

IMPLICATIONS OF CLIMATE VARIABILITY ON LIVELIHOODS OF ARID COMMUNITIES IN KENYA - CHALLENGES AND OPPORTUNITIES



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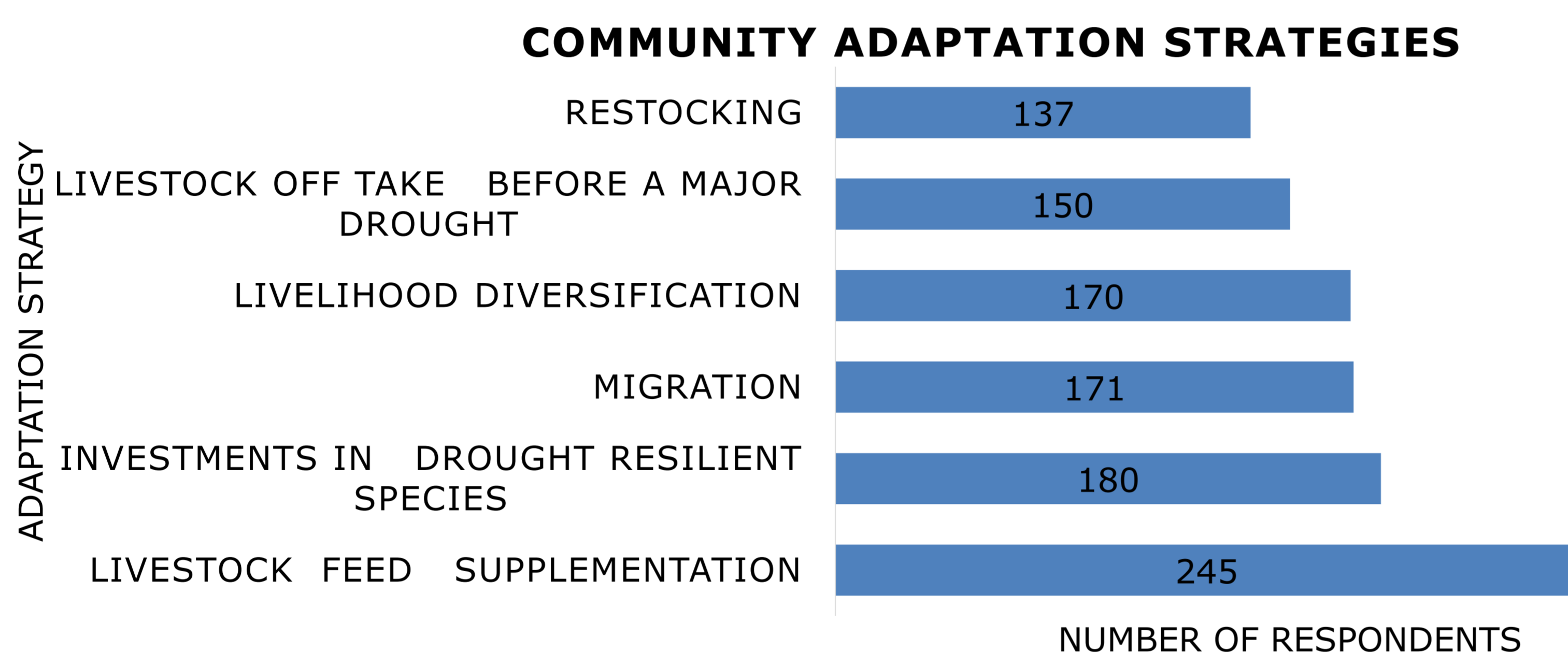
Introduction

The impacts of climate change within the livestock sector among pastoral communities across Africa has been documented over many years (Bryan et al, 2013, Okoti et al, 2014, Snorek et al 2014). However, little is known about the challenges and opportunities these changes present to the arid communities in respect to their livelihoods.

To assess the implications of climate variability on the livelihoods of arid communities in Kenya, we used a case study of Laikipia and Samburu regions. A sample of 300 households was sampled using household questionnaires, focus group discussions and key informant interviews.



Photo: The impacts of climate variability - livestock weakening and crop failure



Graph: Adaptation strategies to climate variability disaggregated according to importance

Activity	Percent
Pastoralism	32.8%
Agriculture	4.3%
Business	1.3%
Employment	4.7%
Pastoralism and business	18.5%
Pastoralism and agriculture	4.7%
Pastoralism, employment and business	15.1%
Pastoralism and employment	14.7%
Agriculture and employment	1.3%
Pastoralism, agriculture and business	0.4%

Table: Community income diversification activities

Results

Chi square tests, show a highly significant relationship between climate variability and impacts on livestock production and adaptation strategies. The impacts documented include livestock weakening and deaths due to lack of feed and water; crop failure and water scarcity.

