

Assessment of Climate Change Vulnerability, Adaptation and Policy Responses in Kenya

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Aim of the Study

The overall aim of this study is to explore the interplay between climate change, vulnerability and adaptation in Kenya. We first assess Kenya's vulnerability, including climate change exposure, sensitivity and adaptive capacity. Second, we analyse policy strategies of the Kenyan government in response to climate change. Third, we illustrate the dual challenge of climate change and conflict for the Turkana and Pokot pastoral communities in northwestern Kenya.

Methods

For the vulnerability assessment we analysed climate and socioeconomic data. To explore the policy responses and the local adaptation of the communities we conducted 183 interviews with government officials, key informants and community members in 2011, in northwestern Kenya and Nairobi [1].

Results

Kenya has been exposed to significant warming (roughly 1.5 times the global average) over the past 30 years (Fig.1). This trend is projected to continue in combination with increased intra- and interannual rainfall variability [2]. Kenya's economy and people (Fig. 2) are sensitive to these climatic changes as rainfed agriculture is import in terms of gross domestic product (GDP) and labor force (Fig. 2). The high level of corruption is a key obstacle to efficient resource use and adaptation to climate change (Tab. 1). Further obstacles to adaptation are the low GDP per capita and the high HIV rate.

The Kenyan government utilizes very few of the many options to strengthen the adaptive capacity of pastoralists and farmers (Fig. 3). In northwestern Kenya violent theft of livestock ('raiding') and conflicts between Turkana and Pokot interact with other socioeconomic factors (Fig. 4, see also [3-4]). Together they pose significant challenges for the pastoral communities to adapt to climate change.

Conclusion

Kenya is highly vulnerable to climate change because of its exposure to increasing temperatures and rainfall variability, its strong dependence on climate-sensitive agriculture and its moderate adaptive capacity, which suffers from the high level of corruption. Governmental policies should address issues of corruption and socioeconomic marginalisation to strengthen adaptive capacities and to remove obstacles preventing local adaptation, such as conflict. For pastoralists focusing on safe and free mobility should be made a key priority.

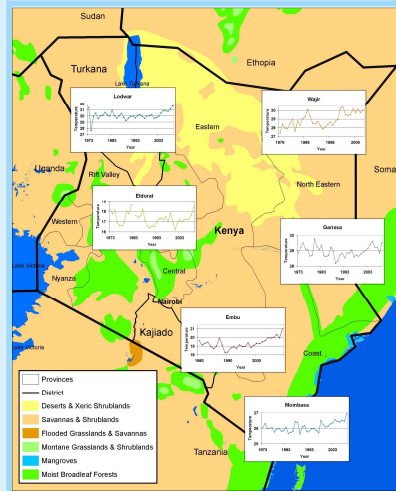


Fig. 1 Temperature and vegetation in Kenya [1]

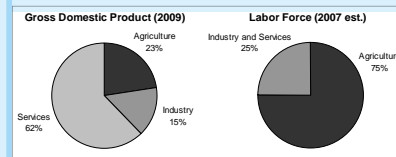


Fig. 2 Importance of agriculture for GDP and labor force [1]

Tab. 1 Generic and impact specific adaptive capacity in Kenya [1]

	Generic indicators			Impact specific indicators		
	GDP ^[1] per capita in PPP ^[2] USD (2009)	HIV/AIDS- adult prevalence rate (2009 est.)	Inequality-adjusted education index (2010)	Corruption perceptions index (2010)	Knowledge index (2009)	Technological readiness index (2010)
Kenya	739	6.3%	0.369	2.1	2.69	3.1
Sub-Saharan Africa	1,225	5.0%	0.254	-	-	-
Index range	-	-	0.0 - 1.0	0 - 10	0 - 10	0 - 7

[1] GDP: gross domestic product, [2] PPP: purchasing power parity. Indexes: higher values indicate a higher level of development / lower level of corruption

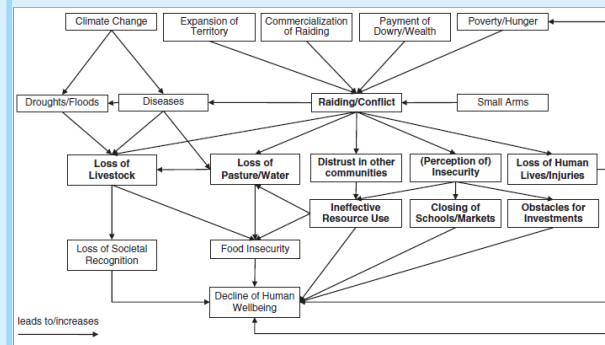


Fig. 4 Factors and effects of raiding and conflict in northwestern Kenya [3]

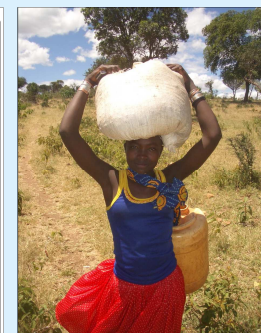


Fig. 5 Pokot woman in northwestern Kenya (Photo by Janpeter Schilling)

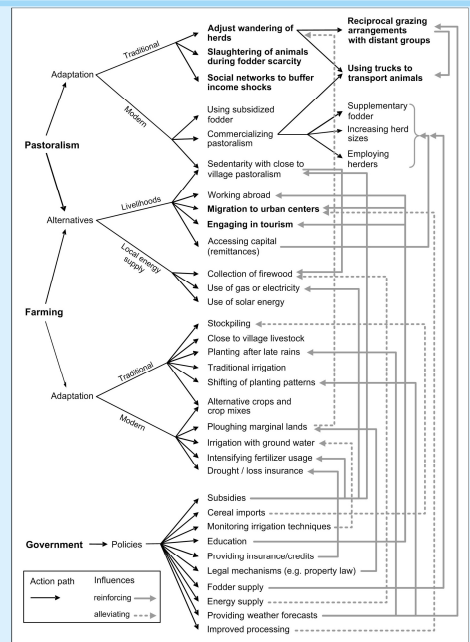


Fig. 3 Adaptation options and action paths of pastoralists, farmers and the government [1]

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