

# Drought Risks Livelihood in Laikipia County

## POLICY BRIEF

November 2019



### Key messages

- 1. Frequent drought leads to food shortages due to crop failure, increasing the cost of available goods. Sustainable drought adaptation strategies such as planting of drought resistant seeds, timely planting and planting early maturing varieties should be adopted to increase crop production in Laikipia County.**
- 2. Pastoralism is vulnerable to drought due to reduced forage and water supplies. Structured Livestock off take and feed storage could sustain animal production during drought.**
- 3. Droughts have long lasting environmental challenges such as drying of rivers and increased fire incidence. Rain water harvesting and drilling of new boreholes can improve water availability and access for the agro-pastoralists in Laikipia County.**

### Introduction

Frequent droughts have occurred in Kenya in the last 30 years resulting to food insecurity, scarce pastures, loss of livelihoods and human lives. Drought sets a vicious cycle of socio economic impacts beginning with crop failure, unemployment, erosion of assets, decrease in income and poor nutrition<sup>1</sup>. In Kenya drought adversely affect rain fed agriculture, water resources, hydropower generation and ecosystems. The average drought cycle in Laikipia County has reduced from 5 to 3 years affecting both crop and livestock production. From 1984 to 2014, 53% of the period, received below normal rainfall while 40% of the period received above normal rainfall in Laikipia County. This shows that more years recorded below normal rainfall increasing the frequency of drought. In Laikipia County the 2009 drought impacted over 75% of the crops, while 77.7% of the households lost their livestock.

Pastoral and agro-pastoral livelihoods are more vulnerable to the effects of drought in arid and semi-

arid parts of Laikipia County due to over reliance on rain-fed agriculture and natural pasture. Occurrences of drought in Laikipia County leave households devastated and unable to cope without external support. There are county and national level efforts to mitigate the effects of drought in Kenya. These include National Agriculture and Livestock Extension Program, food relief, generation and dissemination of climate forecasts, as well as ministerial and institutional intervention programs such as: NjaaMarufuku, ASAL based and rural livelihoods support program, Laikipia Community development assistance among

others. Despite these national-level efforts, effects of droughts on household livelihoods in Laikipia County remain unclear. Identification of livelihoods at risk during drought informs the relevant stakeholders on the priority areas in resource allocation and decision making to minimize drought effects among vulnerable households. The knowledge of the major livelihoods affected by drought in Laikipia County is important to various stakeholders in minimizing its effects. Against this background, this study sought to quantify and assess the effects of drought on livelihoods in Laikipia County.

## Livelihoods Losses in Laikipia County

The effects of drought are as a result of the interplay between natural event and response by the society<sup>2</sup>. Drought in Laikipia County results in reduced crop yields (57%) or total crop failure (26%) (Plate 1). Laikipia County experiences food shortages, lack of

pasture, and high prices of goods during drought. High price of goods is as a result of decreased supply leading to out sourcing of goods from other counties which increase the cost of goods in Laikipia.



**Plate 1:** Effects of drought on crops in Laikipia County

Besides crops, droughts have leads to loss of livestock in Laikipia county; with 75% and 13% of the households reporting few and total livestock losses respectively (Plate2). The loss of animals leads to reduced household income in the county. Drought reduces forage production and water supplies putting

serious pressure on the livestock industry<sup>3</sup>. Drought also makes animals more susceptible to diseases<sup>4</sup>. Unavailability of fodder coupled with competition for pasture and water between wildlife and domestic animals make livestock more vulnerable to drought than crops.



**Plate 2:** Effects of drought on Livestock in Laikipia County



**Plate 3:** People and Livestock Sharing a water point in Laikipia County

Droughts have long lasting environmental challenges in Laikipia County. Drying of rivers (78.9%), lack of wood fuel (11.6%) and increased fire incidences (8.8%) are reported as aftermaths of droughts (Plate 2). Drying of rivers leads to increased distances for people and animals to the water points and this could increase conflict over the few existing water sources (Plate 3). The conflicts are not limited human-human conflict but also human-wildlife conflicts. Increased fire incidence leads to loss of biodiversity and subsequently altering the ecosystem.