Under climatic variability impacts, the community has employed various adaptation options. These include livelihood and income diversification (e.g. paid employment), investments in drought resilient species and activities like ecotourism, as well as migration, and selling of livestock before a major drought and restocking. This was undertaken according to household's adaptive capacity

Conclusion

- Climate variability affect the livelihoods of arid communities
- Adaptation options to climate change among arid communities are robust and present opportunities for diversification of livelihood activities and income
- There is need for governments, markets, policies and international agencies to support community adaptation strategies

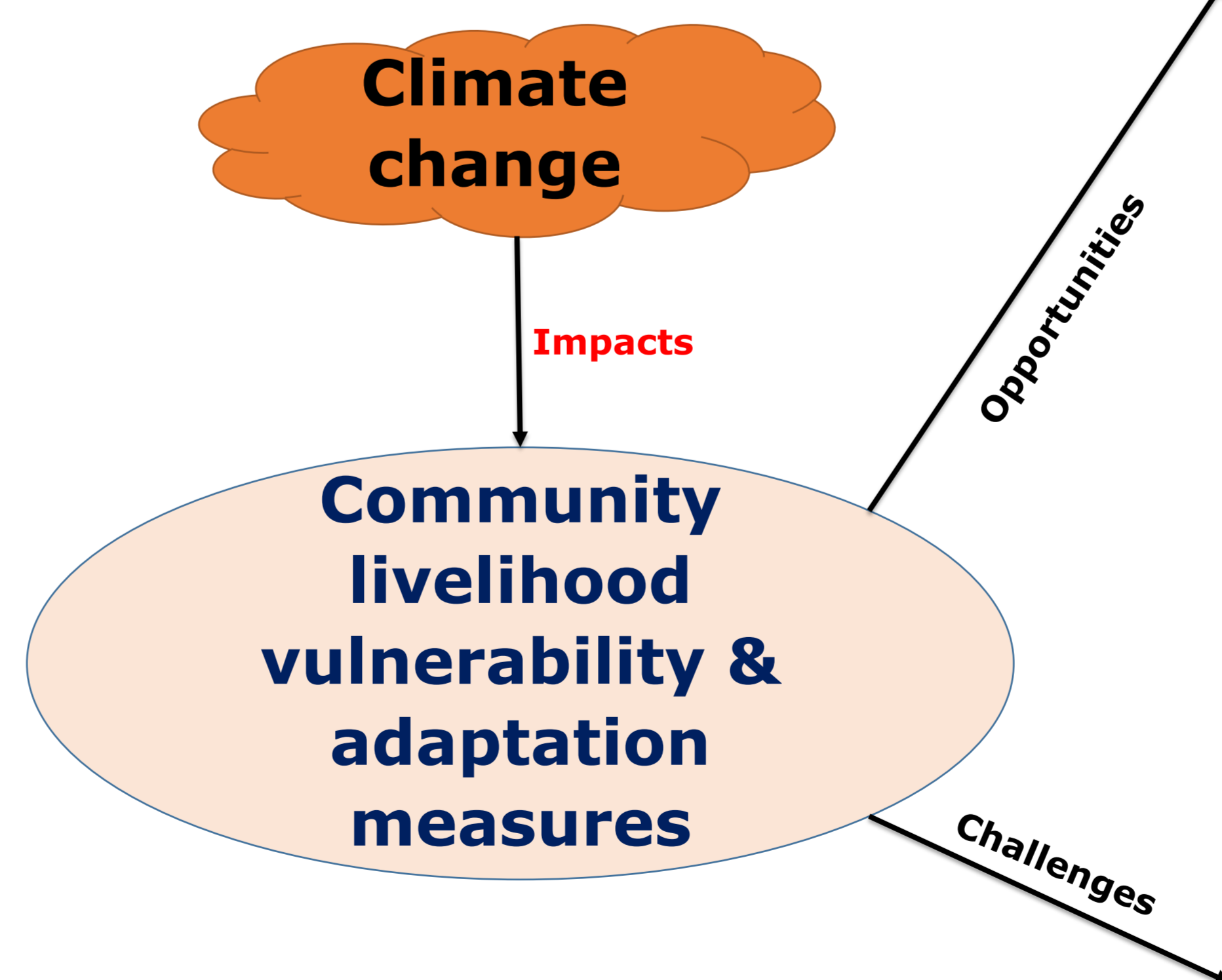


Chart: Climate impacts, challenges and opportunities for community adaptation

Socio-economic Opportunities
The untapped resources in the drylands can be explored
Exploring other uses of the landscape, e.g. ranching and ecotourism
Opportunity for better land management
Opportunity for donors and funding agencies to promote development, tourism and business

Environmental Challenges
overgrazing, desertification and land degradation
Increased frequency and severity of extreme climatic events
Change in habitats and decline in ecosystem goods and services
Increase in water scarcity, food shortage and conflicts

Social Challenges
Poverty, conflicts, pandemics, loss of cultural values, high dependence on rain-fed systems, high population

Citations

Bryan, E., et al. (2013). Adapting agriculture to climate change in Kenya: Household strategies and determinants. *Journal of environmental management* **114**: 26-35.
Okoti, M., et al. (2014). Impact of climate variability on pastoral households and adaptation strategies in Garissa county, northern Kenya. *Journal of Human Ecology* **45**(3): 243-249.
Snorek, J., et al. (2014). Divergent adaptation to climate variability: A case study of pastoral and agricultural societies in Niger. *Global Environmental Change* **29**: 371-386.

Further information

<http://www.ufz.de/index.php?en=43247&nopagecache>
Photos: B. Rono

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