

Context

This research project focuses on Kenya, Ethiopia, Senegal, Burkina Faso, Pakistan and Tajikistan, and this summary focuses on research carried out in Kenya. Climate change is a major concern for the livestock subsector in Kenya as livestock feed comes from rangelands – areas that are greatly impacted by climatic events. Increasing numbers of poor pastoral households are at risk of losing their herds due to the growing threat of frequent and severe drought brought on by climate change. Our work with the Ministry of Agriculture, Livestock and Fisheries; the National Drought Management Authority (NDMA); producers, traders, butchers, processors; and non-governmental agencies reveals that climate change has led to increased conflicts between communities and private producers; diseases introduced by migratory flocks of cattle; poor prices; banditry, flood losses, and business losses due to low quality meat that consumers don't buy, which affects beef consumption.

More than 80% of beef eaten in Kenya is produced by pastoralists, either domestically or in neighbouring countries. The livestock subsector in Kenya contributes to around 12% of Gross Domestic Product (GDP) and approximately 42% of agricultural GDP. It employs about 50% of the national agricultural workforce and about 90% of the workforce in arid and semi-arid lands (ASALs). Therefore, developing the pastoralist economy is vital to drive climate-resilient economic growth and reduce poverty in Kenyan ASALs.

Aims

By taking a three-step, common methodology called Value Chain Analysis for Resilience in Drylands (VC-ARID), which takes into account the specific characteristics of semi-arid systems, we aim to identify climate risk, adaptation options, and opportunities for private investment in the beef value chain in the semi-arid economies of Laikipia North, Kenya.

The three steps of VC-ARID are: 1) mapping the value chain, 2) assessing climate risks at each level of the value chain, 3) identifying adaptation and private sector investment options for climate-resilient value chain transformation.

We recognise that there are two main options for pastoralists, who are the main producers of livestock in these semi-arid lands, to benefit from climate-resilient economic development: through upgrading the beef value chain

Pathways to Resilience in Semi-arid Economies (PRISE) is a five-year, multi-country research project that generates new knowledge about how economic development in semi-arid regions can be made more equitable and resilient to climate change. PRISE aims to strengthen the commitment of decision-makers in local and national governments, businesses and trade bodies to rapid, inclusive and resilient development in these regions. It does so by deepening their understanding of the threats and opportunities that semi-arid economies face in relation to climate change.

Where we work: Senegal, Burkina Faso, Kenya, Tanzania, Ethiopia, Pakistan, Tajikistan and Kyrgyzstan.

Member organisations: Overseas Development Institute, UK (lead organisation); Grantham Research Institute for Climate Change and the Environment, UK; Innovation Environnement Développement en Afrique, Senegal; Sustainable Development Policy Institute, Pakistan.

Country Research Partners: Regional Environmental Center for Central Asia, Tajikistan; University of Ouagadougou, Burkina Faso; Kenya Markets Trust, Kenya; Mountain Societies Research Institute, Kyrgyzstan.

PRISE research projects:

Research area 1: Migration futures in Asia and Africa: climate change and climate-resilient economic development.

Research area 2: Migration, remittances, adaptation and resilience in arid and semi-arid regions of Senegal and Tajikistan.

Research area 3: Harnessing opportunities for climate-resilient economic development in semi-arid lands: adaptation options in key sectors.

Research area 4: Enabling environment for private sector/ multi-stakeholder action to strengthen resilience to climate change.

Research area 5: Property rights, investments and economic development in the context of climate change in semi-arid lands.

Research area 6, Part 1: Cross-boundary multi-scale governance of semi-arid lands: Implications for climate resilience and economic development.

Research area 6, Part 2: Resilience to climate-related shocks and stressors in Kyrgyzstan: developing resilience indicators to predict well-being.

Research area 7: Water governance in semi-arid lands: political and economic insights for the management of variability and extremes in a changing climate.

(vertical transformation), and through diversification into group ranch tourism (horizontal transformation).

Results

- There are two parallel chains in operation: the first is more formal and incorporates fattening livestock on privately owned ranches; the second is more informal and involves more traditional extensive pastoralism.
- Local livestock markets are dominated by brokers who under-approximate the weight of animals and set low prices that are unfair to pastoralists.
- Almost all communities in Laikipia North have access to wildlife conservancies for dry season grazing, and benefit from employment and school fees bursaries from tourism income.
- All pastoralists in Laikipia North have lost livestock due to severe droughts that have become increasingly frequent. Pastoralists ranked drought as the most important climate impact in Laikipia North.
- Producers rely on mobility to cope with climate risk. For example, herders move to highland areas around Mount Kenya during times of drought and practise rotational grazing.
- Stakeholders such as butchers, meat suppliers and livestock traders believe the best way to adapt to climate change includes options such as diversifying livelihoods, managing pastures holistically, conserving the environment, building public awareness on climate change, developing early warning systems, reducing herd sizes, kitchen gardening, stocking adaptable breeds, and commercialising pastoralism through feedlot fattening (providing feed to livestock where the animal is located, which means livestock does not have to be moved and can gain weight faster before being sold).

Policy recommendations

- Pastoralists who invest in cattle fattening will benefit by producing a higher quality of beef. This would enable them to transform their livestock keeping into a more commercial venture.
- County governments across Kenya can support pastoralist livelihoods and economic growth by investing in marketing infrastructure, such as weighing machines, and ensuring that emerging sectors, such as ecotourism, offer inclusive opportunities.
- County governments that invest in livestock holding grounds with feed and water near livestock markets will increase pastoralists' market access, allowing them to wait with their herds for another market day, when prices may be higher.
- County governments that invest in climate-proof infrastructure, such as water retention structures like dams and graveled roads, will increase the competitiveness of group ranch conservancies as tourist destinations.
- The private sector (e.g. butchers and mini meat processors) can profit from investment in the beef value chain; meat processors offer good prices (USD 3.5/kg) for well finished animals of a good weight (175kgs and above). Doing so will transform the sector by providing beef throughout the year, where markets are available.
- The businesses of actors in the beef value chain would grow if the following opportunities are created by both government and private sector actors: setting up a processing plant (e.g. an abattoir) in Laikipia County; the modernisation (e.g. including cold storage facilities) of local slaughter houses; the availability of adequate markets to buy meat products; feedlot availability near slaughterhouses, which would allow pastoralists to negotiate fairer prices for their animals; and for the national government to revive the Kenya Meat Commission, which would provide pastoralists with markets to sell animals.

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Collaborative Adaptation Research
Initiative in Africa and Asia



Header image: Maasai zebu cattle outside a village, © brittak