

# Climate Change Impacts on Human (Im-) Mobility in Sub-Saharan Africa

## Summary of Recent Trends and Options for Policy Responses

### 1. Human mobility and climate change in sub-Saharan Africa

The African continent is largely characterised by different climatic regimes ranging from high arid to very humid conditions which remain highly variable and unpredictable. While recurring periods of droughts and climate variability have culminated in the corresponding adaptation of environmental and social systems over the years, the continent remains vulnerable to ongoing global climatic changes. As the majority of rural livelihoods and economies is highly dependent on rain-fed agriculture, it is projected that the impact of climate change will be significant in the near future. As such, this will have dire implications for food security, health, water availability, stability, and economic development for many parts of the continent.

The negative impacts of climate change and related shocks are already manifesting in West, East and Southern Africa. Whilst droughts, water scarcity and rainfall variability have, for example, consistently been very pronounced in the West African Sahel, many East African countries like Kenya or Ethiopia have been grappling with drought-induced famines, loss of livestock due to scarcity of water and pasture, as well as farmer-herder conflicts. In most parts of the Southern Africa region, increasing temperatures above the global average affected the climate-dependent rural economies. Climate change-induced drought associated with water scarcity affected urban areas like Cape Town as well.

Whilst the sustained mobility of people from one area to another has traditionally been part of the social organisation and experiences of people across societies in Africa, it is widely acknowledged that **effects of climate change and related shocks would further increase migration, displacement and planned relocation** with the potential to aggravate latent conflicts and the fragile security situation in certain regions of the continent. At the same time, many vulnerable people and communities could also be “trapped”, meaning that they are unable to migrate due to physical, financial, or social capabilities.

#### Key terms



**Rainfall variability** refers to the degree to which rainfall amounts vary across an area or through time. An increase in rainfall variability may lead to a higher probability of water-related hazards like droughts, the drying up of water bodies or floods. Shifts of rainfall patterns may have significant repercussions for food security, natural resource-based livelihoods, and human security (Warner and Afifi, 2014).



A **flood** is an overflow of water that submerges land that is usually dry. Floods occur commonly from heavy rainfall when natural watercourses lack the capacity to convey excess water. Storm surges associated with a tropical cyclone lead to flooding in coastal areas. Dam failure, for instance due to earthquakes, can lead to flooding of the downstream area (UNISDR, 2017).



A **drought** is an extended period of deficient precipitation compared to the statistical multi-year average that result in water shortage. Meteorologically, a drought means that precipitation patterns depart from the long-term normal; agriculturally, a drought takes place when insufficient soil moisture cannot meet the needs of a particular crop at a particular time. In socio-economic terms, a drought means that human activities are affected by reduced precipitation and water availability (FAO, 2013).





## 2. Trends in West Africa



In contrast to recent suggestions of a transition towards a wetter Sahel, climate variability and devastating droughts have remained enduring features of climate dynamics in the West African region. Climate change is reflected in increased inter-annual **rainfall variability** and **rising temperatures**. As such, the onset of rainfall has become more and more unpredictable and erratic. In addition, intra-seasonal long dry spells have affected the rain dependent agricultural sector. The impact of rainfall variability on agricultural production has largely contributed **to intensifying short-term circular or seasonal migration** of mostly rural farmers to urban and other rural areas, as well as from the much drier areas like Niger and Mali to Ivory Coast, Togo and Ghana as a coping strategy. Still, some rural households are simply trapped and unable to move. With no robust social protection for vulnerable populations, the situation will likely have adverse effects on the rural population and threaten human security and welfare in West Africa.



In recent times, the region has been marked by intensive rainfall and associated **flood** events. Frequent episodes of heavy rainfall have been causing devastating flash and riverine floods. Due to sea-level rise, sea water inundation and coastal erosion are increasingly submerging coastal communities and posing enormous risks to major cities like Dakar or Accra.



Recurrent **droughts** on the other hand have contributed to the loss of farmland, declining crop yields and the loss of livestock in semi-arid areas. Aside from the impact on food security and drought-induced water scarcity, mobility, and competition in the use of scarce natural resources have been the main causes of **farmer-herder conflicts and inter-state tensions for transboundary water resources**. Increasing resource conflicts might increase the risk of forced displacement in the future.

## 3. Trends in East Africa



East Africa will be exposed to increasing **rainfall variability**, leading to floods, temperature increase with heat waves, higher evaporation rates and an increase in droughts. Immediate effects of erratic rainfalls are declines in agricultural production and decreasing food security. Many people already have low coping capacities due to high levels of poverty, fragile contexts, and the existence of various violent conflicts. **Different forms of mobility are widely used as coping and adaptation mechanisms** to these livelihood stressors, such as (circular) rural-urban migration and pastoralism.



Erratic rainfall leading to **floods** is a phenomenon regularly affecting East African countries. Flash floods occurring after long dry spells are limited to small areas such as parts of the East African Highlands, often destroying the livelihood base of people affected and leading to displacement. Human activities like deforestation and land degradation severely aggravate the problem, as well as the establishment of new settlements in risk-prone areas such as along rivers. Seasonal, riverine floods that occur in major rivers and deltas in arid and semi-arid regions may turn into severe floods due to heavy rainfall. They are particularly affecting pastoral communities, but also the inhabitants of cities such as Addis Ababa. Adaptation measures against floods are temporary relocation, migration, or the construction of drainage channels or dams.