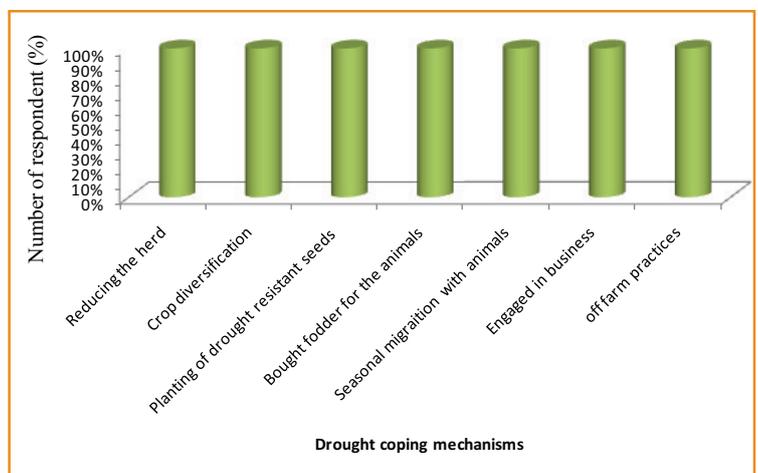


**Plate 4:** Environmental effects of drought in Laikipia County

## How best to cope with droughts in Laikipia: An Agro-pastoralists' Perspective.

There are various drought coping mechanisms adopted by households in Laikipia County (Figure 5). The most popular mechanism (18%) is seasonal migration with animals and engaging in business. These are followed by reduction of herd (17%) and buying of fodder (13%). Planting of drought tolerant crops (10%) is the least preferred coping mechanism despite the fact that Laikipia County is an arid and semi- arid region. Low adoption of drought tolerant crops in an arid and semi-arid part of Kenya is an indication of the missing link on dissemination of sustainable drought coping mechanisms by extension officer working in the area. Drought adaptation is critical in protecting livelihoods and food security in many developing countries<sup>5</sup>. Though seasonal migration with the animals is the most preferred drought coping strategy among pastoralist it is unsustainable in an area known to have deep rooted conflict over land. Seasonal migration with animals causes conflicts with ranchers, farmers, horticulturalists, conservation area, wardens and government authorities. This leaves

pastoralist with reduction of herd as a sustainable coping mechanism before the onset of drought. The weekly Livestock markets in Rumuruti town (Plate 6) offer an opportunity for the pastoralists to reduce their herds before the onset of drought hence minimizing losses.



**Plate 5:** Drought coping mechanisms in Laikipia County



**Plate 6:** Livestock Market day in Rumuruti Town

## Way Forward

The study recommends the following policy decision:

- i. Increased awareness on drought resistant crop varieties such as millet, sorghum and dolichos in Laikipia to minimize crop losses during drought. Credit should be extended all households to enhance businesses opportunities as an coping mechanism during drought
- ii. Structured livestock off-take when droughts are predicted to minimize livestock losses among pastoralist
- iii. Rain water harvesting and drilling of new boreholes can improve water availability and access for the agro-pastoralists of Laikipia County

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### About the Policy Brief

This brief is a product of a PhD research work from Egerton University titled: Effects of drought on household livelihoods and adaptation strategies in Laikipia West Sub- County for the period 1984-2014. The research was undertaken by AmonKaranja (2018) under the supervision of Prof. Kennedy Ondimu and Dr. Charles Recha

## Reference

1. UNISDR 2012. Disaster Reduction in Africa. United Nations International strategy for disaster reduction regional office for Africa (UNISDR Africa).
2. Wilhite, D. A., Svoboda, M., and Hayes, M. (2007). Understanding the Complex Impacts of Drought: A key to Enhancing Drought Mitigation and Preparedness. *Water Resources Management* 21(5), 763–774.
3. UNDP (2000). Report on the Status of Drought Preparedness and Mitigation in Sub- Saharan Africa. United Nations (Volume 1). New York: Office of Combat Desertification and Drought, United Nations Development Programme (UNDP).
4. World Bank, (2013). Agricultural Sector Risk Assessment in Niger: Moving from Crisis Response to Long-Term Risk Management. Report Number: 74322-NE
5. FAO (2008). Climate change adaptation and mitigation: challenges and opportunities for food security. High-level conference on world food security: The challenges of climate change and bioenergy, Conference proceedings Rome, 3 – 5 June 2008.

## Contact address

**Amon Mwangi Karanja**  
 Department of Geography,  
 Egerton University,  
 Box 536, Egerton  
 Email: amon.karanja@egerton.ac.ke  
 0715701221 AgriFoSe2030



**EGERTON  
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