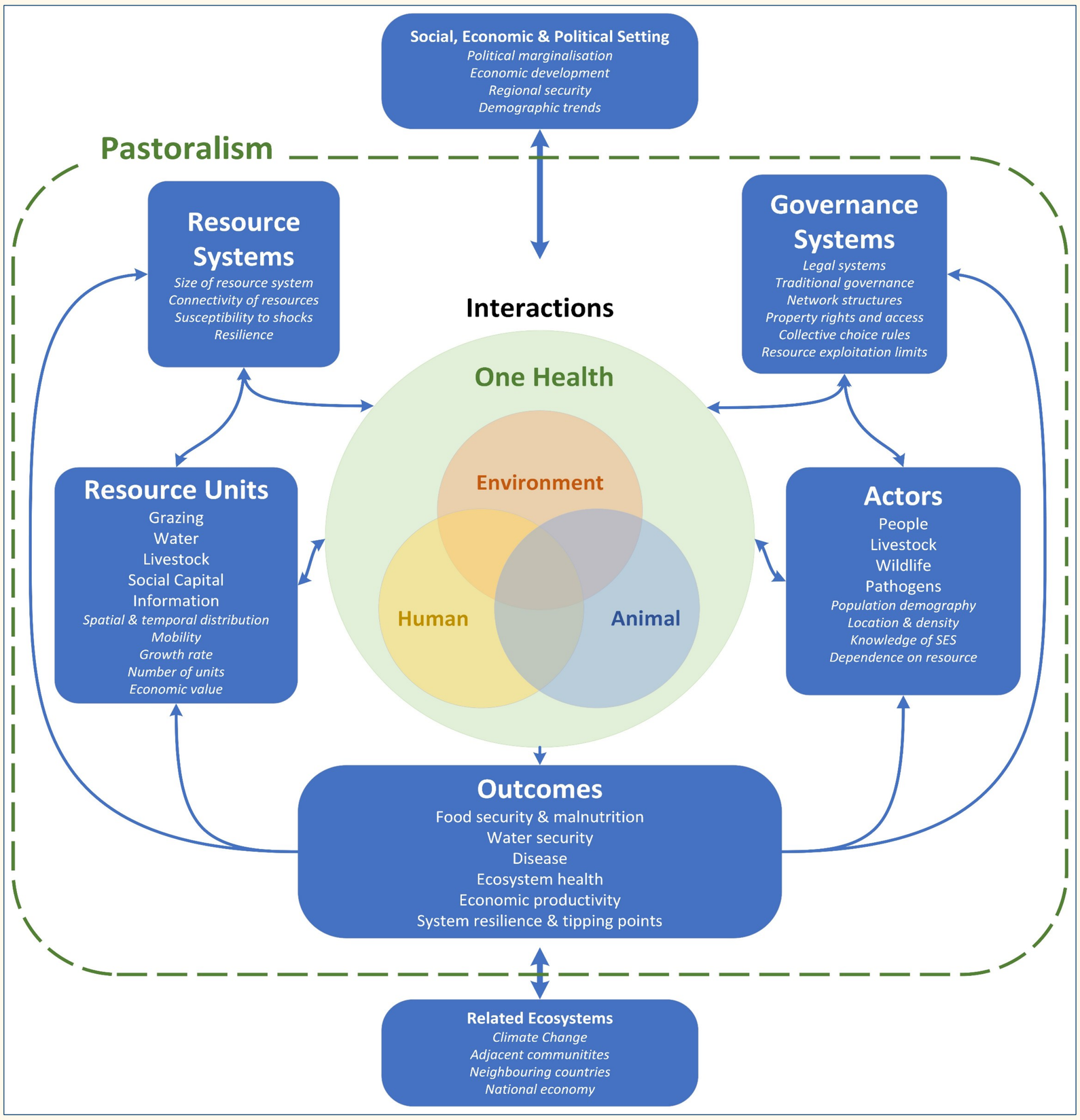
Background

- Pastoralism supports 13% of Kenya's GDP but faces threats from climate change, population growth, weak governance, and political marginalisation
- One Health naturally aligns with pastoralism's core interdependency of people, livestock, and rangelands
- A combined One Health–SES framework enables holistic, sustainable approaches beyond linear, driver-outcome thinking