**Droughts** are affecting whole countries in the East African region and are becoming more frequent. Periodic droughts lead to severe economic losses, increased food insecurity, intensifying resource-based conflicts, and massive drought-induced displacement, particularly by pastoralists that inhabit drought-prone areas. All East African countries exhibit different forms of human mobility as adaptation to a changing environment. In cases of droughts, massive displacement and searching for relief is the most common emergency

reaction. Rural-to-urban migration is more related to general livelihood diversification but is used in emergency cases as well.

As compared to the other two African sub-regions, the **risk of forced displacement** is generally most pronounced in East Africa: Apart from the high numbers of refugees and internally displaced persons due to ongoing conflicts, as well as severe displacement risks due to natural resource scarcity or natural disasters, development projects such as dam constructions and the transformation of indigenous grazing and agricultural lands into plantations constitute major risk factors. But often these displacement risk factors are highly intertwined.

#### 4. Trends in Southern Africa



Similar to West Africa, Southern Africa experiences increasing interannual and spatial **rainfall variability** with more variable starts and ends. This is coupled with changes in rainfall intensity. Additionally, an increase in extreme rainfall events as well as recurrent periods of long dry spells can be observed. Affected communities apply their own response and adaptation strategies such as temporal migration. Pastoralists and livestock farmers use seasonal migration as a response to specific climatic conditions that affect livestock production. However, increasing rainfall variability and extreme weather events threaten their activities and, in many cases, seasonal mobility alone does not secure their livelihoods any longer. Consequently, **more permanent migration to urban centres** can be observed.



**Flooding** due to heavy rainfall and cyclone activities is a recurrent disaster leading to forced displacement in parts of Southern Africa. In particular, areas along large river basins and low-elevation coastal zones are hit by recurring

overflowing. Populations living along the plenty large river basins and deltas of the region and those along the south-east African coast are recurrently affected by flooding. Communities often return to their fertile homelands while sufficient government response strategies (e.g. protective measures against flooding of settlements) are missing. Moreover, **rural-urban migration puts vulnerable populations at risk because they often settle in flood-prone areas** and coastal urban centres which are likely to be affected by sea level rise and extreme weather phenomena.



Large parts of the arid and semi-arid areas of Southern Africa are **drought** prone and have experienced major droughts in recent years. This has severe impacts on food security and water supply. Water scarcity requires adequate coping strategies, especially in urban areas of South Africa. It threatens the production of major crops like maize and sorghum. Moreover, prolonged dry spells and desertification impact livestock farming. Affected people increasingly use migration in search for alternative livelihoods. Whereas migration previously took seasonal and temporal forms, movements are nowadays more frequently permanent. In many cases they include rural-urban migration which puts growing pressure on urban areas. Consequently, well-managed urban planning and policies need to be in place to protect migrants from additional vulnerabilities.

#### 5. Policy recommendations

Climate change poses a fundamental risk to human security and well-being on the African continent for the next years and decades to come. In highly vulnerable contexts, the effects of climatic change increase the danger of becoming **involuntarily immobile** (“trapped”) as the resource base of some population segments may become so eroded that they cannot afford to move at all.





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People moving in the context of climate change mostly migrate seasonally within their countries. Individual household members migrate to earn some money and remit it to mitigate hardships that their families back home are facing. That way, trans-local spaces of financial, communicational or other exchange between migrants and their families are being generated which lay the foundations for what could be called “**migration as adaptation**”.

The political response towards human mobility in the context of climate change should be on governing human mobility in a way which makes it possible to avoid forced displacement, to maximize positive mechanisms of migration (financial or other remittances) and to minimize negative aspects like labour exploitation or human trafficking. To realize sustainable forms of human mobility in the context of climate change, the following policy recommendations can be formulated:

### → Capacity building and a bridging of gaps between different policy fields

A dialogue between different (policy) fields and communities, such as climate change, migration, development cooperation, urban planning, humanitarian, rural development, and agriculture needs to be fostered. Goals of this dialogue should be: overcoming the “sedentary bias” of preventing migration and instead actively setting a framework for it; generating a common understanding of the challenges related to human mobility in the context of climate change; and creating the awareness that it is a cross-cutting issue, which can only be addressed in a joint effort.

### → Multi-level governance and local empowerment

While at the global level frameworks have been created for human mobility in the context of climate change, i.e. as part of the UNFCCC process and the Global Compact on Migration, their consistent translation into regional and national frameworks is still lacking. Open policy spaces should be established by global, regional and national actors in order provide a space for largely unheard voices by vulnerable populations and to empower community groups at the village level (e.g. smallholder farmer groups), NGOs, and the local administrative level. These groups need to exchange ideas and concepts with the aim to agree on locally reasonable, acceptable and preferred solutions for climate change adaptation – no matter whether these are mobility related or not.

### → Collection of data and best practices

At present, the data availability is rather poor when it comes to human mobility in Africa. A solid and disaggregated data foundation is essential to address climate change related human mobility. In addition, a systematic documentation of best practices regarding the problem complex of local vulnerability and the role of human mobility in such contexts should be realized.

Access the full report here: <https://www.adaptationcommunity.net/publications/climate-change-impacts-on-human-immobility-in-sub-saharan-africa-recent-trends-and-options-for-policy-responses/>

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