Problem Statement

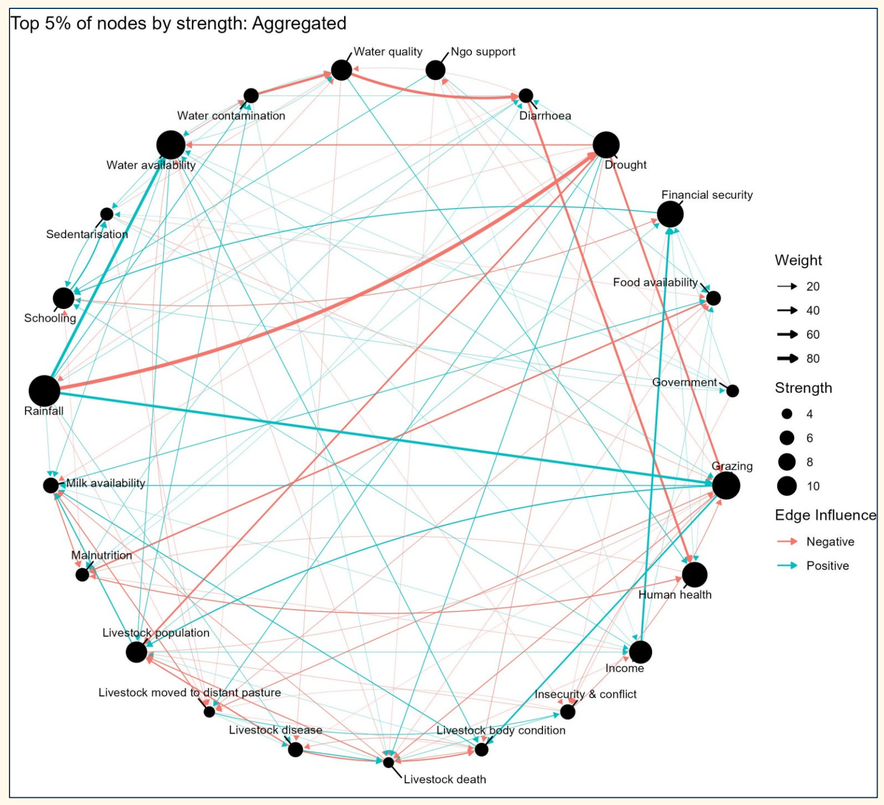
- Linear, driver-outcome approaches dominate One Health and development
- Sectoral, top-down methods marginalise community participation
- One Health struggles to integrate non-health fields and implement epistemic plurality

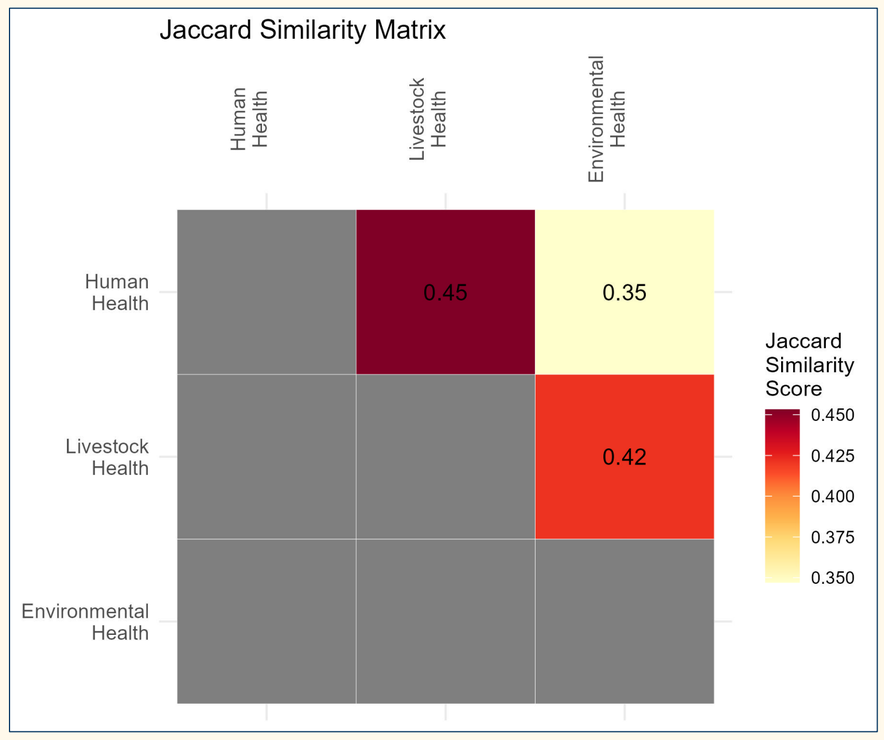
Solution: One Health SES framework



Case study: FCM in Kenya

- Fuzzy Cognitive Mapping (FCM) with 36 Key Informants to map the pastoral system in Marsabit, Kenya
- Pastoralism is a complex SES
- Connections between One Health sectors quantified- Human and Environmental health not well connected





Outcomes

Resilience

- Systems view of resilience - system states, not events
- "Resilience from below" - local, complex and networked
- Emergent system properties - tipping points

Leverage points

- Systems framework can identify leverage points- priorities for development and One Health interventions

Epistemic plurality

- Systems view more aligned with local view of pastoral system "from within"
- One Health can help to connect different knowledges and investigate system interactions



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